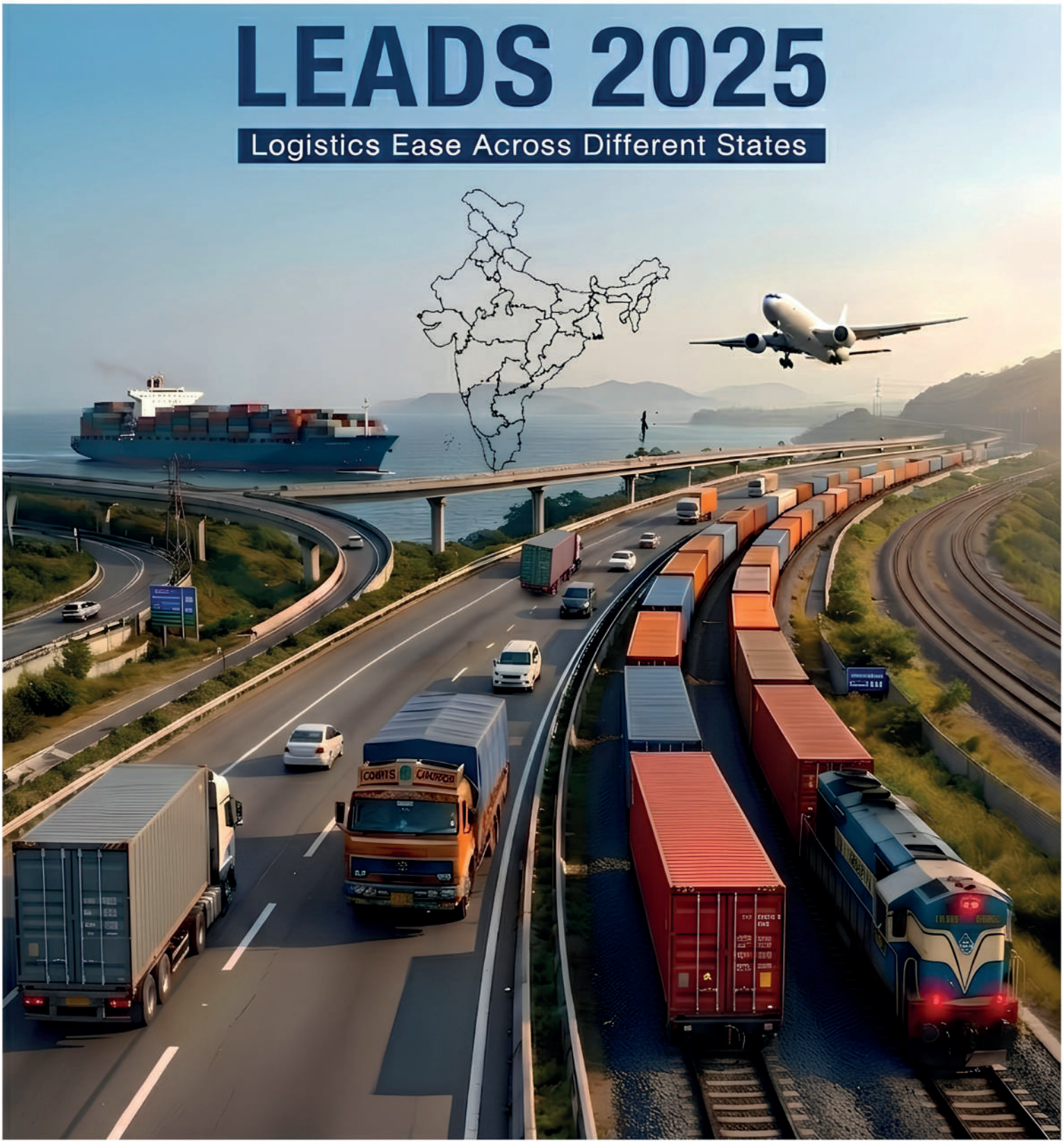
PM GatiShakti
National Master Plan for Multi-Modal Connectivity

सत्यमेव जयते
DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE
MINISTRY OF COMMERCE & INDUSTRY
GOVERNMENT OF INDIA

INDIA LOGISTICS

LEADS 2025

Logistics Ease Across Different States



28 States | **8** Union Territories

Measuring Performance, Driving Excellence, Building Viksit Bharat.







> For the development of the country, it is imperative that there is synergy among all the government departments related to the infrastructure and they utilize each other's collective power. Over the years, this approach has given India unprecedented momentum. ..... India today is working on more speed and scale than ever before.

Hon'ble Prime Minister

Shri Narendra Modi

At the launch of PM GatiShakti, National Master Plan for Multi-Modal Connectivity, 13th Oct 2021

पीयूष गोयल
PIYUSH GOYAL

वाणिज्य एवं उद्योग मंत्री
भारत सरकार
MINISTER OF COMMERCE & INDUSTRY
GOVERNMENT OF INDIA



FOREWORD

Efficiency in logistics is the backbone of a resurgent and *Aatmanirbhar Bharat*. As India advances towards the vision of *Viksit Bharat 2047*, under the dynamic leadership of our Hon'ble Prime Minister Shri Narendra Modi ji, the seamless movement of goods remains critical for global competitiveness. Transforming the logistics ecosystem through improved first and last-mile connectivity, multimodal integration and reduced time and cost is therefore a key priority of the Government of India.

In this context, the National Logistics Policy marks a transformative step towards building an efficient, integrated and resilient logistics ecosystem. Closely aligned with the PM GatiShakti National Master Plan, it promotes coordinated planning across Ministries and stakeholders, strengthens infrastructure, advances digital integration through platforms such as the Unified Logistics Interface Platform and the Logistics Data Bank and supports regulatory reforms and skilled human resources. The need to systematically measure and benchmark logistics performance is therefore critical to support the objectives of these reforms.

Building on this foundation, the Logistics Ease Across Different States (LEADS) Report continues to serve as an important touchstone for measuring reform progress. Continuing the success of its previous editions, the seventh edition of the Report - LEADS 2025 provides a comprehensive assessment of logistics performance across States and Union Territories, strengthening cooperative and competitive federalism by enabling them to benchmark performance, learn from best practices and drive continuous improvement. The framework now classifies States and UTs into four categories—Exemplars, High Performers, Accelerators and Growth Seekers. The report also serves as a strategic guide for States and UTs to identify gaps, prioritise reforms and accelerate logistics efficiency across the country.

LEADS 2025 also introduces an empirical assessment of logistics performance across six high-density road corridors, analysing indicators such as corridor speeds, truck operating speeds, daily truck productivity, waiting time and time lost at access and interface points to evaluate the efficiency of freight movement.

I commend the concerted efforts of all State Governments, UT administrations and stakeholders for their active contributions to improving logistics and supporting the LEADS 2025 study. Together, let us build a world-class logistics ecosystem that powers the aspirations of our citizens and advances India's journey towards *Viksit Bharat by 2047*.

Piyush Goyal

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जितिन प्रसाद
JITIN PRASADA

सत्यमेव जयते

वाणिज्य एवं उद्योग तथा
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी राज्य मंत्री
भारत सरकार
Minister of State for
Commerce & Industry
and Electronics & Information Technology
Government of India



FOREWORD

India's logistics agenda is progressing on two tracks. We are investing in infrastructure and in tandem improving systems and processes, with the aim of faster movement of goods, lower costs, and better service delivery. This dual-track effort matters because logistics links every sector, and even small efficiency gains create large economy-wide benefits.

It has been focus of the government to drive sustained and accelerated reform agenda through policy reform, coordinated planning, and major infrastructure and digital initiatives. The National Logistics Policy and the PM GatiShakti National Master Plan support integrated planning and coordination, while programmes such as the Dedicated Freight Corridors, Bharatmala, and Sagarmala are strengthening connectivity and capacity. At the same time, digital platforms such as ULIP and LDB are linking multiple systems and enabling data-driven decision-making. States and Union Territories remain central to results on the ground. Many practical bottlenecks in logistics sit within State jurisdictions, including last-mile access, city-level congestion, enforcement interfaces, and day-to-day adoption of technology. Addressing these requires prioritisation, monitoring, and engagement with stakeholders.

Logistics Ease Across Different States (LEADS) 2025 is designed to support this effort. The report provides a comprehensive view of logistics performance of States and Union Territories across four pillars of Infrastructure, Services, Operating and Regulatory Environment, and Sustainability and Equity. It combines stakeholder perception and objective measures to provide a balanced picture of performance. It also documents high-impact initiatives across States and UTs, and identifies opportunities that can be translated into action. This edition also includes a freight corridor logistics performance study that highlights on-ground movement bottlenecks, common delay points, and recommended interventions across key freight routes. I encourage States and Union Territories to use LEADS 2025 in a focused way by picking a few priority actions under each pillar and taking them forward in consultation with relevant departments and stakeholders.

I appreciate the efforts of State and Union Territory Governments, industry stakeholders, and partner institutions who have contributed to this edition. With continued collaboration and sustained execution, we can improve logistics efficiency across the country and strengthen India's competitiveness in global markets.

(Jitin Prasada)

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सत्यमेव जयते

भारत सरकार
वाणिज्य एवं उद्योग मंत्रालय
उद्योग संवर्धन और आंतरिक व्यापार विभाग
GOVERNMENT OF INDIA
MINISTRY OF COMMERCE & INDUSTRY
DEPTT. FOR PROMOTION OF INDUSTRY
AND INTERNAL TRADE

FOREWORD

India's logistics sector is pivotal to the nation's development agenda. An efficient multimodal network - spanning rail, roads, air and water transport - is no longer just a facilitator of movement of goods and people; it is the strategic infrastructure upon which the vision of Viksit Bharat 2047 will be realized. Building a robust logistics ecosystem ahead of demand is essential to enhancing India's global manufacturing competitiveness and ensuring seamless global supply chains.

Over the last few years, India's logistics reforms pathway has gained accelerated momentum through Initiatives like National Logistics Policy and the PM GatiShakti National Master Plan providing an enabling framework for integrated planning and multimodal connectivity. In parallel, steps to simplify procedures and improving digital systems like ULIP and LDB are making logistics processes simpler and easier for users.

The Logistics Ease Across Different States (LEADS) study, enables States and UTs to identify gaps, track outcomes over time, and support learning across States and UTs.

The LEADS 2025 edition marks a significant evolution in assessment methodology. Beyond the core pillars of Infrastructure, Services, Operating & Regulatory Environment, and Sustainability & Equity, this edition introduces a chapter on road corridor-based logistics efficiency assessment. By establishing quantifiable KPIs for road freight movement and identifying specific corridor-level bottlenecks, this report offers actionable insights covering granular issues that impact logistics efficiency.

I place on record my appreciation for the cooperation extended by State and Union Territory Governments, including Chief Secretaries and concerned departments, as well as industry stakeholders who have contributed to this edition. The LEADS 2025 report will serve as an invaluable guide States and Union Territories for prioritizing interventions and monitoring performance.

Together, let us continue to build upon this robust foundation to build a world-class logistics ecosystem where India's logistics prowess knows no bounds.

20/03/2026

(Amardeep S. Bhatia)
20.03.2026

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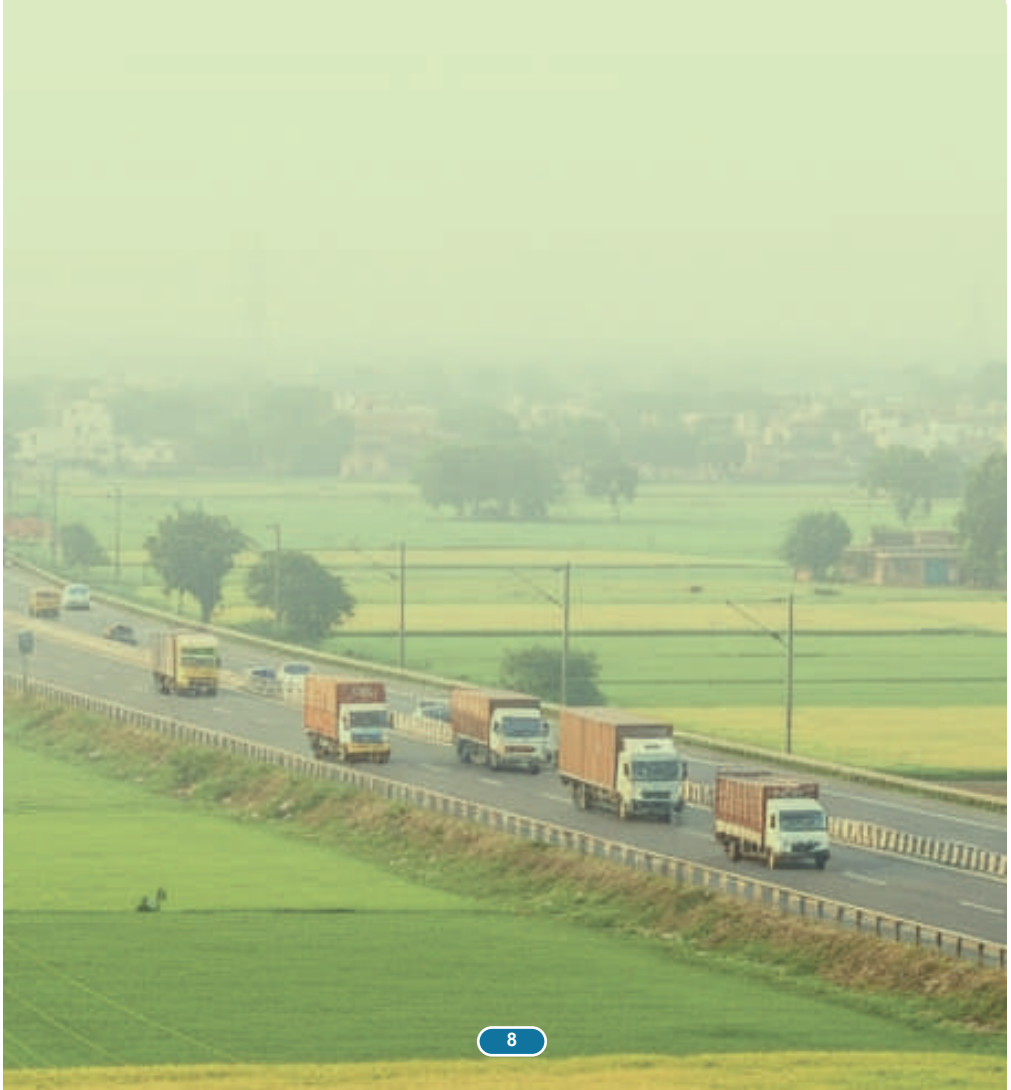
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Executive Summary

India's growth ambitions over the coming decade will be shaped not just by what the economy produces and trades, but also by how efficiently goods and services move across the nation. Logistics is central to this trading ecosystem. As investments in connectivity and freight infrastructure continue to expand, policy attention is focused on both building capacity and improving delivery outcomes: faster and more predictable freight movement, smoother modal interfaces, and stronger first- and last-mile connectivity.

In this context, Logistics Ease Across Different States (LEADS), DPIIT's flagship initiative, serves as a national framework to assess logistics performance across States and Union Territories. LEADS strengthens cooperative and competitive federalism by offering a common assessment framework and a credible evidence base for planning and prioritising targeted interventions where they can yield the highest impact.



LEADS Framework at a glance

LEADS assesses logistics performance through two sources:

- Perception survey: inputs from logistics service users and providers on timeliness, reliability, terminal performance, ease of operations, service availability, and emerging priorities such as sustainability.
- Objective data: document-backed information received from States/UTs on implementation progress, institutional readiness, enabling infrastructure and integration, and usage/adoption indicators.

Together, the two surveys ensure that the assessment reflects policy intent as well as operational outcomes.

LEADS has evolved since 2018 into a framework suited to India's federal setup, where logistics performance varies by multiple factors such as geography, economic profile, and corridor connectivity. Unlike global indices that provide a national snapshot, LEADS enables like-for-like comparisons among peer States and UTs, supporting more detailed diagnosis and prioritisation of targeted interventions.

The two surveys are combined into a composite score with an increased emphasis on measurable performance. In LEADS 2025, the overall score is based on a weighted composition of ~59% objective indicators and ~41% perception indicators, thereby retaining stakeholder experience as a validation layer.

Perception indicators are organised under four pillars:

1. Logistics Infrastructure
2. Logistics Services
3. Operating and Regulatory Environment
4. Sustainability and Equity

Objective indicators are grouped under two pillars:

1. Regulatory and Institutional Support
2. Logistics Enablers

Key Updates made in LEADS 2025

LEADS 2025 strengthens the assessment design to widen coverage, improve comparability and diagnostic value, with greater emphasis on implementation progress.

1. Expanded perception survey and stronger coverage:
   - Separate survey questionnaires were administered for Logistics Service Users and Logistics Service Providers (LSPs) through a combination of online and in-person surveys, improving response quality and reducing respondent fatigue.
   - More than 20,000 responses were collected nationwide; after applying quality filters, ~92% were retained for analysis.
   - The retained sample includes 12,000+ logistics service users and 6,000+ logistics service providers, improving representation of both demand-side and supply-side experience.
2. More specific perception indicators on emerging constraints: The perception framework has been refined to better distinguish the main drivers behind performance gaps, including:
   - Digital infrastructure quality as a practical enabler of visibility, automation, and compliance,
   - Warehousing services as a service-quality dimension (beyond infrastructure availability),
   - Ease of access to competent LSPs, capturing market depth and service standards,

- A stronger focus on capacity-creation conditions, including approvals and investment facilitation, and
- Sustainability indicators focused on enablement, including EV adoption initiatives, charging access, and green warehousing initiatives.

3. Objective indicators focused on evidence and implementation progress. The objective survey data strengthens the ability to distinguish between intent, readiness, and execution through documents-backed reporting, including:
   - Separate assessment of logistics policy status (draft/notified) and an action plan,
   - Year-wise implementation evidence through reporting of project counts, budgets, and disbursements,
   - Assessment of PM GatiShakti not only as a Geospatial platform, but also in terms of its institutionalisation and use in decision-making, including governance structures (NPG, TSU, EGoS) and evidence of projects evaluated through the framework,
   - Checks on planning readiness through land-record integration, and linkage with clearance layers on Parivesh, and
   - Reporting on skilling outputs, green logistics initiatives, and regulatory streamlining through verifiable mechanisms and actual use.

LEADS 2025 Outcomes

To ensure that comparisons remain fair and interpretable, results continue to be assessed across four peer groups that reflect geographic context: Coastal States, Landlocked States, North-Eastern States, and Union Territories. This approach recognises that logistics constraints and operating conditions differ materially across these geographical contexts, and performance benchmarking within comparable peers is more appropriate approach rather than through a single uniform lens.

A key evolution in LEADS 2025 is the way performance outcomes are presented. Up to LEADS 2024, States and UTs were grouped into three categories. From LEADS 2025 onwards, a four-tier performance classification has been introduced based on their performance in the overall LEADS score distribution. The four performance levels are:

- **Exemplars:** States/UTs demonstrating sustained strength across logistics dimensions and serving as benchmarks of good practice
- **High Performers:** consistently strong outcomes, with identifiable areas for further strengthening
- **Accelerators:** visible improvement momentum, supported by ongoing reforms and targeted actions
- **Growth Seekers:** ecosystems facing higher constraints, with significant headroom for improvement

This tiering enables differentiation of performance levels, supports targeted improvement planning, and strengthens structured peer learning among comparable States/UTs. The detailed performance snapshot by peer group and by State/UT is presented separately in the accompanying figure.

	Coastal States Group	Landlocked States Group	Union Territories Group	North-Eastern States Group
Exemplars	Tamil Nadu	Uttar Pradesh	Delhi	Mizoram
High Performers	Gujarat, Kerala, Maharashtra	Haryana, Telangana, Chhattisgarh, Bihar	Jammu and Kashmir, Puducherry	Tripura, Meghalaya
Accelerators	Andhra Pradesh, Odisha, Goa, Karnataka	Punjab, Jharkhand, Madhya Pradesh, Uttarakhand, Himachal Pradesh	Dadra & Nagar Haveli and Daman & Diu, Chandigarh, Ladakh, Lakshadweep	Nagaland, Arunachal Pradesh, Manipur, Assam
Growth Seekers	West Bengal	Rajasthan	Andaman and Nicobar Islands	Sikkim

Figure: Outcomes of LEADS 2025 Survey

LEADS 2025: Key Findings across Perception Indicators

Coastal States Group Performance

The Coastal States group comprises nine States: Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, and West Bengal. As India's maritime interface, the group anchors port-linked trade and coastal supply chains, supported by a coastline of over 7,500 km.

Across the Coastal group, Logistics Services emerges as the strongest perception pillar in LEADS 2025, with service-related improvements rated higher than the other three pillars across the nine States. The Operating and Regulatory Environment also records relatively strong outcomes, indicating progress in institutional facilitation and process-related improvements that support logistics activity. Within the group, Gujarat, Maharashtra, Kerala, and Tamil Nadu register comparatively stronger perception scores across multiple pillars.

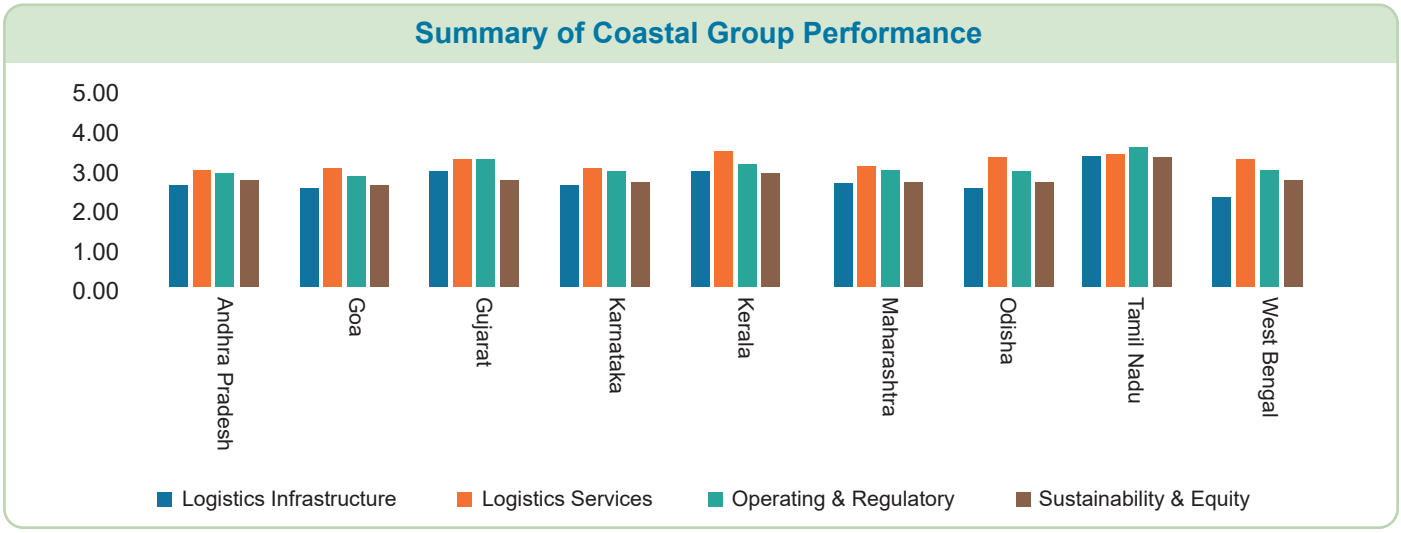


Figure: Summary of Coastal Group Performance

The Coastal group records average perception scores that are higher than the national average across most indicators in Infrastructure, Services, and Operating and Regulatory Environment, signalling the advantage of mature port ecosystems, stronger multimodal networks, and robust logistics markets.

Logistics Infrastructure

Coastal States perform above the national average across most infrastructure indicators, particularly in road and rail infrastructure improvement, terminal infrastructure, first and last mile connectivity, warehousing and cold storage, digital systems and technology, and wayside amenities.

The key exception is airport infrastructure, where the group scores below the national average. Perception scores for inland waterway infrastructure are marginally above the national average but remains modest overall, indicating scope for stronger integration with port hinterlands.

Logistics Services

Coastal States record higher perception scores than the national average across all services indicators. Strong outcomes are reflected in transport, terminal and warehousing services, track-and-trace, timeliness, skilled manpower availability, and safety and security of cargo. Higher scores on the availability of competent logistics service providers also indicate a comparatively mature and competitive logistics services ecosystem.

Operating and Regulatory Environment

Perception outcomes are higher than the national average across most indicators, including ease of movement across States, grievance redressal, regulatory approvals, and initiatives supporting logistics sector investments. The only indicator where the group is marginally lower than the national average is government policies and regulations, indicating the need for continued policy refinement and harmonisation.

Sustainability and Equity

Performance is broadly aligned with the national average and remains moderate. While women's participation in the logistics workforce is marginally higher than the national average, the Coastal group scores slightly below the national average on EV adoption, public EV charging access, and green warehousing promotion, suggesting that the green transition requires further acceleration.

Landlocked States Group Performance

The Landlocked group comprises 11 States: Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttar Pradesh, and Uttarakhand. With limited direct coastal access and fragmented multimodal linkages, the landlocked ecosystem relies heavily on road and rail freight. Dry ports and Inland Container Depots (ICDs) therefore play a defi ning role as Inland Maritime Enclaves, enabling inland cargo handling, storage, customs clearance and port connectivity through rail-road links. In addition, the Eastern and Western Dedicated Freight Corridors (EDFC/WDFC) have reshaped freight movement patterns by strengthening direct inland-to-gateway connectivity and improving the feasibility of rail-led long-haul movement.

LEADS 2025 indicates that the Logistics Services pillar records the strongest perception outcomes among the four pillars across the landlocked States. Operating and Regulatory Environment improvements are also viewed positively across the group, refl ecting stronger regulatory interventions at the State level.

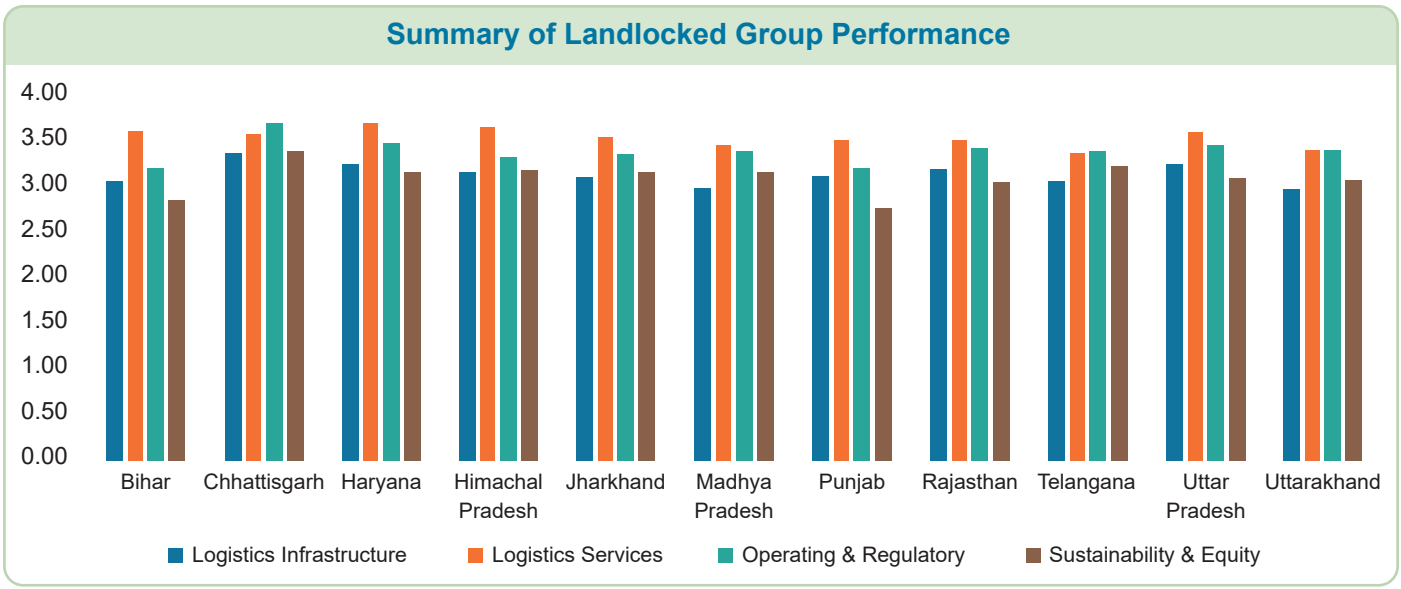


Figure: Summary of Landlocked Group Performance

Logistics Infrastructure

LEADS 2025 indicates perception outcomes that are stronger than the national average across most Logistics Infrastructure indicators, reflecting improvements in road and rail connectivity, terminal capacity, first- and last-mile linkages, warehousing and cold chain development, and the spread of digital systems supporting freight operations. Perceptions are strongest in large freight-intensive States where corridor upgrades and node-linked investments are more visible, while hilly geographies continue to face tougher last-mile and all-weather connectivity constraints. Inland waterways are the exception for this group, with comparatively lower perception outcomes overall, pointing to under-utilised multimodal potential even where national waterways exist and highlighting the need for faster development of enabling infrastructure and operational readiness to make waterways a quality freight option.

Logistics Services

Logistics Service improvements are the most positively viewed aspect of the landlocked group's logistics ecosystem in LEADS 2025. This indicates that users are seeing improvement not just in asset availability, but in service delivery conditions that matter day-to-day, including transport services, terminal and warehousing services, timeliness, track-and-trace, manpower availability, cargo safety/security, and access to capable service providers. The broad takeaway is that the landlocked ecosystem is increasingly moving from "corridor access" to "service reliability" as a differentiator.

Operating and Regulatory Environment

State-led regulatory interventions receive stronger perceptions across all landlocked States. This points to improvements in facilitation and the operating environment that influences both movement efficiency and the ease of creating capacity. The pillar also shows variability across States, suggesting that procedural consistency and the speed of approvals still shape how quickly logistics capacity can be added, particularly around terminals, ICDs and warehousing.

Sustainability and Equity

Sustainability and equity outcomes remain comparatively less mature than services and parts of infrastructure. LEADS 2025 points to an agenda that is now becoming unavoidable for the landlocked group: expanding green logistics enablement (including fleet transition support and charging reach beyond highway corridors) and strengthening workforce diversity, including women's participation, which remains a structural constraint in several States.

Union Territories Group Performance

India's Union Territories (UTs) comprise eight administrative units: Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Daman & Diu, Delhi (NCT), Jammu & Kashmir, Ladakh, Lakshadweep, and Puducherry. Their logistics performance is shaped by a combination of gateway roles, administrative functions, tourism-driven demand, and unique spatial constraints.

In the LEADS 2025 assessment, Logistics Services records the strongest perception outcomes across UTs, reflecting notable improvements in service provision. Perception scores related to the Operating and Regulatory Environment are comparatively stronger across several UTs, indicating broadly stable operating conditions and facilitation mechanisms.

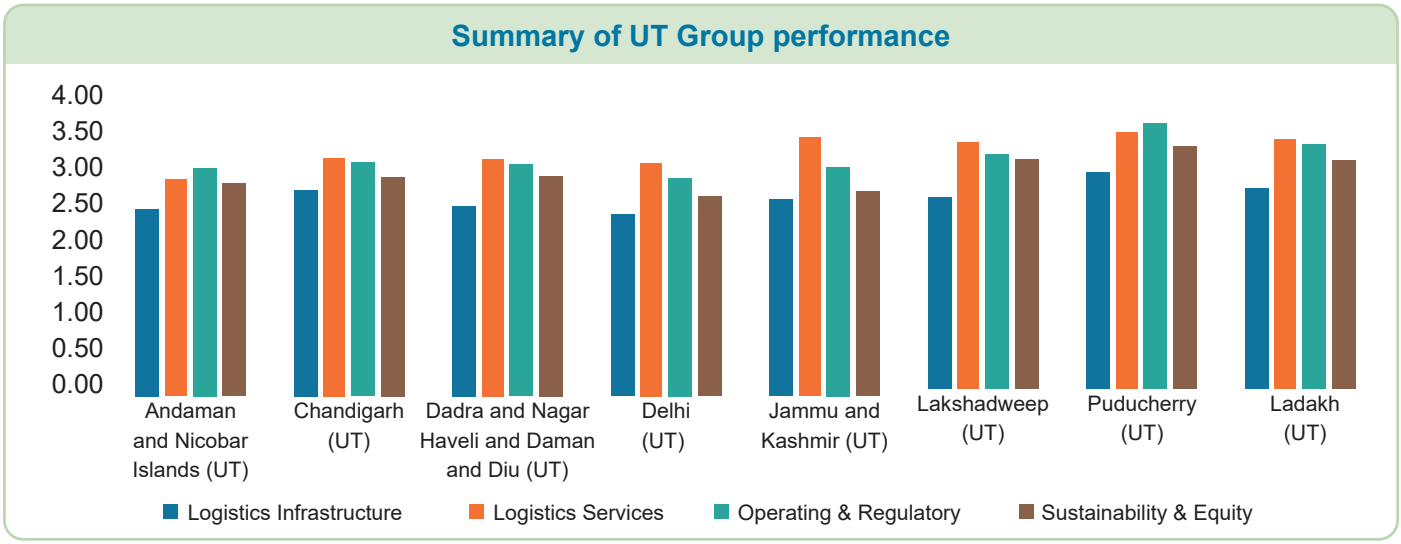


Figure: Summary of UT Group Performance

Logistics Infrastructure

The UT group's perception outcomes for improvements in logistics infrastructure are largely aligned with the national average across most infrastructure indicators. This suggests that, in aggregate, UTs track national-level improvements on core infrastructure and enabling systems, despite wide differences in size and operating context. The key exception is inland waterway infrastructure, where UTs record lower perception scores than the national average, largely attributable to geographic and topographic realities across multiple UTs. Overall, the infrastructure signal points to a stable baseline with scope for targeted upgrades where physical constraints, remoteness, and connectivity dependence are more binding.

Logistics Services

Perception outcomes for improvements in logistics services across UTs are marginally below the national average across most services indicators, suggesting that service improvements are visible. A notable positive is warehousing services, where UTs record perception scores aligned with or marginally higher than the national average, reflecting relatively effective delivery of storage-related services. Overall, the services profile suggests that while service provision is strengthening, there remains headroom to improve timeliness, reliability, and service depth.

Operating and Regulatory Environment

Perception outcomes for improvements in operating and regulatory parameters are marginally below the national average across all indicators, indicating an operating environment that is broadly stable and aligned with national frameworks, but where incremental gains are required. The pattern suggests that improvements are less about foundational policy direction and more about execution refinements: consistency in facilitation, responsiveness of grievance systems, and procedural efficiency for

capacity creation and day-to-day freight movement.

Sustainability and Equity

The UT group's perception outcomes for sustainability and equity indicators are largely aligned with the national average across most parameters. However, women's participation in the logistics workforce is assessed as slightly below the national average, indicating the need for more targeted inclusion and workforce-diversity measures. Overall, the sustainability signal indicates steady alignment with national direction, with opportunities to strengthen enabling actions in a way that is suited to the UT-specific context, particularly where remoteness, land availability, and infrastructure constraints shape feasible pathways.

North-Eastern States Group Performance

The North-Eastern Group comprises Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. Ongoing initiatives across States indicate a gradual strengthening of the logistics ecosystem. Some examples include the development of inland water transport in Assam and Arunachal Pradesh, operationalisation of international trade points along the borders with Myanmar and Bangladesh in Mizoram, establishment of aggregation and consolidation hubs in Nagaland and Tripura, and integration with regional connectivity frameworks such as the BBIN corridor through Meghalaya.

In LEADS 2025, Logistics Services records the strongest perception outcomes across the four pillars for the North-Eastern States Group. Improvements are also observed in the Operating and Regulatory Environment and Sustainability and Equity pillars. At the same time, the assessment highlights that Logistics Infrastructure remains the most binding constraint for the group, particularly where road and rail connectivity continues to limit multimodal integration and regional accessibility.

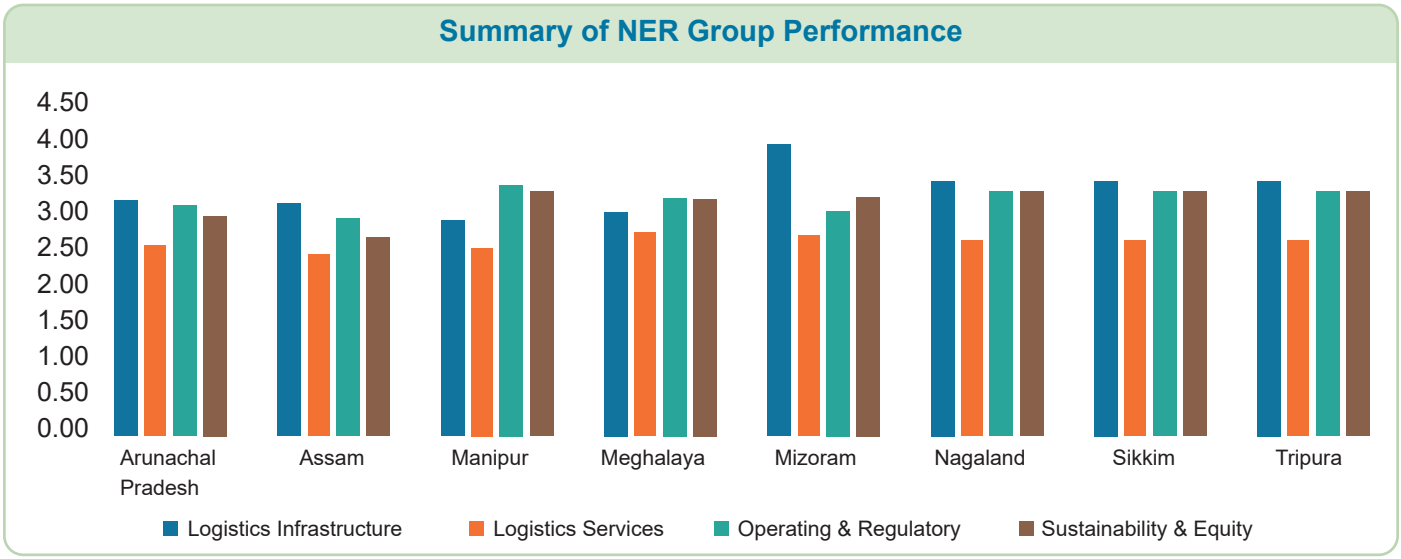


Figure: Summary of NER Group Performance

Logistics Infrastructure

The group-level assessment indicates relatively strong perception outcomes on inland waterways, alongside convergence toward national averages on several enabling elements such as digital systems, warehousing and cold storage, first and last-mile connectivity, terminal infrastructure, and wayside amenities. However, perceptions continue to highlight persistent gaps in road and rail connectivity, which remain closely linked to challenges in regional accessibility and the ability to integrate modes effectively.

Logistics Services

Perception outcomes for logistics services show broad alignment with national averages across most parameters, including availability of logistics service providers, cargo safety and security, availability of skilled manpower, track-and-trace services,

timeliness of delivery, and reasonableness of shipment pricing. At the same time, the assessment points to gaps in transport services, terminal services, and warehousing services, indicating that service quality and service capacity remain uneven and require continued strengthening.

Operating and Regulatory Environment

The assessment indicates relatively higher perception outcomes on improvements in government policies and regulations compared to the national average. However, it also highlights areas requiring targeted strengthening, including ease of inter-state movement, grievance redressal mechanisms, initiatives to attract logistics sector investment, and the efficiency of regulatory approval processes.

Sustainability and Equity

The North-Eastern States group records strong performance relative to the national average across sustainability and equity parameters. Perception outcomes are favourable on EV adoption, accessibility of public EV charging stations, promotion of green warehousing, and women's participation in the logistics workforce, reflecting an emerging emphasis on inclusive and environmentally sustainable logistics practices across the region.

LEADS 2025: Key findings across Objective Indicators

The objective indicators add a clear implementation lens to LEADS 2025 by tracking what States/ UTs have formally implemented. The results are presented across two dimensions: A. Regulatory and Governance Measures (10 indicators) and B. Enablers of Logistics (assets, capacity, and operational proxies). A consistent message emerges: policy intent is now widespread, and the differentiator is increasingly implementation progress, reflected in action plans, project pipelines, institutionalisation, and depth of adoption of national platforms.

The objective indicator assessment is based on information and documentary evidence submitted by States/UTs up to December 2025.

A. Regulatory and Governance Measures

The regulatory and governance component in LEADS 2025 assesses how States and UTs are strengthening the enabling environment for logistics through ten key indicators. Together, these capture the maturity of the policy and institutional framework, ranging from logistics policy and city logistics planning to PM GatiShakti adoption, skilling and green logistics, facilitation mechanisms, PPP use, and industry status. The assessment also covers practical process reforms such as regulatory streamlining, grievance/issue-resolution systems, and ULIP adoption. Each indicator is evaluated through documentary evidence to reflect not only the presence of reforms, but the depth of institutionalisation and progress in implementation.

1. **Logistics policy and its action plan and implementation**
   - 28 States/UTs have notifi ed logistics policy while 18 among them have a logistics policy action plan
   - 18 States/UTs have undertaken logistics projects that are at various stages of implementation
   - 20 States/UTs have shown increased focus on Urban Logistics through initiatives such as freight consolidation, micro-warehousing/dark stores, time-window entry and gender-safe workplaces.
   - Kerala and Tamil Nadu report the strongest logistics policy–backed project pipelines, with 500+ projects each. Chhattisgarh, Jammu & Kashmir, and Karnataka fall in the 100–500 projects band, while 10 States/UTs report 1–100 projects under their policy-backed pipeline.
2. **City Logistics Plans**
   - 6 States/UTs have approved City Logistics Plans and 7 have them at the draft stage, indicating strong momentum and increasing focus on urban freight planning.

3. Adoption of PM GatiShakti framework

- All 36 States/UTs are onboarded onto the PMGS NMP. 29 States/UT have issued a notifi cation of mandating the use of PM GatiShakti NMP/SMP portal for planning and mapping the upcoming infrastructure projects.
- All States/UTs have institutional mechanism in place in the form of NPG, TSU and EGoS.
- 12 States/UTs have evaluated upto 50 projects, 2 States/UTs have evaluated 51–100 (Andhra Pradesh, Jammu & Kashmir), and 2 States/UTs have evaluated 100+ (Gujarat, Tamil Nadu) using the PM GatiShakti Framework. This indicates that depth of use remains limited and has scope for further improvement.
- Land records of 20 States/UTs have been integrated with the PM GatiShakti-NMP portal through API.
- 25 States/UTs have integrated key layers such as forest clearance, environmental clearance, eco-sensitive zones, protected areas, recorded forest area, and coastal regulation zones on the Parivesh portal.

4. Human resource development

- 28 States/UTs include logistics-specifi c components in skilling schemes.
- 23 States/UTs report partnerships with academia/industry.
- 17 States/UTs report engagement with the Logistics Sector Skill Council.
- Kerala, Tamil Nadu, and Uttarakhand reported 100+ training centres while 17 States/UTs have up to 100 training centres.
- Bihar and Gujarat have more than 10 Logistics Centres of Excellence.

5. Green logistics

- 25 States/UTs report green logistics policies/ initiatives;
- 11 States/UTs have provisions to support green logistics through direct budget allocation, while 14 have done so without direct budget support.
- 26 States/UTs report policy support measures for EV manufacturing.
- 28 States/UTs are promoting the installation of EV charging infrastructure.

6. Facilitation for Central Government projects

- 17 States/UTs facilitated Central Government logistics projects in FY 2024–25; 11 States/ UTs signed MoUs/partnership agreements with various central agencies.

7. Public–Private Partnerships

- 13 States/UTs have reported logistics PPP projects currently under development at the State/UT level.
- 9 States/UTs have reported active participation in logistics PPP projects initiated by the Central Government.

8. Industry status for logistics and warehousing

- 32 States/UTs have extended industry-linked incentives and benefits to logistics sector projects through granting industry status, priority/ thrust sector classification, policy inclusion, or notified provisions. Beyond granting industry status, 28 States/UTs have notified policy benefits or support measures for logistics industries.
- Uptake is visible, with higher scale in Bihar, Tamil Nadu, Telangana (100+ units availing benefits), suggesting stronger conversion from notification to adoption.

9. Streamlining regulatory processes

- Institutional anchors are emerging: 25 States/ UTs have a dedicated nodal agency/Logistics Cell/PM GatiShakti Cell for all logistics related issues.
- Technology-backed freight movement management exists in 25 States/UTs.
- Single-window systems exist in 28 States/ UTs, while 2 States have a mechanism similar to Services Improvement Group (SIG) (Chhattisgarh, Gujarat).
- Logistics-specific grievance redressal mechanisms exist in 23 States/UTs.

10. ULIP adoption

- ULIP integration is still at an early-stage: 11 States/UTs have formal engagement; 7 States/ UTs have a dedicated interface portal; and 7

States/UTs report integration with more than 3 departments.

B. Enablers of Logistics

The logistics enabler indicators are compiled from data submitted by State /UT Governments to establish a baseline on the scale and evolution of logistics capacity. They cover network extent and incremental change (roads, railways and last-mile connectivity), ecosystem depth (goods vehicles and drivers), storage capacity (warehousing and cold storage), key nodes (Ports/MMLPs/ICDs where relevant), and performance/transition proxies such as operational EV charging stations, corridor speed and terminal access.

These indicators help separate perception from actual capacity constraints, show whether performance gaps are linked to network scale or operating bottlenecks, and support evidence-based prioritisation of investments and reforms.

These indicators further provide a comparable baseline to (i) benchmark capacity against peers, (ii) identify specific gaps in networks, nodes and storage, (iii) track year-on-year progress, and (iv) align budget allocations and project pipelines to measurable logistics outcomes.

Corridor-based Logistics Efficiency Study

India's road network carries the majority of long-haul freight movement and therefore plays a critical role in shaping day-to-day logistics efficiency. To move the discussion beyond infrastructure availability to how corridors actually perform, LEADS 2025 includes an empirical assessment across six high-density freight corridors. The analysis uses comparable indicators such as corridor speeds, truck operating speeds, daily truck productivity, waiting times, and time lost at access and interface points to evaluate freight movement.

Study coverage: The assessment covers six representative corridors spanning industrial regions, consumption centres, port-linked routes and the North-East gateway: Chennai–Mumbai (NH48), Mumbai–Delhi (NH48), Delhi–Kolkata (NH19), Kolkata–Guwahati (NH27), Bengaluru–Kolkata (NH16), and Bengaluru–Delhi (NH44). The evidence model combines two complementary data layers: API-based mixed-traffic speeds to establish a consistent corridor baseline and congestion profile, and truck GPS trip records to capture realised freight performance, including stoppages and waiting time that are not visible in network speeds. Stakeholder consultations were used to validate bottleneck drivers, node-related delays, and enforcement-linked stoppages.

Key Findings:

1. **Available corridor speeds under mixed traffic (API based):** Average corridor speeds vary materially across the six corridors, ranging from ~55 km/h to ~80 km/h, with the Bengaluru–Kolkata corridor recording the lowest corridor-average speed range (22-58 km/h) and the Kolkata–Guwahati corridor showing the highest mixed-traffic speeds (77-80 km/h). Level-of-service (LOS) profiling indicates that while majority of the corridors (four- Bengaluru-Delhi-Bengaluru, Mumbai-Delhi-Mumbai, Delhi-Kolkata-Delhi and Kolkata-Guwahati-Kolkata) operate largely in stable conditions, others (Bengaluru-Kolkata-Bengaluru & Chennai-Mumbai-Chennai) exhibit a higher share of constrained segments (LOS D-F), signalling recurring slowdowns, particularly near urban interfaces and access-heavy stretches.
2. **Realised freight performance is lower than network speeds (Truck GPS):** Across corridors, truck operating speeds are consistently lower than mixed-traffic speeds, with GPS-based truck speeds typically in the ~25–40 km/h range versus higher API baselines. This results in large speed differentials because freight trips absorb operational frictions that do not show up in network-only measures: waiting at access points, compliance-related halts, toll and queue effects, city entry and exit slowdowns, and terminal interface delays.

3. **Daily truck productivity:** Corridor productivity varies significantly when measured as km/day. The best-performing corridors achieve higher daily distance coverage where running time remains high and waiting time is lower; corridors with frequent stoppages show much lower km/day even when highway conditions are otherwise reasonable. The highest truck operating speeds are observed on Bengaluru-Delhi-Bengaluru and Mumbai-Delhi-Mumbai corridors (44-46 km/h) and the lowest on Kolkata-Guwahati-Kolkata corridor (30-32 km/h). Across corridors, the evidence consistently indicates that end-to-end cycle time is often dominated by waiting time, and that waiting concentrates near the origins and destination of the routes including the metro-regions, terminals and loading-unloading points.
4. **First- and last-mile movement is the biggest speed penalty:** Freight movement on mainline corridor sections is consistently faster than access segments. First- and last-mile speeds are lower than corridor running speeds across corridors, creating a measurable "access penalty" that pulls down end-to-end performance. The penalty is evident on corridors such as Mumbai-Delhi-Mumbai (44 km/h corridor speed, 19 km/h FMLM speed) and Delhi-Kolkata-Delhi (42 km/h corridor speed, 27 km/h FMLM speed). This explains why corridor investments may deliver limited freight productivity gains if first- and last-mile congestion and connectivity challenges at terminal approaches and city interfaces are not addressed.
5. **Terminal/Node performance:** Stakeholder inputs indicate terminal dwell times, time the truck spends at a terminal, typically in the ~2 to ~4.5 hour range, with Kolkata-Guwahati-Kolkata having the highest (3.5-4.5 hrs) and Bengaluru-Delhi-Bengaluru, Mumbai-Delhi-Mumbai showing the lowest (2-3 hrs.) of dwell times. In addition, the "node penalty" (time spent in access and terminal approach as a share of total trip time) is particularly high on certain gateway-linked movements, reinforcing that improvements at terminals, gates and approach roads can unlock faster cycle times and better vehicle utilisation.

Key factors causing performance loss

Across the evidence layers, bottlenecks cluster into three recurring categories:

1. **Urban interface congestion and mixed-traffic interaction:** city approaches, peri-urban stretches, zones with multiple road intersections and frequent entry/exit points create stop-go movement and high variability, affecting Estimated Time of Arrival (ETA) reliability and increasing the likelihood of missed delivery slots and additional terminal queueing.
2. **Enforcement/checkpoint and compliance-linked stoppages:** stakeholders consistently flagged that the issue is not enforcement itself but how it is implemented, including mid-route interception, lack of protocol standardisation across jurisdictions, and time-consuming dispute resolution. There is an opportunity to move towards more consistent and technology-based enforcement that ensures compliance while reducing unnecessary stops and delays, utilizing government portals such as Sarthi and e-challan.
3. **Network discontinuities and work zones:** diversions, lane drops, construction fronts and poor work-zone traffic management act as "delay multipliers", creating queuing and reliability loss disproportionate to their physical length.

Action Agenda emerging from the analysis

The corridor baseline suggests that the next leg of improvement is less about headline corridor length and more about corridor performance management, especially at interfaces. Priority actions that flow directly from the evidence include:

- Targeted decongestion and freight access management at metro approaches, logistics hubs and terminal entry zones (the highest-speed penalties).
- Node readiness improvements: gate management, queuing control, documentation streamlining, and approach-road performance to reduce interface waiting.

- Predictable enforcement design aligned with digital systems (VAHAN/Sarathi/e-challan), using rules-based checks, designated control points, and risk based compliance checks.
- Work-zone discipline: better traffic management, freight-supportive diversions, and construction sequencing on critical corridors to reduce reliability loss.
- A unified portal can be developed allowing the commercial operators to pay for the state taxes through a single window for the entire trip.

Overall, the corridor assessment reinforces a clear message for LEADS 2025: road logistics efficiency is shaped as much by operating conditions and interface frictions, as by corridor availability. Improvements will be fastest where States and corridor agencies treat corridors as managed systems, focus on the points where time is actually lost, and track performance through indicators that reflect freight productivity and reliability.

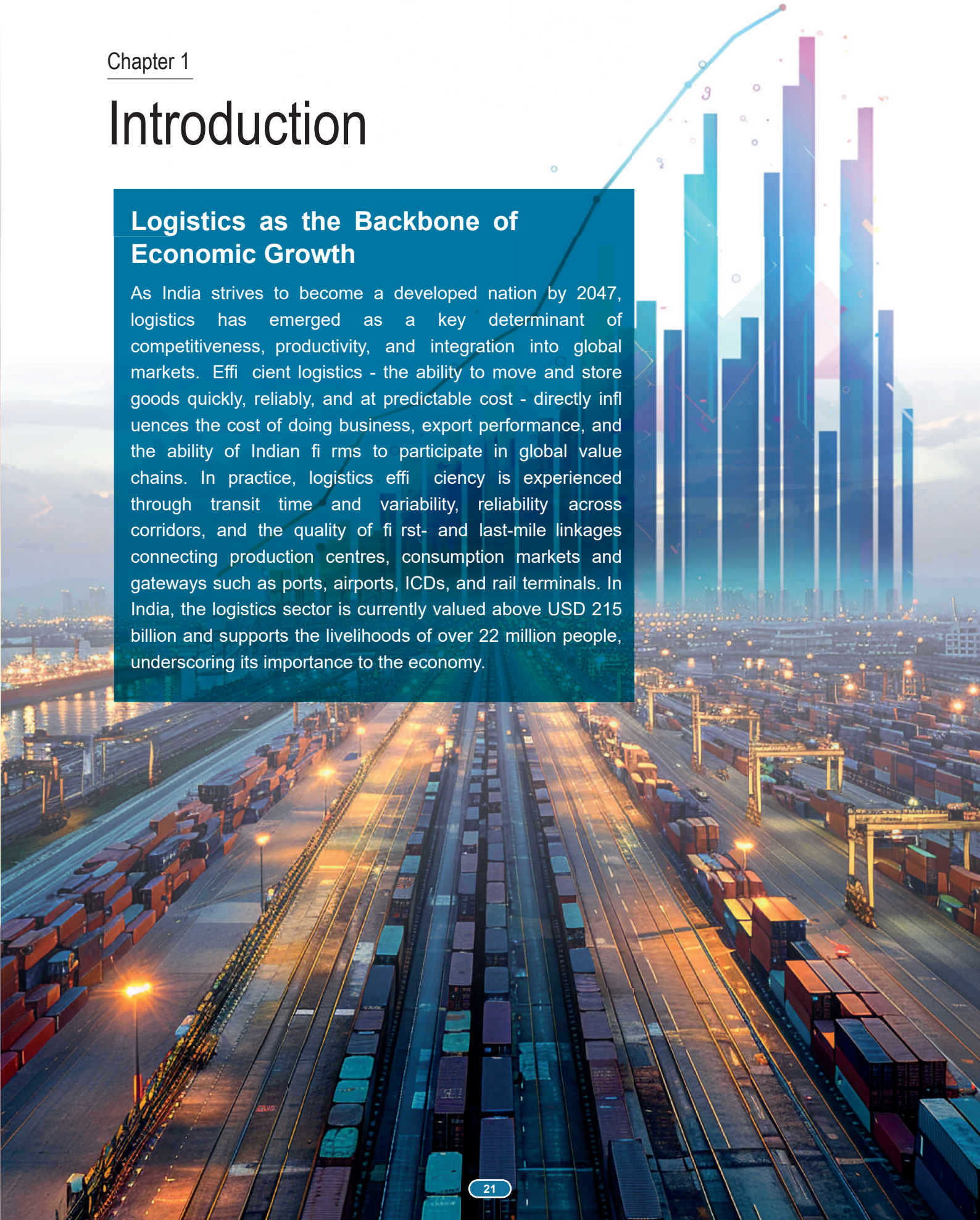


Chapter 1

Introduction

Logistics as the Backbone of Economic Growth

As India strives to become a developed nation by 2047, logistics has emerged as a key determinant of competitiveness, productivity, and integration into global markets. Effi cient logistics - the ability to move and store goods quickly, reliably, and at predictable cost - directly infl uences the cost of doing business, export performance, and the ability of Indian fi rms to participate in global value chains. In practice, logistics effi ciency is experienced through transit time and variability, reliability across corridors, and the quality of fi rst- and last-mile linkages connecting production centres, consumption markets and gateways such as ports, airports, ICDs, and rail terminals. In India, the logistics sector is currently valued above USD 215 billion and supports the livelihoods of over 22 million people, underscoring its importance to the economy.



Key insights from the latest evidence

Recent national estimates have sharpened the understanding of logistics costs in India, and indicate that further efficiency gains will increasingly come from improving network performance and execution quality, alongside capacity creation.

The NCAER-DPIIT Assessment of Logistics Cost in India (September 2025) estimates total logistics cost at 7.97 percent of GDP in 2023-24, equivalent to approximately INR 24.01 lakh crore at current prices. While this provides a robust national reference point, it also draws attention to the underlying drivers of these costs.

Evidence increasingly suggests that logistics costs are shaped not only by infrastructure availability, but also by operational parameters such as corridor speeds, variability in transit time, terminal access, and the quality of first- and last-mile connectivity. Opportunities remain to further enhance the impact of large-scale infrastructure investments by addressing delays at modal interfaces, easing congestion on feeder routes, and improving access to logistics facilities.

As a result, the reform focus is increasingly centred on improving execution quality, reducing dwell times, improving predictability, and strengthening multimodal coordination, so that investments translate into faster, more reliable, and more cost-effective freight movement.

Transformative Reforms and Initiatives

India's logistics ecosystem is transitioning from scheme-driven interventions to a systems-oriented reform phase, anchored in integrated planning, process standardisation, and digital interoperability.

The current reform approach is anchored in two national frameworks:

1. **National Logistics Policy (2022):** Seeks to establish a technologically enabled, integrated, cost-efficient, resilient, sustainable and trusted logistics ecosystem in the country. The policy aims to improve logistics efficiency, reduce costs, and support accelerated and inclusive economic growth.
2. **PM GatiShakti National Master Plan (2021):** Provides a transformative framework for integrated multimodal and data-driven infrastructure planning across sectors.

A defining feature of these reforms is the growing role of digital public infrastructure in logistics, particularly platforms that enable data exchange and visibility across stakeholders and transport modes. This includes:

- **Unified Logistics Interface Platform (ULIP):** A national digital platform that enables API-based data exchange across multiple logistics-related systems to support end-to-end visibility and interoperability. ULIP crossed 100 crore API transactions (as of March 2025), reflecting growing uptake of API-based data exchange across ULIP's multi-modal integrations (43 systems, 129 APIs).
- **Logistics Data Bank (LDB):** A container tracking platform for EXIM logistics that provides shipment visibility across key nodes through electronic tracking and data analytics. LDB has tracked over 75 million EXIM containers (as of October 2024), indicating expanded shipment visibility and analytical capability.

Infrastructure Upgrades Across Key Freight and Logistics Assets

India's logistics ecosystem is increasingly being designed as a connected network, consistent with the integrated planning approach under PM GatiShakti and the National Logistics Policy. The emphasis is on enhancing capacity while strengthening connectivity and evacuation linkages. including smoother first- and last-mile access to gateways and terminals, which are critical for lowering costs and improving services.

Key delivery engines

1. **Roads and freight corridors (Bharatmala):** Bharatmala continues to expand high-capacity road connectivity through economic corridors, feeder routes, and expressways, supporting decongestion of arterial routes and improved freight speeds. Under Phase-I, 26,425 kms. have been awarded and 21,248 kms. constructed on a cumulative basis up to September 2025. These investments are expected to improve average corridor speeds and reduce transit time.
2. **Logistics hubs:** To complement freight corridor development, 35 Multi-Modal Logistics Parks have been identified at strategic locations to consolidate freight, integrate road and rail connectivity, and improve terminal efficiency. Five MMLPs have been awarded and are under development (Jogighopa, Chennai, Bengaluru, Nagpur and Indore) and are expected to become operational through FY 2025–26 and FY 2026–27. This is expected to enable freight consolidation and reduce handling costs and dwell time.
3. **Port-led development (Sagarmala):** Sagarmala has anchored port modernisation and connectivity improvements at scale. About 839 projects have been identified, of which 272 projects worth approximately INR 1.41 lakh crore were completed by March 2025. These investments are translating into operational outcomes, with average ship turnaround time at Indian ports reducing from around four days to less than one day over the last decade.
4. **Inland waterways:** Cargo movement on National Waterways reached 145.5 million tonnes in FY 2024–25, indicating growing utilisation of lower cost and lower-emission transport modes, particularly for bulk and long-haul commodities.
5. **Rail freight corridors (Dedicated Freight Corridors):** The Eastern and Western DFCs together span 2,843 km, of which 2,741 route-km, (96.4 %), are operational, improving long-haul reliability and easing pressure on mixed passenger networks while enabling higher axle loads and more freight.
6. **Air Cargo:** Air cargo is steadily emerging as a critical pillar of India's logistics ecosystem, particularly for high-value, time-sensitive supply chains. As per official data, Indian airports handled approximately 33.7 lakh tonnes of air cargo in FY 2023–24, reflecting a 7 percent year-on-year growth. This growth is part of a broader structural expansion, with total air cargo volumes increasing from 2.53 million metric tonnes in FY 2014–15 to about 3.72 million metric tonnes in FY 2024–25, supported by sustained policy interventions, airport modernisation, and capacity augmentation.

Across modes, these infrastructure investments are reinforced by digital enablers such as ULIP and the LDB, as well as compliance digitisation. These measures reduce dwell time, improve predictability, and support end-to-end coordination. The cumulative effect of these delivery engines leads to gradual shift from fragmented movement to more integrated logistics networks.

Emerging Trends: Green, Smart, and Integrated Logistics

As core infrastructure scales up, the next phase of logistics performance is being shaped by sustainability, data-driven operations, and integrated network design with increasing emphasis on service quality.

Three shifts shaping the next phase:

1. **Decarbonisation moving into operations:** The modal mix is gradually shifting towards rail and waterways for suitable cargo, supported by cleaner port operations and lower-emission last-mile fleets. Sustainability is also becoming more visible in warehousing design and energy use.
2. **Deeper digitisation and automation:** Firms are expanding the use of AI, IoT, and telematics to improve routing, forecasting, fleet utilisation, and warehouse productivity. At the ecosystem level, ULIP's 100 crore API milestone indicates that interoperability and data exchange are moving beyond pilot stages.
3. **Expansion and professionalisation of warehousing networks (storage and fulfilment facilities):** Organised warehousing continues to grow with e-commerce, third-party logistics, and manufacturing demand. This is driving consolidation into larger, technology-enabled facilities and extending networks beyond metropolitan areas into Tier-2 and Tier-3 cities, reinforcing a corridor-based and hub-and-spoke model focused on predictable service levels.

India's Position in the Global Logistics Landscape

India's logistics transformation is unfolding alongside shifts in global supply chains, creating an opportunity to strengthen its position as a manufacturing and distribution hub by lowering trade costs and enhancing export competitiveness.

India has advanced the logistics agenda on global platforms as well. During its G20 Presidency in 2023, resilient and inclusive supply chains featured prominently, and the announcement of the India–Middle East–Europe Economic Corridor reflected an intent to strengthen inter-regional connectivity through a multi-modal route linking India to Europe via the Middle East.

Complementary efforts, including supply chain cooperation frameworks, bilateral logistics engagements, and investments in transshipment capability and port connectivity, are supporting closer integration into global networks. As port performance improves and trade processes become more digitised, India's attractiveness as a production and distribution base continues to strengthen.

States as Drivers of Logistics Improvements

A defining feature of India's logistics transition is the increasingly central role of States and Union Territories in shaping on-ground outcomes. Logistics performance spans both central and state-level infrastructures, including intra-state roads, industrial and warehousing ecosystems, and local regulatory processes, and therefore requires strong coordination and outcome-oriented monitoring at the State/UT level.

Initiatives by States and UTs

States and UTs are strengthening execution through:

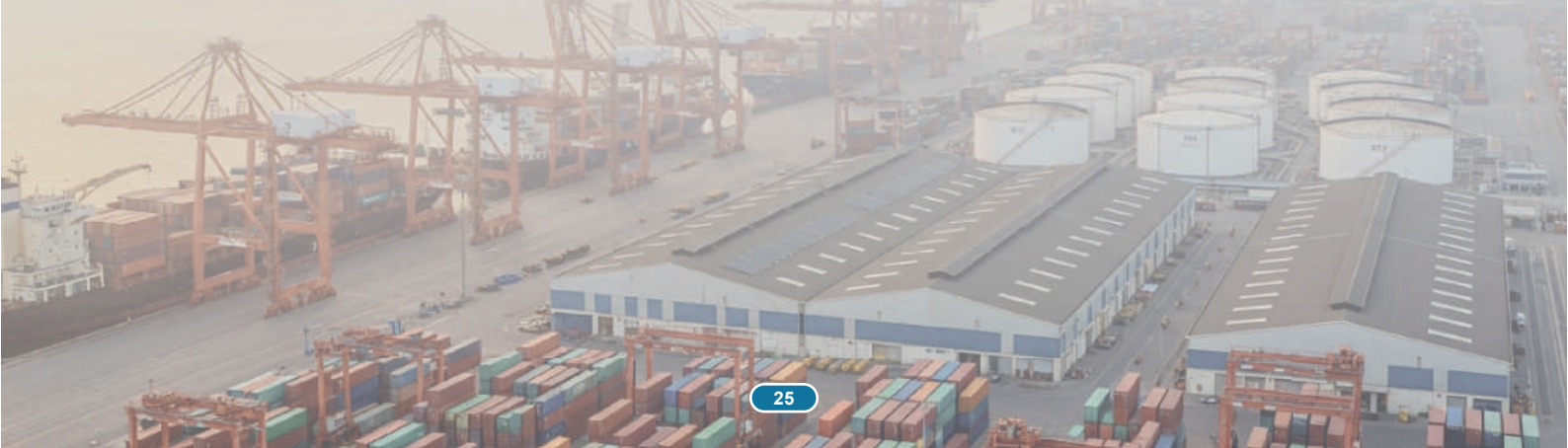
1. **Policy and institutions:** State logistics policies and their action plans, supported by logistics cells and nodal officers for coordination.
2. **First mile and last-mile outcomes:** Improvements in feeder and rural connectivity, terminal access upgrades, and support for logistics parks and warehousing ecosystems.
3. **Process simplification:** Wider adoption of national enablers such as e-way bills and FASTag, along with digital permits and approvals.
4. **Peer learning:** Centre-led platforms—particularly LEADS workshops along with regional engagements are playing a pivotal role in enabling States/UTs to exchange best practices, benchmark approaches, and adapt proven strategies. These forums, supported by PM GatiShakti anchored coordination, are also strengthening targeted capacity-building efforts.

LEADS: Strengthening Logistics Competitiveness through State/UT-Led Action

Introduced in 2018, the Logistics Ease Across Different States (LEADS) initiative has evolved into a key national instrument for strengthening logistics competitiveness across States and Union Territories. LEADS assesses logistics performance through a data-led framework that combines objective indicators with stakeholder perceptions and covers the end-to-end domestic logistics ecosystem, thereby enabling States to prioritise reforms and investments in line with the gaps identified. This approach provides a grounded view of on-ground performance, capturing not only the availability of assets but also how effectively the ecosystem functions in terms of speed, reliability, and ease of operations.

Principle of "Sabka Prayas" (collective effort)

LEADS strengthens the reforms ecosystem by creating a common and credible evidence base for dialogue between the Centre and States, and enables peer comparison and sharing of practices across States/UTs. Its assessment outputs help direct attention to areas where improvements yield the highest system-level impact and enable more targeted support where constraints are most binding. The framework follows a measure, learn, and act cycle. It benchmarks performance, highlights key gaps through pillar and parameter-level scores and supports continuity in reforms through periodic reassessment. Over time, this approach contributes to measurable improvements that are also reflected in India's performance on international indices, including the World Bank's Logistics Performance Index (LPI).



Purpose of LEADS

Rather than viewing logistics as a standalone sector, separate from industry, trade, infrastructure, and urban governance, LEADS offers a common performance lens that brings these elements into a single framework. It shifts attention from isolated inputs to system-level outcomes, enabling States and Union Territories to identify what is constraining performance, prioritise interventions accordingly, and track whether actions taken are delivering results - thereby supporting more informed, outcome-driven decision-making.

In practice, it enables:

1. **Performance visibility (from perception to evidence):** A clear and comparable view of how logistics systems function within each State and Union Territory. It highlights strengths and persistent constraints across the assessed pillars and sub-parameters, including infrastructure, service quality, the operating and regulatory environment and sustainability & equity. This supports a shift from anecdotal assessments to evidence-based discussion.
2. **Sharper prioritisation (identifying binding constraints):** By highlighting the weaker-performing parameters, LEADS helps identify the factors limiting logistics performance the most, allowing reform efforts and capital allocation to focus on higher-impact areas such as first and last mile connectivity to industrial nodes and terminals, warehousing and cargo handling capacity, multimodal integration, process simplification, and workforce capability.
3. **Replication at scale (structured peer learning):** A basis for States and Union Territories to learn from comparable peers and adapt proven practices in policy design, institutional coordination, digital process improvement, and infrastructure planning (including PMGS portal), reducing duplication and accelerating the adoption of effective approaches.
4. **Reform tracking and continuity (measure, improve, repeat):** A periodic benchmark that allows progress to be monitored over time, outcomes of interventions to be assessed, and course correction where required. The recurring measurement cycle supports sustained implementation rather than one-off initiatives.

Evolution of LEADS (2018–2025)

Since its launch in 2018, LEADS has evolved from an initial benchmarking exercise into a more robust, comparable, and decision-oriented assessment of logistics performance across States and Union Territories. This progression reflects two key trajectories:

1. **Stronger methodology:** from perception-led rankings to a mixed-method approach combining a Perception Survey and an Objective Assessment.
2. **Sharper use case:** from identifying relative position to supporting targeted interventions and tracking progress over time, thereby enhancing the utility of LEADS.

2018–2019

LEADS began by establishing a common reference point, creating visibility into logistics performance across the country and introducing a consistent vocabulary for assessing constraints and opportunities across the States/UTs. This laid the foundation for the subsequent refinement of indicators and deeper analysis in later editions.

2018

Established the first structured baseline with a primary emphasis on EXIM logistics, drawing heavily on stakeholder perception to map how the logistics ecosystem functioned on the ground.

2019

Expanded the lens to cover both EXIM and domestic logistics, recognising that national competitiveness depends as much on internal market efficiency as on gateway performance. Stakeholder coverage also widened across the value chain, strengthening the perception signal.

2021–2023

LEADS strengthened its analytical rigour in subsequent editions by improving the balance between perception-based inputs and empirical measures. It also improved comparability across geographies by introducing more contextual assessment approaches, including peer grouping of States and UTs.

2021

Established the first structured baseline with a primary emphasis on EXIM logistics, drawing heavily on stakeholder perception to map how the logistics ecosystem functioned on the ground.

2022

Introduced a stronger blend of objective/secondary inputs alongside perception, marking a methodological step-change toward greater rigour and repeatability of results.

2023

Improved fairness and interpretability through peer grouping, assessing States and UTs within comparable geographic categories (Coastal, Landlocked, North-Eastern, and UTs).

2024

With comparability and analytical robustness established, LEADS 2024 broadened the definition of logistics performance beyond throughput and infrastructure to include emerging priorities that increasingly shape competitiveness.

Key enhancements included:

A wider performance frame: introduction of a new pillar on Sustainability and Equity, reflecting the growing importance of green logistics and workforce participation.

Greater use of objective proxies: integration of additional measurable indicators (including network- and access-related proxies such as corridor performance and terminal accessibility), supported by more advanced analytical approaches.

Improved diagnostic depth: use of technology-enabled methods to provide more granular visibility into performance constraints and where they manifest.

2025

LEADS 2025 reflects a further shift from benchmarking as a tool for tracking improvement trajectories and informing next-stage reforms. The emphasis is increasingly on the pace and sustainability of improvement across States and Union Territories, rather than only their position at a single point in time.

2025

Assessment lens: performance is evaluated with explicit attention to incremental gains and absolute progress (year-on-year), strengthening focus on improvement pathways rather than relative ranking.

Separate questionnaires administered to Users (Shippers/Traders) and Service Providers (LSPs, Transport & Terminal Operators) to reduce respondent fatigue and improve response quality.

Strengthened data-driven evaluation & granular benchmarking:enhanced weightage to objective indicators (58.9%) to improve robustness of assessment, alongside introduction of a four-tier performance classification enabling sharper benchmarking and targeted policy interventions.

Piloting a logistics efficiency assessment across 6 high-density freight corridors to generate insights on time and cost; by combining API-driven speed and reliability data, government datasets, and stakeholder inputs to pinpoint bottlenecks and produce performance cards with recommendations.

Achievement of this evolution

Taken together, these shifts point to a consistent direction of travel. LEADS is becoming more evidence-led, more actionable, and more closely aligned with implementation. As logistics reforms deepen from asset creation to improvements in reliability, visibility, resilience, and sustainability, LEADS 2025 is positioned not only to benchmark performance but also to support targeted interventions, enable peer learning, and track whether reforms are translating into on-ground outcomes over time.

LEADS 2025 – Deeper Coverage and Stronger Evidence Base

LEADS continues to assess logistics efficiency through two complementary lenses: stakeholder perception, which reflects day-to-day operational experience, and objective indicators, which measure the capacity and quality of key logistics building blocks, ensuring a balanced view of system performance.

A defining update in the current cycle is the rebalancing of the composite score toward greater objectivity. Under the adopted approach, the final score is derived from weighted scores (~59% : 41%) across objective indicators and perception indicators respectively. This adjustment anchors results more firmly in measurable performance while retaining perception as a validation layer, ensuring that improvements reflect both on-ground experience and observable changes in capacity and quality.



Scale-up in perception evidence and representativeness

To strengthen the reliability of perception-based inputs and improve geographical and stakeholder coverage, LEADS 2025 substantially expanded the perception survey. Data were collected through a digital survey instrument, supported by on-field outreach to administer and capture responses digitally, enhancing data and response accuracy. This enabled wider participation across States and Union Territories and across segments of the logistics value chain.

Sample scale and retention:

More than 20,000 responses were collected (20,145) of which 18,417 (91.4%) were retained for analysis after applying data quality filters. The retained sample represents a ~2.5 times increase over LEADS 2024 (from 7,198 to 18,417), thereby improving the robustness and granularity of the analysis across diverse logistics contexts.

Balanced ecosystem coverage:

The perception sample covered both logistics service users (entities that procure logistics services to move or store goods) and logistics service providers (entities that provide logistics services and enabling infrastructure). Users include traders and manufacturers, while providers include freight forwarders and third-party logistics (3PL) firms, transport service providers, and terminal infrastructure providers such as terminal operators. The retained dataset includes 12,141 users and 6,006 providers, ensuring representation of both demand-side experience and supply-side constraints.

Stronger Controls for Bias and Improved Comparability

LEADS 2025 introduced enhanced quality controls to strengthen robustness and reduce distortion in perception-based results. Responses identified as biased through row variance analysis were excluded, and additional data-cleaning steps were applied to remove incomplete and duplicate submissions, thereby improving the integrity and reliability of the retained dataset.

The perception survey was also designed to be more comparable across States and Union Territories through the use of standardised close-ended questions with uniform numerical scales, supported by corroborative inputs (basis/examples) where relevant. This improved consistency of interpretation enabled more reliable aggregation across respondents and strengthened perception metrics.

Together, these methodological and sampling improvements position LEADS 2025 as a higher-fidelity assessment - better suited to identify binding constraints, support prioritisation of interventions, and track performance improvements with greater confidence across States and Union Territories, while reinforcing sustained, evidence-led logistics reforms.

Chapter 2

LEADS 2025 Framework

Launched in 2018, LEADS has evolved from World Bank's Logistics Performance Index (LPI)-informed approach into a framework tailored to India's State and UT-led planning and implementation context. LEADS is designed as an indigenous, India-specific assessment of logistics performance at the State and UT level. Led by the Logistics Division, DPIIT, it is conducted as an annual performance assessment, with a focus on handholding States/UTs in strengthening their logistics ecosystems. By combining stakeholder feedback with data-driven, verifiable inputs, LEADS helps identify priority constraints and provides a practical roadmap for improving logistics efficiency in a manner that reflects India's operating requirements. The framework is intended not only to measure performance, but also to inform reform priorities and investment choices that vary across geographies and supply-chain structures for example; prioritizing first and last mile connectivity, terminal access improvements, or faster approvals through single-window systems.



LEADS 2025 Framework: At a glance

LEADS 2025 continues to combine perception inputs and objective indicators to capture both stakeholder experience and the enabling measures put in place by States and UTs.

Perception Survey

Perception survey responses capture stakeholder experience of logistics from two distinct groups, using separate questionnaires for Logistics Service Users (LSUs) and Logistics Service Providers (LSPs). It is organized across four pillars:

1. Logistics Infrastructure
2. Logistics Services
3. Operating and Regulatory Environment
4. Sustainability and Equity Logistics

Objective Data

Objective data draws on structured data submitted by States/UTs and other sources such as publicly available datasets, to assess system capacity and enabling conditions. These indicators are organized under two pillars:

1. Regulatory and Institutional Support
2. Logistics Enablers

For LEADS 2025, perception and objective data are combined using a weightage of 41.1 percent (Perception) and 58.9 percent (Objective). The weightage indicates the contribution of perception and objective data to the overall LEADS score and the resulting outcomes. This reflects an emphasis on data-based assessment, while also incorporating stakeholder experience through the perception survey.

A defining feature of LEADS 2025 is the scale of the perception base, which strengthens representativeness and confidence in the patterns observed across geographies and stakeholder segments. The study received 18,417 responses. Relative to the LEADS 2024 sample size of 7,198, this expansion improves coverage across stakeholder groups and geographies and statistical reliability, enabling more stable State/UT-level comparisons in the perception results.

Perception Survey Framework

The perception survey component in LEADS 2025 is structured to capture how logistics performance is experienced across the full chain of freight movement. It reflects both demand-side experience and supply-side operating conditions through two separate questionnaires: one for Logistics Service Users (LSUs) and another for Logistics Service Providers (LSPs). This separation improves interpretability by allowing results to be read separately for Users and Service Providers, since similar issues may be viewed differently depending on stakeholder roles. For example, users may rate shipment pricing and delivery timelines poorly while service providers may rate approvals and enforcement friction as the binding constraint.

A key feature of the survey design is that respondents are able to rate up to three States/UTs, enabling comparisons across the geographies in which they operate. Several indicators also capture year-on-year change, supporting comparability with the previous cycle by using the same year-on-year improvement framing and helping distinguish structural shifts from short-term variations. Each rating is accompanied by qualitative feedback and suggestions, ensuring that scores are grounded in contextual inputs and can be translated into state-specific insights and potential action areas.

Pillars of Perception Survey

Perception indicators are organized into four pillars to ensure coverage across physical infrastructure, service delivery conditions, the operating and regulatory environment, and the sustainability and equity dimension.

1. **Logistics Infrastructure:** This pillar captures perceived readiness and improvement in the physical and enabling infrastructure that supports freight movement and storage. It covers road, rail, port, inland waterway, and airport infrastructure, alongside terminal infrastructure across key logistics facilities. It also assesses first and last mile connectivity to industrial infrastructure and logistics nodes, warehousing and cold chain infrastructure, and wayside amenities that directly affect logistics efficiency. The infrastructure pillar also captures digital enablement such as the availability and reliability of ICT-based logistics systems for cargo visibility, e-documentation, and compliance-related processes in the logistics ecosystem.

Logistics Infrastructure

Modal Infrastructure

Adequacy and Quality of

- Road Infrastructure
- Rail Infrastructure
- Port Infrastructure
- Air Infrastructure
- Inland Waterway

Adequacy and Quality of Wayside Amenities

Terminal Infrastructure

- Adequacy and Quality of Terminal Infrastructure
- Adequacy and quality of Warehousing Infrastructure

Connectivity Infrastructure

- Adequacy and Quality of First & Last Mile Connectivity Infrastructure

Digital Infrastructure

- Adequacy and Quality of Digital Infrastructure

2. **Logistics Services:** This pillar focuses on the adequacy, reliability, and value proposition of logistics services as experienced by users of the ecosystem. It captures the performance of transport services across modes, terminal and warehousing service delivery, and reasonableness of shipment prices. It also covers operational outcomes, including timeliness of delivery, availability of track-and-trace services, availability of skilled manpower, and cargo safety and security. In addition, the survey captures the ease of accessing competent logistics service providers on the ground. Where relevant, respondents are also asked to provide mode-wise or service-wise ratings based on the categories they are familiar with, which improves detail in the responses.

Logistics Services

Transport Services

- Adequacy and Quality of Transport Services

Terminal Services

- Adequacy and Quality of Terminal Logistics Services
- Adequacy and Quality of Warehousing Services

Services provided by LSPs

- Timeliness of cargo delivery
- Reasonableness of Shipment Prices
- Availability of track & trace for cargo
- Safety and security of cargo

Skilled Manpower

- Availability of skilled manpower

Competent LSPs

- Ease of availability of competent LSPs

3. **Operating and Regulatory Environment:** This pillar focuses on the enabling ecosystem that shapes operational efficiency and the creation of new capacity. It captures ease of movement across borders, satisfaction with grievance redressal mechanisms for logistics-related issues, effectiveness of government policies and regulations in facilitating smooth operations, and ease of obtaining approvals for setting up new logistics facilities. It also captures availability of policy initiatives that support logistics sector investments, for example, incentives or facilitation measures for logistics parks, warehousing, and multimodal terminals. Together, these indicators help distinguish operational conditions from governance and institutional factors, which supports the design of targeted interventions, for example simplifying approvals through a single-window system or strengthening grievance redressal processes to reduce operational friction.

Operating and Regulatory Environment

- Ease of obtaining regulatory approvals for setting up new logistics facilities
- Ease of entry from neighboring States/UTs
- Quality of grievance redressal and dispute resolution mechanisms
- Effectiveness of policies for facilitating logistics operations
- Availability of initiatives for logistics sector investments

4. **Sustainability and Equity in Logistics:** This pillar captures the extent to which States and UTs are enabling the transition towards greener logistics and a more inclusive workforce. It assesses state support for adoption of EVs in logistics operations, availability and accessibility of public EV charging infrastructure, and the presence of initiatives that promote green and environmentally sustainable warehousing practices. It also captures efforts to improve women's participation in the logistics workforce, reflecting the equity dimension of logistics development.

Sustainability and Equity Logistics

- Availability of State-Level Initiatives to Promote Adoption of Electric Vehicles (EVs)
- Availability & Accessibility of Public EV Charging Infrastructure
- Availability of State-Level Initiatives to Promote Adoption of Green (Environmentally Sustainable) Warehouses
- State's initiatives towards women's participation in logistics workforce

New Additions in Perception Survey

LEADS 2025 strengthens the perception framework by expanding coverage in areas that have become increasingly central to logistics competitiveness: These additions respond to the gaps observed in the previous edition, where stakeholders reported constraints but the questionnaire did not always capture the specific factors behind them.

Logistics Infrastructure

Digital Infrastructure

A new indicator on adequacy and quality of digital infrastructure has been introduced to capture the accessibility and reliability of digital systems supporting logistics operations. This improves the ability of the study to distinguish between physical constraints, such as road and terminal capacity, and digital constraints, such as system uptime, platform reliability, data integration, and adoption levels, which affect cargo visibility, process automation, and regulatory compliance. The addition also aligns the perception framework with the expanding role of digital workflows in logistics operations.

Logistics Services

Warehousing Services

LEADS 2025 introduces a new sub-indicator on adequacy and quality of warehousing services to reflect the service dimension of warehousing, including value-added operations, service coverage and accessibility, and inventory management. Through this indicator, the framework can better distinguish whether performance challenges relate to capacity availability, service quality, value-added capabilities, or warehouse location and access to key corridors and nodes.

Availability of competent LSPs (Logistics Service Providers)

LEADS 2025 introduces an indicator on ease of availability of competent logistics service providers. This addition recognizes that the presence of providers in a State or UT does not necessarily translate into accessible, standards-based, or multimodal service delivery for users. Measuring ease of access to competent providers allows the study to better explain variations in service outcomes, for example, a State/UT may have adequate terminals and warehousing capacity, but users still report difficulty in finding reliable, standards-based providers offering multimodal services and real-time track and trace, leading to uneven service performance.

Operating and Regulatory Environment

Approvals and operating environment

Three additions strengthen the governance and investment lens within the perception framework:

1. Ease of obtaining regulatory approvals for establishing new logistics facilities
2. Effectiveness of policy and regulatory support in enabling smooth logistics operations
3. Availability of investment facilitation initiatives for the logistics sector

Together, these indicators capture the conditions that shape how quickly new logistics capacity can be created. They support analysis of institutional and procedural factors such as single-window systems, approval timelines, inter-departmental coordination, and targeted incentive structures, enabling the study to move beyond identifying bottlenecks toward identifying specific policy and administrative actions available to States and UTs.

Sustainability and Equity

Sustainability enabling conditions

LEADS 2025 strengthens the sustainability pillar through three additions:

1. Availability of state-level initiatives to promote EV adoption in logistics
2. Availability and accessibility of public EV charging infrastructure
3. Availability of state-level initiatives to promote green and environmentally sustainable warehousing

These additions allow the framework to differentiate between policy intent and ecosystem readiness by separately capturing initiatives and the availability of enabling infrastructure. EV adoption in logistics depends on both institutional support and charging availability, while green warehousing depends on initiatives that enable energy-efficient practices, standards, and adoption pathways. This refinement supports more actionable sustainability assessment by identifying specific enabling conditions that can be strengthened over time.

Objective Survey Framework

The objective survey component of LEADS 2025 is designed to ground the assessment in verifiable evidence by capturing the policies, institutions, systems, and measurable enablers that shape logistics performance across States and UTs. Unlike perception survey, which reflects operational experience, the objective survey requires States and UTs to submit information supported by documentary evidence. This design allows consistent comparison across States and UTs and helps track on-ground implementation progress.

In LEADS 2025, the objective questionnaire is organized into two broad pillars. The first assesses regulatory and institutional support, focusing on the governance and policy ecosystem that enables logistics. The second captures logistics enablers, focusing on the measurable infrastructure base and operating capacity that support freight movement, handling, and storage. Across both pillars, the survey places emphasis on implementation, by capturing year-wise information for FY 2023–24 and FY 2024–25, with optional reporting for FY 2025–26. This allows evidence-based scoring under the objective framework.



A. Objective indicators for regulatory and institutional support

These indicators evaluate the ability of a State or UT to create an enabling environment for logistics through policy instruments, planning frameworks, institutional arrangements, and facilitation mechanisms. LEADS 2025 retains the same ten (10) objective indicators as the earlier edition, while strengthening the evidence requirements and the assessment of supporting institutions and mechanisms across these areas.



Figure: Objective indicators for regulatory and institutional support

1. **State Logistics Policy and its Action Plan:** Logistics Policy and its Action Plan matter because it shows whether the State/UT has a clear, time-bound roadmap for improving logistics, with defined priorities, responsible departments, and planned projects. The survey captures whether a State or UT has formulated a logistics policy and, importantly, whether it is at the draft stage or has been notified. LEADS 2025 also captures the presence of a State Logistics Action Plan, for the implementation of the State Logistics Policy. Implementation progress is assessed by capturing whether initiatives are at the planning stage, have budget provision, or are under implementation. This indicator also captures interventions such as inland waterway-linked logistics projects, coastal shipping promotion measures, and last mile connectivity projects, along with policy-based support provided to the sector, including year-wise disbursements.
2. **City Logistics Plan (CLP):** CLPs help States and UTs manage urban freight more systematically. Since a large share of freight trips start or end in cities, congestion, curbside loading, and access restrictions can quickly become major sources of delay and cost. LEADS 2025 assesses whether a State or UT has developed a City Logistics Plan for at least one city and records whether the plan is at the draft or approved stage. The intent is to assess whether urban freight is being addressed through structured planning processes.
3. **PM GatiShakti State Master Plan:** PM GatiShakti State Master Plan helps States/UTs plan infrastructure on a single platform, align projects across departments, and improve multimodal connectivity by reducing overlaps and coordination gaps. This indicator assesses the extent to which the PM GatiShakti National or State Master Plan portal is used for project planning above a defined threshold value. A key addition in LEADS 2025 is the emphasis on governance structures and their functioning, including the constitution of a Network Planning Group (NPG), a Technical Support Unit (TSU), and an Empowered Group of Secretaries (EGoS). The framework also captures the number of projects under the State budget that have been evaluated through the PM GatiShakti framework. Integration of land records and environment layers with PM GatiShakti portal: To strengthen

the assessment of integrated planning readiness, LEADS 2025 introduces detailed checks on foundational layers by verifying whether key attributes such as survey number, area, ownership type, and land use are integrated with the PM GatiShakti portal. The survey also verifies integration of key layers of the Parivesh portal (MoEFCC) with PM GatiShakti portal portal, including forest clearance, environmental clearance, eco-sensitive zones, protected area boundaries, recorded forest areas, and coastal regulation zones.

4. **Human resource development for logistics sector:** Human resource development matters because logistics performance depends heavily on trained manpower, especially for driving, warehousing, freight handling, and terminal operations. States and UTs report the number of skill development schemes in operation and whether these schemes include logistics-specific components. This indicator captures partnerships with educational institutions, industry bodies, and logistics skill organizations. It also quantifies capacity through year-wise counts of logistics training centres and individuals trained for FY 2023–24 and FY 2024–25, with optional reporting for FY 2025-26. It also captures the total number of Logistics Centers of Excellence (COEs) in the States/UTs.
5. **Green logistics:** Green logistics covers whether States/UTs have put in place clear measures to reduce emissions and resource use in logistics, especially through cleaner vehicles and supporting infrastructure, and through greener warehousing practices where relevant. This indicator captures States' and UTs' policies to promote green logistics and the presence of a dedicated action or implementation plan. It also captures adoption of energy-efficient building codes and standards notified by the State/UT, and measures that support EV-related enablement, including policy support for EV manufacturing and initiatives for EV charging station deployment.
6. **Facilitation for Central Government projects:** Facilitation of Central Government projects shows whether the State/UT is helping remove local bottlenecks (such as land, permissions, inter-department coordination) so nationally important logistics projects can move faster on the ground. This indicator captures State/UT facilitation of logistics projects led by the Central Government through year-wise reporting of the number of projects facilitated and the number of memorandum of understanding or partnership agreements signed with Central Government agencies.
7. **Public Private Partnerships (PPPs) for logistics projects:** PPPs for logistics projects help States and UTs mobilize private investment and specialized operating capability to create logistics infrastructure and services faster, especially for complex assets such as MMLPs, terminals, and warehousing clusters. This indicator captures the number of logistics infrastructure or service-related projects developed through public private partnership by the State/UT or within the State/UT, reported year-wise. It also captures the number of Central Government PPP projects in which the State or UT is an active participant.
8. **Industry status for logistics and warehousing:** Industry status to logistics and warehousing is important because it allows States/UTs to extend industrial-policy benefits to logistics and warehousing sector, which can lower set-up costs and make investment easier. LEADS 2025 captures whether industry status has been granted to logistics and warehousing activities and records the specific benefits offered, such as land allotment at industrial rates, concessional power tariff, stamp duty exemption, SGST reimbursement, assistance such as interest subvention, employment-linked assistance, or capital support etc. It also documents uptake through the number of projects or companies that have availed these benefits since the provision was introduced.
9. **Streamlining of regulatory processes:** Streamlining of regulatory processes is important

because delays and uncertainty in approvals, compliance checks, and issue resolution add time and cost to logistics operations and to setting up new facilities. Mechanisms such as single-window clearances and issue-resolution platforms like SIG and e-Logs are intended to reduce these frictions by making processes more predictable and by providing a formal route to raise and resolve logistics-related issues. This indicator captures whether States and UTs have established institutional and process frameworks to support logistics development, such as a dedicated logistics cell, or an inter-departmental task force, or plans to create such mechanisms. It assesses regulatory interventions to improve freight movement management, including the use of surveillance at checkpoints, integration with vehicle and licensing platforms, and the availability of digital weighbridges. A specific focus is the presence and scope of institutionalized mechanisms to resolve regulatory issues raised by the logistics sector, such as SIG and grievance redressal systems.

10. **ULIP adoption by State/UT:** ULIP adoption indicates whether the State/UT is taking steps to integrate with a common national logistics data interface, which can improve data sharing and visibility across systems and support more consistent logistics planning and operations. This indicator captures the extent of integration of the Unified Logistics Interface Platform (ULIP) for logistics operations, including interface portals for data exchange, permit validation, and route optimization.

In addition to structured indicators, the objective survey captures short narrative inputs on major sector challenges, actions taken on opportunities flagged in the previous LEADS cycle and their measurable impacts, and suggestions to strengthen the logistics ecosystem, including initiatives related to sustainable logistics and circular economy practices. These inputs are used to contextualize State/UT performance and to inform the report's cross-cutting observations and improvement priorities.

B. Objective indicators for readiness of logistics enablers

To complement the policy and institutional assessment, LEADS 2025 captures a set of measurable enablers that reflect logistics capacity, connectivity, and operational performance. These enablers provide a factual baseline and support the objective assessment by indicating whether observed constraints are linked to network scale, network expansion, capacity availability, or system performance. The data-points for these indicators have been sourced from a combination of State/UT submissions and Central Ministry website/ portals.

Logistics Enablers – Data Indicators

Transport Network Data

- Road Network Length for NHs, SHs, Village Roads, PMGSY Roads and Urban roads
- Access to Terminals – speed on approach roads
- Section-wise speed of Road Network
- Length of Railway Network

Logistics Infrastructure Data

- Number and Capacity of Cold Storages
- Capacity of Warehouses
- Number of Ports, MMLPs, ICDs & CFSs

Vehicle and Driver Statistics

- Number of Registered GCVs
- Number of Registered GCV Drivers
- Number of Road Accidents involving GCVs

Sustainability

- Number of operational EV charging stations in the state

The logistics enabler indicator includes: network extent and growth measured through highway length, year-on-year change in highway length, railway length, and year-on-year change in railway length. Freight capacity and safety are measured through registered goods-carrying vehicles, registered goods-carrying vehicle drivers, and accidents involving goods-carrying vehicles. Storage capacity is measured through the number of cold storages and the capacity of warehouses. Key nodes and handling infrastructure are measured through the number of ports, multimodal logistics parks, inland container depots (ICDs), and terminal access. Green transition readiness measured through the number of operational EV charging stations.

Together, these indicators capture the scale of logistics enabling infrastructure, while also introducing objective signals on safety, operational performance, and enablers for cleaner logistics. Further, these indicators feed into the objective scoring and, along with perception inputs, inform the overall LEADS outcomes.

New Additions in Objective Framework

LEADS 2025 strengthens the objective framework by moving from a simple check of whether measures exist to assessing how far they have been implemented, along with sharper checks on integrated planning and ecosystem readiness.

1. **State Logistics Policy and its Action Plan:** The logistics policy assessment captures whether the State Logistics Policy is in draft or notified form, and also captures the State Logistics Action Plan for implementation of the policy, with both evaluated independently. This helps distinguish policy intent from execution readiness and applies consistent evidence requirements across States and UTs.
2. **Implementation evidence:** Across policy support and facilitation themes, LEADS 2025 captures implementation status categories and year-wise reporting of project counts, budgets, utilization, and disbursements. This shifts the framework from documenting what exists to assessing what is underway and supported through funding.
3. **Multimodal initiatives:** The questionnaire captures inland waterway-linked logistics projects and initiatives to promote coastal shipping. This information is used in the objective assessment to reflect implementation progress on multimodal connectivity and to inform the State/UT specific observations in the report.
4. **Urban freight measures:** LEADS 2025 captures policy initiatives related to urban freight consolidation centers, micro-warehousing, dark stores, time-window based freight entry, and gender-safe logistics workspaces. This information feeds into the objective assessment and is reflected in the State/UT narratives as evidence of preparedness to manage urban freight more systematically.
5. **PM GatiShakti for Infrastructure Planning:** Instead of focusing primarily on portal mapping completeness, LEADS 2025 examines whether PM GatiShakti has been institutionalized through Government Orders, use in project planning and evaluation, functioning governance structures including NPGs, TSUs, and EGoS, meeting frequency, and the number of projects evaluated through the framework.
6. **Integration of Land and Environmental layers:** The framework deepens assessment of planning readiness by capturing integration of core land attributes with the PM GatiShakti portal, and integration of key layers on the Parivesh portal.
7. **Human Resource Development for Logistics:** Human resource development is assessed through the number of operational schemes, presence of logistics-specific components, partnerships, counts of training centers and centers of excellence, and year-wise numbers of individuals trained.

8. **Green Logistics:** The objective framework differentiates between initiatives backed by direct budget allocations and those enabled through policy provisions, and captures additional enablers such as EV manufacturing support mechanisms, and actions to expand promotion of EV charging infrastructure.
9. **Streamlining of Regulatory Processes:** Institutional arrangements, Service Improvement Groups (SIGs) and grievance redressal mechanisms, and coverage under single-window systems are assessed. Approval counts under single window platforms are used to reflect actual usage, and feed into the objective assessment and State/UT observations on regulatory efficiency.

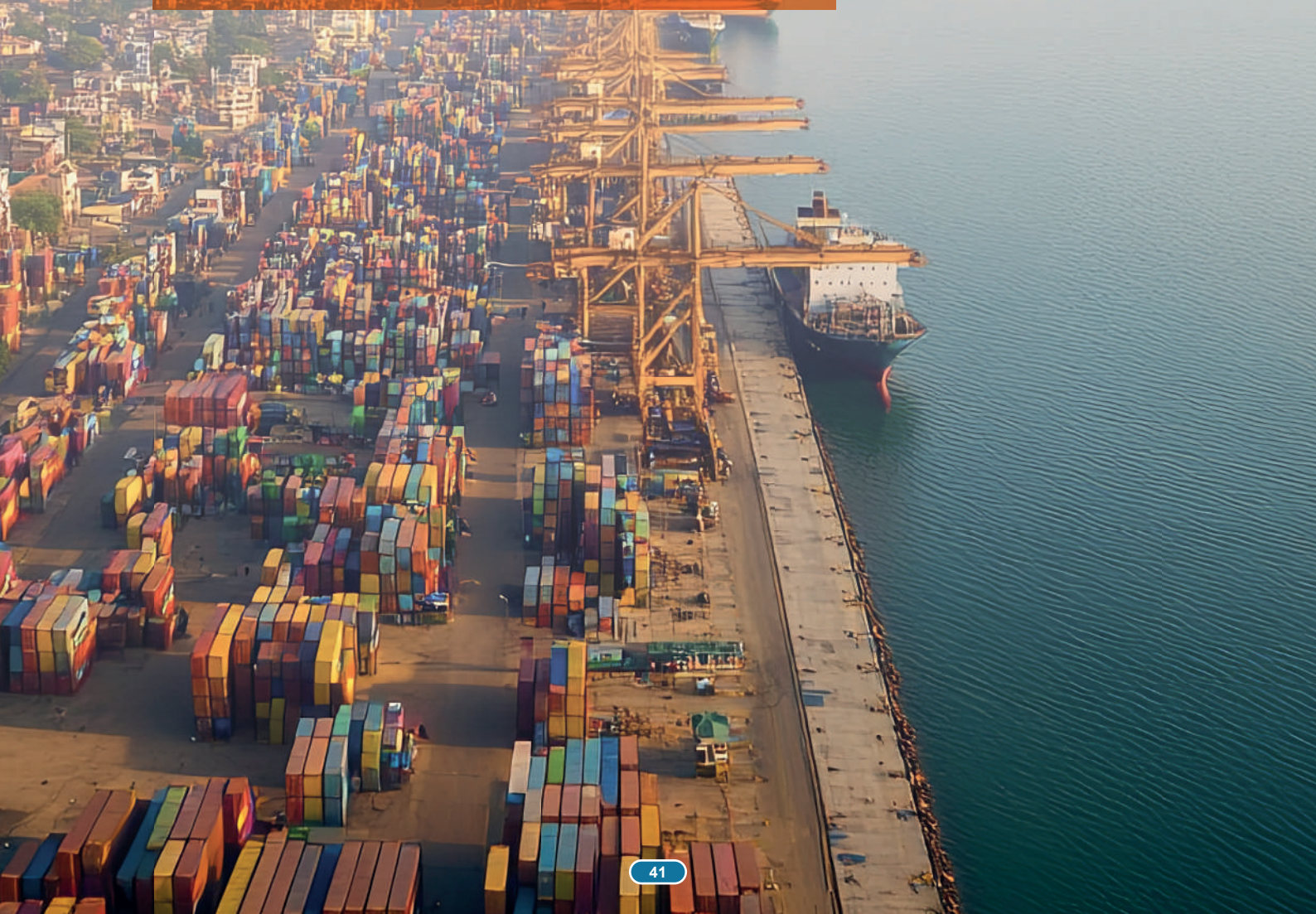
LEADS 2025 strengthens the assessment by moving from broad signals to decision-useful diagnostics. The updated perception indicators capture practical friction points that stakeholders feel, such as digital reliability, service depth, approvals experience, and sustainability enablement. The refined objective indicators add a stronger implementation lens by testing whether policies are backed by action, institutional mechanisms, and measurable progress. Read together, the two sets of indicators provide a more credible basis to distinguish what is structurally constraining performance in each State/UT and what is already improving, so that reform efforts and investment choices can be prioritized with greater confidence and translated into more predictable logistics outcomes.

By organizing indicators systematically, and by strengthening implementation and evidence requirements in the objective component, LEADS 2025 supports better identification of constraints related to infrastructure availability, service delivery conditions, regulatory processes, and sustainability measures. Accordingly, the sections that follow use the objective results to interpret constraints and highlight State/UT-specific areas for action.

Chapter 3

LEADS 2025: Performance Highlights

This section presents the outcomes in LEADS 2025, drawing upon perception survey data collected through stakeholder surveys and objective data submitted by States/UTs. The outcomes presented in this chapter reflect how States and Union Territories are performing in practice across key logistics dimensions, combining stakeholder experience with measurable improvements in infrastructure, institutional capacity, and operational systems.



Survey Structure and Respondent Profile

Perception Survey:

Data collection for LEADS 2025 was undertaken across all States and Union Territories (UTs) through a combination of field visits and online surveys, ensuring extensive geographic coverage and active participation from a wide range of stakeholders across the logistics ecosystem. This approach ensured that both region-specific operational realities and broader sector-level perspectives were captured in a balanced manner.

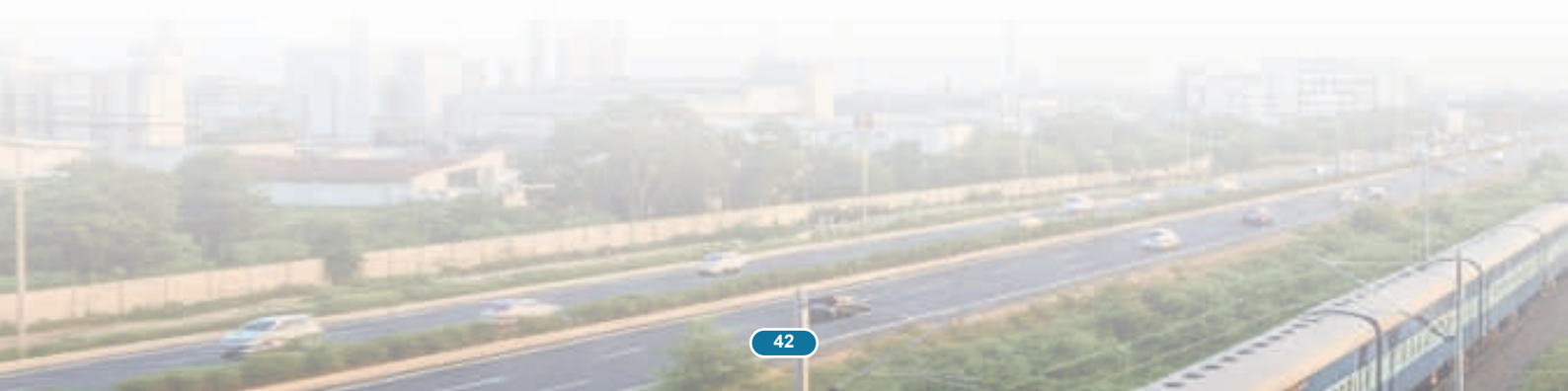
In a significant methodological enhancement for LEADS 2025, two separate questionnaires were introduced for the first time to cater distinct stakeholder groups and to reduce respondent fatigue. This approach allowed for more targeted data collection while improving response quality and completion rates. The two categories of questionnaires and their respective target groups are outlined below:

1. **Logistics Service Providers:** Logistics Service Providers include entities that facilitate the movement, storage, and handling of goods by offering transportation, warehousing, and related logistics services. They play a key role in enabling efficient, reliable, and cost-effective supply chains.

- Transport Service Provider (including Road Hauler, Rail Operator, Shipping Line, Non-Vessel Operating Common Carrier (NVOCC), Airline and Inland Waterway Operator)
- Terminal Infrastructure Service Provider (including Inland Container Depot (ICD), Container Freight Station (CFS), Private Freight Terminal (PFT), Multi-Modal Logistics Park (MMLP), Air Cargo Terminal, Port Terminal, etc.)
- Logistics Service Provider (including Freight Forwarders, 3rd Party Logistics Service Providers (3PL), 4PL, Customs Brokers, Air Cargo Agents, Warehouse, Cold Storages, Aggregation Centers, MTOs, Digital Service Providers)

2. **Logistics Service Users:** Logistics Service Users include manufacturers, traders, retailers, and e-commerce firms that rely on logistics networks for procurement, distribution, and market access.

- Industries: Micro, Small and Medium Enterprises (MSMEs), Small and Medium Enterprises (SMEs) and Large Enterprises requiring reliable logistics network for the procurement of raw material and distribution of finished goods.
- Retailers and wholesaler's dependent on efficient supply chain processes for inventory management, warehousing, and distribution
- E-commerce Companies, Exporters, Importers.



During the data collection phase, a total of 20,145 responses were received. The dataset was subjected to systematic validation and cleaning, including the removal of inconsistent and outlier responses, to ensure analytical reliability. Following this refinement, a final sample of 18,417 validated responses was retained, forming the analytical foundation for the performance assessment and insights presented in the subsequent chapters (chapter 4).

The following exhibit illustrates the distribution of respondents across various stakeholder categories in the Perception Survey, highlighting the diverse and representative participation from different segments of the logistics value chain.

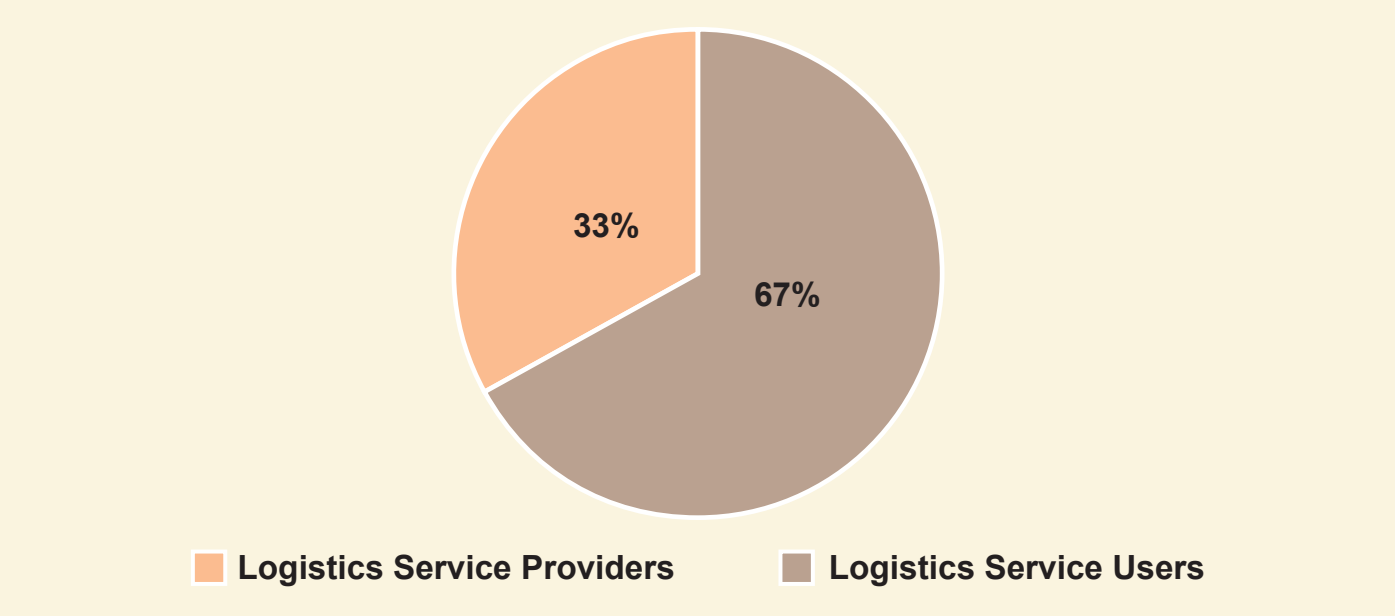


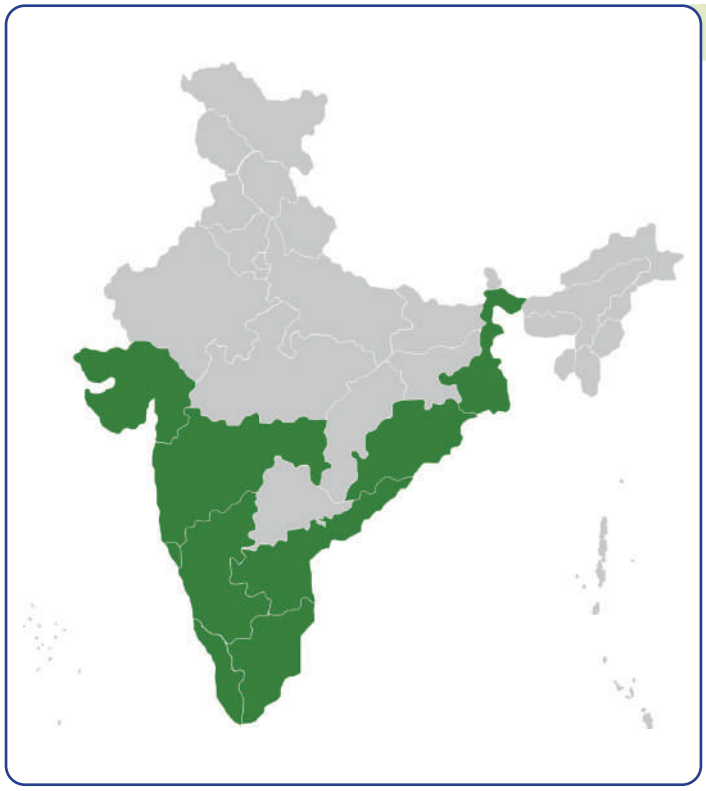
Figure: Perception Survey Respondent Distribution

Objective Survey

Similarly, an objective data collection exercise was undertaken in close coordination with various State governments and Union Territory administrations to ensure the development of a robust and accurate dataset for the LEADS 2025 Index. The data encompassed key parameters such as the policy and institutional framework, logistics infrastructure, operational performance, regulatory environment, and budgetary allocations. The objective information furnished by States and UTs was critical in assessing logistics maturity, defined as the ability of a State/UT to efficiently support freight movement through infrastructure, services, and governance systems. This data complemented the perception survey by validating stakeholder views and identifying specific gaps using quantitative evidence. Together, these two data streams enabled a balanced assessment of logistics efficiency and competitiveness across the States & UTs.

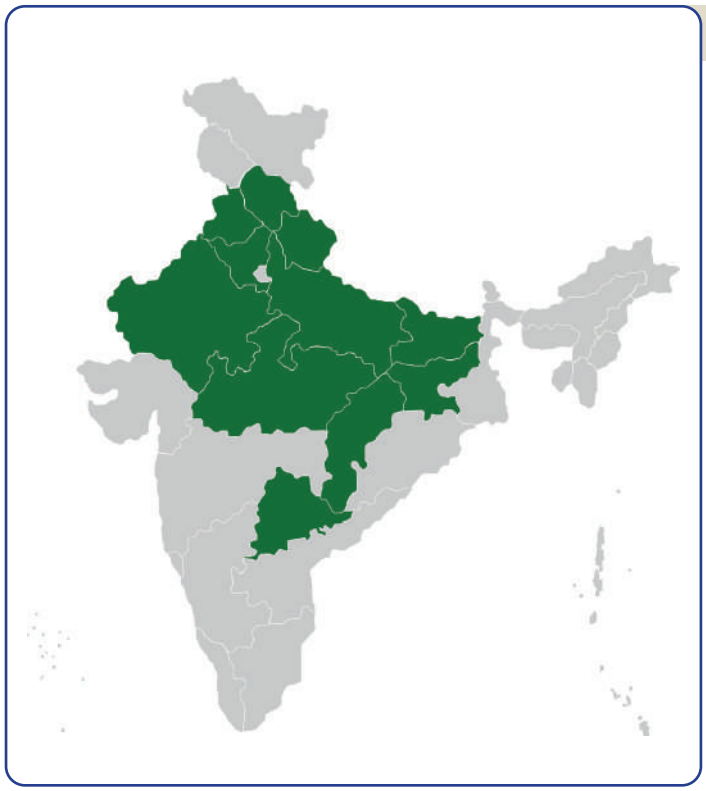
Geographic Grouping of States and Union Territories

The analytical framework classifies States and Union Territories into four distinct groups based on their geographic and structural characteristics. This approach enables fair and meaningful comparisons by accounting for region-specific logistical constraints, developmental priorities, and operational contexts. By assessing performance within comparable groups, the framework recognizes structural and geographic differences rather than applying uniform benchmarks across all regions.



Coastal Group:

Comprising regions located along India's coastline, this Group includes Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, and West Bengal. These States are geographically positioned along coastal areas and are associated with port locations, maritime trade routes, and coastal shipping infrastructure.



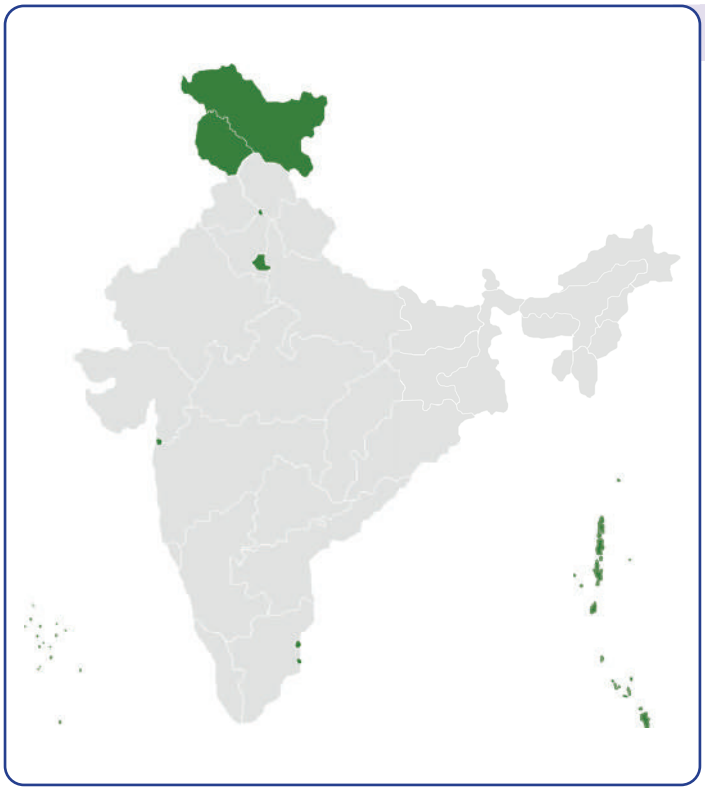
Landlocked Group:

Consisting of inland States situated away from coastal areas, this Group includes Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttar Pradesh, and Uttarakhand. These States are geographically located in the hinterland of the country and rely on road and rail corridors for access to ports and major international markets.



North-Eastern Group:

Encompassing the eastern most States of the country, this Group includes Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. These States are located in the North-Eastern region of India and are characterised by distinct geographic terrain and settlement patterns.



Union Territories Group:

Including administrative units governed by the Union Government, this Group comprises Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Delhi, Jammu and Kashmir, Lakshadweep, Puducherry, and Ladakh. These Territories vary in geographic size, location, population density, and economic profile in comparison to the states.

Analytical Framework and Statistical Methodology

The LEADS 2025 framework assesses logistics performance across States and Union Territories by combining stakeholder feedback with objective data reported by the States and UTs. This approach integrates experience-based inputs with officially reported data to form a comprehensive assessment. Structural Equation Modelling (SEM) and Principal Component Analysis (PCA) were used as part of the analytical process.

Perception data, collected from stakeholders across the logistics value chain, was analysed using Structural Equation Modelling (SEM) to identify key determinants of satisfaction and performance outcomes. An

iterative modelling process, facilitated a nuanced interpretation of stakeholder responses and enabled the identification of interlinkages between service, infrastructure, regulatory efficiency, and operational reliability. This analytical approach underscored the importance of user experience as a critical dimension of logistics performance.

Objective data, comprising quantifiable indicators such as infrastructure coverage and capacity, fleet and vehicle availability, skill development initiatives, and regulatory and institutional support mechanisms, was analyzed using Principal Component Analysis (PCA). In line with Organization for Economic Co-operation and Development (OECD)-recommended methodologies, PCA was applied to extract the most significant performance dimensions and to derive appropriate weights for individual indicators.

Revised Weightage Structure and Shift towards Objective Assessment

The final LEADS score was computed by integrating perception and objective datasets, with a weightage of 41.1 % assigned to perception survey and 58.9 % to objective data. For the first time since the inception of LEADS, the weight assigned to objective indicators exceeded that of perception-based inputs. This shift reflects a move towards greater objectivity and consistency in performance assessment. A higher weight has been assigned to objective data, which consists of quantitative information submitted by State Governments, compared to perception-based inputs. This strengthens the credibility of the assessment while reinforcing the robustness of the data collection and validation. In comparison, LEADS 2024 assigned a weightage of 67.5 % to perception survey and 32.5 % to objective data.

From LEADS 2022- 2024, States and Union Territories were classified into three performance categories—Achievers, Fast Movers, and Aspirers based on their aggregate scores. From LEADS 2025 onwards, four-tier classification framework has been introduced to better reflect variations in performance trajectories. Accordingly, States and UTs are now categorized into the following four performance levels:

Exemplars

Exemplars represent the top-performing States and Union Territories, demonstrating sustained excellence across policy, infrastructure, service delivery, and regulatory dimensions. These regions exhibit well-established institutional frameworks, strong multimodal connectivity, and consistently high levels of stakeholder satisfaction. They serve as reference models within the national landscape, showcasing best practices, innovation in logistics governance, and effective implementation mechanisms that contribute to overall supply chain efficiency and competitiveness.

High Performers

High Performers comprise States and Union Territories that demonstrate strong and consistent outcomes across the majority of performance indicators. While nearing the performance levels of the Exemplars, these regions continue to focus on strengthening select dimensions to further enhance their standing. Their overall trajectory reflects effective policy implementation, progressive improvements in infrastructure quality, and increasing private sector confidence in the logistics ecosystem.

Accelerators

Accelerators comprise States and Union Territories that have demonstrated notable improvement momentum and a clear reform orientation in recent years. Although their aggregate scores remain moderate, these regions are actively pursuing institutional strengthening, infrastructure augmentation, and operational enhancements. With sustained policy focus and targeted investments, Accelerators exhibit strong potential to advance toward higher performance categories in the near to medium term.

Growth Seekers

Growth Seekers represent States and Union Territories that are at a foundational stage of logistics system development and institutional strengthening. These regions face relatively greater structural, connectivity, and capacity-related constraints that impact over all performance outcomes. However, their categorisation reflects a demonstrated commitment to reform and improvement, with considerable scope for advancement through targeted capacity-building initiatives, infrastructure augmentation, and strengthened governance frameworks.

LEADS 2025 Outcomes

This four-tier classification framework enables clear differentiation among leading performers, consolidating States, reform-driven accelerators, and those at a foundational stage of logistics development. By systematically distinguishing leadership, consolidation, acceleration, and early-stage progression, the framework supports tailored policy interventions, targeted capacity-building efforts, and structured peer-learning mechanisms.

Furthermore, it strengthens benchmarking clarity and facilitates longitudinal progress tracking, thereby reinforcing the role of LEADS 2025 as a strategic instrument for evidence-based planning, cooperative federalism, and continuous improvement in logistics performance across States and Union Territories.

The following figure shows the performance outcomes for LEADS 2025:

LEADS 2025 Outcomes

4 Perceptions Plliars + 6 Objective Pillars

Parent Parameter Weights

41.1% Perception Indicators | **58.9%** Objective Indicators

	Coastal States Group	Landlocked States Group	Union Territories Group	North-Eastern States Group
Exemplars	Tamil Nadu	Uttar Pradesh	Delhi	Mizoram
High Performers	Gujarat, Kerala, Maharashtra	Haryana, Telangana, Chhattisgarh, Bihar	Jammu and Kashmir, Puducherry	Tripura, Meghalaya
Accelerators	Andhra Pradesh, Odisha, Goa, Karnataka	Punjab, Jharkhand, Madya Pradesh, Uttarakhand, Himachal Pradesh	Dadra & Nagar Haveli and Daman & Diu, Chandigarh, Ladakh, Lakshadweep	Nagaland, Arunachal Pradesh, Manipur, Assam
Growth Seekers	West Bengal	Rajasthan	Andaman and Nicobar Islands	Sikkim

Figure: Performance Highlights of LEADS 2025 Survey

Summary of performance levels of States / UTs in LEADS 2025:

COASTAL GROUP

Based on the LEADS 2025 perception survey and objective performance indicators, the Coastal Group refl ects a relatively strong and evolving logistics ecosystem, comprising both established leaders and States that are steadily scaling up. Detailed methodology and indicator-level analysis are presented in Chapter 4- Performance of States/UTs of the report.

Tamil Nadu emerges as a leading exemplar, demonstrating advanced infrastructure, effi cient multimodal connectivity, and strong preparedness in logistics innovation. Gujarat, Kerala, and Maharashtra also exhibit robust performance, supported by port-led trade dynamics and well-established industrial ecosystems.

Andhra Pradesh, Odisha, Goa and Karnataka are progressing through ongoing infrastructure augmentation and policy reforms aimed at strengthening logistics competitiveness. Meanwhile, West Bengal, categorized as growth seekers, demonstrate signifi cant underlying potential but continue to focus on closing infrastructure and service-level gaps to enhance overall logistics effi ciency.

LANDLOCKED GROUP

As per the LEADS 2025 assessment, based on the perception survey and objective performance indicators (detailed in Chapter 4), the Landlocked Group exhibits varied performance outcomes shaped by infrastructure capacity, policy initiatives, and industrial linkages.

Uttar Pradesh is categorized as an Exemplar, refl ecting sustained investments in large-scale infrastructure, a strong policy thrust, and transformative logistics initiatives, including dedicated freight corridors. Haryana, Telangana, Chhattisharh and Bihar demonstrate strong performance supported by progressive road infrastructure improvements, industrial expansion, and the development of warehousing and distribution ecosystems.

Punjab, Jharkhand, Madhya Pradesh, Uttarakhand and Himachal Pradesh are classifi ed as as Accelerators, reflecting ongoing development of logistics parks, multimodal facilities, and digital enablement measures. Rajasthan, positioned as Growth Seekers, continue to address connectivity gaps, necessitating focused interventions in last-mile access, multimodal integration, and regulatory streamlining to enhance overall logistics efficiency.



NER GROUP

North Eastern States (NER) group demonstrates differentiated progress shaped by terrain constraints, connectivity initiatives, and institutional reforms.

Mizoram stands out as an Exemplar, driven by targeted infrastructure development and effective integration of digital systems to enhance logistics performance. Tripura and Meghalaya emerge as high performers, supported by continued improvements in transport infrastructure and digital enablement measures.

Arunachal Pradesh, Nagaland, Manipur and Assam are positioned as Accelerators, reflecting focused planning efforts to strengthen regulatory frameworks, operating ecosystems, and logistics efficiency across geographically challenging terrain. Sikkim remains categorized as Growth Seeker, indicating the need for sustained investments in multimodal connectivity, last-mile infrastructure, and institutional capacity enhancement to improve overall logistics competitiveness.

UNION TERRITORIES GROUP

Union Territories (UTs) exhibit a diverse performance spectrum influenced by administrative capacity, scale of economic activity, and geographic context.

Delhi is categorized as an Exemplar, refl ecting well-developed physical infrastructure, advanced digital enablement, and streamlined regulatory mechanisms that facilitate effi cient logistics movement. Jammu and Kashmir and Puducherry demonstrate strong performance, supported by improved connectivity, tourism-linked logistics activity, and targeted policy initiatives.

Dadra and Nagar Haveli and Daman and Diu, Chandigarh, Ladakh and Lakshadweep are positioned as Accelerators, progressing through focused infrastructure augmentation and strengthened governance frameworks. The island territories - Andaman and Nicobar Islands - remains in the Growth Seekers category, primarily due to inherent geographic constraints, elevated logistics costs, and dependence on maritime and air connectivity, underscoring the need for sustained investment in resilient transport linkages and supply chain optimization.



Mean Score Distribution:

The mean LEADS score represents the average performance of States/UTs within each group, indicating the overall level of performance. The standard deviation shows how much individual State/UT scores vary from the group average. A lower standard deviation indicates that performance levels within the group are relatively similar, while a higher standard deviation suggests greater variation among States/UTs in the group.

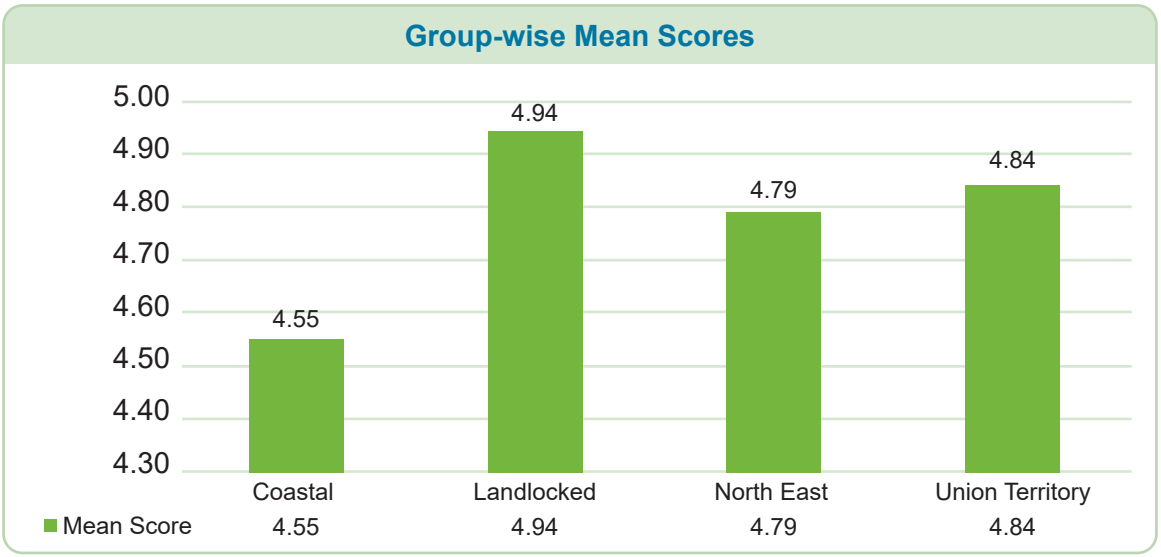


Figure: Mean scores for Coastal, Landlocked, NE States, and UTs

Category	Mean LEADS score	Standard Deviation of LEADS score
Coastal Group	4.55	1.24
Landlocked Group	4.94	0.09
NER Group	4.79	0.08
Union Territories Group	4.84	0.12

Table: Mean and Standard deviation of LEADS score across Groups (2025)

The analysis indicates that Landlocked States record the highest mean LEADS score (4.94) and very low variability (Standard Deviation 0.09), indicating uniformly strong performance across the group. Union Territories also perform consistently well with a high mean (4.84) and low variability (Standard Deviation 0.12). The Northeastern Group records a solid average (4.79) with the tightest spread (Standard Deviation 0.08), suggesting similar total scores across the group. In contrast, the Coastal Group has the lowest mean (4.55) and the largest variability (Standard Deviation 1.24), pointing to large variation in score amongst the coastal states.

A detailed performance analysis of all the Groups and the state within each Group is presented in the following sections (Chapter 4).

Chapter 4

Performance of States/UTs



COASTAL STATES GROUP

The Coastal States group comprises nine States - Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, and West Bengal. Together, they form the maritime interface of India's logistics network, anchoring international trade flows through major and non-major ports along a coastline exceeding 7,500 km.

These States play a central role in port-led industrialisation, EXIM cargo handling, coastal shipping, and multimodal freight integration. Their logistics ecosystems are characterised by port-linked industrial clusters, container terminals, dedicated freight corridors, inland waterways linkages, and extensive warehousing and cold-chain infrastructure. The presence of petrochemical hubs, automotive manufacturing clusters, agri-export zones, and bulk cargo handling facilities further strengthens their freight intensity and supply chain depth.

Collectively accounting for roughly 40% of India's population and about 15% of its landmass, the Coastal States contribute over half of the national Gross State Domestic Product (GSDP). This economic weight, combined with maritime access, positions them as critical enablers of the Blue Economy, global value chain integration, and multimodal logistics efficiency within the national framework.



Group Level Performance

Summary of Coastal Group Performance

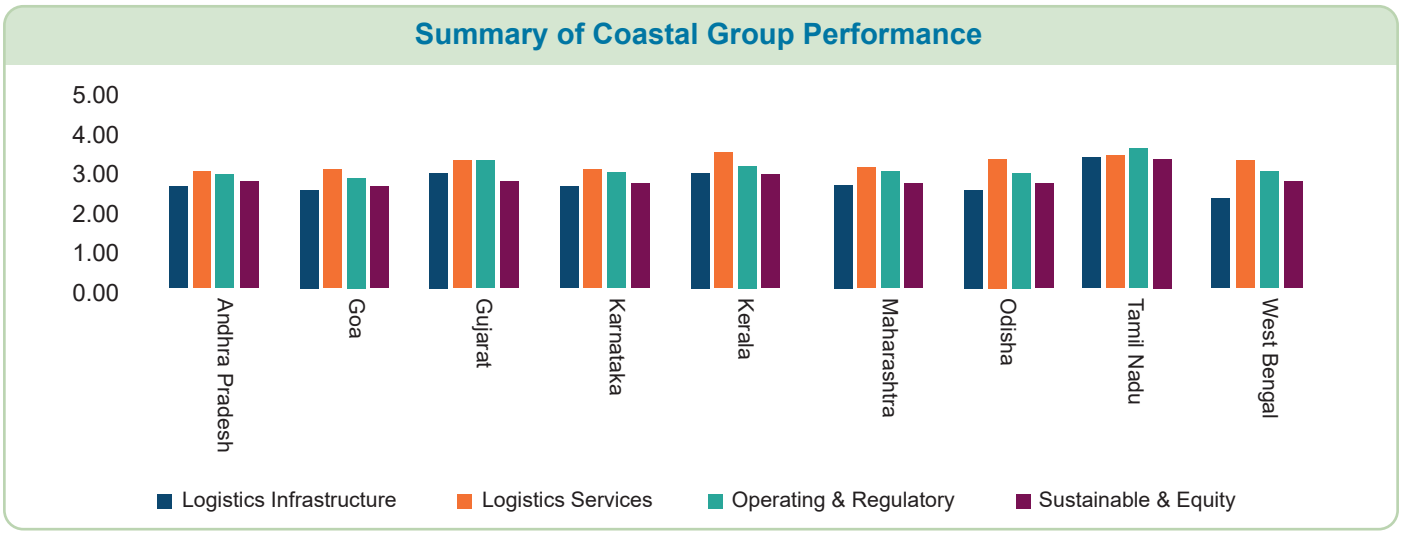
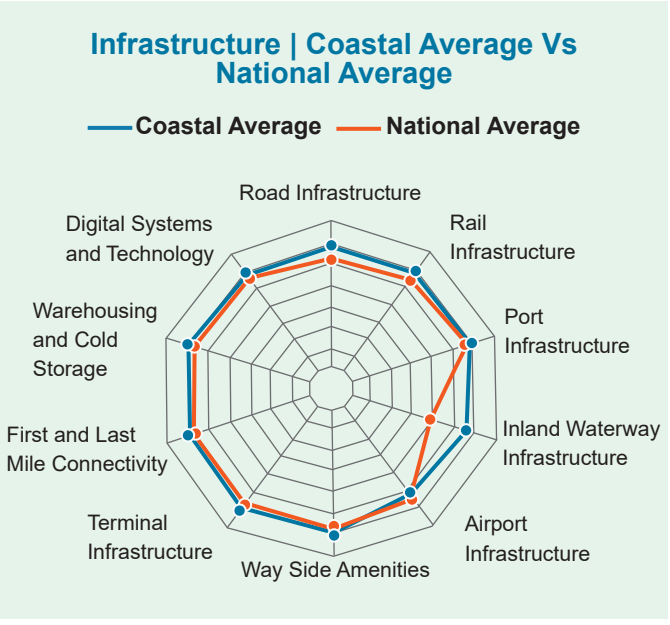


Figure: Coastal Group : Summary Performance

In the LEADS 2025 assessment, improvement in Logistics Services has recorded higher perception scores when compared to other three pillars across all coastal group States. The operating and regulatory environment has also recorded relatively strong perception outcomes, reflecting sustained efforts by coastal States to strengthen institutional frameworks and regulatory facilitation for logistics development. Among the coastal States, Kerala and Tamil Nadu have recorded comparatively higher perception scores across multiple pillars, indicating relatively stronger overall logistics performance within the group.

Logistics Infrastructure Performance

The LEADS 2025 group-level assessment for logistics infrastructure performance for the coastal States records higher average perception scores than the national average across most infrastructure assessment indicators. The coastal group performs better than the national average in improvements in road and rail infrastructure, terminal infrastructure, first and last mile connectivity, warehousing and cold storage, digital systems, port infrastructure and Inland waterway infrastructure wayside amenities, reflecting sustained investments in multimodal connectivity and port-linked logistics ecosystems.

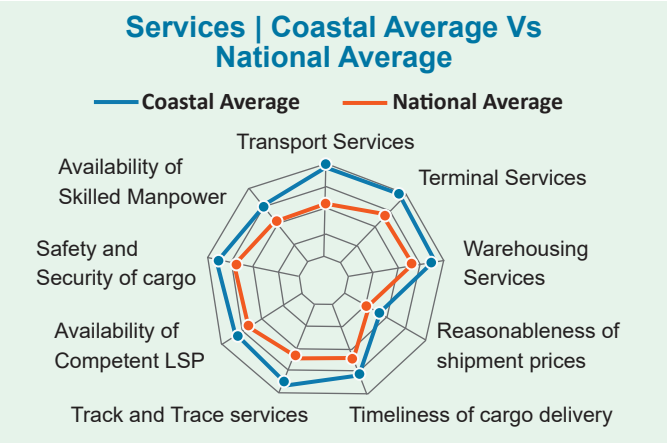


The only infrastructure indicator where the coastal group records lower perception scores than the national average is improvements in airport infrastructure. Overall, the group-level findings indicate that coastal States are consolidating their position as logistics growth engines, supported by sustained infrastructure investments and stronger multimodal integration.

Logistics Services Performance

As per the LEADS 2025 group-level assessment, the Coastal States record higher average perception scores than the national average across all logistics services indicators.

The strong performance of the Coastal group across transport services, terminal services, warehousing, cargo safety and security, and the availability of competent logistics service providers reflects the depth, competitiveness, and operational sophistication of logistics service ecosystems in these regions. Proximity to major ports, dense industrial clusters, and well-established freight networks has contributed to improved service quality, reliability, and responsiveness.

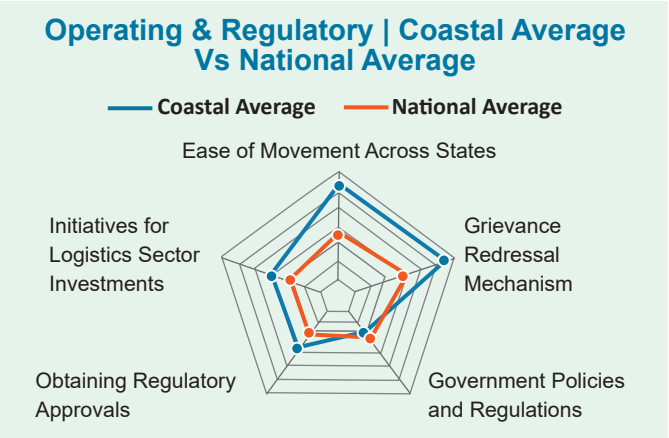


Users have also expressed positive perceptions regarding track-and-trace systems, timeliness of cargo delivery, and the availability of skilled manpower, indicating effective service integration and digital enablement. Higher perception scores in cargo safety and service professionalism further reinforce the role of Coastal States as key enablers of efficient EXIM trade and domestic supply chain performance.

Operating & Regulatory Performance

The group-level assessment of improvements in operating and regulatory performance for the coastal States follows a similar trend to infrastructure and services, with the coastal group recording higher average perception scores than the national average across most assessment indicators.

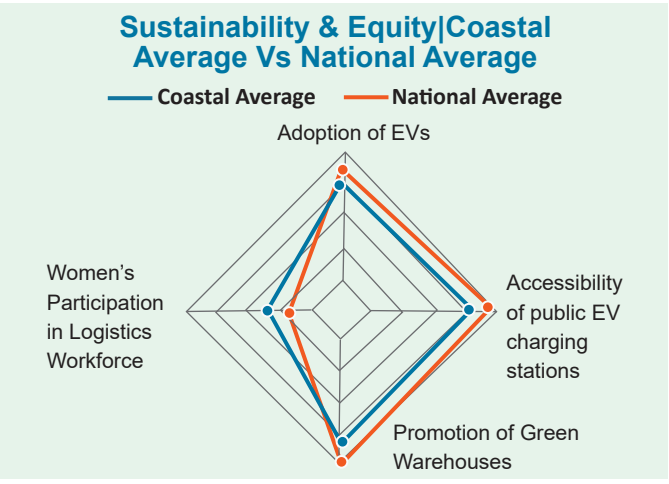
Higher perception outcomes in ease of movement across States, grievance redressal mechanisms, obtaining regulatory approvals, and initiatives for logistics sector investments indicate improvements in inter-State co-ordination, institutional responsiveness, and regulatory facilitation. The only indicator where the coastal group records marginally lower perception scores than the national average is government policies and regulations.



Sustainability & Equity Performance

The group-level assessment of the improvements in sustainability and equity logistics indicators highlights that the performance of the coastal States is largely aligned with the national average across all indicators, with relatively moderate perception outcomes.

While women's participation in the logistics workforce records marginally higher perception scores than national average, the coastal group records slightly lower scores in adoption of electric vehicles, accessibility of public EV charging stations, and promotion of green warehouses. This indicates that, despite progress in workforce inclusion, the transition towards green logistics practices and supporting infrastructure requires further acceleration. The assessment reflects opportunities for strengthening sustainable logistics initiatives to support long-term environmental and social objectives.



Sub-group Level Performance

Western Coastal States (Goa, Gujarat and Maharashtra)

Characterized by mature port infrastructure, strong private participation and diversified logistics services, making them the primary maritime gateways of the country. However, urban congestion, land constraints and environmental pressures increasingly limit further capacity expansion.

Southern Coastal States (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu)

Demonstrate the strongest overall performance, driven by expanding port capacity, export-oriented manufacturing and efficient logistics services. Continued growth depends on improving multimodal connectivity and managing ecological and land-use constraints.

Eastern Coastal States (Odisha, West Bengal)

Show improving logistics services and regulatory frameworks, supported by bulk cargo and inland waterways development. Performance remains constrained by draft limitations, and weaker hinterland connectivity.

Coastal Sub-Group | Summary Performance

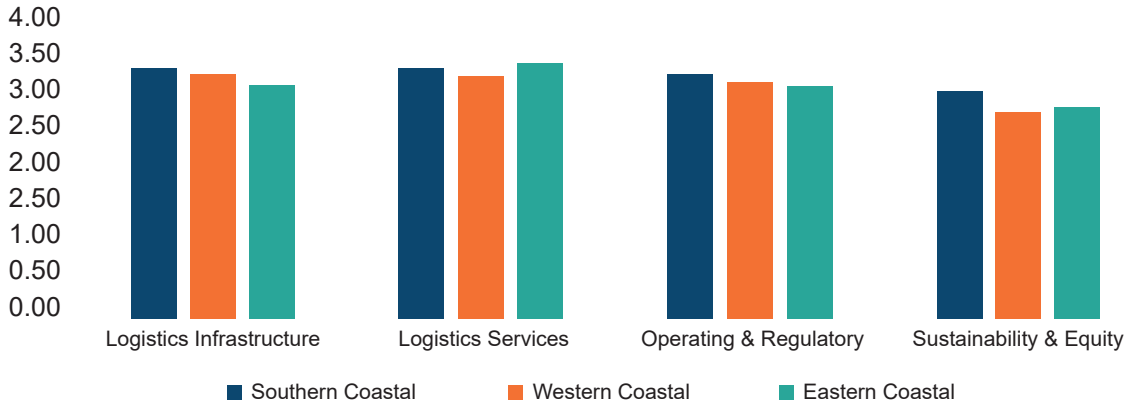


Figure: Coastal Sub-Group – Summary Performance

Coastal Sub-Group | Infrastructure

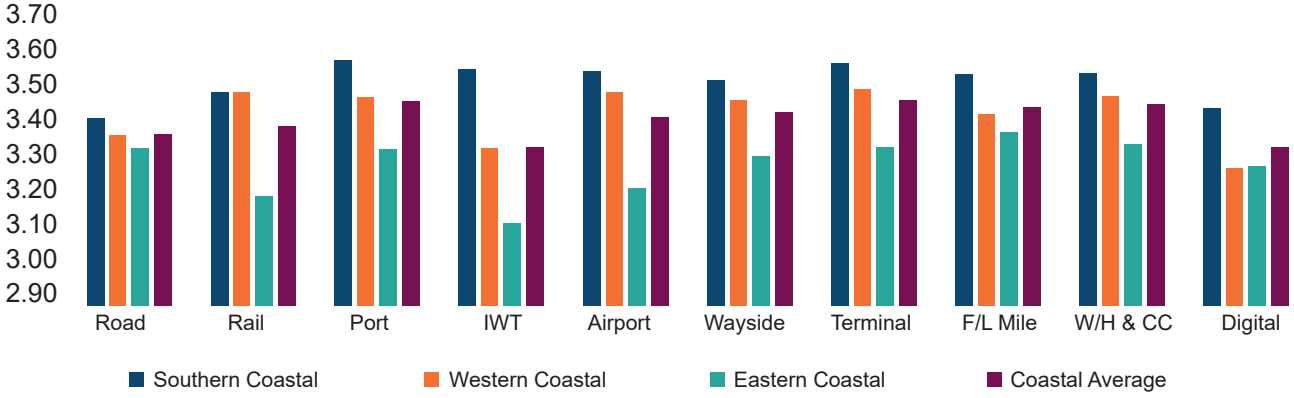


Figure: Coastal Sub-Group – Infrastructure Performance

Coastal Sub-Group | Services

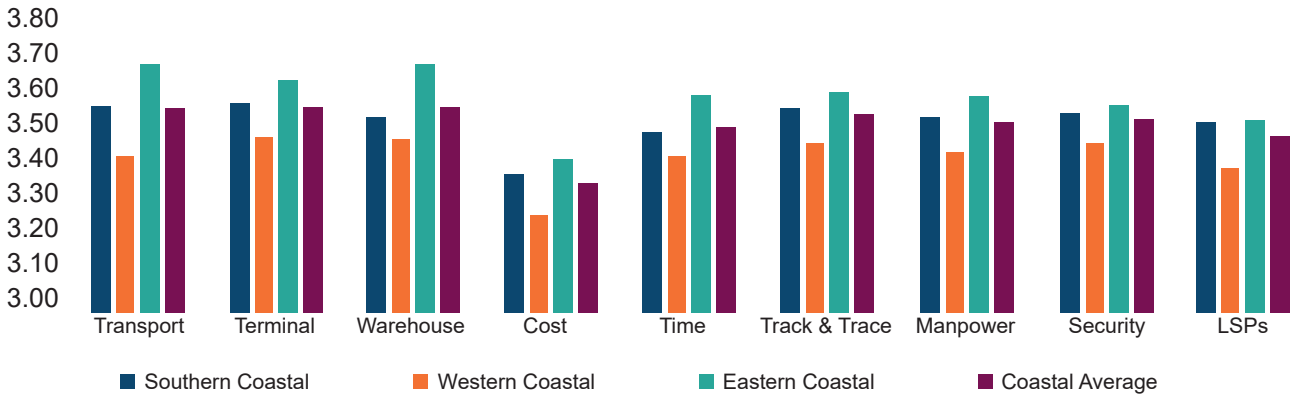


Figure: Coastal Sub-Group – Services Performance

Coastal Sub-Group | Operating & Regulatory

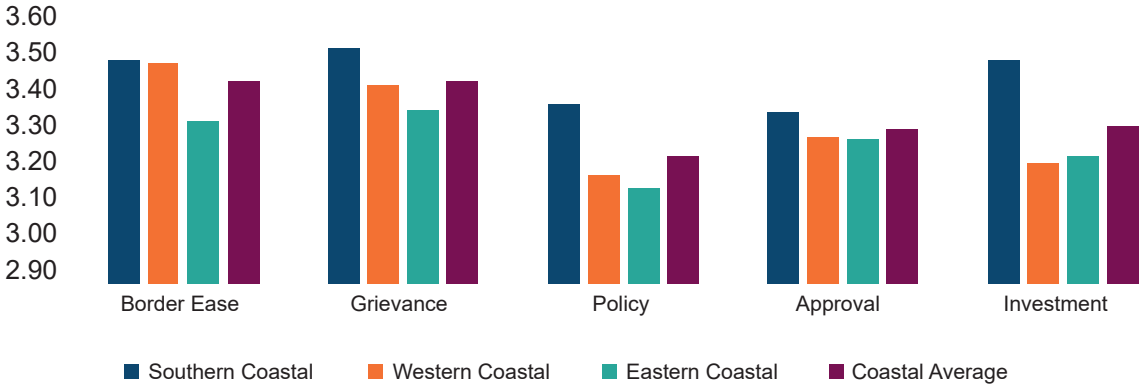


Figure: Coastal Sub-Group – Regulatory Performance

Coastal Sub-Group | Sustainability & Equity

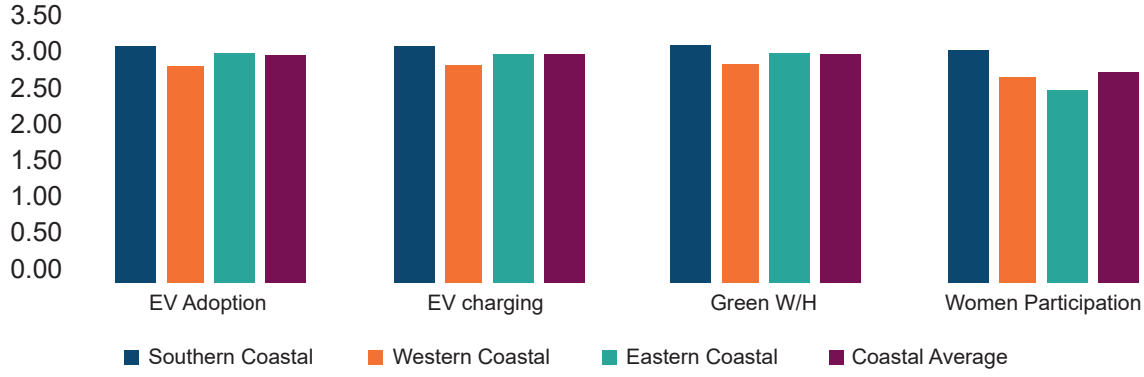


Figure: Coastal Sub-Group – Sustainability Performance

Group Level Summary

Coastal States form India's maritime interface for domestic and international trade, with Ports and Port-linked logistics playing a central role in freight movement. LEADS 2025 highlights, relatively higher perception scores for infrastructure and services in several Coastal States, alongside varied assessment and sustainability. These differences in perception profiles across States are illustrated in the Perception Heatmap that follows, which compares movements across the four logistics pillars within the Coastal group across States.

Perception Improvement Heatmap

Logistics Infrastructure										
State	Road	Rail	Ports	IWT	Airport	Wayside	Terminal	F/L Mile	W/H & CC	Digital
Andhra Pradesh	🔴	🔴	🟢	🟢	🟢	🔴	🔴	🔴	🔴	🔴
Goa	🔴	🔴	🔴	🔴	🟢	🔴	🔴	🔴	🔴	🔴
Gujarat	🟢	🟢	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Karnataka	🔴	🔴	🔴	🔴	🟢	🔴	🔴	🔴	🔴	🔴
Kerala	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Maharashtra	🔴	🟢	🔴	🔴	🟢	🔴	🔴	🟢	🟢	🔴
Odisha	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Tamil Nadu	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
West Bengal	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟢

Legend 🟢 Above Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Logistics Infrastructure

Logistics Services									
State	Transport	Terminal	W/H	Cost	Time	Track & Trace	Manpower	Security	LSPs
Andhra Pradesh	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Goa	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Gujarat	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Karnataka	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Kerala	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Maharashtra	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Odisha	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Tamil Nadu	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
West Bengal	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢

Legend 🟢 Above Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Logistics Services

Operating and Regulatory Environment					
State	Border Ease	Grievance	Policy	Approvals	Investments
Andhra Pradesh	🔴	🔴	🔴	🔴	🔴
Goa	🔴	🔴	🔴	🔴	🔴
Gujarat	🟢	🟢	🟢	🟢	🟢
Karnataka	🔴	🔴	🔴	🔴	🔴
Kerala	🔴	🟢	🔴	🔴	🟢
Maharashtra	🔴	🔴	🔴	🔴	🔴
Odisha	🔴	🔴	🔴	🔴	🔴
Tamil Nadu	🟢	🟢	🟢	🟢	🟢
West Bengal	🔴	🔴	🔴	🟢	🔴

Legend 🟢 Above Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Operating and Regulatory Environment

Sustainability and Equity Logistics				
State	EV Adoption	EV Charging	Green W/H	Women Participation
Andhra Pradesh	🟢	🟢	🔴	🔴
Goa	🔴	🔴	🔴	🔴
Gujarat	🔴	🔴	🔴	🟢
Karnataka	🟢	🔴	🔴	🔴
Kerala	🟢	🟢	🔴	🟢
Maharashtra	🔴	🔴	🔴	🔴
Odisha	🟢	🔴	🟢	🔴
Tamil Nadu	🟢	🟢	🟢	🟢
West Bengal	🔴	🟢	🔴	🔴

Legend 🟢 Above Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Sustainability and Equity Logistics

A detailed analysis of each State's performance in the Coastal group across various indicators, along with an overview of initiatives undertaken by the State and potential opportunities that exist in the State is provided in the subsequent chapters.



Andhra Pradesh

State Performance Snapshot

2025		2024
Accelerators		Fast Movers

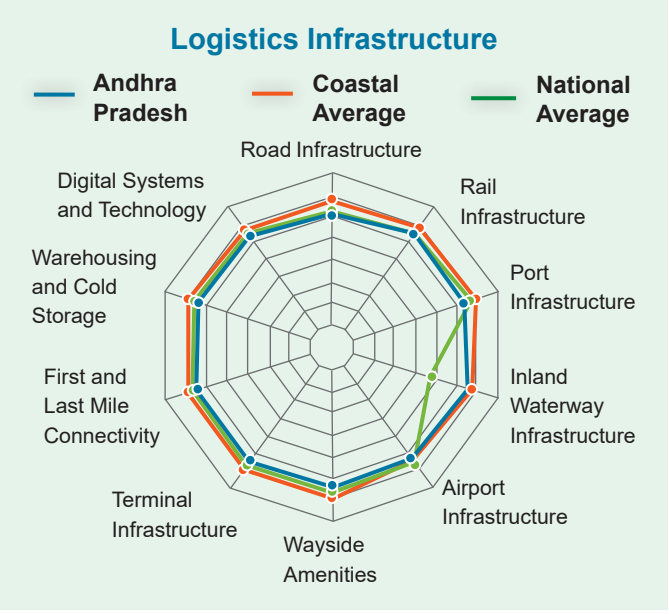
Andhra Pradesh benefits from extensive port assets, strengthening road and rail connectivity, and sustained institutional focus on logistics sector development. These fundamentals underpin the State's continued improvement in logistics performance, reflected in its retained position to the **'Accelerators'** category from 'Fast Mover' in LEADS 2024.

Logistics Infrastructure

The State's long coastline, supported by major ports and a rapidly expanding surface transport network, facilitates efficient cargo movement and strong industrial linkages. Together, these multimodal strengths position Andhra Pradesh as a key gateway for domestic and international trade.

Perception-based indicators suggest that Andhra Pradesh's logistics infrastructure is broadly aligned with national averages, supported by ongoing investments in transport connectivity and terminal assets. Assessments for improvement in road infrastructure, improvement in rail infrastructure, improvement in terminal infrastructure, improvement in first/last mile connectivity, improvement in warehousing, cold storage, pack-houses etc., and Availability of digital systems to support logistics operations, are aligned with the national average but marginally below the coastal group average, indicating stable surface connectivity while signaling scope to match coastal group average on end-to-end corridor performance.

The indicator for improvement in Airport infrastructure is perceived to be broadly aligned with both the national average and the coastal group average, indicating a comparable stakeholder assessment of air gateway readiness. In contrast, improvement in port infrastructure is perceived to be below both the national and coastal group averages, suggesting a relative gap in port-side enablement as perceived by stakeholders. Further, improvement in Inland waterway infrastructure is perceived to be below the coastal group average but above the national average, indicating progress on inland waterway assets but with scope to catch up with peer coastal performers.



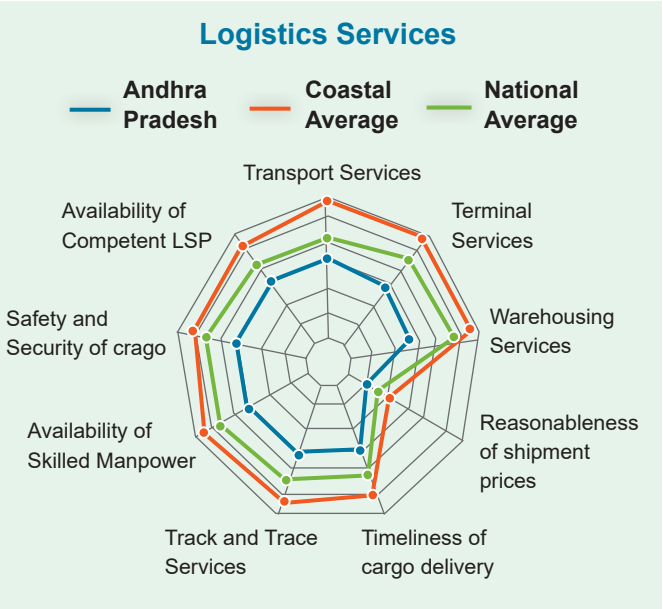
Andhra Pradesh's logistics development vision emphasizes multimodal connectivity, technology adoption, regulatory streamlining, and infrastructure investment. The MA&UD Department has approved 11 urban infrastructure projects using PPP, HAM, and VGF models to support efficient delivery and long-term viability.

The State is also advancing road projects in Visakhapatnam and Vijayawada under HAM and tourism-linked infrastructure initiatives through VMRDA, aimed at improving urban mobility, attracting private investment, and strengthening service quality through structured risk-sharing.

Logistics Services

Perception-based indicators suggest that logistics services in Andhra Pradesh trail both the national and coastal group averages across the core service parameters, indicating a broad-based gap in service consistency and operational performance.

Perception scores related to improvement across all transport services, improvement in terminal services, improvement in warehousing services, availability of track and trace services, improvement in timeliness of cargo delivery, availability of skilled manpower, improvement in safety and security of cargo, availability of competent logistics service providers, and improvement in shipment prices are below the coastal and national average pointing to opportunities to strengthen service reliability, visibility, and cost-efficiency.



The State is advancing the transition of its ports toward smart port operations through the adoption of digital and automation technologies. Key initiatives include E-Gate 2.0 with OCR systems, drone-based inventory monitoring, and AI/ML-enabled berth allocation to support scheduling and traffic management. Tools such as Digital Twins and 7D BIM are being applied for integrated port planning and asset lifecycle management.

Additional measures include automated mooring systems, steps toward unmanned terminal operations, and the rollout of intelligent truck booking and analytics-based yard management systems. Together, these initiatives outline the State's approach to service modernization and operational streamlining, providing context on the direction of ongoing upgrades without pre-judging system-wide performance outcomes.

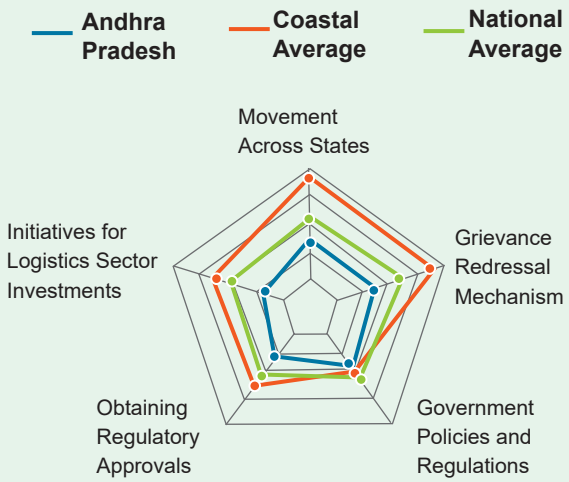
Operating and Regulatory Environment

Andhra Pradesh's operating and regulatory environment is perceived below both the coastal and national averages across all key parameters, indicating that regulatory facilitation and institutional responsiveness are assessed as comparatively weaker than peers.

Perceptions on improvement in ease of border crossing, availability of grievance redressal mechanism and ease of obtaining regulatory approvals for setting up new logistics facilities are below both comparator averages, suggesting scope to improve predictability of inter-State movement, strengthen issue-resolution mechanisms, and streamline approval processes

Similarly the parameters, availability of government policies and regulations in facilitating logistics operations and availability of policy initiatives for logistics sector investments, are rated below both national and coastal group averages, indicating the need to sharpen policy clarity, investment signalling, and implementation depth.

Operating and Regulatory Environment



Overall, the pillar reflects an operating environment that supports logistics activity, with outcomes yet to reach the levels observed in several coastal States, highlighting scope for stronger coordination and improved facilitation.

Logistics has been granted industry status in Andhra Pradesh, enabling access to targeted incentives under the Industrial Development Policy (IDP) 4.0 (2024–29). The State is streamlining regulatory approvals and strengthening ease of doing business to encourage private investment in warehousing, cold chains, and transport infrastructure.

To support balanced regional development, regional logistics action plans have been initiated, including the Vizag Economic Region Logistics Plan, with similar plans underway for Amaravati and Rayalaseema. In a further step to strengthen institutional coordination, the Chief Minister has approved the establishment of the Andhra Pradesh Logistics Infrastructure Corporation (AP-LInC) as the State's nodal agency.

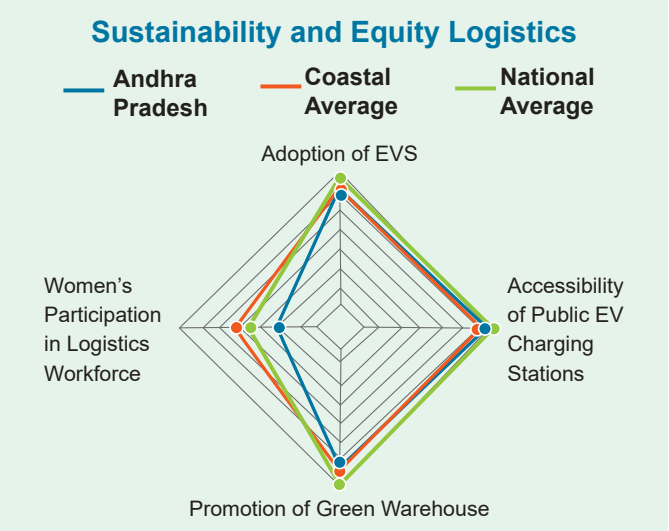
AP-LInC will integrate fi ve sectors: ports, airports, roads, inland waterways, and warehouses, to support coordinated planning and investment facilitation across the logistics ecosystem.

Sustainability and Equity Logistics

Perception-based indicators suggest that Andhra Pradesh's sustainability and equity outcomes are broadly aligned with national averages, while remaining below coastal benchmarks.

The State records relatively stronger outcomes on availability of support in EV adoption and availability of public EV charging stations, indicating early progress towards green mobility within logistics activities. Perceptions related to availability of initiatives for promotion of green warehouses remain moderate, reflecting the initial uptake of sustainability-linked infrastructure practices.

The indicator for availability of initiatives for inclusion of women workforce records lower relative outcomes, pointing to opportunities for focused initiatives to broaden participation and strengthen workforce diversity within the sector.



Overall, the sustainability and equity profile reflects an early transition phase, with scope to embed environmental and inclusion considerations more systematically across logistics policies, programs, and investments.

The State's Logistics Policy emphasizes smart and sustainable practices, with a focus on the adoption of electric vehicles, carbon-neutral solutions, and alignment with global sustainability standards. Andhra Pradesh has articulated a long-term target of achieving over 60 percent modal share for railways and waterways by 2047, supported by plans for green ports, renewable energy integration, and the use of biodegradable packaging.

Key initiatives outlined include full electrification of rail and road transport, expansion of EV charging infrastructure, and a phased transition away from non-electric vehicles. These measures reflect stated policy direction and long-term planning priorities, without being assessed for outcome delivery under LEADS 2025.

Progress since LEADS 2024

Following LEADS 2024 suggestions, Andhra Pradesh has outlined and initiated a set of actions aligned with identified short and long-term opportunities.

Action Taken on Short-Term Opportunities

Fast-tracking terminal and logistics infrastructure projects to improve first and last-mile connectivity, especially for Kakinada and Visakhapatnam ports.

Promoting PPP projects under the Hybrid Annuity Model (HAM) for State highways and municipal roads to ease cargo movement.

Launching short-term driver training programmes through industry–academia collaborations to address driver shortages.

Initiating specialized short-term courses at institutions such as the Indian Maritime University (IMU) to address immediate skill gaps in logistics and maritime operations.

Action Taken on Long-Term Opportunities

- Deploying E-Gate 2.0 systems with OCR technology and introducing intelligent truck booking systems for faster clearance and dedicated lanes at key ports.
- Launching short-term driver training programs through industry–academia collaborations to address driver shortages.
- Initiating specialized short-term courses at institutions like Indian Maritime University (IMU) to meet immediate skill gaps in logistics and maritime operations.

High Impact Initiatives by the State

Andhra Pradesh is advancing a forward-looking logistics and industrial ecosystem through Smart Ports, sustainable transport systems, green energy adoption, skill development, and infrastructure expansion.

- Transforming ports into Smart Ports using Digital Twins, AI/ML-based berth allocation, and unmanned terminal operations.
- Targeting over 60% cargo movement via railways and waterways by 2047, supported by green ports and renewable energy.
- Building an industry-ready workforce through long-term skill development in multimodal logistics and maritime operations.
- Driving carbon-neutral logistics through 100% transport electrification, EV adoption, and biodegradable packaging.
- Expanding industrial parks and logistics hubs via PPP models under IDP 4.0 to boost infrastructure and investment.

Voice of Stakeholders and State Authorities

To complement perception scores and the policy narrative, a Voice of Customer (VOC)–style synthesis captures key issues highlighted by (i) logistics service providers and users, and (ii) the State Government. The points below reflect major constraints affecting logistics efficiency, reliability, and competitiveness.

> Ports have higher lane capacity than access roads, creating circulation bottlenecks at entry and exit points.

> Driver facilities are inadequate, with no proper rest areas or washrooms at ports or along key corridors, and frequent harassment by police across States.

> Freight handling systems need improvement, along with stronger connectivity and integration with other transport modes.

> Unimodal terminal infrastructure (road, rail, and port-linked facilities) lacks adequate capacity and operational efficiency, affecting smooth cargo movement.

Figure: Voice of Logistics Service Providers and Users

> Lack of seamless last-mile road access to ports such as Kakinada and Krishnapatnam leads to evacuation delays and inconsistent transit times for port-bound and outbound trucks.

> Fragmented intra-state rail evacuation, marked by uneven rake availability and variable scheduling, restricts reliable rail-based movement for both bulk and containerized cargo.

> Absence of integrated logistics hubs along key port–industrial corridors results in dispersed cargo flows, limited consolidation, and missed opportunities for efficient multimodal transfers.

> Queue-prone truck entry and non-standardized gate processes at major ports create unpredictable truck dwell times and reduce gate throughput, limiting smooth cargo flow.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Andhra Pradesh's next phase of logistics gains lies in institutional strengthening, coordination, and data-driven governance, not immediate infrastructure expansion. With strong base assets in place, better stakeholder coordination and planning can unlock higher efficiency.

Short-Term Opportunities

1. Improve road connectivity near ports

Upgrade congested access roads around Kakinada and Krishnapatnam to reduce evacuation delays and improve truck movement.

2. Strengthen intra-state rail evacuation coordination

Align port operators, rail authorities, and cargo owners to stabilise rake availability and scheduling without major capex.

3. Streamline truck entry and processing at ports

Introduce truck holding areas, time-slot management, and faster gate procedures to reduce queues and turnaround time.

Long-Term Opportunities

4. Develop integrated logistics hubs along key corridors

Create multimodal hubs along Visakhapatnam–Anakapalli, Kakinada–Rajamahendravaram, and Krishnapatnam–Nellore to reduce fragmented cargo flows.

5. Strengthen multimodal integration

Synchronise port expansion, rail sidings, and inland logistics nodes to enable sustained modal shift and lower logistics costs.

6. Institutionalise State-level logistics coordination

Establish a dedicated mechanism for inter-departmental planning, issue resolution, and long-term logistics strategy.

7. Implement data-driven logistics performance monitoring

Track key logistics indicators at the State level to support evidence-based decisions and continuous efficiency improvement.



Goa

State Performance Snapshot

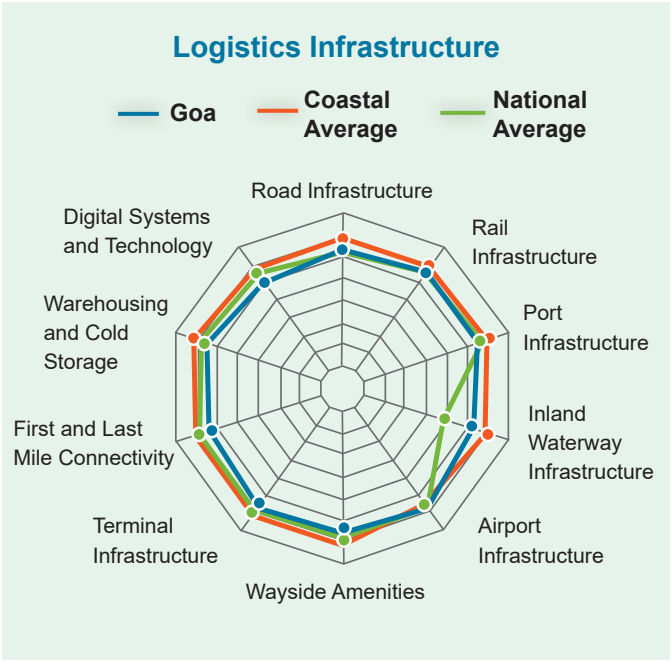
2025	2024
Accelerator	Fast Mover

Goa is positioned as an **"Accelerator"** in LEADS 2025, building on the momentum achieved in 2024 through steady improvements across its logistics ecosystem. This performance reflects a compact yet diversified logistics base, supported by multimodal connectivity, stable service availability, and an enabling institutional framework aligned with the State's economic scale and geographic context.

Logistics Infrastructure

Goa's logistics infrastructure performance corresponds to a compact asset base aligned with the State's logistics demand profile. Outcomes remain moderate when compared to national and coastal averages, with variation across infrastructure sub-dimensions.

The parameter for the improvement in Airport infrastructure emerges as a relative strength, with scores above both the national average and the coastal average. In contrast, indicators improvement in port infrastructure and availability of digital systems to support logistics operations are perceived below both averages, indicating weaker stakeholder assessment of maritime gateway performance and the supporting digital backbone for coordination and visibility.



Across the broader pillar, improvement in road infrastructure and improvement in rail infrastructure score above the national average but below the coastal average, suggesting acceptable baseline connectivity but a shortfall relative to coastal peers. Improvement in Inland waterway infrastructure shows an intermediate positioning, performing above the national average but below the coastal average, reflecting limited modal usage. Finally, the supporting ecosystem indicators, improvement in adequacy and quality of wayside amenities, improvement in terminal infrastructure, improvement in first/ last mile connectivity , and improvement in warehousing, cold storage, pack-houses etc. are collectively perceived below both the national average and the coastal average, pointing to relative weaknesses in driver support, node readiness, last-mile linkages, and storage capacity.

Goa has undertaken multiple infrastructure initiatives to strengthen logistics connectivity and capacity across the State. These include the conversion and notification of land parcels for transport, warehousing, and communication uses in locations such as Sancoale, Arvalem, Mandrem, and Loutolim, enabling logistics-oriented land use at the local level.

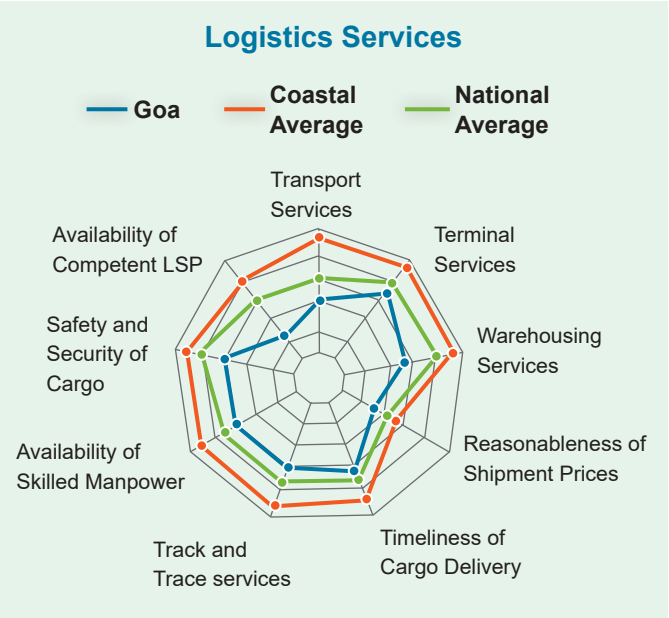
Progress has been recorded on major road projects, including completion of the Khandepar Bridge, four-laning of key national highway corridors such as Panaji–Belagavi (NH-748) and Bhoma–Old Goa, and upgrades to stretches connecting Goa with Karnataka and Telangana. The development of bypasses and access-controlled road sections further supports freight movement and inter-State connectivity.

Port-related infrastructure has advanced through PPP-led development at the Mormugao Port Authority (MPA), deployment of supporting equipment such as harbour mobile cranes, and modernisation of jetties at Malim, Betim, and Ribandar, contributing to coastal shipping capacity and inland water transport operations.

Logistics Services

Goa's logistics services outcomes align with a service ecosystem oriented towards localised and short-haul requirements, consistent with the State's scale and cargo flows. Overall scores under the pillar remain moderate, with variations across service parameters.

The State records perception scores aligned to national average but below the coastal group average on improvement in terminal services, improvement in warehousing services, availability of track and trace services, improvement in timeliness of cargo delivery, availability of skilled manpower and improvement in safety and security of cargo indicating service levels broadly consistent with industrial and consumption-driven supply chains.



Indicators such as improvement across all transport services and availability of competent logistics service providers, are perceived to be below the national average as well as coastal group average underscoring the need for targeted interventions to strengthen service capacity, enhance multimodal integration, and improve overall logistics competitiveness in the region.

Goa has implemented several initiatives to strengthen logistics and mobility services across air, road, and water-based modes. At Manohar International Airport, air cargo operations have been supported through the establishment of a consolidation centre, introduction of GDP certification, cold-chain infrastructure upgrades, and adoption of paperless documentation systems for pharmaceutical and perishable cargo handling.

Public transport and mobility services have progressed through redevelopment of the Vasco KTC Bus Stand, procurement of new KTCL buses, notification of bus stops for e-bus operations, and introduction of water-based passenger services such as the Vasco–Dona Paula Water Metro and Ro-Ro ferry services. These measures support passenger movement while indirectly strengthening logistics-linked services by improving multimodal connectivity and reducing pressure on road networks.

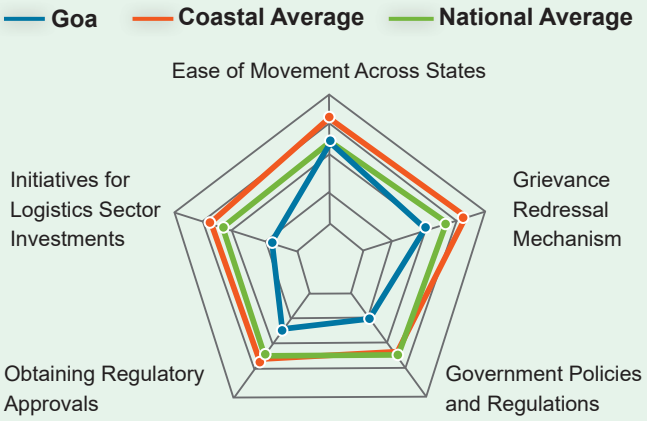
Operating and Regulatory Environment

Goa's operating and regulatory environment reflects an administrative framework aligned with the State's logistics activity, with outcomes under this pillar remaining moderate across indicators.

The State records relatively lower scores when compared with national average and coastal group average on availability of policy initiatives for logistics sector investments, ease of obtaining regulatory approvals for setting up new logistics facilities, availability of government policies and regulations in facilitating logistics operations and availability of grievance redressal mechanism, indicating that logistics-specific facilitation is still evolving within broader industrial and planning frameworks.

The parameter improvement in ease of border crossing registers perception aligned with national average but below the coastal group average highlighting relative consistency in inter-State freight movement while indicating scope for further improvement to match coastal average. Overall, the operating and regulatory environment remains aligned with Goa's current logistics footprint, with scope for gradual institutional strengthening as logistics activity expands.

Operating and Regulatory Environment



Goa has undertaken a range of planning, regulatory, and institutional initiatives to support logistics facilitation and spatial development. Planning measures include expansion of permissible industrial FAR, introduction of flexible height norms, operationalization of the Building Permission Approval Management System (BPAMS), and preparation of GIS-compatible Outline Development Plans for towns such as Ponda and Margao, enabling integration with the PM GatiShakti Master Plan.

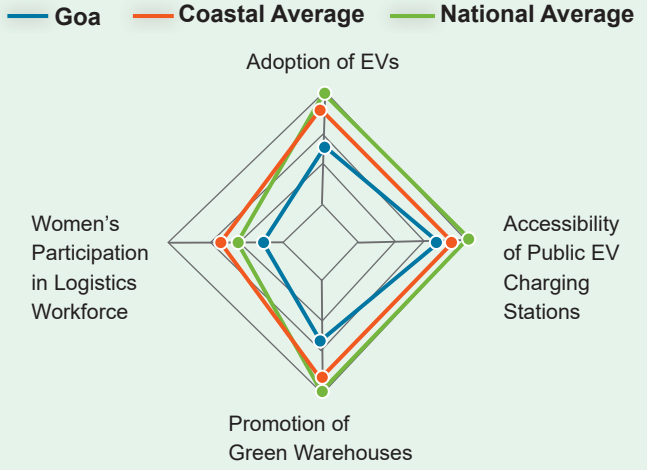
Trade and customs facilitation has progressed through the launch of ICES 1.5 at the Air Cargo Complex, Mopa, enabling electronic processing of imports, exports, and unaccompanied baggage. Institutional coordination efforts include empanelment of local transporters at Mormugao Port Authority (MPA) and adoption of digital systems for traffic monitoring, enforcement, and inventory management within transport agencies, supporting more streamlined logistics operations.

Sustainability and Equity Logistics

Goa's performance on sustainability and equity reflects an emerging integration of green and inclusive practices within logistics, aligned with the State's broader environmental priorities.

The State records perception outcomes aligned with national average and coastal group average on availability of public EV charging stations, indicating early adoption of green mobility solutions within the sector. Performance on availability of support in EV adoption, availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce, shows relatively lower scores than the national average and coastal group

Sustainability and Equity Logistics



averages, indicating the need for strengthened policy support and targeted interventions to advance sustainable and inclusive logistics practices.

Overall, sustainability and equity outcomes suggest a gradual transition, with green and inclusive logistics practices evolving alongside Goa's logistics ecosystem.

Goa has introduced targeted sustainability measures to support cleaner and more efficient logistics operations. Integrated waste-processing facilities at Saligao and Cacora enable systematic management of plastic, hazardous, and construction waste linked to transport and industrial activity. Complementary initiatives, including waste collection along major highways, remediation of legacy dumpsites, and installation of floating trash barriers in rivers and estuaries, contribute to maintaining cleaner transport corridors and safeguarding logistics-critical waterways.

Progress since LEADS 2024

In response to the recommendations outlined in the LEADS 2024 assessment, Goa has undertaken a set of initiatives to address themes highlighted in the assessment, spanning short-term operational interventions as well as longer-term planning and institutional initiatives. The initiatives outlined below present the steps undertaken by the State subsequent to LEADS 2024.

Short Term

- **Road transport operations and safety:** Kadamba Transport Corporation Limited (KTCL) implemented a digital Inventory Management and Control System (IMCS) to enable real-time inventory tracking and workflow automation. This has been complemented by driver training programs, counselling sessions, medical camps, and installation of safety signage to strengthen operational safety and service reliability.
- **Traffic management and local-level interventions:** The Goa Traffic Police initiated deployment of CCTV-enabled traffic signals, speed radars, interceptors, and e-challan systems to improve traffic monitoring and enforcement. At the local level, Panchayats supported these efforts through installation of CCTV cameras, convex mirrors, and proposed speed breakers at critical junctions to enhance first and last-mile safety.

Long Term

- **Port-led logistics development:** The Mormugao Port Authority progressed PPP-led port development, with Berths 10 and 11 handed over to Delta Ports in April 2025 and supporting infrastructure, including harbour mobile cranes, commissioned. Trade consultations for introduction of container vessel movement are ongoing to strengthen the port's role in regional logistics.
- **Planning and regulatory reforms:** The Town and Country Planning Department expanded industrial FAR to 150%, introduced flexible height norms, operationalised the Building Permission Approval Management System (BPAMS), and advanced GIS-based Outline Development Plans for Ponda and Margao, supporting long-term, logistics-oriented spatial planning and infrastructure integration.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)–style synthesis has been prepared to capture the most policy-relevant issues highlighted by (i) logistics service providers and logistics users, and (ii) the State Government. This section consolidates key constraints affecting logistics efficiency, reliability, and competitiveness, as reported by industry participants and public agencies.

- Vasco – Vasco Port corridor lacks structured city logistics planning and requires inclusion under a City Logistics Action Plan.
- Cold-chain and warehousing capacity along freight corridors is inadequate, including limited cold stores and rail siding enablement.
- Tourism-season congestion and shortage of truck parking reduce freight reliability and turnaround times.
- Narrow road connectivity between Dabolim and ICD Balli constrains cargo movement.
- Exporters lack incentives to shift from road-based JNPT routing to rail and coastal shipping, despite cost and emissions benefits.
- Shortage of locally available DG-certified truck drivers increases dependence on out-of-State training.
- Logistics and Warehousing Policy exists, but operationalization is slow and nodal coordination remains unclear.

Figure: Voice of Logistics Service Providers and Users

- Poor road quality and limited logistics activity across village panchayats constrain decentralized freight movement.
- Scarcity of land and absence of designated truck parking limit development of logistics facilities.
- Inland water transport remains underutilized, with missed potential for bulk and agri-produce movement due to lack of jetties, dredging, and structured river routes.
- System integration gaps between FCI platforms and State department systems reduce operational efficiency.
- Limited international routes reflect underutilization of Point-of-Call and Open Sky provisions.
- Fire-safety compliance, asset maintenance, and workforce training standards remain weak across logistics facilities.
- Absence of regular feeder vessel services to JNPT constrains maritime connectivity.
- Limited public transport and weak rail connectivity increase dependence on private vehicles.
- Roadside truck parking increases congestion and accident risk near urban and industrial corridors

Figure: Voice of the State Authorities

Potential Opportunities in the State

Goa's logistics ecosystem is at an inflection point, with latent export demand constrained more by operational gaps than by lack of infrastructure intent. The State's immediate opportunity lies in enabling functionality such as container handling, air cargo readiness, rail evacuation, and truck parking rather than in creating large new assets. Over the medium term, clearer institutional ownership of logistics and targeted skill development can significantly improve reliability and cost competitiveness. Addressing these focused opportunities can help Goa retain export cargo within the State while improving logistics efficiency without large fiscal outlays.

Short-Term Opportunities

1. **Operationalize containerized export handling at Goa Port for existing industrial clusters (Verna–Ponda belt)**

   Export-oriented units, particularly pharmaceuticals and seafood processors, continue to move containers by road to JNPT due to the absence of functional container and reefer handling facilities at Goa Port. This presents an opportunity to enable limited and targeted container and reefer operations, including mobile cranes and plug points, to reduce cargo diversion and lower logistics costs for Goa-based exporters.

2. **Augment air cargo ground handling capacity at Manohar International Airport to match rising export demand**

   Stakeholders reported shortages of forklifts, limited handling equipment, and the inability to process dangerous goods cargo, which constrains pharmaceutical and time-sensitive exports. Targeted augmentation of ground support equipment and dangerous goods handling capability can improve throughput without major infrastructure expansion.

3. **Improve reliability of rail-based evacuation from Goa by enhancing service frequency and ICD**

   Despite rail freight being significantly cheaper than road transport, exporters continue to rely on road due to infrequent rail services and limited operational capability at ICD Bali, including non-handling of hazardous cargo, liquor, and household goods. Rationalizing service schedules and expanding permissible cargo categories can unlock modal shift benefits.

4. **Develop basic truck terminals and secure parking facilities to address safety and congestion concerns.**

   The absence of designated truck terminals has resulted in cargo theft, driver safety risks, and roadside parking near industrial and port areas. Allocating land parcels for basic truck terminals with lighting, sanitation, and security can deliver immediate improvements in freight operations.

Long-Term Opportunities

5. **Position Goa Port as a complementary regional gateway through phased cargo handling development.**

   Stakeholders consistently highlighted the near absence of cargo handling infrastructure such as cranes, yards, and storage at the port. A phased development strategy focused on select export commodities can improve port utilization while avoiding large upfront investments.

6. **Strengthen institutional coordination through a clearly identifiable State logistics nodal mechanism.**

   Logistics service providers reported limited awareness of any nodal agency or single point interface for logistics related issues. Establishing a visible coordination mechanism supported by periodic industry consultations can improve policy responsiveness and ease of doing logistics.

7. **Address workforce constraints through localized driver training and certification programmes.**

   An acute shortage of trained drivers, especially for hazardous cargo, forces operators to rely on certification facilities located in Mumbai. Developing in State training and certification capacity in partnership with recognized agencies can reduce dependency and improve operational resilience.



Gujarat

State Performance Snapshot

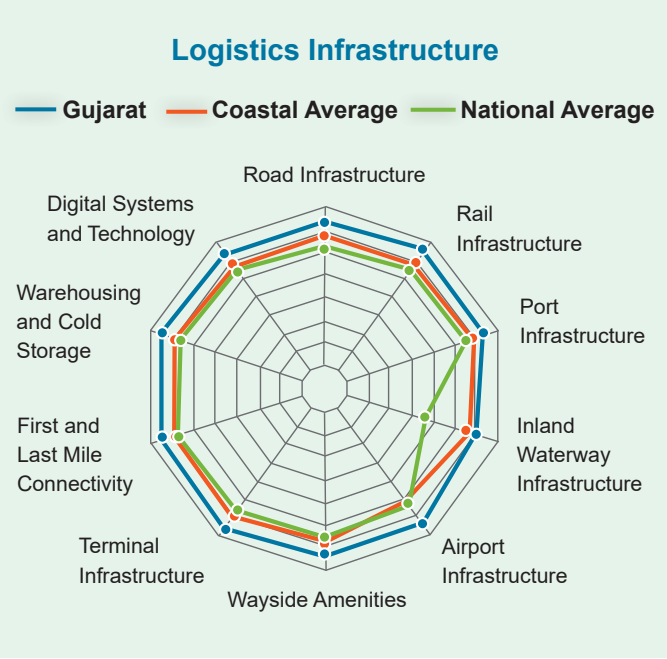
2025	2024
High Performer	Achiever

Gujarat has remained a **"High Performer"** under LEADS 2025, retaining its position from 2024 as an Achiever. The State's continued placement aligns with stakeholder perceptions of sustained investments in logistics infrastructure and multimodal connectivity, alongside institutional measures supporting logistics services, regulatory processes, and sustainability-linked initiatives. Gujarat's performance indicates alignment with national logistics priorities and a continued focus on infrastructure-led economic development.

Logistics Infrastructure

Gujarat's logistics infrastructure perception indicates that the State performs above both the national and coastal averages across the majority of transport modes and supporting systems, reflecting relatively stronger stakeholder consultations of core logistics assets.

The State records perception scores above the coastal group average and national average on improvement in road infrastructure, improvement in rail infrastructure, improvement in airport infrastructure, improvement in port infrastructure, improvement in Inland waterway infrastructure, improvement in adequacy and quality of Wayside Amenities, improvement in terminal infrastructure, improvement in first/ last mile connectivity , improvement in warehousing, cold storage, pack-houses etc. , and availability of digital systems to support logistics operations, reflecting a comparatively well-developed logistics infrastructure base and strong digital enablement that together support efficient freight movement and operational reliability across the State.



Gujarat's logistics infrastructure initiatives are articulated within broader State development frameworks such as Viksit Gujarat@2047 and Gujarat@75, with a focus on corridor-based development, multimodal connectivity, and port-led industrial growth. The State has reported ongoing and planned investments in road, rail, port, and airport-linked infrastructure to support freight movement across key industrial and logistics clusters.

Key road infrastructure initiatives undertaken through the Roads and Buildings Department include the development and upgradation of highways and expressways supporting industrial regions and port connectivity. The Namo Shakti Expressway has been highlighted as a major corridor project intended to improve regional connectivity and freight movement.

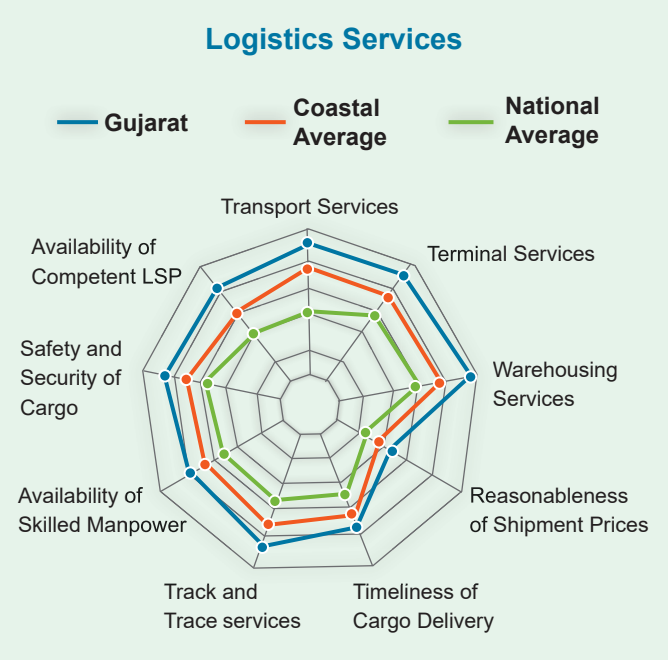
Rail infrastructure initiatives include projects aimed at strengthening connectivity between industrial areas and ports, supporting multimodal freight evacuation and port-linked logistics systems. On the maritime side, the State has referenced continued development of port infrastructure and port-led logistics ecosystems, aligned with its extensive coastline and industrial hinterland.

The State has also indicated the development of logistics parks, multimodal logistics facilities, warehousing, and cold storage infrastructure, envisaged as aggregation and distribution hubs for manufacturing, export-oriented, and agri-based supply chains.

Logistics Services

Perceptions on Gujarat's logistics service performance are consistently higher than both the national and coastal averages across service-related parameters, reflecting relatively strong assessments of service availability, reliability, and operational support.

The State records perception scores above the coastal group average and national average across parameters such as improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo, availability of competent logistics service providers and improvement in shipment prices, reflecting a relatively enabling service ecosystem, supported by market participation and institutional arrangements, and indicating the importance of sustaining service quality as demand grows.



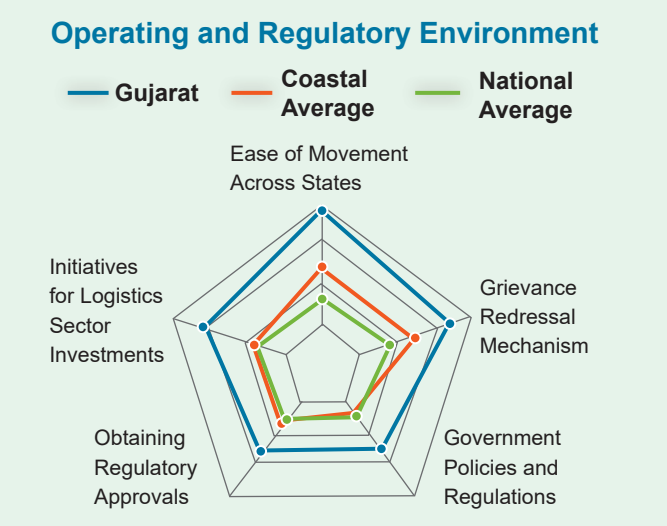
Gujarat has undertaken initiatives to support logistics services through infrastructure-backed service delivery and policy facilitation. The State has referenced measures aimed at strengthening transport services, terminal services, warehousing, and cargo-handling operations across major logistics corridors.

Logistics parks and multimodal facilities are positioned as service hubs supporting third-party logistics (3PL) providers, freight forwarders, and integrated logistics service providers. The State has also cited initiatives supporting export logistics services, including infrastructure and systems intended to facilitate cargo movement for export-oriented sectors.

Digitization of logistics-related processes has been referenced as part of service enablement, including digital platforms supporting approvals, inter-agency coordination, and logistics operations. The availability of skilled manpower and service providers is addressed within the broader industrial and logistics ecosystem framework, without attribution of quantified service-level outcomes at this stage.

Operating and Regulatory Environment

Gujarat's operating and regulatory environment for logistics is perceived consistently strong across all measured parameters. The State records perception scores above the coastal group average and national average on improvement in ease of border crossing, availability of grievance redressal mechanism, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments. Overall, stakeholder assessments point to a comparatively supportive operating and regulatory environment, with consistent performance across inter-state movement, regulatory clarity, grievance redressal, approval processes, and investment-oriented policy initiatives.



Gujarat has reported an operating and regulatory framework aimed at facilitating logistics and industrial development through policy integration, institutional mechanisms, and approval facilitation. The State has highlighted the role of single-window clearance systems, including iNDEXTb, in supporting approvals for logistics parks, industrial units, and allied infrastructure.

State responses reference regulatory coordination for logistics-linked projects requiring environmental clearances, Coastal Regulation Zone (CRZ) approvals, telecom and power infrastructure permissions, airport-related authorizations, and foreign investment approvals, as applicable.

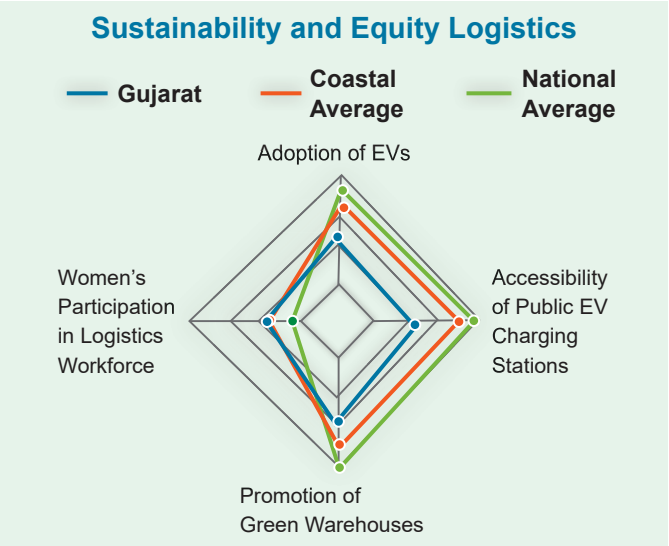
Grievance redressal mechanisms, inter-departmental coordination processes, and institutional facilitation platforms are cited as part of the operating environment supporting logistics sector investments. These measures are described as facilitative in nature, without attribution of operational performance metrics beyond LEADS perception outcomes.

Sustainability and Equity Logistics

Gujarat's performance on sustainability and equity-related logistics parameters is mixed when compared with national and coastal group averages, reflecting varied stakeholder assessments across environmental and social dimensions of logistics development.

The State records perception scores below the coastal average as well as national average on availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for promotion of green warehouses, underscoring the need for targeted policy support and infrastructure investments to accelerate the transition towards sustainable logistics practices.

The State's perception score for availability of initiatives for inclusion of women workforce is above the coastal group average as well as the national average suggesting stronger support by the State for gender inclusion in the logistics workforce.



Gujarat has outlined several sustainability-linked measures relevant to logistics and transport infrastructure. The State has referenced the promotion of electric vehicle (EV) adoption and the expansion of EV charging infrastructure, including applicability to logistics and freight operations.

The State has also highlighted the adoption of sustainable construction practices, including the use of waste plastic and other alternative materials in road works, as part of environmentally responsible infrastructure development. Climate-resilient infrastructure initiatives have been referenced as well, including approved projects aimed at strengthening the resilience of transport assets.

Circular economy considerations include references to waste management linkages and the application of reverse logistics principles, aligned with broader sustainability objectives. Equity-related aspects are reflected through references to workforce participation and inclusion within logistics and allied sectors, as cited in the State's sustainability-related responses.

Progress since LEADS 2024

The Government of Gujarat has reported a set of targeted actions to address both short-term operational gaps and long-term structural requirements within the logistics ecosystem. The actions outlined below reflect the State's response to the specific opportunities identified in the previous assessment.

Actions Taken on Short-Term Opportunities

Development of additional logistics facilities for diversified cargo:

The State has initiated the development of Transport Nagar at Ankleshwar, intended to function as a comprehensive logistics hub supporting diversified cargo.

Key connectivity features include:

- Rail connectivity to the Delhi–Mumbai Broad Gauge line at Bharuch
- Proximity to the Delhi–Mumbai Dedicated Freight Corridor (DFC)
- Road connectivity via the six-lane Dahej–Bharuch State Highway

In addition, Dahej Port has existing facilities for:

- Bulk, break-bulk, and project cargo handling
- Mechanized berths
- 24×7 cargo operations

Expansion of last-mile connectivity to GIDC industrial parks:

- The Roads and Buildings Department has made dedicated budgetary provisions in the State Budget 2025–26 to strengthen last-mile road connectivity to:
  - – GIDC industrial parks
  - – Major industrial clusters
- Road development works planned over the last two financial years include:
  - – Approx. 230 km of road upgrades
  - – Investment of ₹850 crore
  - – Improved access to:
    - Industrial estates
    - Ports
    - Logistics hubs

Addressing congestion and road quality on key freight corridors:

- The Mithi–Roha–Mandvi Coastal Corridor, developed under: Gujarat State Highway Project (GSHP-II) With World Bank assistance improves access to:
  - – Mundra Port
  - – Mandvi Port
  - – Other coastal locations
- For the Bharuch–Dahej stretch::
  - – An access-controlled elevated corridor within Bharuch city is under implementation
  - – Objective: reduce urban congestion and improve connectivity to industrial and port areas
  - – The Bharuch–Navsari route is expected to:
    - Enable continuous cargo movement between Ahmedabad and Navsari
    - Reduce pressure on existing corridors
- Ongoing NHAI projects are also addressing congestion on routes leading to Ankleshwar

Actions Taken on Long-Term Opportunities

Coordination for rail connectivity between Pipavav Port and ICD Ahmedabad:

- The State reviewed rail connectivity between:
  - Pipavav Port (operated by APM Terminals)
  - ICD Ahmedabad (operated by CONCOR)
- Based on current demand:
  - Approx. 7–8 rakes per month
  - Existing rail frequency is considered adequate for present cargo volumes
  - No immediate optimization is required
- To strengthen long-term connectivity:
  - The State has announced the Namo Shakti Expressway, a greenfield corridor connecting North Gujarat with Pipavav Port
  - Intended to support:
    - Industrial freight movement
    - Port-linked cargo evacuation

Resolving cargo evacuation challenges at Kandla and Mundra ports:

- Connectivity and road quality issues affecting Kandla Port and Mundra Port are being addressed through NHAI-led road infrastructure works.
  - Gujarat State Highway Project (GSHP-II)
  - With World Bank assistance
  - Improves access to:
    - Mundra Port
    - Mandvi Port
    - Other coastal locations
- The Roads and Buildings Department, in coordination with the Gujarat Maritime Board, has strengthened port connectivity through:
  - Phase I and Phase II of the Coastal Corridor Project
- Cargo evacuation is further supported by:
  - Amritsar–Jamnagar Expressway (developed as per MoRTH standards)
  - Somnath–Dwarka Expressway, aimed at:
    - Enhancing connectivity across the Saurashtra region
    - Improving access to industrial centers and ports

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

- Rail overbridges at key crossings remain under upgradation, and single-lane sections continue to create congestion and scheduling uncertainty for goods vehicles during peak hours.
- Rapid industrial growth around GIDC Sanand and Ahmedabad is driving demand for additional modern warehousing capacity and organised logistics support facilities.
- Availability of designated and secure truck parking with basic amenities remains limited along major freight corridors and near industrial estates.
- Toll plazas on key approach roads experience regular queuing during high-traffic periods. Locations close to industrial clusters add to turnaround time for short-haul freight movements.
- Limited direct air cargo capacity and connectivity encourage some time-sensitive shipments to route through nearby gateway airports such as Mumbai.

Figure: Voice of Logistics Service Providers and Users

- Strong fisheries output highlights the need for wider availability of ice plants, cold storage, and primary processing facilities in coastal and rural belts to reduce post-harvest losses and support export readiness.
- Rail movement over short distances (below ~300 km) remains relatively cost-intensive, limiting its attractiveness for connectivity between industrial clusters and ports such as Mundra and Kandla.
- Port connectivity projects such as the Hazira–Gothangam rail line are progressing, with stakeholders noting that broader network impact will benefit from continued central support for rail-linked port corridors.
- Expressway expansion has strengthened inter-city movement, while improved highway access to ports, particularly Kandla, can further reduce transit times and enhance multimodal efficiency.
- Availability of modern, well-located warehousing near ports and major highway corridors remains limited, constraining cargo consolidation and handling capacity.
- State-level integration of logistics data platforms is still evolving, and an estimated logistics skill gap of over 3.3 lakh workers highlights the need for sustained workforce development.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Gujarat continues to demonstrate strong logistics fundamentals driven by port capacity, industrial depth, and expanding expressway connectivity. The next phase of improvement lies in optimising multimodal integration, strengthening cold-chain and warehousing ecosystems, enabling data-driven logistics governance, and addressing workforce gaps. Targeted interventions in these areas can further enhance logistics efficiency, reduce system-level costs, and reinforce Gujarat's leadership position in India's evolving freight and trade ecosystem.

Short-Term Opportunities

1. **Strengthening Cold-Chain and Fisheries-Linked Logistics Infrastructure**

   Gujarat has an opportunity to strengthen cold-chain and fisheries-linked logistics infrastructure along its coastline to reduce post-harvest losses and improve export readiness. Despite PMMSY support, gaps remain in ice plants, cold storage, and primary processing facilities in key coastal districts. Targeted investments in aggregation, storage, and first-mile cold logistics can improve utilisation of the coastline for value-added exports.

2. **Improving Short-Haul Rail Logistics Efficiency Between Clusters and Ports**

   Cargo movement between clusters such as Morbi, Ahmedabad, and Bharuch–Dahej and ports including Mundra and Kandla remains predominantly road-based due to limited short-haul rail viability. Improved operational coordination, service rationalisation, and scheduling can enhance rail competitiveness and increase modal share without major new infrastructure.

3. **Accelerating Modern Warehousing Near Port-Led Industrial Nodes**

   Developing modern warehousing near Kandla Port, Mundra Port, and key expressway junctions can strengthen cargo consolidation, reduce port dwell times, and support faster multimodal evacuation, particularly for bulk, break-bulk, and agricultural commodities.

4. **Advancing State-Level Digital Logistics Integration**

   While PM GatiShakti has strengthened infrastructure planning, deeper integration with ULIP and logistics datasets can enable systematic monitoring of corridor performance, congestion, and asset utilisation, supporting more data-driven and responsive logistics governance.

Long-Term Opportunities

5. **Developing a Coordinated Multimodal Logistics Strategy**

   Gujarat can further consolidate its role as India's primary logistics gateway by aligning ports, DFC interfaces, industrial clusters, and expressways into an integrated freight network. Stronger coordination across Kutch, Saurashtra, and Central Gujarat can improve network efficiency, evacuation planning, and corridor-level capacity utilisation.

6. **Addressing Logistics Workforce Gaps Through Structured Skill Development**

   With an estimated logistics skill gap exceeding 3.3 lakh workers, structured and industry-aligned training programs are needed across terminal operations, warehousing, and rail logistics. Strengthening workforce capacity can improve service quality, safety standards, and long-term productivity across the sector.

7. **Expanding Climate-Resilient and Sustainable Logistics Infrastructure**

   Scaling energy-efficient cold chains, green warehousing, and sustainability initiatives around ports and hinterland corridors can strengthen Gujarat's competitiveness while supporting national green logistics objectives and long-term climate resilience.



Karnataka

State Performance Snapshot

2025 Accelerators

2024 Achiever

In LEADS 2025, Karnataka has been positioned as **"Accelerators",** reflecting changes in relative performance among coastal States and the introduction of a corridor-level assessment framework.

The State remains a major industrial and export-oriented hub, with freight movement highly dependent on efficient multimodal connectivity, strong urban logistics performance, and integration across road, rail, and port infrastructure.

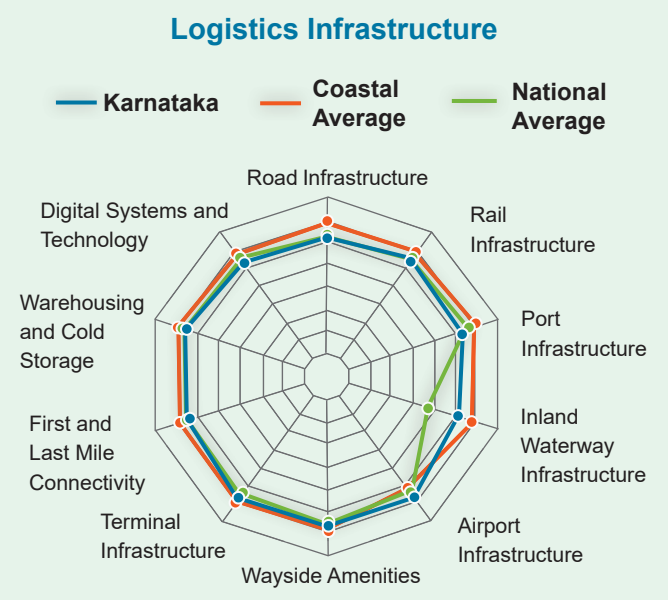
The State administration continues to focus on addressing structural and operational constraints, particularly those related to port–hinterland connectivity, terminal access and congestion, warehouse compliance burden, and infrastructure gaps at key logistics nodes, while advancing system-wide improvements under PM GatiShakti.

Logistics Infrastructure

Karnataka's logistics infrastructure reflects a diversified and multimodal asset base supporting manufacturing, services, and consumption-driven supply chains. Overall performance remains stable across most infrastructure indicators, with variation across parameters.

The core connectivity and node indicators, improvement in road infrastructure, improvement in rail infrastructure, improvement in first/ last mile connectivity , and improvement in warehousing, cold storage, pack-houses etc., are aligned with the national average but below the coastal group average, highlighting the need to accelerate upgradation to bridge the gap with higher-performing coastal peers.

Several infrastructure dimensions are assessed above the national average but below the coastal group average, including improvement in Inland waterway infrastructure, improvement in adequacy and quality of wayside amenities, and improvement in terminal infrastructure, indicating steady progress but continued headroom relative to coastal comparators. At the same time, perceptions on improvement in port infrastructure and availability of digital systems to support logistics operations are below both the national and coastal averages, pointing to priority gaps in gateway performance and digital enablement.



Perceptions related to improvement in airport infrastructure are positioned above both the national and coastal averages, reflecting the State's established air connectivity profile that supports time-sensitive cargo movement and regional accessibility.

Overall, infrastructure outcomes align with Karnataka's diversified economic and industrial profile.

Karnataka has undertaken multiple infrastructure initiatives to strengthen coastal shipping, inland waterways, port capacity, and multimodal connectivity. Inland Water Transport (IWT) projects are being jointly planned by the Karnataka Maritime Board (KMB) and the Inland Waterways Authority of India (IWAI) along the National Waterways in the State. At present, coastal cargo movement is facilitated through Karwar Port and Old Mangalore Port. Under a Public–Private Partnership (PPP) model, KMB is upgrading and operationalising berths at Karwar, Malpe, Old Mangalore (City Side), and Old Mangalore (Bengre Side). These upgrades are expected to increase cargo handling capacity from around 0.7 MTPA to 3.5 MTPA. In parallel, road connectivity to Honnavar Port is being upgraded by NHAI under Bharatmala Phase I. Land acquisition and rehabilitation and resettlement payments have been completed by Honnavar Port, and the contractor has been appointed by NHAI.

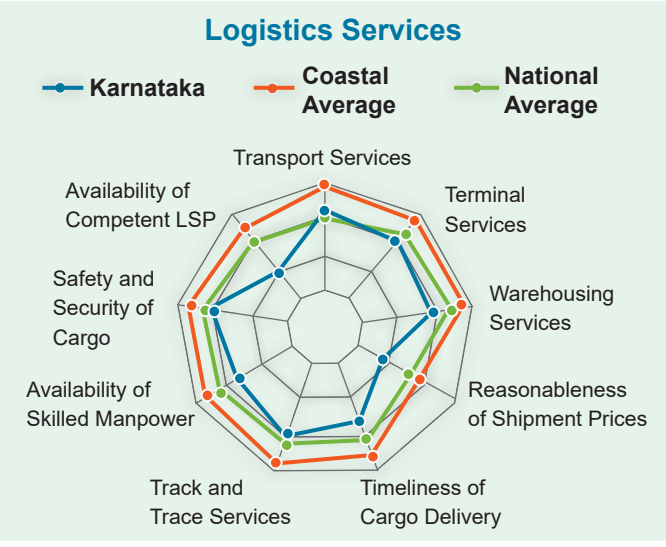
Logistics Services

Karnataka's logistics services outcomes reflect a well-established service ecosystem, supporting diverse logistics requirements across modes and regions. Performance under this pillar remains stable, with variation across service-related indicators.

Perceptions related to improvement across all transport services, improvement in terminal services, availability of track and trace services, and improvement in safety and security of cargo, are aligned with the national average but below the coastal group average indicating steady service delivery outcomes with headroom to reach coastal peer performance.

Karnataka records perceptions below the national average as well as coastal group average on parameters such as improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of skilled manpower and availability of competent logistics service providers underscoring the need for targeted capacity-building, service quality improvements, and workforce development to strengthen overall logistics competitiveness.

Overall, the logistics services pillar indicates characteristics of a mature service environment, with scope for continued efficiency gains.



Karnataka's initiatives support logistics services linked to port operations and cargo movement. Upgradation and operationalisation of port berths at Karwar, Malpe, and Old Mangalore are expected to facilitate handling of coastal cargo and associated services. Feasibility studies have been undertaken by the National Highways Logistics Management Limited (NHLML) to assess connectivity of 13 ports to National Highway 66, with consultants engaged and reports awaited. These initiatives support service-level integration between ports and highway networks, enabling smoother movement of cargo between maritime and road transport systems.

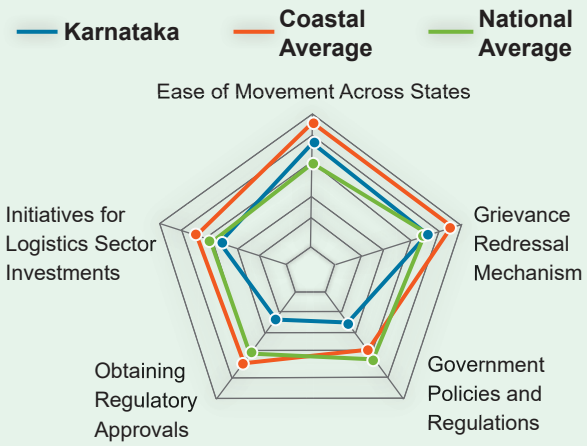
Operating and Regulatory Environment

Karnataka's operating and regulatory environment reflects a structured institutional framework supporting logistics operations across the State. Outcomes under this pillar remain broadly stable, with variation across parameters.

The State records consistent outcomes on improvement in ease of border crossing, availability of grievance redressal mechanism and availability of policy initiatives for logistics sector investments with perceptions aligned with the national average as well as coastal group average reflecting relative stability in inter-State movement, grievance handling, and investment facilitation relative to peers.

In contrast, perception scores for the availability of government policies and regulations in facilitating logistics operations and ease of obtaining regulatory approvals for setting up new logistics facilities are below both the national average as well as coastal group average suggesting scope to strengthen policy implementation and streamlining approval processes to improve the overall ease of doing logistics business in the State.

Operating and Regulatory Environment



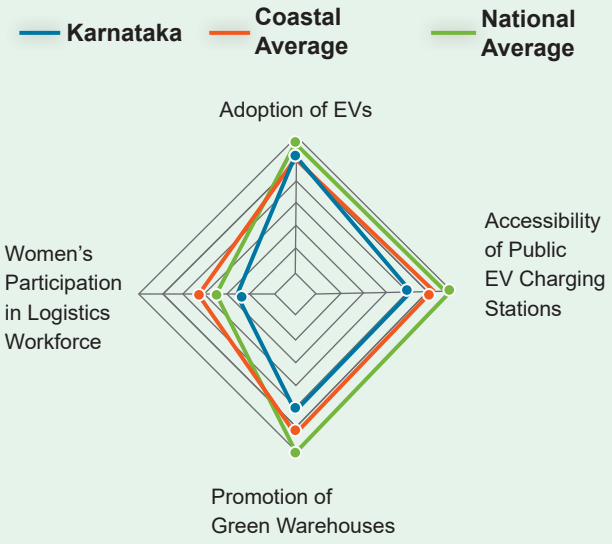
Institutional coordination and project implementation mechanisms have been activated across multiple agencies. The Karnataka Maritime Board is leading port upgradation and berth operationalisation under PPP models, with support from the Government of Karnataka. Inland Water Transport planning is being undertaken in coordination with the Inland Waterways Authority of India. Rail connectivity initiatives, including the development of Amdalli Station in collaboration with Konkan Railway Corporation Limited (KRCL), are being fully funded by KMB improve rail access to Karwar Port. These initiatives reflect active inter-agency coordination across maritime, rail, and highway authorities.

Sustainability and Equity Logistics

Karnataka's performance on sustainability and equity reflects a progressive integration of green and inclusive practices, aligned with broader State-level initiatives on mobility and workforce participation.

The State records stable outcomes on the availability of support in EV adoption with perceptions aligned to the national average and coastal group average, indicating baseline policy alignment in promoting EV adoption within logistics operations. Whereas the perception scores for the availability of public EV charging stations, availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce are below the national average and coastal group average highlighting the need to strengthen infrastructure

Sustainability and Equity Logistics



provisioning and targeted initiatives to advance sustainable and inclusive logistics development in the State.

Overall, sustainability and equity outcomes reflect a steady transition, with green and inclusive logistics practices continuing to evolve alongside the State's logistics ecosystem.

Sustainability-linked initiatives relevant to the logistics ecosystem include policy support under the Karnataka Startup Policy 2025–30, which identifies the Circular Economy as a priority sustainability vertical within the startup ecosystem through dedicated funding, institutional mechanisms, accelerators, student pipelines, and market access support. Additionally, under the Karnataka Data Centre Policy 2022–27, incentives are provided for development of low-carbon, energy-efficient, next-generation green data centres aligned with ESG and global sustainability standards. These initiatives support sustainability considerations relevant to logistics, digital infrastructure, and supply-chain operations.

Progress since LEADS 2024

In response to the recommendations outlined in the LEADS 2024 report, Karnataka has undertaken a series of targeted interventions to strengthen its logistics ecosystem and address identified infrastructure and regulatory gaps.

Rolled out single-window, digital approvals for logistics and warehousing projects to reduce inspection burden and processing time.

Implemented targeted upgrades of first/last-mile links and terminal approach roads, including connectivity improvements that directly support decongestion at ICDs.

Monitoring terminal dwell and turnaround times under KPI-based tracking to ensure sustained improvements in access and operational efficiency.

Green Logistics: Promoted EV freight adoption and deployed public charging along priority freight corridors.

Workforce Development: Expanded industry-linked logistics skilling programmes to increase availability of certified manpower.

KPI Monitoring: Implemented KPI-based tracking of approvals, connectivity improvements, terminal efficiency, and service reliability.

Long-Term Multimodal Projects: Advanced major multimodal assets including Bengaluru and Mysuru MMLPs, Peripheral Ring Road, and suburban rail modernisation.

Future Initiatives: Planning to scale city logistics solutions, expand PPPs in warehousing, strengthen grievance redressal with SLAs, and develop EV/alternative-fuel freight corridors.



Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Acute shortage of trained drivers due to poor working conditions, lack of social security, and low professional recognition.

> Highway development has not been matched with adequate truck terminals, rest areas, toilets, fuel stations, or repair facilities, despite planning guidelines mandating such infrastructure.

> Limited multimodal connectivity between manufacturing clusters and ports due to heavy reliance on long-haul road transport and lack of dependable rail-based EXIM services to gateways such as Chennai, Krishnapatnam, and Mangaluru.

> Inadequate cold-chain infrastructure and perishable cargo handling facilities constrain agri-food and pharmaceutical supply chains.

> Drivers report harassment by enforcement agencies (RTO and police) and absence of effective grievance redressal mechanisms.

> Strong need for structured skill development and formal driver training institutions, as truck driving remains largely unorganised and under-valued as a profession.

Figure: Voice of Logistics Service Providers and Users

> High logistics costs due to fragmented supply chains, weak multimodal integration, and high fuel and toll charges.

> Absence of fully developed multimodal logistics hubs limits seamless cargo movement and integrated transport planning.

> Border checkposts continue to operate despite GST, causing delays, higher turnaround times, and added operating costs for transporters.

> Lack of alternative rail routes, additional lines, and dedicated freight corridors restricts rail modal share and limits shift to cost-efficient and sustainable logistics.

> Shortage of cold-chain infrastructure and containers, especially refrigerated units, drives up leasing costs and affects export reliability.

Figure: Voice of State Authorities

Potential Opportunities in the State

Building on the issues highlighted by industry stakeholders and the State Government, Karnataka's opportunity lies in shifting from capacity expansion to system optimisation, reducing congestion across key corridors, improving terminal and last-mile efficiency, and strengthening the performance of its multimodal network. Addressing fragmentation in supply chains, fixing bottlenecks in multimodal connectivity, and enhancing the reliability of rail and cold-chain channels can unlock significant logistics gains for the State.

Short-Term Opportunities

1

Streamline cargo handling and dwell times at Bengaluru Airport cargo terminals

Stakeholders report peak-hour congestion driven by high e-commerce, electronics, and pharmaceutical volumes. Improved slot management, faster landside processing, and stronger coordination between terminal operators and customs can enhance throughput and reduce delays.

2

Decongest access roads and improve last-mile connectivity to major logistics clusters around Bengaluru

Industry and warehousing clusters along Hosur Road, Nelamangala, Hoskote, and Devanahalli face frequent freight delays due to road congestion. Targeted upgrades to approach roads, junction redesign, and dedicated freight movement windows can deliver immediate efficiency gains.

3

Improve utilisation and operational efficiency of existing ICDs and rail-linked terminals

Logistics service providers highlight scope to reduce turnaround times and improve service reliability at ICDs serving Bengaluru through better rail coordination and improved yard and gate management practices.

Long-Term Opportunities

4

Develop integrated logistics hubs outside Bengaluru to reduce urban freight pressure

Stakeholders support development of logistics clusters in locations such as Tumakuru, Chitradurga, and Ballari to decentralise freight activity, support regional manufacturing, and reduce congestion in the Bengaluru metropolitan region.

5

Strengthen multimodal connectivity linking manufacturing clusters with ports

Exporters continue to depend heavily on road transport to ports such as Chennai, Krishnapatnam, and Mangaluru. Improving rail connectivity and service reliability for EXIM cargo can reduce costs, improve transit predictability, and support export competitiveness.

6

Address skilled manpower gaps in logistics operations

Industry feedback indicates shortages of trained drivers, warehouse supervisors, and cargo-handling staff. Employer-linked skilling and certification programmes can improve service quality, safety, and operational consistency across logistics networks.



Kerala

State Performance Snapshot

2025	2024
High Performer	Aspirer

Kerala has progressed to **'High Performer'**, marking an improvement from its earlier position as an 'Aspirer' in LEADS 2024. This change reflects strengthened performance across multiple dimensions of the logistics ecosystem and places the State among the higher-performing States and Union Territories. Kerala's current positioning indicates closer alignment with established practices in logistics infrastructure, services, and institutional frameworks, supported by focused policy interventions and implementation efforts undertaken in recent years.

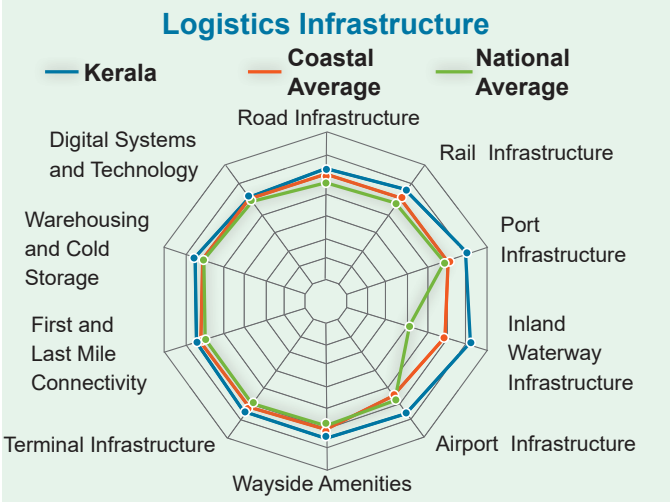
Logistics Infrastructure

Perception-based indicators place Kerala's logistics infrastructure above both the national and coastal group averages, with relatively stronger assessments across select transport modes and supporting systems.

Perceptions related to improvement in airport infrastructure are positioned above both national and coastal averages, reflecting the State's established air connectivity profile.

Kerala also records perception scores above both national and coastal averages for improvement in rail infrastructure indicating relatively dependable corridor-level connectivity for long-distance movement. Perceptions related to improvement in road infrastructure and improvement in adequacy and quality of wayside amenities are likewise above both national and coastal group averages, reflecting sustained improvements in road conditions and associated support facilities, while also signalling capacity pressures in dense urban and peri-urban stretches.

Outcomes related to improvement in terminal infrastructure, improvement in first/ last mile connectivity , improvement in warehousing, cold storage, pack-houses etc. also record perception scores above national and coastal averages across major logistics clusters in the State.



The State shows perception scores above both national and coastal averages for the availability of digital systems to support logistics operations suggesting increasing adoption of technology-enabled logistics processes. Additionally, perceptions related to improvement in port infrastructure and improvement in Inland waterway infrastructure are higher than both the national and coastal group averages, indicating strong multimodal integration leveraging the State's geographic advantages.

Kerala's logistics infrastructure development is anchored in Kerala Vision 2031, with a focus on strengthening multimodal connectivity and advancing port-led development. Key investments include the upgradation of NH-66, with 25 percent of project funding contributed by the Government of Kerala, alongside the Coastal Highway and Hill Highway projects. The Hill Highway connects 13 of the State's 14 districts through the hill ranges, while the Coastal Highway enhances coastal connectivity and access to ports and industrial locations.

Port-linked infrastructure development is centered on Vizhinjam Port, supported by proposals for dedicated rail connectivity and port-based industrial corridors. The proposed 629-km Coastal Highway from Thiruvananthapuram to Kasaragod links logistics nodes, minor ports, and coastal industrial clusters. In parallel, the State is developing mini Multi-Modal Logistics Parks (MMLPs) as cargo aggregation centers to support middle-mile movement and third-party logistics operations.

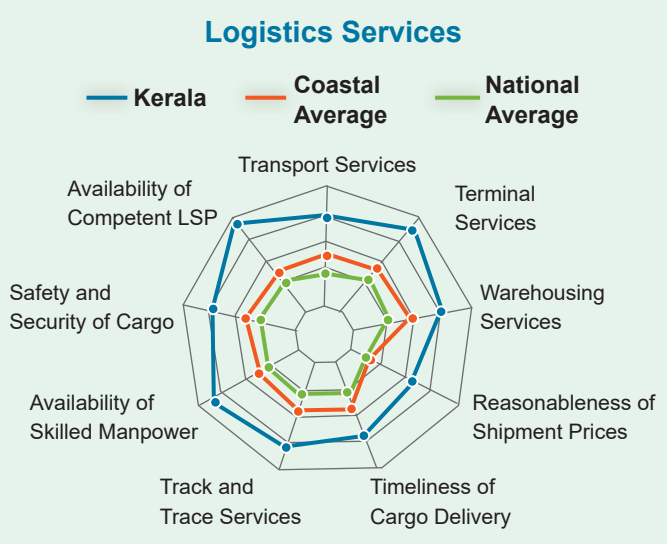
Under the Kerala Logistics Park Policy, logistics parks are designated as industrial areas and supported through institutional mechanisms such as the State Logistics Coordination Committee and the State Logistics Cell, with approvals routed through the K-SWIFT single-window system. The State offers financial incentives, including subsidies of up to Rs. 7 crore per project and stamp duty exemptions, and is leveraging unused public sector and cooperative land parcels for the development of logistics hubs, MSME clusters, and industrial zones. These initiatives form part of the broader infrastructure development pipeline, including logistics-linked investments advanced through platforms such as the Invest Kerala Global Summit (IKGS) 2025.

Logistics Services

Perception indicators show that Kerala records scores above both the national and coastal group averages across a wide range of logistics service parameters. Perceptions related to improvement across all transport services are above both averages, supported by multimodal availability and service coverage.

Kerala also records assessments above national and coastal group averages for the improvement in terminal services and improvement in warehousing services indicating dependable cargo handling, storage, and processing capabilities across key logistics nodes. Perceptions related to improvement in shipment prices likewise remain above both averages, reflecting favourable views on pricing outcomes. Assessments of improvement in timeliness of cargo delivery also record scores above national and coastal averages, indicating operational reliability and coordinated service delivery.

Performance on availability of track and trace services records perception scores above both national and coastal averages, highlighting the adoption of technology-enabled visibility solutions. The State further records perception scores above national and coastal averages for the availability of skilled manpower and improvement in safety and security of cargo In addition, perceptions related to the availability of competent logistics service providers are positioned above both national and coastal averages, indicating the presence of a capable service provider base supporting logistics operations across sectors.



Kerala has pursued logistics service development through coordinated policy frameworks, including the Kerala Logistics Policy 2025, Kerala Export Promotion Policy 2025, and Kerala Industrial Policy 2023. These policies outline measures for transport services, warehousing services, terminal services, and participation of logistics service providers across sectors.

Digitisation is positioned as an enabling element within these frameworks. The State has initiated logistics action planning, transport management system optimisation, and digital platforms for approvals and inter-agency coordination through K-SWIFT. Export-oriented logistics processes are supported through the Kerala Digital Export Platform and the Export Infrastructure Grid, which aim to facilitate export procedures and information flow. Policy guidelines also encourage adoption of track-and-trace systems and IoT-based smart logistics solutions.

Public–private partnership approaches are envisaged for service delivery across logistics parks, warehousing, EV charging infrastructure, and terminal services. Advanced charging technologies and PPP-based models have been proposed to support EV charging infrastructure for logistics operations. Together, these initiatives provide the institutional and policy context for logistics service delivery, including logistics-linked proposals advanced through platforms such as the Invest Kerala Global Summit (IKGS) 2025, without attributing operational outcomes at this stage.

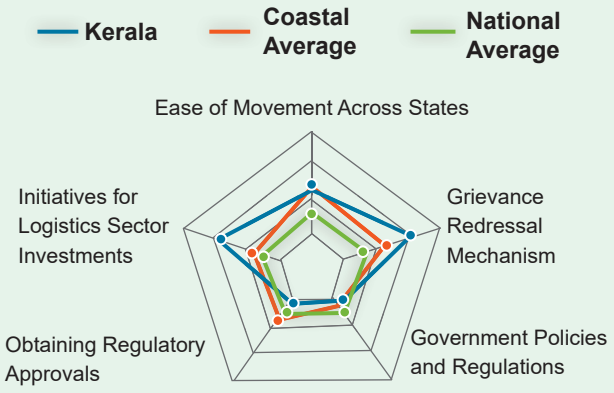
Operating and Regulatory Environment

Kerala's operating and regulatory environment for logistics reflects a supportive institutional framework, with perception-based assessments positioned above national and coastal group averages across key parameters. Perceptions related to improvement in ease of border crossing are positioned above national average but slightly below the coastal group average, indicating relatively smooth inter-State freight movement while also reflecting comparative pressures along coastal corridors. The State also records perception scores above both national and coastal averages on availability of grievance redressal mechanism reflecting established channels for addressing operational concerns raised by logistics stakeholders.

Views on the availability of policy initiatives for logistics sector investments are positioned above national average, suggesting visibility of policy measures supporting logistics-sector participation. Assessment of parameter availability of government policies and regulations in facilitating logistics operations is positioned below the national and coastal group averages, indicating scope to improve regulatory predictability and execution.

Similarly, perception scores related to the ease of obtaining regulatory approvals for setting up new logistics facilities are below both national and coastal group averages, indicating scope to further streamline approval processes and improve procedural efficiency. Overall, Kerala's operating and regulatory environment reflects consistent institutional support, alongside opportunities for targeted improvements in regulatory facilitation.

Operating and Regulatory Environment



Kerala has outlined measures to support the operating and regulatory environment for logistics through a set of policy and institutional initiatives. Key policy instruments, including the Kerala Logistics Policy 2025, Kerala Export Promotion Policy 2025, Kerala Industrial Policy 2023, and Kerala State ESG Policy 2025, provide a framework for logistics-related infrastructure development, service provision, and investment facilitation.

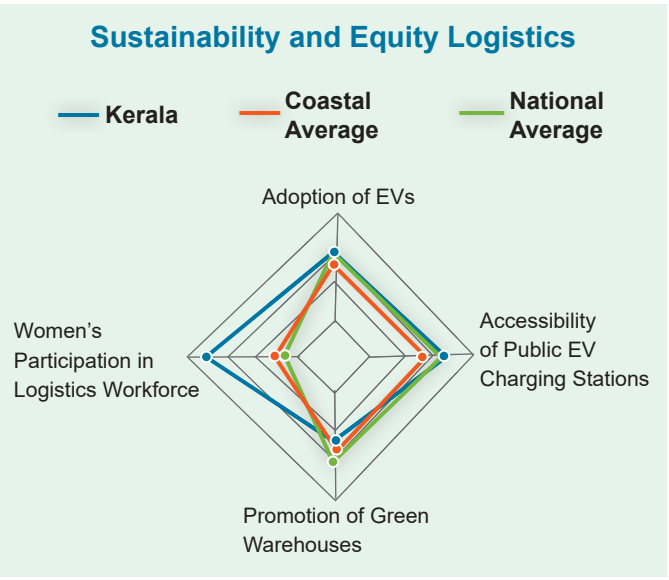
The K-SWIFT single-window system is used for processing approvals related to logistics parks, industrial units, warehousing facilities, and allied infrastructure. The State Logistics Cell supports inter-departmental coordination and facilitates monitoring and issue resolution related to logistics initiatives. As outlined in policy provisions, logistics parks are designated as industrial areas, enabling streamlined regulatory processing.

Regulatory processes for logistics and transport projects involve coordination with central and statutory authorities for requirements such as environmental clearances, Coastal Regulation Zone (CRZ) approvals, airport point-of-call permissions, and approvals related to telecom, power infrastructure, and foreign investment, where applicable. Port-linked corridors, rail proposals, and large logistics-related projects are undertaken within these regulatory frameworks, with private sector participation envisaged under relevant policies. These measures are intended to provide a structured and predictable regulatory environment, without attributing system-level performance outcomes.

Sustainability and Equity Logistics

Kerala's sustainability and equity logistics outcomes reflect perception-based assessments positioned above national and coastal group averages across several parameters, indicating progress in the adoption of environmentally oriented and inclusive practices within the logistics ecosystem. Perceptions related to the availability of support in EV adoption and availability of public EV charging stations are above both national and coastal averages, suggesting a supportive environment for cleaner freight mobility and the availability of enabling infrastructure.

At the same time, perception scores related to the availability of initiatives for promotion of green warehouses are below national and coastal group average scores, indicating scope to strengthen policy support and on-ground adoption of energy-efficient and environmentally sustainable warehousing practices. Perceptions related to the availability of initiatives for inclusion of women work



force are positioned above both national and coastal averages, reflecting relatively stronger perceived inclusion within the logistics workforce.

Overall, this pillar indicates progress across clean mobility and inclusion dimensions, alongside specific opportunities to strengthen green warehousing adoption.

Kerala has integrated sustainability and equity objectives into logistics development through the Kerala State ESG Policy 2025 and the Kerala State Logistics Action Plan. The State promotes the adoption of electric vehicles for logistics operations, supported by the expansion of public EV charging infrastructure through public–private partnership models and advanced charging technologies. EV penetration reached 5.2 percent in FY 2024, alongside initiatives to expand charging infrastructure supporting transport and logistics use.

The State encourages green warehousing projects through policy provisions related to incentives, energy-efficient measures, and integration of renewable energy. Provisions for reverse logistics are included to support circular economy objectives. Development of logistics parks and mini

MMLPs is proposed within a multimodal planning framework, as outlined in State policies, without attributing specific environmental outcomes.

Progress since LEADS 2024

The Government of Kerala's actions following the previous LEADS assessment reflect progress in addressing identified opportunities through targeted policy interventions, infrastructure initiatives, and institutional mechanisms. The short-term actions undertaken in this context are outlined below.

Actions taken on Short Term Opportunities

Strengthening road connectivity along critical corridors:

To address the need for improved road connectivity, ongoing highway development initiatives such as NH-66, the Coastal Highway, and the Hill Highway are being implemented. The Government of Kerala has contributed 25 percent of the funding for NH-66. The Hill Highway connects 13 of the State's 14 districts, supporting connectivity across hill regions, while the Coastal Highway is being developed to enhance coastal movement and access to ports and industrial locations.

Augmenting warehousing and logistics infrastructure:

In response to the need for expanded storage and logistics facilities, the Kerala Logistics Park Policy enables the development of logistics parks and warehousing infrastructure through provisions such as capital subsidies, stamp duty exemptions, and designation of logistics parks as industrial areas. Promotion of warehousing as a business activity is also identified under the Kerala State Logistics Action Plan.

Improving land availability for logistics facilities:

To address land constraints for logistics development, the State has indicated the use of unused public sector and cooperative land parcels for the development of logistics hubs, MSME clusters, and industrial zones, as outlined in relevant policy frameworks.

Strengthening institutional coordination and planning support:

Recognising the importance of data-driven planning and institutional coordination, the Kerala State Logistics Action Plan identifies these aspects as priority areas. While coordination with agencies such as NATPAC is acknowledged for planning and review, no specific implementation related to a structured feedback mechanism has been reported at this stage.

Actions taken on Long Term Opportunities

Augmentation of connectivity and equipment at non-major ports:

To address long-term opportunities related to strengthening non-major ports, port-linked infrastructure planning in the State includes improving connectivity to ports, particularly Vizhinjam, through proposed rail corridors and port-based growth initiatives. These measures are intended to support cargo evacuation and port-led development. However, no specific actions related to augmentation of equipment or connectivity at other non-major ports such as Beypore, Kollam, and Azhikkal have been explicitly reported.

Engagement with labour unions on wage structures:

In relation to workforce-related long-term opportunities, the Kerala State Logistics Action Plan highlights promotion of skill development and workforce readiness across the logistics sector. These initiatives aim to enhance employability and operational efficiency over time. However, no specific actions related to engagement with labour unions for standardisation or rationalisation of wage structures have been reported.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)–style synthesis was prepared to capture the most policy-relevant issues highlighted by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect key constraints affecting logistics efficiency, reliability, and competitiveness.

> Road access constraints remain at select urban nodes, including Angamaly, where frequent traffic signals slow freight movement. Targeted bypasses and junction optimisation can significantly improve cargo flow.

> Port operating costs remain relatively high due to labour, handling, and power expenses, along with Terminal Handling Charges linked to USD pricing. Greater cost predictability can support domestic cargo users and long-term planning.

> The absence of targeted enablers such as coastal shipping incentives and streamlined land-lease frameworks limits modal shift and slows private investment in port-linked logistics infrastructure.

> Domestic cargo movement currently relies on multiple transport documents across modes. A unified multimodal document could simplify claims management, improve cargo security, and strengthen user confidence.

> Further progress is possible in institutional and regulatory streamlining, including operationalising a dedicated logistics nodal mechanism, strengthening single-window approvals, and enabling fuller utilisation of facilities at Vizhinjam, Beypore, and Azhikkal through regulatory alignment.

Figure: Voice of Logistics Service Providers and Users

> Multi-layered taxation structures and periodic inspection requirements for freight vehicles increase transaction time and contribute to higher transportation costs.

> Gaps in integration across road, rail, port, and coastal shipping networks reduce end-to-end logistics efficiency and limit Kerala's potential as a regional logistics hub.

> Limited availability of affordable land near major urban centres and industrial hubs such as Kochi constrains the development of large-scale logistics parks and modern warehousing facilities.

Figure: Voice of State Authorities

Potential Opportunities in the State

Kerala's logistics opportunity lies in improving the performance of existing infrastructure through operational efficiency, system integration, and stronger institutional coordination. Addressing terminal-level constraints, strengthening multimodal linkages, rationalising regulatory processes, and improving inter-agency coordination can enhance logistics competitiveness. Targeted action at ports, urban freight nodes, and rail interfaces can reduce costs, improve reliability, and limit cargo diversion to neighbouring States.

Short-Term Opportunities

1. **Improving port operations and terminal efficiency**
   Addressing equipment gaps and yard management constraints at existing ports, particularly Cochin Port, can improve container handling productivity and reduce vessel turnaround time. Greater availability of shore-based handling equipment can also lower dependence on vessel gear and improve operational consistency.

2. **Strengthening urban freight connectivity at key choke points**
   Targeted upgrades at high-traffic junctions and industrial access corridors, including areas such as Angamaly, can ease congestion and reduce delays in cargo movement between ports, industrial clusters, and consumption centres. Measures such as junction redesign, signal optimisation, and selective bypasses can deliver quick efficiency gains.

3. **Establishing institutional coordination for logistics**
   Creating a dedicated State-level logistics coordination mechanism can improve alignment across transport, industry, ports, and urban agencies. Structured coordination can support faster issue resolution, better implementation of logistics reforms, and more responsive planning.

Long-Term Opportunities

4. **Enhancing port cost competitiveness**
   Engaging with port authorities and service providers to evolve predictable and competitive cost structures can improve the attractiveness of Kerala's ports. Reducing structural cost disadvantages can help retain cargo currently shifting to ports in neighbouring States.

5. **Expanding rail-based multimodal integration**
   Improving rail connectivity for bulk and container cargo to major production and consumption centres can reduce dependence on road transport and lower overall logistics costs, while strengthening system resilience.

6. **Developing coastal shipping and short-sea logistics**
   Upgrading cargo handling facilities and hinterland access at non-major ports such as Beypore, Kollam, and Azhikkal can support coastal shipping, enable modal shift, and improve utilisation of maritime infrastructure.

7. **Enabling logistics infrastructure through land-use reforms**
   Streamlining land-use and leasing frameworks for warehousing, container freight stations, and logistics parks can accelerate private investment and support planned expansion of logistics capacity over the long term.



Maharashtra

State Performance Snapshot

2025	2024
High Performer	Achiever

Maharashtra is ranked as an **"High Performer"** within the Coastal Group in LEADS 2025,. The state's perception-based performance remains largely aligned with national and coastal averages across the key LEADS pillars, supported by continued investments in infrastructure and multimodal connectivity, alongside policy-led measures to expand logistics hubs, strengthen digital governance, and promote greener logistics practices.

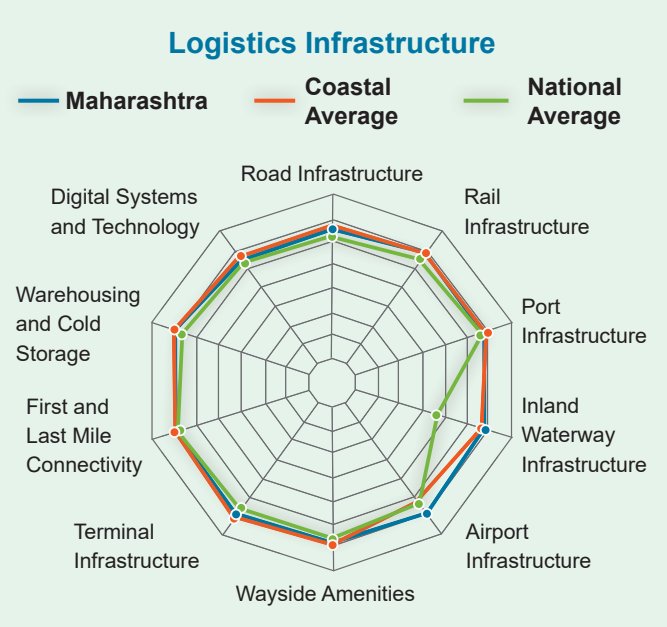
Maharashtra has also outlined a forward-looking roadmap through the Maharashtra Logistics Policy 2024 and associated master planning efforts, which envisage the development of a structured, statewide network of logistics hubs and nodes across districts and regions to support long-term growth of the logistics ecosystem.

Logistics Infrastructure

Maharashtra's logistics infrastructure performance reflects a mixed profile relative to national and coastal group averages, indicating differentiated stakeholder assessments across core transport modes and supporting infrastructure.

The State records perception scores above both the national and coastal group averages on improvement in airport infrastructure and improvement in rail infrastructure reflecting the role of major airports and rail corridors in supporting cargo movement across industrial and hinterland geographies.

A second set of indicators score above the national average but below the coastal group average, suggesting that while baseline capacity is perceived as relatively stable, performance lags coastal peers on corridor readiness and interface quality. This includes improvement in road infrastructure, improvement in adequacy and quality of wayside amenities, improvement in first/ last mile connectivity, , and improvement in Inland waterway infrastructure. Together, these perceptions point to scope for strengthening road corridor quality, wayside support facilities, industrial access linkages, and inland waterways to match coastal group average.



Perceptions on the improvement in warehousing, cold storage, pack-houses etc. is above both the national and coastal group averages, indicating relatively stronger stakeholder confidence in storage capacity and associated logistics infrastructure.

Perceptions on the availability of digital systems to support logistics operations is below both the national and coastal group averages, highlighting a perceived gap in logistics-related digital enablement and operational systems.

Finally, perceptions on the improvement in port infrastructure are above the national average but below the coastal group average, indicating that maritime infrastructure is viewed as relatively stronger than the national average, but with scope for further strengthening to keep pace with leading coastal peers.

Maharashtra's logistics infrastructure initiatives are articulated through state-level policy and planning frameworks such as the Maharashtra Logistics Policy 2024 and the associated State Logistics Master Plan, with a focus on multimodal connectivity, corridor-based development, and the creation of a structured network of logistics hubs across districts and regions. The policy framework provides for a hierarchical system of logistics hubs, including district, regional, state, and mega hubs, supported by identified logistics land parcels.

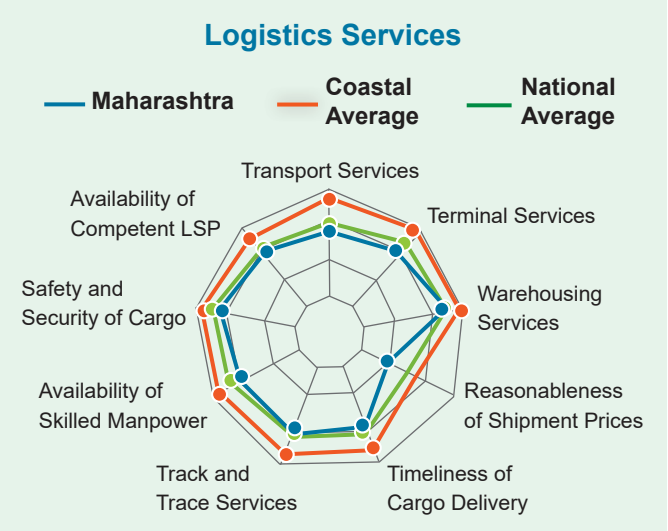
The State has reported major road infrastructure initiatives aimed at improving corridor connectivity and freight movement, including the Mumbai–Nagpur Samruddhi Mahamarg and Atal Setu (Mumbai Trans Harbour Link). These projects are intended to support east–west freight movement, improve access to ports, and ease congestion along key urban and industrial corridors. Rail infrastructure initiatives include integration with the Western and Eastern Dedicated Freight Corridors, intended to enhance freight train capacity, decongest conventional rail routes, and strengthen port–hinterland rail connectivity, supporting multimodal freight movement across industrial clusters and logistics nodes.

As part of logistics node development, facilities such as the Navi Mumbai–Pune International Logistics Mega Hub, leveraging proximity to JNPT and the upcoming Navi Mumbai International Airport, and the Nagpur–Wardha National Logistics Hub, located along major freight corridors, have been identified within the State's logistics planning framework. The State has also reported development of logistics parks and multimodal logistics facilities, including the Jalna Dry Port and Multimodal Logistics Park, providing container handling and rail-based connectivity for hinterland industries. These facilities are envisaged as aggregation and distribution points supporting manufacturing- and trade-oriented supply chains.

Logistics Services

Stakeholder perceptions indicate that Maharashtra's logistics services performance is below both the national and coastal group averages across all assessed service-related parameters, reflecting comparatively weaker assessments of service delivery conditions within the State's logistics ecosystem.

Perception scores for core service availability and capacity including improvement across all transport services, improvement in terminal services, improvement in warehousing services and availability of competent logistics service providers, remain below both comparator averages.



This suggests that stakeholders perceive gaps in the depth, quality, and institutional maturity of the service ecosystem supporting freight movement and cargo handling.

Similarly, service efficiency and visibility outcomes covering the improvement in timeliness of cargo delivery

and availability of track and trace services, are also below both the national and coastal group averages, pointing to constraints in delivery reliability and end-to-end shipment monitoring.

Perceptions related to enablers and operating conditions, including availability of skilled manpower and improvement in safety and security of cargo are likewise below both average scores, indicating that workforce readiness and cargo assurance are viewed as areas requiring strengthening.

Finally, the perception score for the improvement in shipment prices is below both the national and coastal group averages, signalling persistent cost pressures and limited perceived competitiveness on pricing.

Overall, Maharashtra's logistics services outcomes remain consistently below national and coastal group averages, with stakeholder feedback indicating the need for targeted improvements across service capacity (transport/terminal/warehousing), reliability and visibility (timeliness/track-and-trace), operational enablers (manpower/safety), and cost efficiency (prices).

Maharashtra's logistics services–related initiatives are closely linked to recent investments in corridor infrastructure, rail freight capacity, and logistics facilities, aimed at supporting freight movement across major industrial and consumption centers. Improvements in corridor connectivity, particularly along the Mumbai–Nagpur Samruddhi Mahamarg, are positioned to support long-haul freight movement across the western and eastern regions of the state.

Rail-based freight services have been strengthened through integration with the Western and Eastern Dedicated Freight Corridors, intended to increase freight train capacity, reduce congestion on conventional routes, and improve port–hinterland connectivity. These developments support multimodal freight evacuation and enhance service efficiency along key industrial corridors.

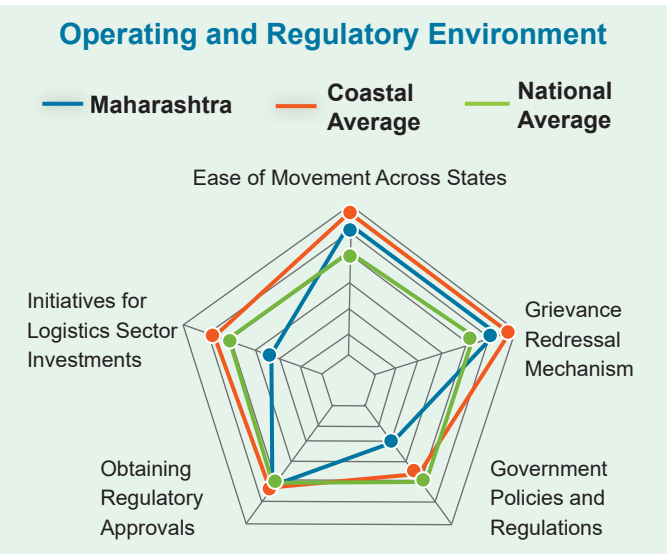
The State has reported facilitation of private investment exceeding ₹5,000 crore in warehousing and logistics parks, contributing to the expansion of storage capacity and service infrastructure. These facilities support aggregation, distribution, and storage requirements across manufacturing- and trade-linked supply chains. In addition, sector-specific logistics clusters have been identified in locations such as Pimpri-Chinchwad (and the broader Chhatrapati Sambhajinagar region) for pharmaceuticals and Nashik for automobiles and auto components, aimed at strengthening industry-linked logistics services and specialized freight handling capabilities.

Operating and Regulatory Environment

Maharashtra's operating and regulatory environment for logistics shows a mixed positioning relative to the national and coastal group averages across assessed parameters, reflecting varied stakeholder perceptions of regulatory and institutional conditions that support logistics operations.

Perception scores for parameter improvement in facilities at border crossing points and ease of movement across neighbouring States/ UTs, satisfaction with State/UT-based logistics grievance redressal mechanisms, and ease of obtaining regulatory approvals for setting up new logistics facilities are above the national average but below the coastal group average, indicating that scope for greater standardisation, responsiveness, and predictability on these interfaces remains.

In contrast, perception scores for effectiveness



of existing government policies and regulations in facilitating smooth logistics operations and availability of policy initiatives for logistics sector investments are positioned below both the national and coastal group averages, indicating that stakeholders perceive policy clarity, consistency, and investment-facing support as relatively weaker areas requiring focused strengthening.

Overall, Maharashtra's operating and regulatory environment reflects moderate performance on operational interfaces (movement, approvals, grievance redressal) but comparative gaps on policy effectiveness and investment facilitation, which may be tempering stakeholder confidence despite the State's broader logistics scale and infrastructure base.

Maharashtra's operating and regulatory environment for logistics is supported through institutional and policy mechanisms such as the MAITRI Single Window System, which provides a digital platform for coordinating approvals related to industrial and logistics projects. The system is positioned to streamline inter-departmental processes associated with logistics infrastructure development and reduce procedural delays.

The Maharashtra Logistics Policy 2024 provides a structured framework for logistics sector investments, including fiscal provisions such as capital subsidies, stamp duty exemptions, and power concessions applicable to eligible logistics projects. These measures form part of broader efforts to encourage private participation and expand logistics infrastructure and service capacity.

The State has also referenced coordination with national agencies for corridor-level interventions, including road capacity augmentation and integration with national freight infrastructure projects, to support inter-state and long-distance freight movement.

In addition, Maharashtra has identified the role of digital technologies such as AI and IoT for cargo tracking, route optimization, and operational efficiency as part of initiatives aimed at strengthening logistics-related regulatory processes and day-to-day operations.

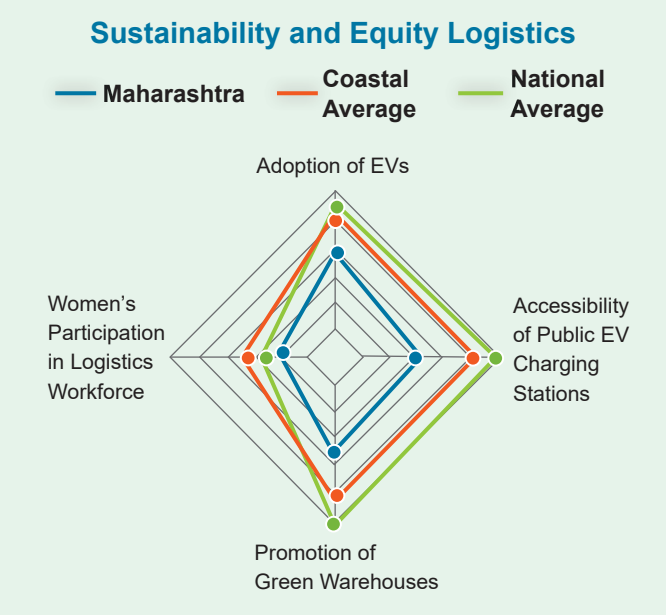
Sustainability and Equity Logistics

Maharashtra's performance on sustainability and equity related logistics parameters is positioned below both the coastal group and national averages across all assessed indicators, reflecting comparatively lower stakeholder perceptions within this pillar.

Perception outcome for the availability of support in EV adoptionis below both comparator averages, indicating limited perceived uptake of electric mobility in freight and logistics activities.

Perception score for the availability of public EV charging stations is below both the national and coastal group averages, pointing to gaps in the reach and usability of charging infrastructure compared to coastal and national trends. Perceptions related to the availability of initiatives for inclusion of women workforce likewise remain below comparator averages, suggesting limited visibility or impact of inclusion-focused initiatives within the sector.

Perception score for the availability of initiatives for promotion of green warehouses is lower than both



the national and coastal group averages, indicating scope for progress on green warehousing initiatives. Overall, Maharashtra's sustainability and equity profile reflects consistently below both the averages across EV adoption, charging infrastructure, green warehousing, and workforce participation dimensions.

Sustainability-related logistics initiatives in Maharashtra are anchored in the Maharashtra Logistics Policy 2024, which includes provisions for the development of green logistics parks, promotion of multi-storey warehousing, and the use of renewable energy within logistics hubs. These measures are positioned within the State's broader logistics planning framework.

Policy provisions include 100% road tax exemption for EV and hybrid cargo vehicles, along with support for EV charging infrastructure within logistics facilities, aimed at enabling cleaner freight movement. Under the Maharashtra EV Policy 2025, additional measures such as subsidies, toll waivers, and the expansion of EV charging and battery-swapping infrastructure have been proposed to accelerate electric mobility adoption in freight and logistics operations.

Modal-shift initiatives include the development of facilities such as the Jalna Dry Port and multimodal logistics parks, which support the transition of freight from road to rail and contribute to emissions reduction. In parallel, the State is formulating a State-level Circular Economy Policy to promote resource efficiency and sustainable practices across the logistics ecosystem.

Progress since LEADS 2024

Maharashtra has reported a set of actions addressing both short-term operational gaps and longer-term structural requirements within its logistics ecosystem. These actions reflect the State's response to the specific opportunities identified in the LEADS 2024 assessment.

Actions Taken on Short-Term Opportunities

Improve corridor speed and reduce delays on freight routes

- The Mumbai–Nagpur Samruddhi Expressway has been operationalized, reducing travel time from approximately 16 hours to about 8 hours.
- The corridor supports faster freight movement between western and eastern Maharashtra and eases congestion on existing road networks.

Enhance terminal accessibility and last-mile linkages

- The Jalna Dry Port and Multimodal Logistics Park has been commissioned to provide hinterland industries with access to container handling facilities.
- The facility improves rail connectivity and promotes modal shift for freight movement.

Simplify regulations and approvals through digital integration

- The MAITRI Single Window System has been strengthened to enable faster approvals for logistics and industrial projects.
- The platform is intended to reduce procedural delays through coordinated digital processing across departments.

Attract private investment in logistics infrastructure

- Investments exceeding ₹5,000 crore have been facilitated in warehousing and logistics parks.
- These investments are expected to expand warehousing capacity and support the development of modern logistics facilities.

Actions Taken on Long-Term Opportunities

Strengthen multimodal integration and port connectivity

- Approval has been granted for a 105 km freight corridor linking the Samruddhi Expressway to Vadhavan Port.
- Integration with the Western Dedicated Freight Corridor is planned to improve connectivity to JNPT and strengthen port–hinterland freight movement.

Promote green and sustainable logistics

- The Maharashtra Logistics Policy 2024 includes incentives for green logistics parks, adoption of electric vehicles, use of renewable energy, and promotion of multi-storey warehousing.
- These provisions are intended to support environmentally sustainable logistics infrastructure.

Institutionalize hubs and nodes for balanced growth

- The policy framework provides for the development of 37 logistics hubs and nodes at international, state, regional, and district levels.
- These hubs are planned as part of a unified, multimodal logistics ecosystem to support balanced regional growth.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Limited availability of driver amenities and rest facilities along NH-48, combined with variable road conditions, affects ride quality and contributes to delays on the Mumbai–Pune freight corridor.

> Tolling processes remain complex, with the absence of a unified framework and e-challan handling issues adding to transaction time and operational uncertainty.

> Inter-state enforcement practices, including RTO-related checks at borders, introduce variability in transit times and affect schedule reliability for long-haul freight.

> Rail-based freight capacity is constrained by limited train availability, slower movement, delays in container allotment, and gaps in real-time tracking and visibility.

> Planned truck holding areas and formal parking spaces, including in urban zones, remain limited, leading to informal parking and congestion near checkpoints and city entry points.

> High airport parking charges for freight vehicles and GST incidence on key transport inputs increase overall logistics costs for operators and cargo owners.

Figure: Voice of Logistics Service Providers and Users

Urban congestion in major centres such as Mumbai, Pune, and Nagpur extends freight turnaround times and adds to operating costs for logistics operators.

Limited availability of integrated logistics parks and the prevalence of fragmented warehousing networks increase handling time and reduce operational efficiency.

Continued dependence on road transport, combined with fuel price volatility, elevates logistics costs and impacts overall supply chain competitiveness.

Availability of affordable land near ports and industrial clusters remains constrained, raising project costs and moderating the pace of logistics infrastructure development.

While port and rail capacity is strong, gaps in last-mile connectivity and multimodal integration affect seamless cargo movement.

Regulatory procedures, approval timelines, environmental compliance requirements, and monsoon-related road disruptions influence service reliability and operational planning.

Figure: Voice of State Authorities



Potential Opportunities in the State

Maharashtra plays a central role in India's logistics ecosystem as a major industrial, consumption, and export hub. While the State benefits from a strong infrastructure base and active private sector participation, stakeholder inputs indicate scope to further strengthen regulatory coherence, transparency, and technology adoption across logistics operations.

Short-Term Opportunities

1. **Standardizing inter-state enforcement protocols across checkpoints and agencies**

   Stakeholders report inconsistencies in enforcement practices across State borders, leading to delays and compliance uncertainty for freight operators. Harmonizing protocols, particularly along high-traffic inter-state corridors, can improve predictability and reduce friction in freight movement.

2. **Enhancing transparency in roadside enforcement through digital systems**

   Concerns persist around manual enforcement processes and limited documentation at checkpoints. Introducing digital e-receipts and audit trails can strengthen transparency, reduce disputes, and improve stakeholder confidence in regulatory processes.

3. **Expanding freight vehicle yards, parking, and staging infrastructure near major logistics clusters**

   High truck density around JNPT, Navi Mumbai, Thane, and Bhiwandi continues to strain existing infrastructure. Developing organized truck parking, container yards, and staging areas can ease congestion, improve turnaround times, and enhance port-area logistics efficiency.

4. **Strengthening cold-chain and warehousing capacity for agri, pharma, and retail supply chains**

   Sustained demand exists for organized cold storage and modern warehousing around Pune, Nashik, Nagpur, and Mumbai. Targeted expansion can support perishable commodities, pharmaceutical distribution, and urban retail logistics while reducing post-harvest and in-transit losses.

Long-Term Opportunities

5. **Institutional integration of multimodal freight movement with rail-linked logistics systems**

   Maharashtra handles large volumes of containerized and bulk cargo suited for rail transport. Long-term planning can integrate ICDs, container terminals, and private freight sidings to enable modal shift and reduce road congestion around port clusters.

6. **Establishing coordinated enforcement and regulatory mechanisms across agencies**

   With multiple authorities involved in freight regulation, structured inter-departmental and inter-state coordination frameworks can minimize duplication, reduce procedural delays, and improve operational consistency across corridors.

7. **Deploying technology-enabled monitoring for data-driven logistics governance**

   The State can progressively adopt digital tools for enforcement monitoring, compliance verification, and freight tracking. Such systems can support performance measurement, corridor optimization, and long-term improvements in regulatory effectiveness and logistics planning.



Odisha

State Performance Snapshot

2025 Accelerator

2024 Achiever

Odisha is positioned in the **"Accelerator"** category within the Coastal Group in LEADS 2025, following its placement in the "Achiever" category in LEADS 2024. Perception-based assessments indicate broad alignment with coastal and national averages across logistics infrastructure, services, operating environment, and sustainability parameters. Relatively favorable perceptions are observed in road and rail infrastructure, warehousing, cargo safety, aviation connectivity, and support for electric mobility. The assessment also points to scope to further develop maritime and inland waterway infrastructure, strengthen facilitation of interstate movement, and expand investment-oriented policy instruments to support ecosystem-wide logistics development.

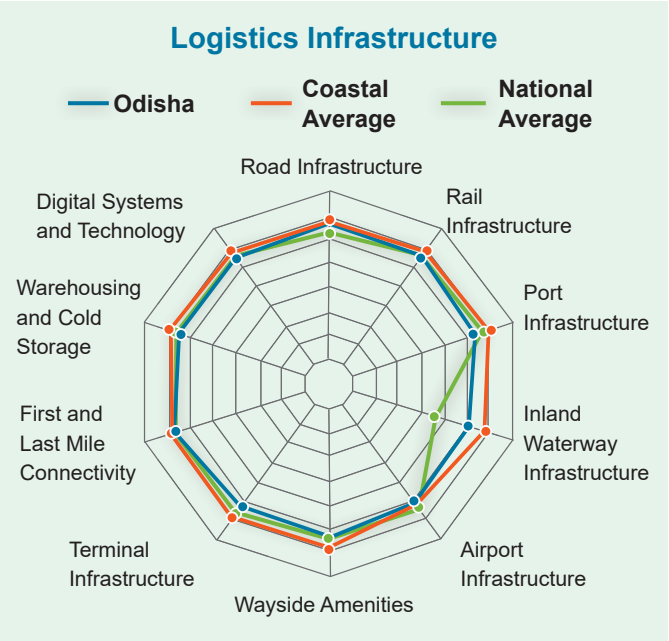
Logistics Infrastructure

Odisha exhibits varied performance across logistics infrastructure indicators, including multimodal connectivity, port-linked infrastructure, storage facilities, terminal assets, and digital enablement, when compared with coastal peer states and national averages.

The State records perception scores below the coastal group average but above the national average on improvement in road infrastructure, and improvement in Inland waterway infrastructure, suggesting performance that exceeds the national levels but trails coastal peers on these key surface and maritime assets.

Perception scores for improvement in rail infrastructure, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc., and availability of digital systems to support logistics operations, are aligned with the national average but below the coastal group average indicating relative gaps versus coastal peers in multimodal interfaces, storage readiness, and digital enablement.

Perceptions scores related to improvement in port infrastructure, improvement in airport infrastructure, improvement in terminal infrastructure, and improvement in adequacy and quality of wayside amenities, are below both the coastal group average and national average, reflecting comparatively weaker air and water facilities, terminal capacity/ quality and driver support.



Odisha's logistics infrastructure planning is guided by a long-term vision to develop a multimodal transport and logistics ecosystem integrating roads, railways, ports, aviation, and waterways. The planning framework includes expansion of transport infrastructure across modes, including modernization of road networks, development of metro and Regional Rapid Transit System (RRTS) systems in the Bhubaneswar–Cuttack–Puri–Paradip corridor, and expansion of port, airport, and inland waterway infrastructure with implications for freight movement and regional connectivity.

Rail infrastructure initiatives include network expansion to improve access to districts and tribal regions. The State is involved in land acquisition for 15 railway projects, of which five have been commissioned, and participates in three major projects on a cost-sharing basis, including the Khurda Road–Balangir broad gauge link, the Jeypore–Nabarangpur project, and the Jeypore–Malkangiri project, with varying levels of State contribution and land provision.

Port and maritime planning includes development of eight new non-major ports and strengthening port-led development through Coastal Economic Zones supported by Maritime Coastal Regional Plans. Inland water transport development includes plans covering six National Waterways to support freight movement through waterways.

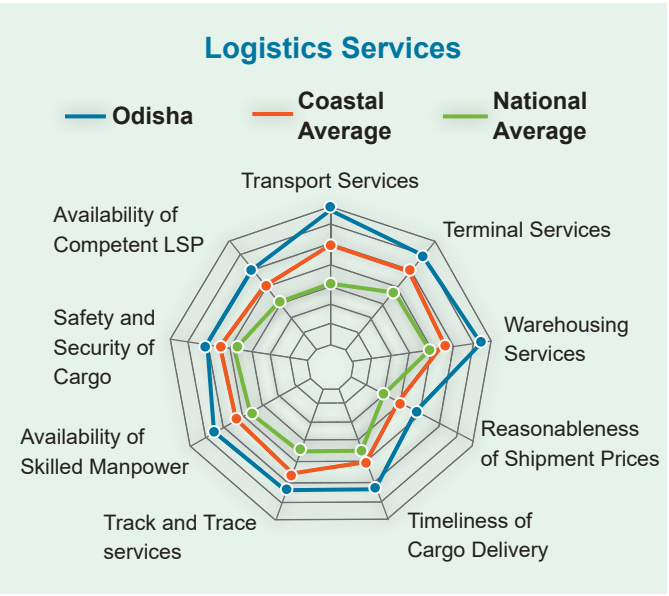
Logistics infrastructure development plans also include the establishment of eight multimodal logistics parks intended to support aggregation, storage, and distribution activities across industrial and trade-related supply chains.

Logistics Services

Odisha's logistics services performance is positioned above both the national and coastal group averages across most of the service-related parameters, reflecting higher relative assessments across key logistics service dimensions.

The State records perception outcomes above both the national and coastal group averages on improvement across all transport services, improvement in terminal services and improvement in warehousing services indicating favourable assessments of service availability and delivery capability supporting freight movement.

Perceptions related to improvement in timeliness of cargo delivery, improvement in availability of skilled manpower, a improvement in safety and security of cargo, availability of track and trace services, availability of competent logistics service providers and improvement in shipment prices are also above the coastal group average and national average indicating relatively stronger operational efficiency, cargo assurance, visibility, and cost reasonableness across service delivery outcomes .



Logistics services development in Odisha is linked to expansion of transport infrastructure across road, rail, port, aviation, and inland waterway modes. Rail connectivity initiatives are intended to support freight movement for mineral, industrial, and agricultural commodities, while strengthening access to ports and industrial regions.

The State has outlined plans to enhance airport capacity and flight frequency, including development of five new airports, one of which includes a proposed international airport at Puri under the UDAN scheme. These initiatives are intended to support passenger and cargo movement and improve regional connectivity.

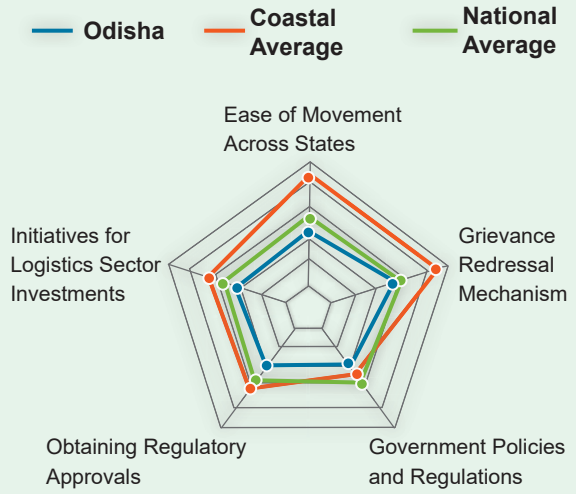
Sectoral initiatives linked to logistics services include plans to develop shipbuilding and repair activities and establish aviation MRO facilities, alongside promotion of allied industries that leverage transport infrastructure.

Operating and Regulatory Environment

Odisha's operating and regulatory environment for logistics is positioned below both the national and coastal group averages across assessed parameters, reflecting comparatively lower stakeholder assessments of regulatory and institutional conditions supporting logistics operations.

Perceptions related to improvement in ease of border crossing, availability of grievance redressal mechanism, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments are positioned below both the coastal group and national average, indicating scope for strengthening regulatory facilitation, grievance redressal effectiveness, and investment-oriented policy instruments to improve operating predictability for logistics stakeholders.

Operating and Regulatory Environment



Governance and institutional arrangements for logistics development include the formation of an Empowered Group of Secretaries to oversee and coordinate implementation of the State's multimodal transport strategy. The framework also emphasizes increased private sector participation in infrastructure financing, with a stated target of achieving 50 percent private participation by 2036.

Planning frameworks such as Maritime Coastal Regional Plans are proposed to guide port-led development within Coastal Economic Zones, integrating land use, transport, and logistics planning.

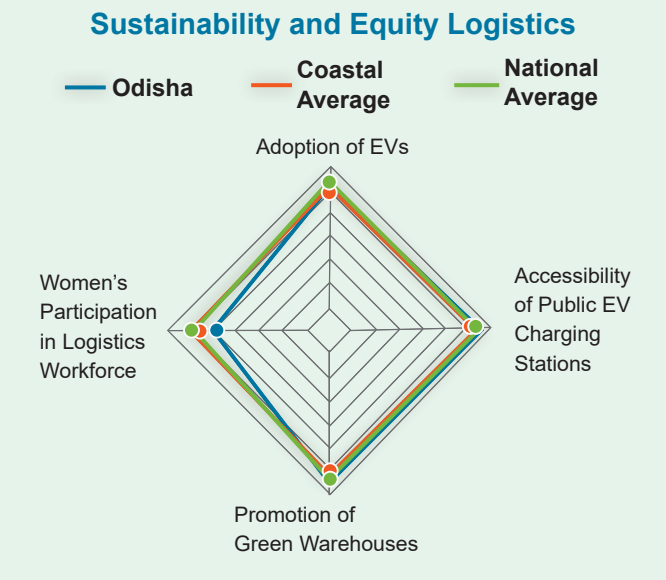
The State has also identified the strengthening of accessible grievance redressal mechanisms as an area of focus to enhance stakeholder engagement in logistics-related processes.

Sustainability and Equity Logistics

Odisha's performance on sustainability and equity-related logistics parameters shows a mixed positioning relative to the coastal group average and national average across assessed dimensions.

The State records perceptions aligned with both the coastal group average and national average for availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for promotion of green warehouses, indicating comparable sustainability-focused logistics initiatives relative to coastal peers and national outcomes.

Perception score for the availability of initiatives for inclusion of women workforce is below both the national and coastal group averages, suggesting scope for more targeted initiatives to broaden participation and improve inclusion within the logistics workforce.



Overall, Odisha's sustainability and equity logistics profile reflects alignment across environmental sustainability-related parameters, with variation observed in workforce participation-related indicators.

Sustainable logistics initiatives in Odisha are anchored in the Odisha Logistics Policy 2022, which emphasizes logistics efficiency and multimodal transport systems, with integration of sustainability considerations into planning and operations.

The Odisha EV Policy 2021 aims to promote adoption, manufacturing, and research and development of electric vehicles, with a target of achieving 20 percent EV adoption by 2025. Policy measures include interest subvention on loans, waivers on road tax and registration fees for eligible vehicles, and subsidies for EV charging infrastructure and manufacturing activities.

Sustainability objectives also include decarbonization of transport systems, expansion of alternative fuel usage, and promotion of clean mobility across freight and passenger networks.



Progress since LEADS 2024

Odisha has not provided a dedicated response outlining actions taken against the short-term and long-term opportunities identified in the LEADS 2024 report. Based on development initiatives, policy frameworks, and implementation details reported by the State, the following action track record has been compiled.

Actions Taken on Short-Term Opportunities

Improving connectivity to the Kalinganagar Industrial Complex

The four-laning of the Duburi–Chandikhole section of NH-53, undertaken by NHAI, has been substantially completed. The completed works have improved road connectivity to the Kalinganagar Industrial Complex.

Parking management near Paradip Port

Paradip Port operates an RFID-based access control system for managing entry and exit of vehicles and personnel within the port area. The system supports access management, congestion control, and operational coordination. In addition, on-street parking facilities are available along the corridor leading to the port area to support traffic management.

Grievance redressal mechanisms

A structured mechanism for resolution of investor grievances operates through the State Level Facilitation Cell, with participation of nodal officers from relevant departments and weekly meetings. An online State Project Monitoring Group functions under the chairpersonship of the Chief Secretary to address project-related issues for investments exceeding INR 50 crore, with monthly reviews. Projects under the MSME sector with investments up to INR 50 crore are addressed through a committee under the Secretary, MSME. The e-Abhijoga portal enables citizens and stakeholders to lodge and track grievances across State government departments.

Actions Taken on Long-Term Opportunities

Development of Inland Container Depots

An operational Inland Container Depot is in place at Bampada in Balasore, operated by CONCOR, providing customs clearance, container handling, and rail connectivity. An additional ICD is under development in Kendrapara district.

Capacity enhancement of the Haridaspur–Paradip rail line

Capacity augmentation initiatives include plans by the Government of India to upgrade the Haridaspur–Paradip rail line to support higher freight volumes.

Alternative fuel and electric mobility infrastructure

The presence of the Dhamra LNG terminal, along with planned retail outlets, provides a foundation for expanded adoption of LNG and electric trucks within the State's commercial transport sector.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Multimodal integration and last-mile connectivity present strong opportunities for improvement, with scope to enhance efficiency through targeted infrastructure upgrades and deeper private sector participation.

> Warehousing infrastructure offers significant potential for modernisation, including development of organised facilities, dedicated truck parking, and well-planned multimodal logistics parks.

> Ongoing investments in transport infrastructure provide a foundation to further strengthen port capacity, road connectivity, and network decongestion, improving overall logistics performance.

> Optimising operational processes and inventory management can help reduce costs, improve delivery timelines, and strengthen supply chain reliability and competitiveness.

> Wider adoption of digital logistics platforms and better technology integration can significantly enhance end-to-end visibility, planning quality, and operational efficiency.

> Greater consistency in enforcement of transport and customs regulations can improve predictability, reduce delays, and build confidence among logistics operators and cargo owners.

> Expanding skill development initiatives in logistics and transport operations can raise service quality, safety standards, and regulatory compliance across the ecosystem.

Figure: Voice of Logistics Service Providers and Users

> Odisha's long coastline of around 575 km offers strong potential for port-led commerce and industrial growth, with scope to accelerate development of jetties and non-major ports to unlock this advantage.

> Railway density being close to the national average provides a solid base, which can be further strengthened through network expansion to better support passenger mobility and mineral freight movement.

> Air connectivity presents a clear growth opportunity, as passenger penetration of about 86,000 per million population indicates significant headroom to expand tourism, trade, and inter-state connectivity.

> Increasing women's participation in bus driving and related transport roles can help address workforce gaps while improving gender balance in the sector.

> Faster development of multimodal logistics parks and integrated logistics facilities can enhance supply chain efficiency for key sectors such as mining, agriculture, and e-commerce.

> Improving income stability and access to social protection for transport gig workers can strengthen workforce resilience and service quality across the logistics ecosystem.

Figure: Voice of State Authorities

Potential Opportunities in the State

Odisha's logistics ecosystem presents clear opportunities for targeted capacity enhancement, particularly by strengthening connectivity to industrial clusters, improving truck movement around Paradip Port, and increasing the role of rail in freight evacuation. These measures can deliver near-term efficiency gains, while medium- to long-term investments in ICDs and green trucking infrastructure can further improve reliability, reduce logistics costs, and reinforce Odisha's position as a logistics gateway for eastern India.

Short-Term Opportunities

1. **Strengthen first- and last-mile connectivity to industrial clusters and ports**

   Improving approach roads and junction capacity around the Kalinganagar Industrial Complex and along cargo corridors leading to Paradip Port can ease congestion, reduce truck waiting times, and improve overall turnaround efficiency.

2. **Develop organised truck parking and holding infrastructure**

   Creating designated truck terminals and holding areas along key freight corridors can streamline port access, minimise on-street parking and queuing, and enhance road safety and traffic management in high-density logistics zones.

3. **Institutionalise logistics-focused coordination and grievance redressal**

   Establishing a dedicated logistics facilitation or grievance redressal mechanism can enable quicker resolution of operational issues related to port access, enforcement practices, and inter-departmental coordination, improving predictability for logistics operators.

Long-Term Opportunities

4. **Develop Inland Container Depots and integrated logistics parks near industrial hubs**

   Setting up ICDs and multimodal logistics parks in locations such as Balasore, the Jajpur–Kalinganagar region, and industrial areas of Kendrapara and Jagatsinghpur can support EXIM and domestic cargo while addressing demand for organised warehousing, consolidation, and value-added services.

5. **Establishing coordinated enforcement and regulatory mechanisms across agencies**

   Augmenting capacity on key corridors such as the Haridaspur–Paradip line through doubling or tripling can significantly improve freight throughput and increase the modal share of rail for bulk and industrial cargo.

6. **Deploying technology-enabled monitoring for data-driven logistics governance**

   Expanding LNG fuelling stations and planning EV charging facilities along major freight corridors can support a gradual transition to low-emission trucking and align Odisha's logistics ecosystem with national sustainability objectives.



Tamil Nadu

State Performance Snapshot

2025 Exemplar

2024 Achiever

Tamil Nadu has been positioned as an **"Exemplar"** within the coastal State group. They were achievers for three consecutive years (2022-2024). This consistency reflects a logistics ecosystem that has progressed beyond capacity creation towards coordinated system development, with attention to infrastructure readiness, service delivery, regulatory facilitation, and sustainability.

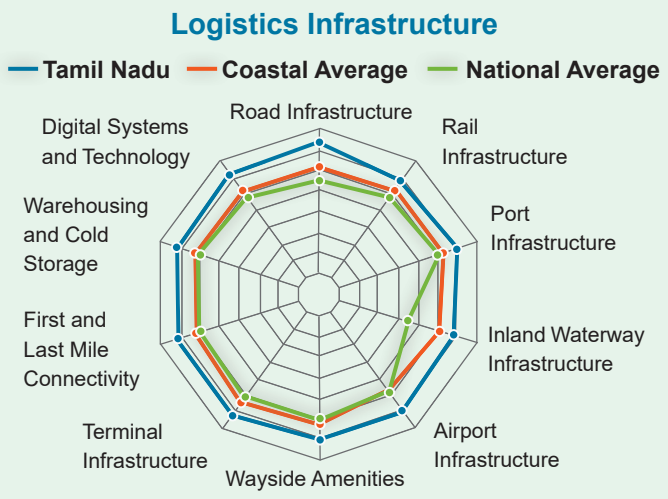
The State's performance under the LEADS 2025 framework indicates outcomes that are aligned above national and coastal group levels across multiple indicators. This pattern suggests an ecosystem where institutional coordination, policy continuity, and implementation mechanisms are functioning in a mutually reinforcing manner. Long-term planning instruments, including the Tamil Nadu Integrated Logistics Policy and its associated action framework, have supported this transition by enabling cross-departmental alignment and structured execution, contributing to a stable and integrated logistics environment over successive assessment cycles.

Logistics Infrastructure

Tamil Nadu's logistics infrastructure outcomes under LEADS 2025 indicate a system that is equipped to support both current volumes and incremental growth in freight movement. Performance across infrastructure indicators remains above national and coastal group levels, suggesting that network capacity, asset availability, and connectivity are broadly aligned with the State's industrial and trade requirements. This balance enables cargo flows to be accommodated without placing pressure on service reliability, contributing to predictability across supply chains and reinforcing the State's logistics competitiveness.

The State performs strongly on improvement in road infrastructure, improvement in terminal infrastructure, improvement in first/ last mile connectivity and improvement in warehousing, cold storage, pack-houses etc.

The indicator for availability of digital systems to support logistics operations has a higher score than both comparators signaling strong operational control across infrastructure components. Additionally, the indicators for improvement in port infrastructure and improvement in Inland waterway infrastructure also show strong perceptions, reflecting robust stakeholder assessment of gateway and multimodal capability.



Long-term planning framework:

Tamil Nadu's logistics development is guided by the Tamil Nadu Integrated Logistics Plan (2023), a 10-year roadmap comprising 50+ targeted interventions with an estimated INR 62,541 crore investment outlay, aimed at strengthening multimodal capacity and logistics efficiency.

Multimodal logistics parks:

The State is advancing Multi-Modal Logistics Parks (MMLPs) at Mappedu (Chennai) and Coimbatore. The Chennai MMLP, being implemented through an SPV under a 45-year DBFOT structure, has Phase I planned for operationalisation by 2026.

Port-led PPP development:

Tamil Nadu is promoting logistics-oriented PPP models across port infrastructure, including the greenfield Cuddalore Port (PPP) and brownfield Cuddalore Port (O&M), supporting capacity augmentation and private sector participation.

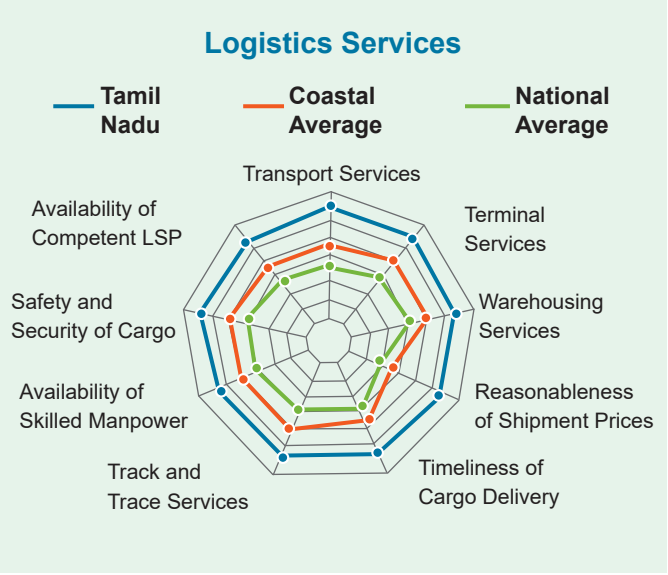
Coastal shipping enablement:

The Logistics Plan (2023) and State Port Development Policy (2023) outline measures such as dedicated coastal berths for non-EXIM cargo, green channel facilities, and a market-driven approach for identifying viable coastal routes, with the Tamil Nadu Maritime Board acting as the nodal agency for minor ports.

Logistics Services

Tamil Nadu's logistics services performance is positioned above both coastal group and national averages across all evaluated parameters, indicating a logistics services ecosystem that is perceived as reliable, accessible, and responsive to industry requirements. The results suggest that improvements in service delivery are being supported by parallel efforts in workforce skilling, industry engagement, and certification-led capacity building, which together contribute to consistency in service quality across transport, warehousing, and integrated logistics operations.

The State demonstrates relatively higher performance on improvement across all transport services as well as improvement in timeliness of cargo delivery, reflecting progress in service coverage and visibility across supply chains. Performance is also sustained above coastal average and national average on improvement in terminal services, improvement in warehousing services, improvement in safety and security of cargo and the availability of competent logistics service providers, supporting smoother end-to-end logistics execution.



Indicators related to timeliness of cargo delivery and reasonableness of shipment prices continue to remain above coastal group average and national average, suggesting stable service outcomes while also highlighting opportunities for further consolidation through continued ecosystem development and service standardisation.

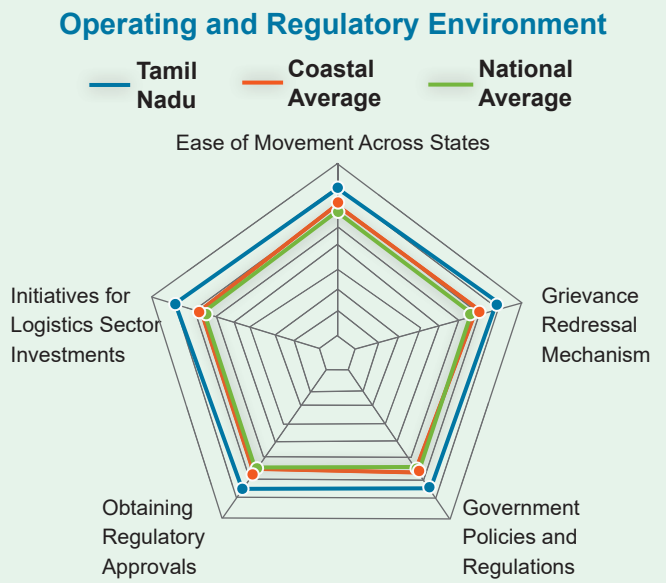
Tamil Nadu is strengthening workforce readiness through the Tamil Nadu Skill Development Corporation (TNSDC) and dedicated logistics-focused skilling mechanisms. The State has formalized the Tamil Nadu Apex Skill Development Centre for Logistics (TNASDCL) as a Section 8 Special Purpose Vehicle (SPV) to lead structured logistics training, covering operator certifications and placement-linked campus programmes across transport operations, consignment handling, EXIM documentation, and supply chain specializations.

Logistics skilling is further supported through flagship initiatives such as Naan Mudhalvan and Vetri Nichayam, which include logistics-specific courses and vocational training pathways. Programme delivery is enabled through institutional and industry partnerships, including collaboration with the Logistics Sector Skill Council, MoUs with educational institutions, and a shared equity structure led by TNSDC (50%), LSC (37.5%), TVS Supply Chain Solutions (10%), and AMTOI (2.5%).

Operating and Regulatory Environment

Tamil Nadu demonstrates a favorable operating and regulatory environment, with performance above both coastal and national averages across all parameters. This reflects the presence of a supportive policy framework and institutional arrangements that enable coordinated implementation, facilitate smoother approval processes, and support timely resolution of logistics-related issues.

The State records its strongest outcomes under availability of policy initiatives for logistics sector investments, indicating sustained policy attention to the sector. It also shows consistent performance across improvement in ease of border crossing, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of grievance redressal mechanism, collectively contributing to a predictable and facilitative operating environment for logistics stakeholders.



Institutionally, TIDCO has been designated as the nodal agency for logistics, anchoring implementation through the Empowered Group of Secretaries (EGoS) and the Network Planning Group (NPG). A dedicated logistics cell within TIDCO supports coordinated execution, including the development of logistics policies, action plans, and implementation strategies.

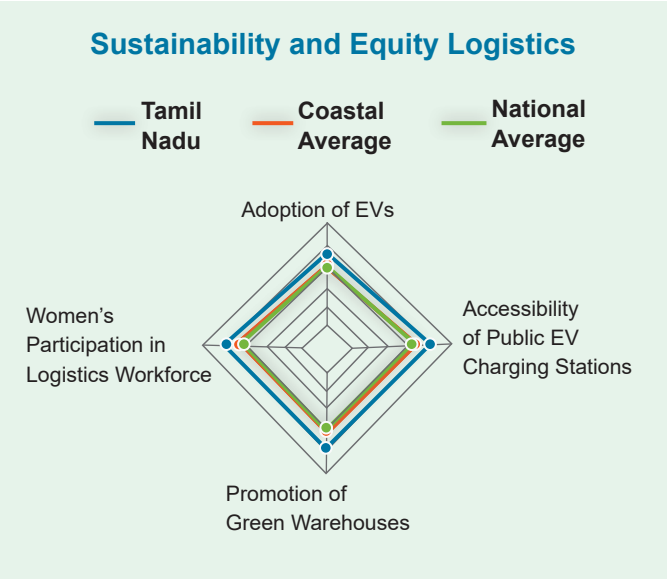
For approvals and investor facilitation, the State operates the Tamil Nadu Single Window Portal (TNSWP) 2.0 under Guidance Tamil Nadu, offering 191 G2B services across 30+ State agencies, with over 67,500 applications processed. During FY 2024-25, approximately 45 additional G2B services were introduced, supported by departmental capacity building and an active helpdesk. The Biz Buddy grievance redressal mechanism enables time-bound issue resolution, supported by a structured escalation matrix up to the CMO level and end-to-end status tracking.

Tamil Nadu has also extended industry status and policy-linked incentives to logistics and warehousing through the Tamil Nadu Industrial Policy (2021) and the Tamil Nadu Logistics Policy (2023). These measures include single-window clearances, 24×7 operational permissions, and steps to streamline warehousing registration through reclassification and a dedicated sub-category under industries.

Sustainability and Equity Logistics

Tamil Nadu's performance on sustainability and equity remains above both coastal and national averages across all parameters, indicating steady policy direction and ecosystem-level efforts towards environmentally responsible logistics practices and greater workforce inclusiveness. The results suggest that sustainability considerations are being progressively integrated into logistics planning and operations.

The State records relatively perceptions above coastal group average and national average on availability of initiatives for inclusion of women workforce, availability of initiatives for promotion of green warehouses, availability of support in EV adoption and availability of public EV charging stations also remains above both average scores, reflecting continued progress in enabling lower-emission logistics solutions.



Policy action in Tamil Nadu is anchored in multiple sustainability-focused instruments, including the Tamil Nadu EV Policy (2023), Public Charging Infrastructure Guidelines (2025), and sustainability provisions under the Tamil Nadu Logistics Policy (2023) and State Logistics Action Plan. These frameworks promote the adoption of EVs and green fuel technologies, including green hydrogen, for freight movement, while encouraging LEED/GRIHA-aligned sustainable design standards for logistics infrastructure.

The State has also adopted the Tamil Nadu Energy Conservation Building Code (TN ECBC) 2022 for eligible commercial buildings. Fiscal incentives have been defined for sustainability-linked initiatives, including support for green measures within logistics parks and projects, as well as incentives for EV charging infrastructure and battery swapping stations under the EV policy. To support implementation, a dedicated EV Task Force has been constituted to facilitate the rollout of EV charging stations and the adoption of EVs in commercial logistics operations.

Progress since LEADS 2024

Tamil Nadu has responded to observations and suggestions from LEADS 2024 through a set of targeted actions spanning infrastructure delivery, institutional coordination, and investment facilitation. The initiatives outlined below align the short- and long-term opportunities identified in the assessment with measures initiated by the State and its agencies, reflecting a structured approach to translating assessment insights into on-ground action.

Action Taken on Short-Term Opportunities

MMLP rollout:

Chennai MMLP (Phase 1 under construction; operational by 2026) and Coimbatore MMLP (advanced land acquisition); planned dry ports/ MMLPs in Tier-2 hubs including Trichy, Madurai, and Hosur. TIDCO is engaging with CONCOR for PPP-based development.

Warehousing focus:

Warehousing Policy prioritizes delta and Category C districts (including Trichy and Madurai) to support warehousing and commodity-specific facilities.

Port and hub access roads:

Two-tier coordination mechanism (EGoS + NPG) for Chennai and Kamarajar ports; key projects include Southern Port Access Road widening (2 to 4 lanes), NPAR under CPRR (Phase 1 by 2026), Maduravoyal Elevated Corridor (under NHAI implementation), and the proposed Gate 0 Elevated Corridor under Chennai CLP.

Cold chain near airports:

Classified as logistics infrastructure under the Industrial Policy (minimum USD ~1.8 million investment and 20,000 sq. ft.), enabling benefits such as industry-rate power tariffs, TIIC loans, land ceiling exemptions, single-window clearance, and land-use conversion facilitation. Draft Warehousing Policy (FY 2025–26) further incentivizes cold storage in coastal, delta, and Category C districts.

Action Taken on Long-Term Opportunities

Chennai–Tuticorin greenfield corridor via Trichy:

NHAI is in advanced stages of concept and DPR preparation, with State support.

Port cost reduction and coastal transshipment:

Focus on reducing hinterland logistics costs through MMLPs, logistics parks, service improvements, and promotion of coastal cargo movement via port policy and minor port development led by the Tamil Nadu Maritime Board.

High Impact Initiatives by the State

Tamil Nadu has implemented select high-impact initiatives over the past two years that reflect measurable progress in last-mile port connectivity and cross-departmental execution. The examples below illustrate how infrastructure upgrades and institutional mechanisms have together contributed to improved delivery timelines and logistics performance.

Southern Port Access Road (Vallur Junction–Kamarajar Port): Capacity-Led Last-Mile Upgrade

- **What was done:** Upgraded the Southern Port Access Road from 2 lanes to 4 lanes to strengthen hinterland connectivity to Kamarajar and Kattupalli ports and improve access to industrial areas, CFSs, and ICDs.
- **Why it matters:** Addressed rising port volumes, with Kamarajar Port throughput increasing from 34.50 million tonnes (2018–19) to 48.41 million tonnes (2024–25).
- **When:** Completed in FY 2024–25.
- **Measurable outcomes:** Reduced cargo travel time due to lower congestion; nearly 150% increase in cargo carried on the corridor between 2018–19 and 2023–24.

Inter-Departmental / Inter-Ministerial Coordination Mechanism: Fast-Track Logistics Governance

- **What was done:** Institutionalized a two-tier coordination mechanism for transport and logistics projects exceeding USD ~90 million, involving NPG, EGoS, TIDCO (nodal agency), and a Technical Support Unit (TSU).
- **When:** Established in FY 2021–22; six NPG meetings and three annual EGoS meetings held to advance 50 strategic interventions under the Tamil Nadu Logistics Plan (2023).
- **Measurable outcomes:** Faster approvals and improved execution through structured inter-departmental coordination.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Managing peak-time vessel clustering and trailer turnaround at Chennai Port remains a key focus area to improve cargo flow and operational predictability.

> Strengthening first and last-mile road connectivity to assets such as Cuddalore Port, Chennai Airport, and the Kattupalli–Panchetti corridor, including links to the Outer Ring Road, is important for smoother freight movement.

> Upgrading high-usage stretches like Minjur–Koonimedu can support more reliable container and equipment movement linked to logistics parks and FTWZ operations.

> Expanding inter-state rail freight services and rake availability, aligned with state cargo flows, offers scope to shift additional volumes to rail and ease pressure on roads.

> Enhancing draft depth and associated infrastructure at Tuticorin Port can strengthen readiness for larger vessels and higher cargo volumes.

> Improving airport-side cargo connectivity and facilities, including continued development of the Madurai air cargo complex, can support more balanced air freight growth across the State.

> Closer integration of rail, road, and coastal shipping networks can help unlock greater use of coastal routes and strengthen multimodal logistics.

> Streamlining container movement frameworks presents an opportunity to improve equipment availability and manage logistics costs more effectively.

Figure: Voice of Logistics Service Providers and Users

> Improving terminal productivity and turnaround times at Chennai, Kamarajar and Thoothukudi ports can help ease vessel bunching and reduce spillover congestion on approach roads.
>
> Expanding alternative rail routes, additional lines and dedicated corridors offers strong potential to increase rail's modal share and support more reliable, cost-efficient and sustainable freight movement.

> Developing dedicated container rail services between ports and hinterland hubs can reduce long-haul road dependence for EXIM cargo and help lower congestion and logistics costs.
>
> Creating a dedicated rail freight corridor linking Tamil Nadu with northern and western markets would strengthen long-distance cargo flows, similar to the gains seen from the Western and Eastern DFCs.

> Upgrading air cargo terminal capacity and operating efficiency at Chennai, Coimbatore, Madurai and Trichy, along with smoother regulatory processes, can unlock higher utilisation of Air Freight Stations.
>
> Strengthening the in-state air cargo ecosystem can help retain export volumes currently routed through airports in neighbouring states and support regional trade growth.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Building on the issues flagged by stakeholders and the State Government, Tamil Nadu's opportunity lies in shifting from asset augmentation to system optimisation, thereby reducing friction at gateways, fixing last-mile and corridor bottlenecks, strengthening multimodal integration (especially rail and coastal), and improving reliability of time-sensitive cargo channels

Short-Term Opportunities

1. **Decongest key gateways through operational measures and holding capacity**

   In coordination with Chennai Port Authority (CPA), prioritise actions that reduce port-side queuing, trailer dwell time and bunching-related congestion, including better staging/holding arrangements, tighter drop/pick-up sequencing, and improved approach-road traffic management to minimise spillover delays.

2. **Targeted last-mile upgrades to unlock port and airport competitiveness**

   Focus on fixing critical first/last-mile gaps to high-impact nodes (e.g., port-linked corridors and airport access), including completion/acceleration of long-pending links and spot improvements on high-traffic freight stretches constraining container and equipment movement.

3. **Stabilise air cargo performance to retain high-value exports**

   Liaise with and facilitate AAI to address landside connectivity constraints and strengthen coordination among cargo stakeholders/handlers to improve predictability during peak and night-time operations, helping retain high-value cargo diverting to other hubs.

4. **Increase availability of container rail services and rake frequency**

   Work with Indian Railways and service operators to improve the frequency and reliability of rakes/dedicated services for key inter-state movements and port–hinterland flows, reducing the road-dominance of container logistics (particularly within the 500 km hinterland).

Long-Term Opportunities

5. **Strengthen rail capacity and services to enable modal shift and reduce costs**

   Address constraints identified around rail routes, additional lines and dedicated paths by working with Indian Railways to improve service availability (including container rail services), increase frequency, and enable long-haul rail-led logistics for inter-state movement.

6. **Pursue a dedicated freight corridor linkage for Tamil Nadu's long-haul flows**

   Advance the case to DFCCIL/MoR for dedicated rail freight corridor linking Tamil Nadu with northern and western markets to improve time and cost efficiency for domestic and EXIM cargo.

7. **Build a second freight spine to reduce Chennai-centric pressure**

   Strengthen inland–port connectivity along alternative corridors (e.g., Trichy–Madurai–Thoothukudi), easing congestion pressure on Chennai gateways and enabling growth of logistics nodes beyond the Chennai region.

8. **Deepen workforce readiness for service quality and reliability**

   Align skilling and industry demand through curriculum revisions at technical/skilling institutes, especially for drivers, equipment operators, terminal staff and logistics planners, to support improvements in service quality, safety and reliability across logistics operations.



West Bengal

State Performance Snapshot

2025	2024
Growth seeker	Aspirer

West Bengal has retained its position in the LEADS 2025 landscape, continuing its performance trajectory from the previous assessment cycle. In the latest available LEADS category framework, West Bengal was placed in the **"Growth Seekers"** group among coastal States, reflecting a stable performance profile across logistics infrastructure, services, and regulatory environment.

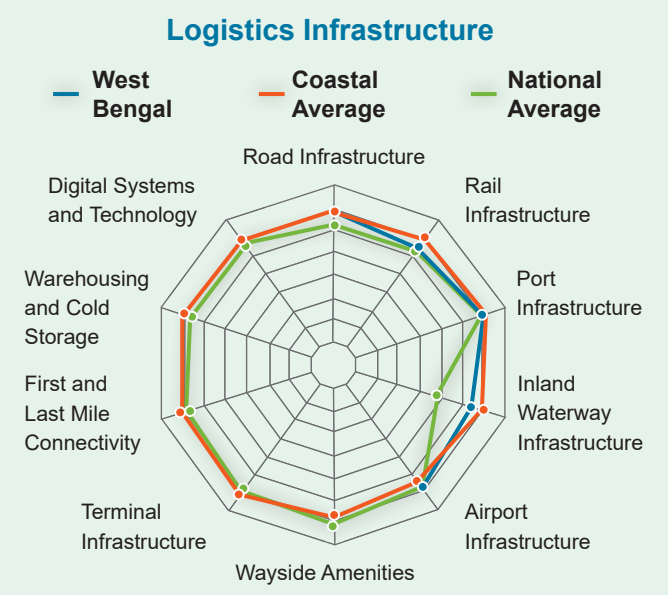
West Bengal's analysis was conducted solely based on perception based indicators and anecdotal evidence as the State submitted no formal response or supporting documentation in response to the LEADS survey initiated by DPIIT, Ministry of Commerce and Industry, Government of India. This reliance on secondary inputs underscores the absence of direct data from the State, which could have provided a more comprehensive and representative evaluation of its logistics performance.

Logistics Infrastructure

The State exhibits varied performance across logistics infrastructure indicators, encompassing multimodal connectivity, storage and terminal facilities, port-linked assets, and digital enablement parameters when compared with coastal peer states and national averages.

Road-related outcomes on improvement in road infrastructure are above the national average and broadly aligned with the coastal group average, indicating strong baseline connectivity. Several node and gateway indicators including improvement in port infrastructure, improvement in terminal infrastructure, improvement in first/ last mile connectivity , and improvement in warehousing, cold storage, pack-houses etc. are above the national average but below the coastal group average, reflecting strong performance with remaining headroom vis-à-vis coastal peers.

By contrast, rail and wayside support indicators, improvement in rail infrastructure and improvement in adequacy and quality of wayside amenities are below the national and coastal group average, pointing to gaps in rail-side effectiveness and driver support infrastructure. Finally, multimodal and digital enablers present a more positive picture: improvement in Inland waterway infrastructure and improvement in airport infrastructure are above

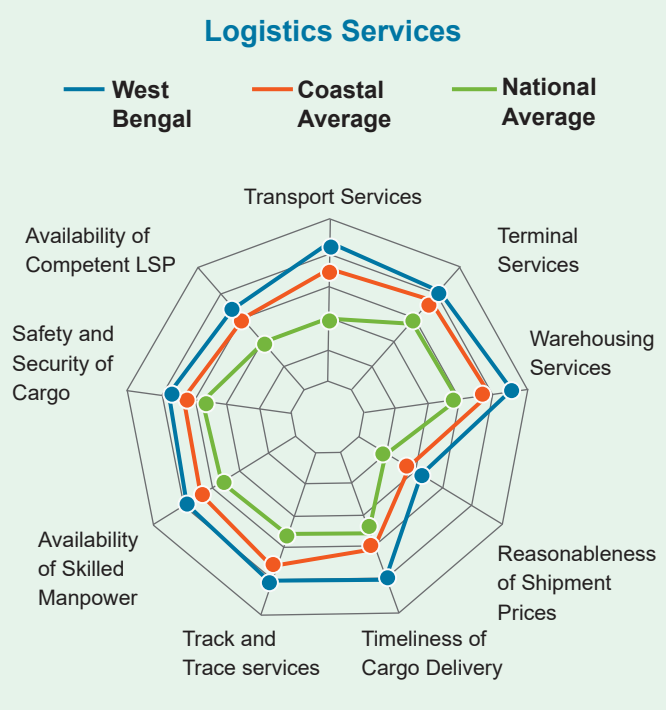


both the national and coastal group average, while availability of digital systems to support logistics operations is above the national average and the coastal group average, indicating stronger digital enablement and improving multimodal capability.

Logistics Services

West Bengal's logistics services perception scores reflect the availability and quality of services across core logistics functions, with outcomes above national averages across all service indicators.

The State records perception scores above the national average and coastal group average across most service indicators - improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo, availability of competent logistics service providers and improvement in shipment prices reflecting a relatively mature logistics services ecosystem and strong operational performance across key service dimensions.

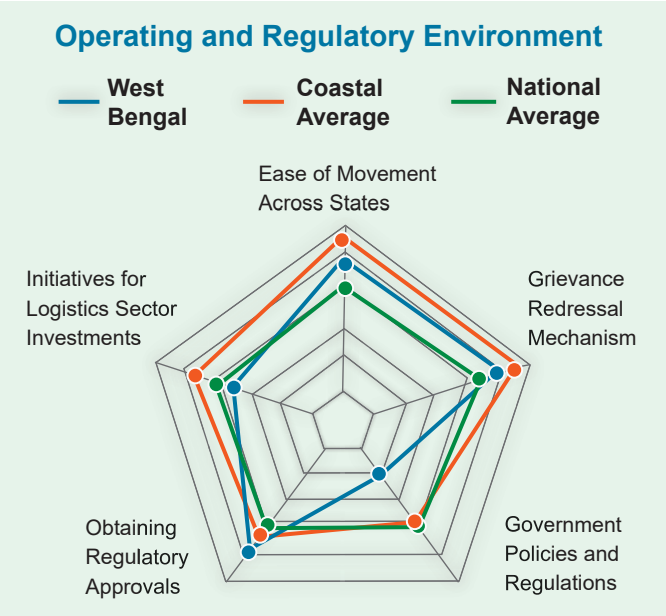


Operating and Regulatory Environment

Stakeholder perceptions under the regulatory and facilitation pillar reflect differentiated outcomes across inter-state movement and grievance redressal parameters when compared with coastal peers and national averages.

The State shows perception score below the coastal group average but above the national average on improvement in ease of border crossing and availability of grievance redressal mechanism, indicating relatively stronger performance compared to national outcomes while trailing coastal peers on cross-border facilitation and grievance responsiveness.

Perception scores for ease of obtaining regulatory approvals for setting up new logistics facilities are above the coastal group average and the national average, suggesting comparatively smoother approval processes. In contrast, perceptions on availability of government policies and regulations in facilitating logistics operations and availability of policy initiatives for logistics sector investments are below both the coastal group average and the national average, indicating weaker policy effectiveness and investment-support visibility relative to both averages.



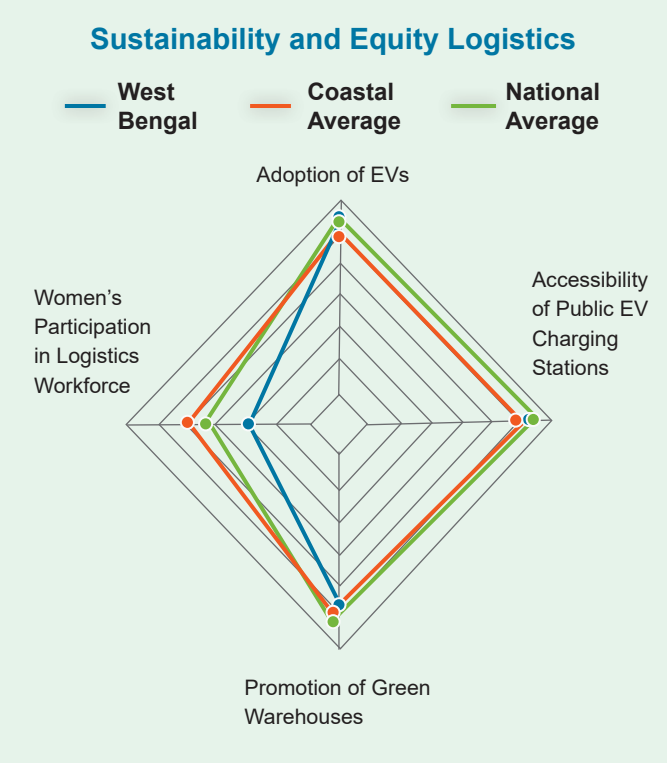
Sustainability and Equity Logistics

Analysis of perception-based indicators under the sustainability and workforce inclusion pillar reflects varied outcomes across green infrastructure adoption, EV deployment, and workforce diversity within the logistics sector.

The State records perception scores aligned with both the national average and coastal group average on availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for promotion of green warehouses indicating baseline alignment while highlighting the opportunity to further scale these initiatives for broader impact and accelerated adoption.

In contrast perception scores for availability of initiatives for inclusion of women workforce is below both the national average and coastal group average underscoring the need for targeted initiatives to strengthen inclusion and workforce diversity within the logistics sector.

Overall, sustainability and equity outcomes indicate progressive integration of green and inclusive practices, aligned with the State's broader development priorities.



Voice of Stakeholders

- Extended vessel wait times and pre-berthing delays disrupt liner schedules, raise costs, and create backlogs at transshipment hubs.
- Approach roads to Kolkata and Haldia ports face congestion and poor surface conditions, increasing truck turnaround times.
- State-level warehousing and terminal facilities lack modern capacity, causing delays and higher logistics costs for exporters and freight users.
- Track-and-trace gaps, unpredictable service timelines, and inconsistent service quality affect time-sensitive cargo.
- City congestion and frequent waterlogging (e.g., cloudburst events) disrupt freight movement and delivery schedules.
- Construction-related goods vehicle restrictions disrupt cargo movement to and from port locations.
- Insufficient draft maintenance and operational issues limit the use of Inland Waterway-1 as a viable freight alternative.
- Inconsistent enforcement creates confusion and results in driver harassment, increasing operational friction for transporters.

Figure: Voice of Logistics Service Providers and Users

Potential Opportunities in the State

Short-Term Opportunities

1

Accelerate construction-ready land supply:

There is scope to bring forward construction-ready industrial parcels by completing essential site preparation—drainage, filling, and levelling—and by tightening centre–state coordination for PM GatiShakti–linked projects.

2

Decongest the last mile on the Kona Expressway:

There is scope to reduce queues and night-time bunching by executing targeted repairs on critical stretches, applying active traffic management during peak windows, and rationalising daytime movement restrictions for port-bound cargo through controlled permits. These measures would deliver rapid relief while larger capacity works are being planned.

3

Prioritise ICD-origin cargo for faster multimodal turns:

There is scope to create fast-track handling windows for ICD-origin shipments, such as from Durgapur ICD, so they do not queue alongside regular cargo. Prioritised gates and scheduling would restore the time-savings advantage of inland depots and strengthen the multimodal chain's reliability.

4

Implement structured dredging schedules to improve near-term draft assurance:

There is scope to pre-announce and execute near-term dredging windows, paired with improved tide planning for arrivals and departures. This would immediately support better vessel handling, reduce bunching, and begin closing the turnaround gap relative to competing gateways.

Long-Term Opportunities

5

Develop assured-depth IWT corridors and terminal reliability:

There is scope to build assured-depth inland waterway corridors and enhance terminal reliability, enabling modal shift at scale. Long-term navigability would anchor sustained shipper commitments.

6

Opportunity to build a statewide driver academy network:

There is scope to establish permanent driver training academies for higher-tonnage vehicles and to develop corridor-wide rest/parking infrastructure with services. A stronger talent pipeline and safer corridors would improve reliability and safety long term.

7

Opportunity to build an end-to-end digital single window with automated incentive disbursal:

There is scope to deliver a fully digital approvals stack with accountability, escalation, and rule-based, automated incentive releases. Predictable processes would lower the cost of doing business.

LANDLOCKED STATES GROUP

The landlocked group comprises 11 States, including Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttar Pradesh and Uttarakhand. Together, the landlocked States represent the major part of India, with 52% of the country's population[1] and 46% of the nation's landmass, underscores the group's relevance within India's logistics network.

The landlocked States form the core of India's inland economic geography and contribute significantly to agriculture, industry, minerals, and manufacturing sectors of the economy. Mineral-rich Chhattisgarh, Jharkhand, and Madhya Pradesh form the backbone of India's steel and power industries, while Punjab, Haryana, Uttar Pradesh, Bihar, and Madhya Pradesh represent the heartland of India's foodgrain production, and form a major food-producing region in the country.

Landlocked States exhibit higher dependence on road and rail freight due to fragmented multimodal linkages and limited coastal access. Inland Container Deports (ICDs) act as virtual ports unlocking access to international trade networks through rail and road links to coastal ports. Dry ports and ICDs are central to the landlocked States logistics ecosysyem. They function as inland extensions of seaports, enabling cargo handling, storage, customs clearance, and allowing multimodal transport connectivity to the landlocked States. These facilities strengthen supply chains, improve trade efficiency, and support both inland and coastal economic development.

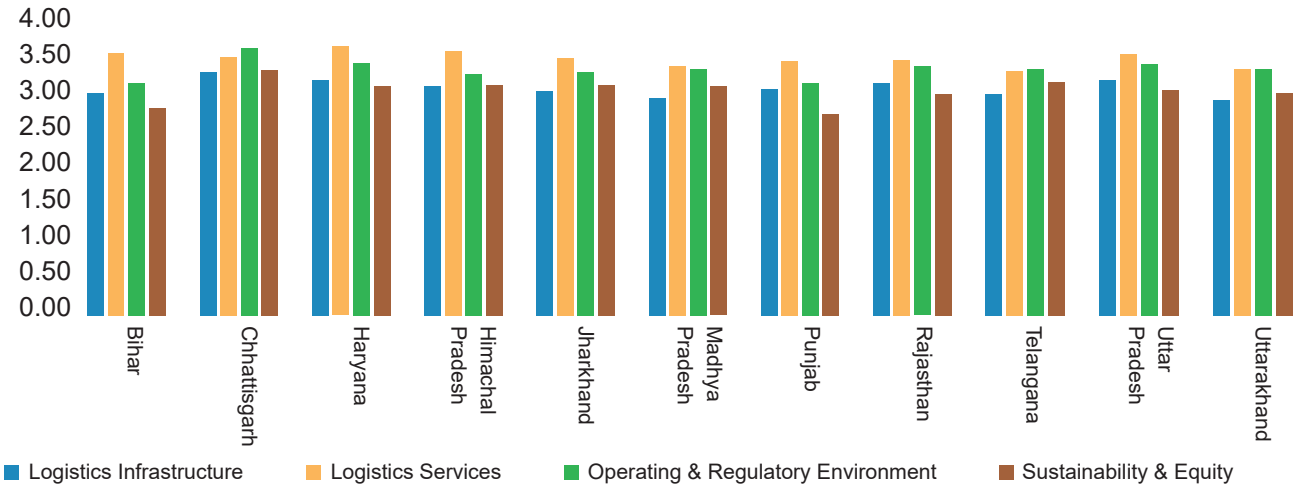
The Eastern and Western Dediated Freight Corridors (EDFC and WDFC) have reshaped freight movement patterns and enhanced rail-based connectivity for several landlocked States. The DFC network enables direct connectivity of landlocked States with coastal gateways providing direct connectivity between inland production/consumption centres and coastal gateways.



[1] Population Projections (July 2020), National Commission on Population, Ministry of Health & Family Welfare, Govt. of India

Group Level Performance

Summary of Landlocked Group Performance



Summary of Landlocked Group Performance

In the LEADS 2025 assessment, the improvement in provision of logistics services has received the highest perception scores amongst the four logistics pillars, across all landlocked group States.

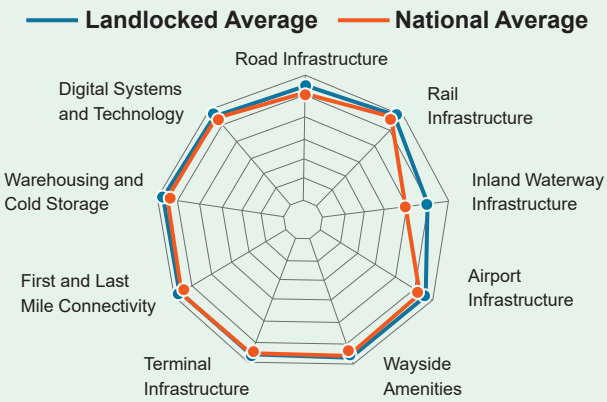
Improvements in State-led regulatory interventions also received higher perception scores for all landlocked States, with Chhattisgarh recording its highest perception score among the indicator pillars.

Logistics Infrastructure Performance

The LEADS 2025 group-level assessment for improvement in logistics infrastructure performance for the landlocked States records higher average perception scores than the national average across almost all infrastructure assessment indicators.

Landlocked States record stronger performance in road, rail, airport, terminal infrastructure, first and last mile connectivity, warehousing and cold storage, Wayside amenities, digital systems, as well as inland waterway infrastructure, reflecting broad-based improvements in logistics ecosystem development.

Logistics Infrastructure

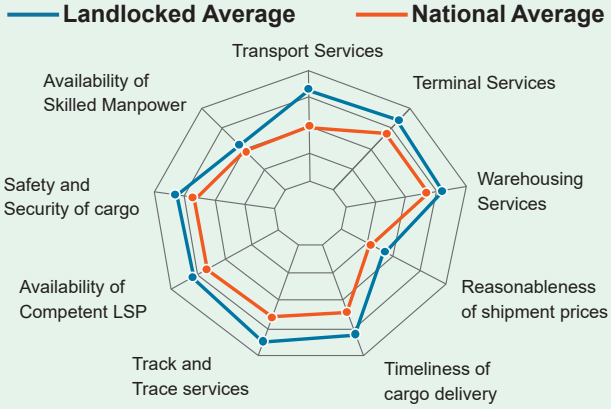


Logistics Services Performance

The LEADS 2025 group-level assessment for improvement in logistics services performance for the landlocked States records higher average perception scores than the national average across all services assessment indicators.

The improvement recorded by landlocked States in provision of transport, terminal, and warehousing services, and enhanced cargo safety measures has received wider appreciation from users.

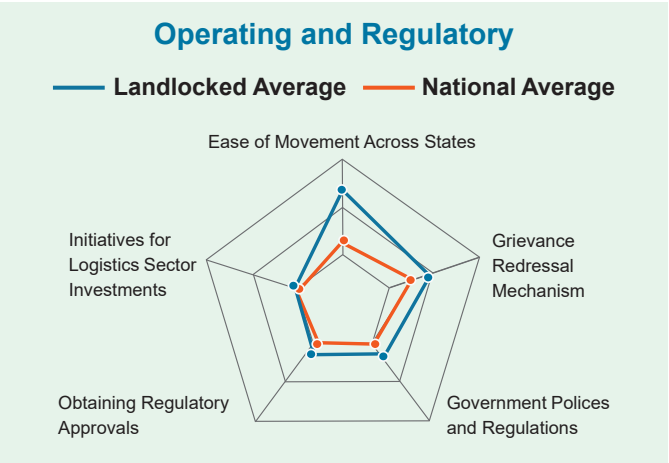
Logistics Services



Operating and Regulatory Performance

The group-level assessment of improvements in operating and regulatory performance follows a similar precedent as the previous two assessment pillars with the landlocked group States outperforming the national average scores across all indicators.

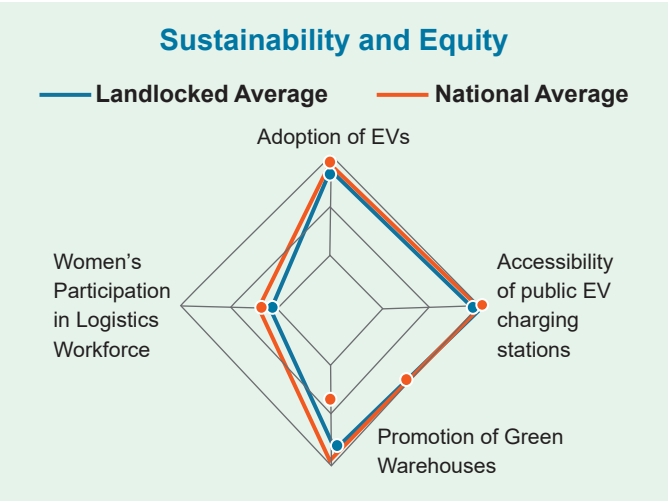
The improvement recorded in the ease of cross-border movement indicates higher approval and appreciation of introduced measures.



Sustainability and Equity Logistics Performance

The group-level assessment of improvements in the sustainability and equity logistics indicators highlight that the performance of the landlocked States is largely aligned with the national average scores across all indicators.

The assessment reflect opportunities in the provision of smart green warehousing solutions and public charging stations to support wider adoption of EVs in logistics.



Sub-group Level Performance

To streamline logistics strategies for effective planning, the landlocked States are further categorized into four sub-groups based on their geography:

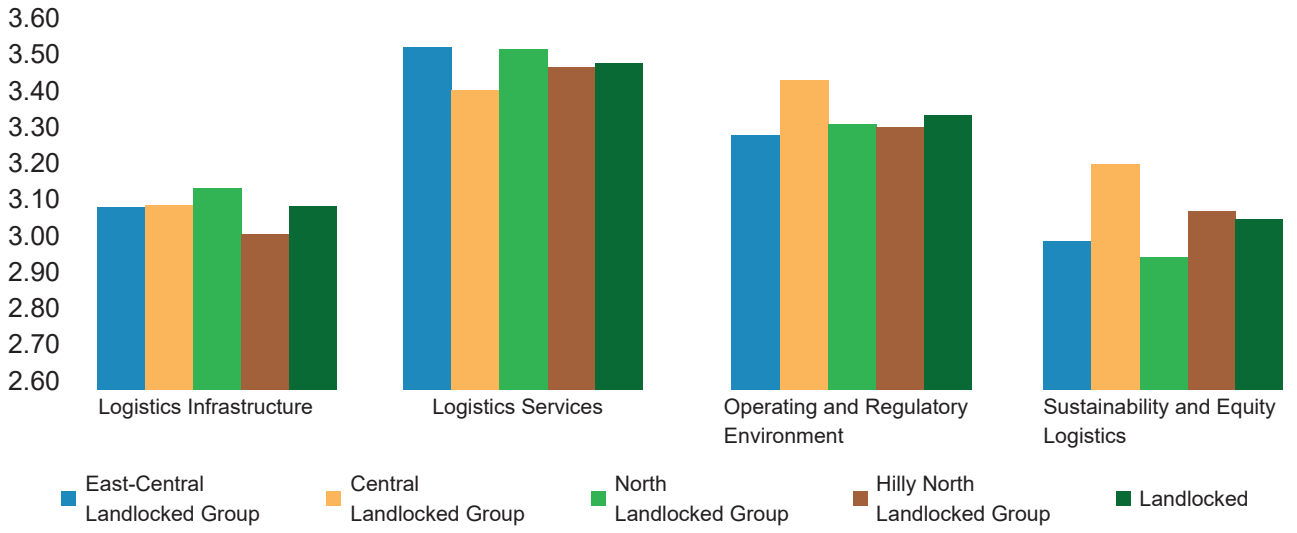
Hilly North Landlocked includes Himachal Pradesh and Uttarakhand. The sub-group requires strategic infrastructure upgrades to address topographical challenges.

North Landlocked includes Haryana, Punjab, and Rajasthan. The sub-group needs increased focus with embracing sustainable logistics and improving participation of women in the logistics sector.

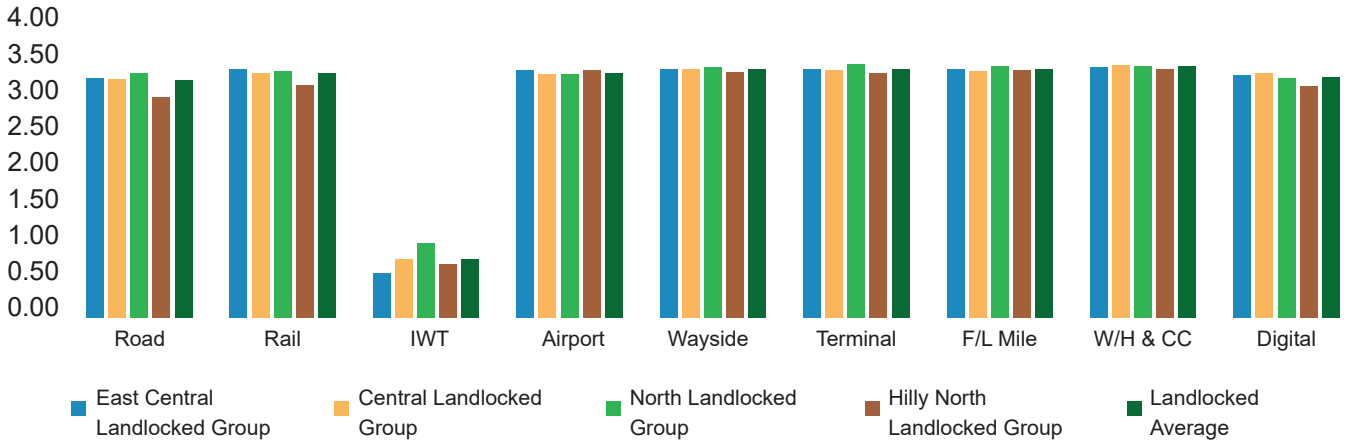
Central Landlocked includes of Chhattisgarh, Madhya Pradesh, and Telangana. The sub-group outperforms in services but lags sustainable practices.

East-Central Landlocked includes Bihar, Jharkhand, and Uttar Pradesh. The subgroup has improved in services provision despite relative lack of quality LSPs.

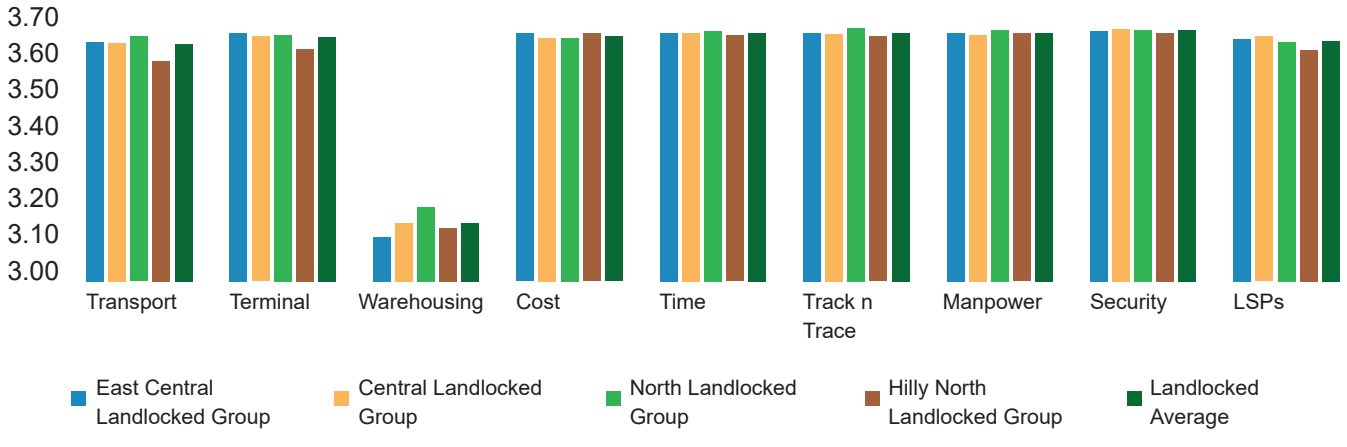
Landlocked Sub-Group | Summary Performance



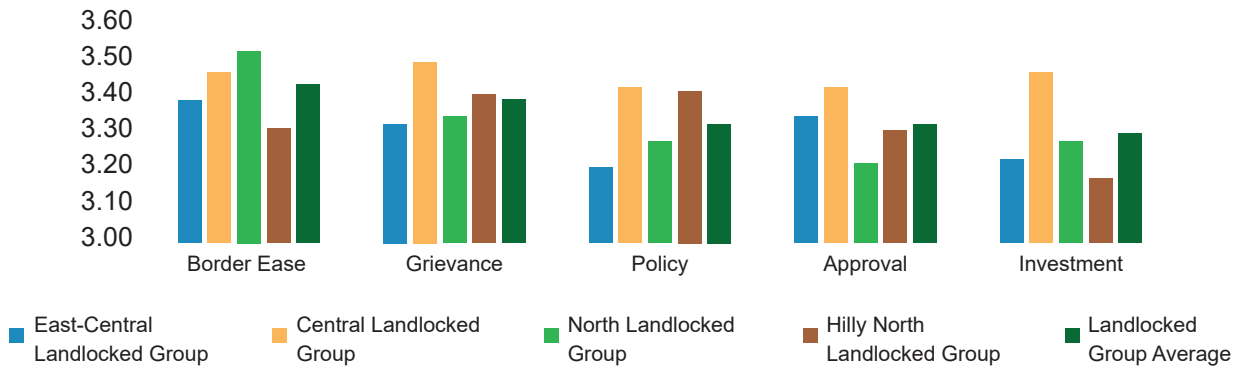
Landlocked Sub-Group | Infrastructure



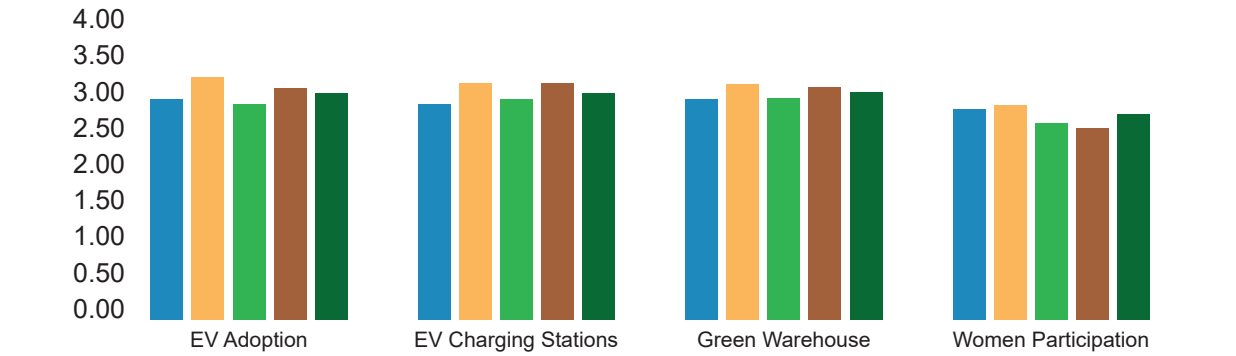
Landlocked Sub-Group | Services



Landlocked Sub-Group | Operating & Regulatory Environment



Landlocked Sub-Group | Sustainability & Equity Logistics



Group Level Summary

At the group level, LEADS 2025 presents a consolidated view of perception-based strengths and variations across logistics infrastructure, services, operating environment, and sustainability indicators for landlocked States. While improvement in logistics services records relatively higher perception scores, variation is observed across infrastructure, regulatory, and sustainability parameters, reflecting differences in geography, industrial structure, and connectivity across States within the group. The Perception Improvement Heatmap that follows illustrates comparative movements across States and pillars within the landlocked group.

Perception Heatmap

Logistics Infrastructure									
State	Road	Rail	IWT	Airport	Wayside	Terminal	F/L Mile	W/H & CC	Digital
Bihar	🔴	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Chhattisgarh	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Haryana	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Himachal Pradesh	🔴	🔴	🟢	🟢	🔴	🟢	🔴	🟡	🟡
Jharkhand	🔴	🔴	🔴	🟡	🟡	🔴	🔴	🔴	🟢
Madhya Pradesh	🔴	🔴	🔴	🔴	🟡	🔴	🔴	🔴	🟢
Punjab	🟢	🔴	🟢	🔴	🔴	🟡	🟢	🔴	🔴
Rajasthan	🟢	🟢	🟢	🟡	🟢	🟢	🟢	🟡	🟢
Telangana	🔴	🔴	🟢	🔴	🔴	🔴	🔴	🔴	🔴
Uttar Pradesh	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Uttarakhand	🔴	🔴	🔴	🔴	🟡	🔴	🟢	🔴	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Logistics Infrastructure

Logistics Services									
State	Transport	Terminal	W/H	Cost	Time	Track & Trace	Manpower	Security	LSPs
Bihar	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🔴
Chhattisgarh	🟢	🟢	🟡	🟡	🟢	🟡	🟡	🟢	🟢
Haryana	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Himachal Pradesh	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Jharkhand	🟢	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🔴
Madhya Pradesh	🔴	🔴	🟡	🔴	🔴	🔴	🔴	🔴	🔴
Punjab	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟢
Rajasthan	🟡	🔴	🔴	🔴	🟡	🟡	🟡	🟡	🔴
Telangana	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Uttar Pradesh	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🔴
Uttarakhand	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Logistics Services

Operating and Regulatory Environment					
State	Border Ease	Grievance	Policy	Approvals	Investments
Bihar	🔴	🔴	🔴	🔴	🔴
Chhattisgarh	🟢	🟢	🟢	🟢	🟢
Haryana	🟢	🟢	🟢	🟢	🟢
Himachal Pradesh	🔴	🔴	🔴	🔴	🟢
Jharkhand	🔴	🔴	🔴	🟢	🔴
Madhya Pradesh	🔴	🟢	🟢	🟡	🟢
Punjab	🟡	🔴	🔴	🔴	🔴
Rajasthan	🟢	🟡	🟢	🔴	🟢
Telangana	🔴	🟡	🟢	🔴	🟢
Uttar Pradesh	🟢	🟡	🟢	🟢	🟢
Uttarakhand	🔴	🟢	🟢	🔴	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Operating and Regulatory Environment

Sustainability and Equity Logistics				
State	EV Adoption	EV Charging Stations	Green Warehouse	Women Participation
Bihar	🔴	🔴	🔴	🔴
Chhattisgarh	🟢	🟢	🟢	🟢
Haryana	🟢	🟢	🟢	🔴
Himachal Pradesh	🟢	🟢	🟢	🔴
Jharkhand	🟢	🔴	🟡	🟢
Madhya Pradesh	🟢	🟢	🟢	🔴
Punjab	🔴	🔴	🔴	🔴
Rajasthan	🔴	🔴	🟢	🟢
Telangana	🟢	🟢	🔴	🟢
Uttar Pradesh	🟡	🔴	🔴	🟢
Uttarakhand	🟢	🟢	🟢	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Sustainable and Equity Logistics

A detailed analysis of each State's performance in the landlocked group across various indicators, along with an overview of initiatives undertaken by the State is provided in the subsequent Chapters.



Bihar

State Performance Snapshot

2025	2024
High Performer	Fast Mover

Bihar has been positioned as a **"High Performer"** within the landlocked group with perceived improvements observed across select logistics indicators and ongoing initiatives aimed at strengthening the provision of logistics infrastructure and service delivery in the State.

The LEADS 2025 indicator scores reinforce this trend, reflecting Bihar's growing logistics potential, driven by improvements across provision of logistics services where the state outperformed both the landlocked group average and the national average scores.

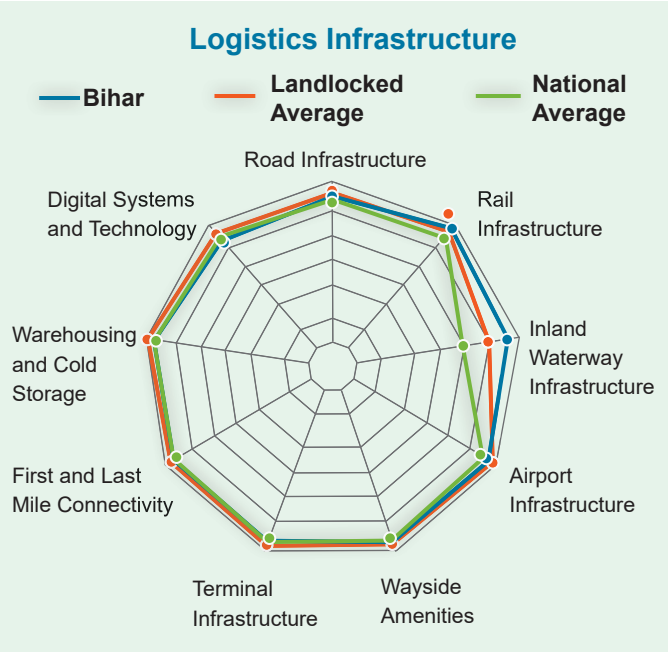
Logistics Infrastructure

The assessment of Bihar's logistics infrastructure indicates that while the overall performance remains largely aligned with the landlocked group average and national average across major indicators, the State has outperformed both the landlocked group average and national average for "Improvement in adequacy and quality of Rail infrastructure", suggesting that stakeholders perceive improvement in rail-linked logistics capacity and connectivity.

The State outperforms both the landlocked group average and national average for "Improvement in adequacy and quality of Rail infrastructure" and "Improvement in adequacy and quality of Inland Waterway Infrastructure"; suggesting that stakeholders perceive improvement in rail-linked and Inland Water Transport logistics capacity and connectivity.

The State also performs favorably respective to national average scores in improvement in road infrastructure, improvement in Airport infrastructure and adequacy and quality of Wayside Amenities.

The assessment also presents areas of focus such as Improvement in first / last mile connectivity and availability of digital systems to support logistics operations where Bihar's perception scores are lower than both the landlocked group average and national average scores.



Bihar's logistics infrastructure is supported through the Bihar Logistics Policy 2023, which aims to modernize Bihar's logistics ecosystem by incentivizing creation of MMLPs, ICDs, cold-chain facilities, warehouses, and urban freight centres.

The State is developing its first MMLP at Fatuha (Patna) as a major logistics hub for storage, handling, and consolidation of goods, particularly benefiting urban and peri-urban freight movement.

Bihar's first dry port operationalized in October 2024 as ICD at Bihta (Patna) strengthening direct port-linked container movement for the region and supporting reductions in cargo handling time and dwell delays.

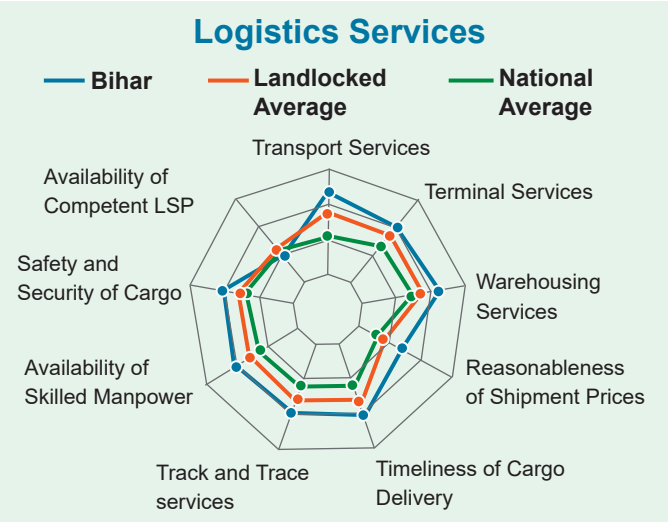
The New Integrated Terminal Building (NITB) at Patna airport has increased cargo handling capacity (as reported by the State). The inauguration of Purnea airport has enhanced air connectivity, facilitating travel, trade, and commerce in Purnea, Araria, Kishanganj, Katihar, Bhagalpur, and Madhepura districts of Bihar.

These initiatives together form part of the State's broader infrastructure development pipeline, with logistics-linked investments proposed under platforms such as the Bihar Industrial Investment Promotion Policy Package (BIIPP 2025).

Logistics Services

Bihar's logistics services outcome scores are positioned above both the landlocked group average and the national average across all parameters, indicating positive perception of logistics service availability and performance in the State. The convergence of structured skilling programs, certification-led capacity building initiatives and industry involvement, have strengthened workforce readiness, translating into improved service quality perceptions across the logistics services pillar.

Bihar's perception scores are higher than both the national average and landlocked group average in improvement across all transport services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower and improvement in safety and security of cargo which further reinforces the presence of a stable logistics services ecosystem in the State.



Perception scores for improvement in terminal services were recorded lower than both the national average and landlocked group average, highlighting opportunities for quality logistics service providers in the region.

Bihar is strengthening its logistics workforce readiness through the Bihar Skill Development Mission (BSDM) with focus on the Recruit-Train-Deploy (RTD) model to enhance relevance of the existing skill development programs and cater to the requirements of the logistics industry.

The State through BSDM has signed MoUs with the Logistics Sector Skill Council (LSC), an autonomous industry-led body, with the aim to strengthen logistics sector-specific vocational education in the State. Further to train, certify and create a talent pool of e-commerce supply chain professionals,

BSDM has also entered into an MoU with Flipkart Supply Chain Operations Academy.

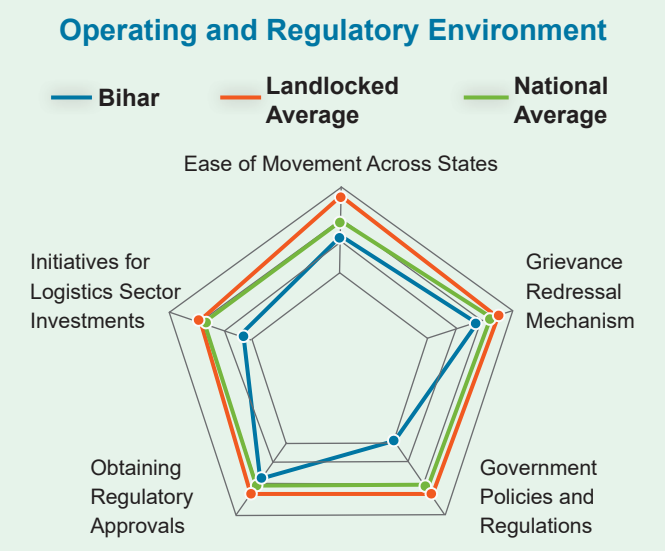
The Command-and-Control Centre of the Bihar Transport Department in collaboration with NIC has implemented real-time monitoring of vehicles through the Vehicle Location Tracking System and Emergency Alert System to improve safety of people and cargo.

Operating and Regulatory Environment

Bihar records perception scores indicative of a progressively improving operating and regulatory environment for logistics, with perceptions trailing both landlocked group average and national average on all parameters.

The perception scores for ease of obtaining regulatory approvals for setting up new logistics facilities and availability of grievance redressal mechanism are lower than both the national average and the landlocked group average scores, indicating a greater push required at improving processes and grievance redressal.

The assessment also presents areas of focus such as availability of government policies and regulations in facilitating logistics operations and availability of policy initiatives for logistics sector investments, where perceptions remain relatively weaker and indicate scope to deepen policy and institutional measures.

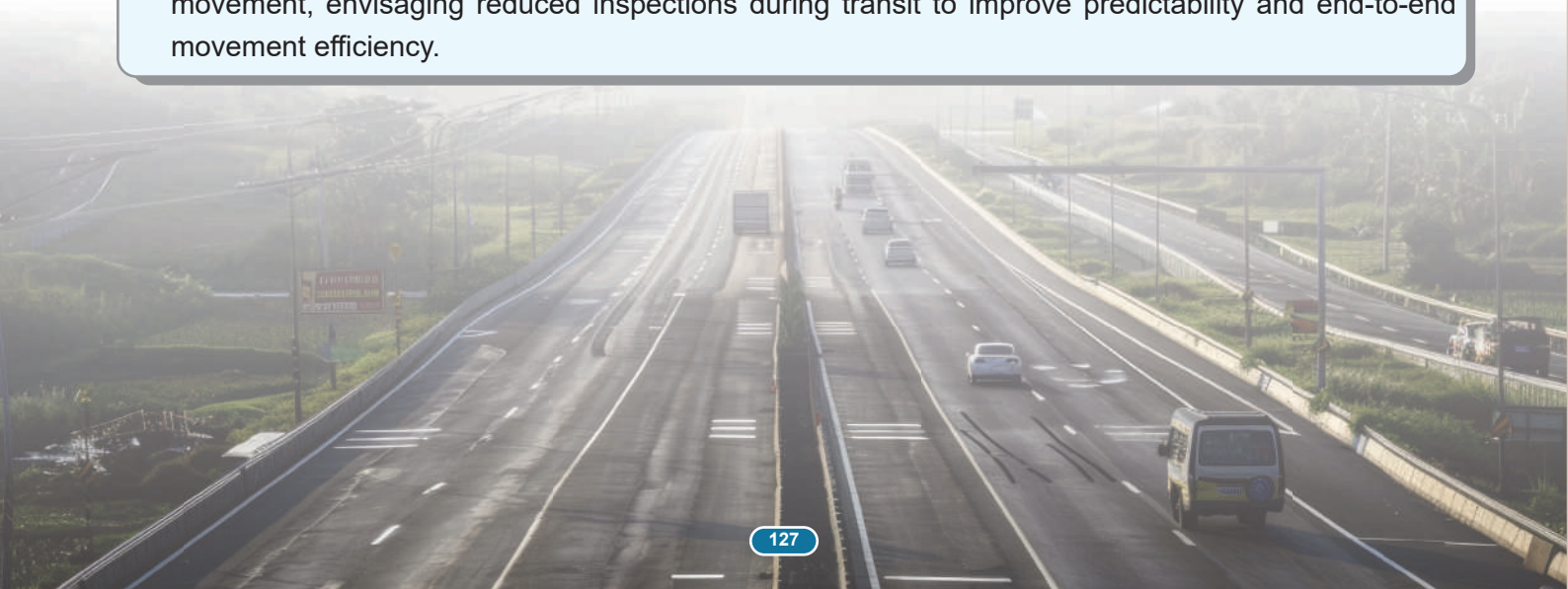


Bihar drives implementation through the State Logistics Coordination Committee/ Empowered Group of Secretaries (EGoS) and a dedicated State Logistics Cell/ Network Planning Group (NPG), strengthening inter-departmental coordination for planning and execution of logistics initiatives.

For approvals and investor facilitation, Bihar has strengthened its online Single Window Clearance System (SWCS) and the Grievance Redressal mechanism portal, streamlining approvals and providing a structured mechanism for issue escalation and resolution.

Bihar has also extended industry status and policy-linked incentives to logistics and warehousing through the Bihar Logistics Policy 2023.

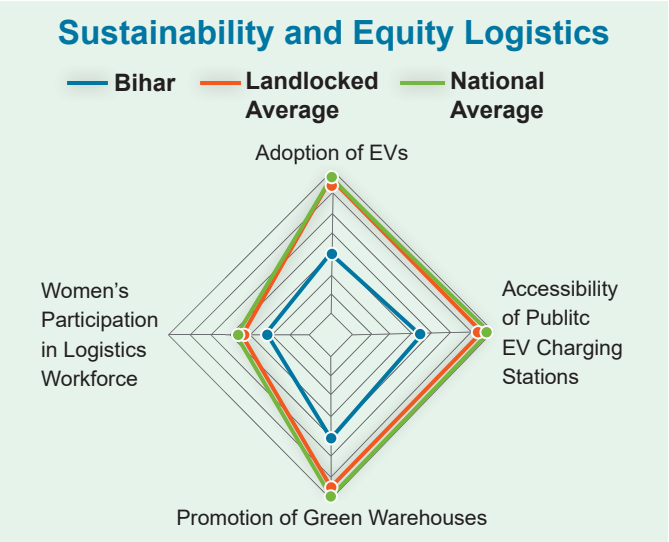
The State has proposed the identification and development of a Green Channel For EXIM cargo movement, envisaging reduced inspections during transit to improve predictability and end-to-end movement efficiency.



Sustainability and Equity Logistics

Bihar records perception outcome for the availability of initiatives for inclusion of women workforce behind both the national and landlocked group averages reflecting a need for stronger policy push and action in improving workforce inclusiveness in the logistics sector.

The State trails both national average and landlocked group average in availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for promotion of green warehouses underlining opportunities to further support wider adoption of green technologies and enabling infrastructure.



Bihar has notified the Bihar Electric Vehicle (EV) Policy (2023) with the objective of facilitating the adoption of at least 15% EVs among all new vehicle purchases and registrations in the State by 2028. To support this, the State is focused on expanding charging infrastructure, strengthening reliable power supply, and improving service facilities to enable a supportive electric mobility ecosystem.

EV policy implementation is driven through a three-tier system comprising a District-level EV Committee, a Monitoring Committee within the Transport Department, and a State-level Steering Committee.

The Bihar Industrial Investment Promotion Policy Package (BIIPP 2025) has also placed the manufacture of EVs and EV supply equipment (EVSE) as a priority sector, supporting the State's push toward sustainable logistics solutions. Further, the State's Logistics Policy encourages logistics park developers to adopt non-conventional and renewable sources of energy.

Progress since LEADS 2024

Bihar has actively responded to insights that emerged in the LEADS 2024 assessment, to strengthen infrastructure delivery, urban logistics, enhance operational efficiency, promote manufacturing alongside adoption of sustainable practices. These measures reflect the State's focus on infrastructure development, professional management of facilities, and integration of logistics planning with its long-term growth vision.

Action Taken on Short-Term Opportunities

Establishment of a Multi-modal Logistics Park (MMLP) at Fatuha, Patna to facilitate provision of end-to-end logistics services including warehousing, custom clearance, parking, maintenance of trucks etc.

Dry Port (ICD) at Bihta, Patna has been fully commissioned and operated by the State Government in collaboration with Pristine Magadh Infrastructure Private Limited and movement of EXIM cargo between Bihar and major International and domestic markets.

New Integrated Passenger Terminal Building (NITB) at Patna airport has been commissioned increasing the cargo handling capacity of the airport to 22 metric tonnes annually.

The first phase of the Patna Metro Rail Rapid transit system is partially operational covering 4.3 km between new ISBT, zero mile and Bhoothnath stations. Once completed the metro network will comprise of two corridors (Red line: 16.86 km and Blue line: 14.56 km) covering 24 stations.

Actions Taken on Long-Term Opportunities

Development of Integrated Manufacturing Cluster (IMC) at Gaya as part of the Amritsar-Kolkata Industrial Corridor at a cost of Rs.1,339 crore envisages an investment of Rs.16,500 crore and generate potential employment for 1.1 lakh. An SPV has been created to spearhead the project implementation.

Creation of SEZs at Nawanagar, Buxar (125 acres) and Kumarbagh, Pashchim Champaran (125 acres) have been approved by Min. of Commerce, Govt. of India and DPRs and Masterplans have been finalized and technical approvals are received.

High Impact Initiatives

Inland Container Depot (ICD) at Bihta, Patna

- Completed in October 2024
- Boost multimodal connectivity and movement of EXIM cargo from Bihar
- Provides direct connectivity to major gateway ports at Kolkata, Haldia, Visakhapatnam, and Mundra.
- It has reduced cargo dwell time by 20-25% enabling local customs clearance, eliminating the need to process shipments in distant ports. The facility reportedly has also lowered end-to-end logistic costs by an estimated 20-25%.

Bihar Industrial Investment Promotion Policy Package (BIIPP 2025)

- Launched in August 2025
- Position Bihar as an emerging logistics hub in eastern India.
- Promotes large-scale, sustainable logistics infrastructure, such as warehouses, cold-chain networks, and multimodal logistics parks.
- Benefited 965 industrial units including 133 units catered exclusively to the logistics sector.

Purnea Civil Enclave Airport

- Inaugurated in September 2025
- Improves air connectivity for eastern Bihar
- Facilitates travel, tourism, and trade across the districts of Purnea, Araria, Kishanganj, Katihar, Bhagalpur, and Madhepura.
- Benefits agricultural producers, small enterprises, and exporters enabling access to broader markets, supply chains, and resources.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

- Policy changes are perceived as insufficiently responsive to transporter and freight association concerns.
- The poor condition of key State highways such as Sakkadi–Nasriganj, with potholes and waterlogging, disrupts freight movement.
- Freight train derailments, including at Jamui, highlight railway safety monitoring gaps.
- Overall logistics infrastructure quality across roads, rail, terminals, and warehouses is rated below average.
- Land acquisition delays and weak last-mile connectivity constrain operations at the Fatuha MMLP near Patna.
- Traffic congestion and slow road upgradation in Patna continue to impair last-mile connectivity.
- Limited terminal capacity and lack of multimodal access restrict efficiency at ICD Bihta.
- Inconsistent monitoring at inter-State borders creates entry delays for transporters.
- Rising theft and pilferage on inter-State routes reduce service reliability.
- Fraudulent LPG tanker registrations indicate gaps in vehicle compliance systems.

Figure: Voice of Logistics Service Providers and Users

- Lack of direct port access increases dependence on neighboring States and raises transportation costs.
- Small and fragmented land parcels increase land acquisition costs and constrain feasibility of large logistics projects.
- Limited availability of Grade-A warehousing, cold-chain infrastructure, and integrated logistics hubs restricts modern supply chain operations, particularly for agriculture, horticulture, and pharmaceuticals.
- Insufficient rail sidings, truck handling zones, and multimodal connectivity options hinder seamless cargo movement.
- Poor last-mile connectivity to ICDs, MMLP Fatuha, and key industrial clusters continues to act as the primary binding constraint in improving logistics efficiency
- Recurring flooding in northern Bihar damages infrastructure and disrupts year-round connectivity.

Figure: Voice of State the State Authorities

Potential Opportunities in the State

Bihar's logistics landscape is characterized by its central location in the eastern region, strong agricultural base, and emerging multimodal corridors. While the State has initiated improvements in connectivity and cargo handling, stakeholder inputs point to opportunities to strengthen infrastructure quality, enhance last-mile integration, and streamline enforcement mechanisms to improve logistics efficiency.

Short-Term Opportunities

1. **Demand for improving road infrastructure quality along key freight corridors.**
   Stakeholders highlighted poor road surface conditions, recurrent waterlogging and congestion along important stretches such as Sakkadi–Nasriganj and other State Highways. Improving surface durability and drainage can enhance travel reliability for freight vehicles.

2. **To minimize unnecessary stoppages and random checks across major freight routes.**
   Unpredictable stoppages in locations such as Patna, Muzaffarpur, Siwan and Hajipur affect transit time and cost predictability. Streamlining enforcement practices and reducing discretionary checks can support smoother freight movement.

3. **Need to expedite last-mile industrial connectivity projects delayed due to land acquisition issues.**
   Industrial clusters near Patna and other emerging nodes continue to face delays in last-mile connectivity, affecting access to freight hubs and ICDs. Facilitating timely resolution of land-related constraints can help operationalize these links.

4. **Potential for targeted upgradation of logistics infrastructure such as warehouses and truck-handling zones.**
   Below-average logistics infrastructure quality including warehousing, freight yards and smal terminals was noted as a recurring concern. Upgrading critical facilities can help reduce handling delays and improve freight reliability.

Long-Term Opportunities

5. **Opportunity to strengthen multimodal freight movement through enhanced utilization of ICD and rail-linked connectivity.**
   With the Bihta ICD operational and increasing container traffic, there is long-term potential to integrate additional rail-linked nodes and create multimodal capacity to support both domestic and export-linked flows.

6. **Need for structured development of inland waterway-linked logistics planning.**
   Stakeholder consultations emphasized the importance of future use of waterways along the Ganga basin for cargo movement. Long-term coordination with IWAI can support planning of viable routes and related logistics infrastructure.

7. **Requirement for enhancing border-point logistics and Land Customs Station (LCS) infrastructure.**
   Strengthening border-point facilities, including monitoring systems and cargo handling capacity, can support smoother bilateral flows with Nepal and reduce logistics costs over time.

8. **Scope to improve urban freight management in Patna through planning and dedicated freight movement windows.**
   Urban congestion continues to impact freight movement around Patna's commercial zones. Dedicated freight corridors, time-windowed access and improved urban freight planning can help reduce delays.



Chhattisgarh

State Performance Snapshot

2025	2024
High Performer	Aspirer

In LEADS 2025, Chhattisgarh is positioned as a **"High Performer"** within the Landlocked States group, improving from its "Aspirer" classification in LEADS 2024. The State's perception profile reflects sustained efforts to strengthen logistics infrastructure, services, regulatory facilitation, and sustainability across key industrial and resource-based corridors, particularly around Raipur, Bhilai–Durg, Bilaspur, and the mineral belts.

The assessment also indicates alignment with the State's policy focus on multimodal connectivity, logistics infrastructure planning, digital systems, and export-oriented supply chains, while highlighting scope to further deepen service capabilities, regulatory facilitation, and multimodal integration.

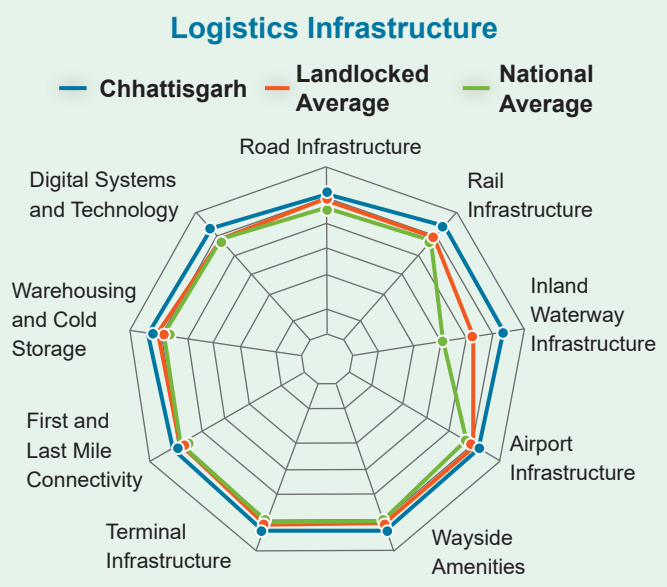
Logistics Infrastructure

Chhattisgarh records strong perception outcomes on logistics infrastructure, scoring above both the landlocked States average and the national average across all infrastructure indicators.

Respondents report positive outcomes on improvement in road infrastructure and improvement in rail infrastructure, supporting efficient intra-State and inter-State freight movement. Performance on improvement in Inland waterway infrastructure and improvement in Airport infrastructure also reflects expanding multimodal capacity aligned with industrial and mineral-based cargo flows.

Indicators related to improvement in adequacy and quality of Wayside Amenities, improvement in terminal infrastructure and improvement in first / last mile connectivity show perception outcomes above both the landlocked group average and national average, pointing to enhanced corridor-level logistics readiness.

Similarly parameters, improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations are rated favourably above both comparator averages, reflecting on-ground progress in logistics capacity creation and digital enablement.Overall, infrastructureperformanceindicatesawell-developed and steadily expanding logistics base, supporting Chhattisgarh's role as a key resource and manufacturing-linked freight hub within central India.



Chhattisgarh is advancing several planned and future-oriented initiatives in the logistics sector as part of its broader State Vision Plan, the Chhattisgarh Logistics Policy (2025) and the Chhattisgarh Industrial Promotion Policy (2025), aligned with the Chhattisgarh Vision @2047 initiative, with the objective of positioning the State as a major logistics and export hub in central India.

The State is prioritizing development of multimodal logistics infrastructure, including dry ports, ICDs, and multimodal logistics parks in key industrial corridors such as Raipur, Durg–Bhilai, Bilaspur and the mineral belts of Korba and Dantewada.

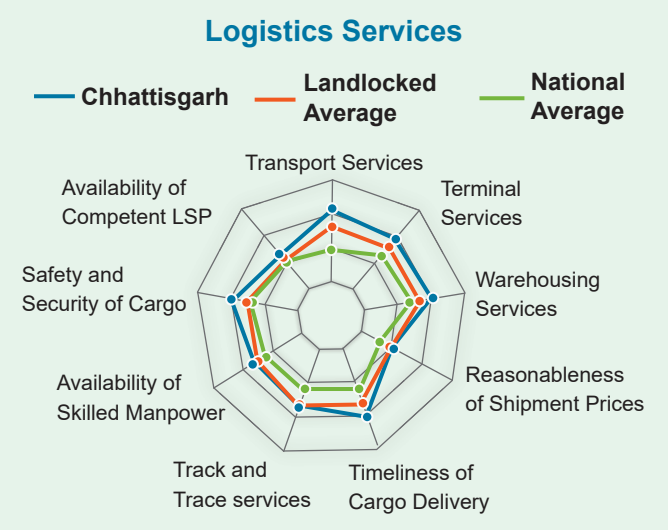
Chhattisgarh is collaborating to improve port connectivity through agreements with eastern-coast ports such as Vizag, Paradip, and Dhamra, to facilitate smoother movement of EXIM cargo.

Logistics Services

Chhattisgarh's logistics services performance is positioned above both the landlocked States average and the national average across all service parameters, reflecting positive stakeholder assessment of measures undertaken by the State to strengthen service delivery and operational reliability.

The State records higher perception scores than both comparator groups on improvement across all transport services, improvement in terminal services, improvement in timeliness of cargo delivery, improvement in safety and security of cargo and the availability of competent logistics service providers. These outcomes indicate improved terminal handling standards, stronger service availability, and more reliable cargo movement across key corridors.

Chhattisgarh also records favourable perceptions relative to the national average and performance broadly aligned with the landlocked group average on improvement in warehousing services, improvement in shipment prices, availability of track and trace services and availability of skilled manpower, pointing to stable workforce availability, growing adoption of visibility tools, and adequate storage capacity supporting industrial and mineral-linked supply chains.



Overall, logistics services outcomes reinforce the State's transition towards a more dependable, competitive, and service-oriented freight ecosystem.

Chhattisgarh is prioritizing the digital transformation of logistics through planned investments in GPS-enabled route optimization and real-time tracking systems, IoT-enabled and automated smart warehousing systems, digital and e-documentation tools, and integrated supply-chain platforms.

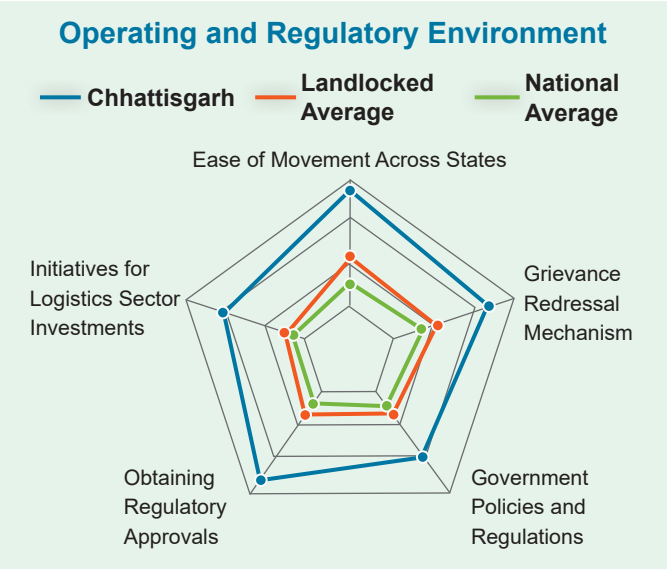
The State is directing focus to establish supply chains linking the remote, tribal regions of Bastar and Surguja, by integrating local producers, agriculture, forest-based goods and MSMEs.

Chhattisgarh is strengthening its logistics workforce readiness through the Chhattisgarh State Skill Development Authority in partnerships with leading educational institutions, establishing Centres of Excellence (CoE) at IIT Bhillai and Pt. Ravi Shankar Shukla University, Raipur, and anchoring industry participation through the Logistics Sector Skill Council (LSC) to cater to the requirements of the logistics industry.

Operating and Regulatory Environment

Chhattisgarh records positive perception outcomes across all operating and regulatory environment dimensions, indicating a favourable regulatory and facilitation framework supporting logistics activity in the State.

Perception scores for availability of policy initiatives for logistics sector investments, improvement in ease of border crossing; availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of grievance redressal mechanism are higher than both the landlocked States average and the national average. These outcomes reflect progress in building an enabling policy environment, strengthening institutional coordination, streamlining approvals, and improving responsiveness to stakeholder concerns.

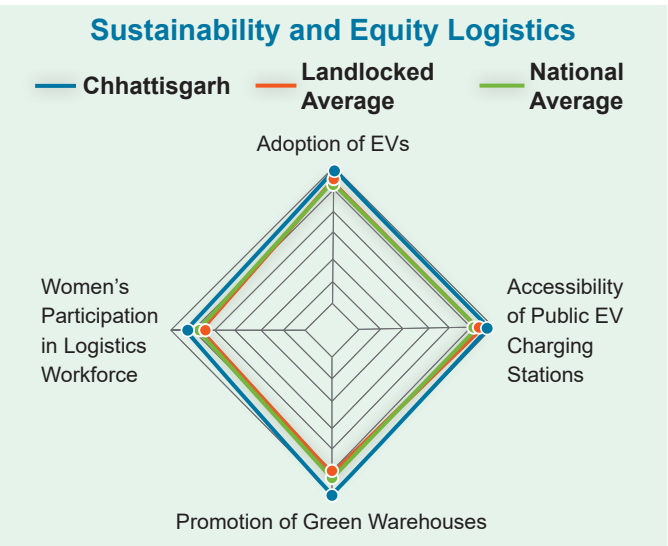


Chhattisgarh is strengthening the digital logistics ecosystem through the implementation of real-time tracking system, integrated logistics dashboards, digital warehousing solutions, and unified permits for transporters under the 'OneClick' Single Window system portal.

The State is pursuing the establishment of a Logistics Coordination and Facilitation Cell to synchronize efforts across transport, industries, forest, revenue, food processing and MSME departments, with the objective of coordinating project clearances and implementation efforts.

Sustainability and Equity Logistics

Chhattisgarh records higher perception scores than both the national average and the landlocked group average across sustainability and equity indicators, including availability of initiatives for inclusion of women workforce, availability of initiatives for promotion of green warehouses, availability of support in EV adoption and availability of public EV charging stations. These outcomes correspond to the State's ongoing initiatives related to workforce participation and the adoption of environmentally sustainable practices within logistics operations.



Chhattisgarh through its Logistics Policy (2025) and Industrial Promotion Policy (2025), is promoting creation of green and energy-efficient infrastructure including climate-resilient warehouses equipped with solar rooftops, natural ventilation systems and energy-efficient lighting. The logistics policy provides additional incentives for increasing digitalization of logistics processes, establishing

segregated waste management and disposal systems, and for using renewable sources of energy.

The State is prioritizing creation of low-emission logistics corridors, support for EV charging facilities at transport hubs and incentives for logistics operators adopting EVs, CNG/LNG trucks and alternative clean fuels.

Urban bodies and industrial clusters in the State such as Raipur, Korba, and Bhilai are increasingly adopting green practices such as waste-management and industrial symbiosis, where waste from one industry (fly ash, slag, metal scrap) becomes raw material for another supporting road construction, cement manufacturing, and brickmaking.

Progress since LEADS 2024

Chhattisgarh has undertaken a series of initiatives following the LEADS 2024 assessment to strengthen infrastructure delivery, improve inter-departmental coordination, streamline approvals, attract investment, and reduce end-to-end logistics costs. These measures align with the State's focus on infrastructure development, service delivery improvement, and integration of logistics planning within the Vision @2047 framework.

Actions Taken on Short-Term Opportunities

Operationalization of the State Logistics Policy (2025) with the aim to promote investments in the logistics sector.

Introduction of OneClick single window facilitation system for smoother approval of logistics projects.

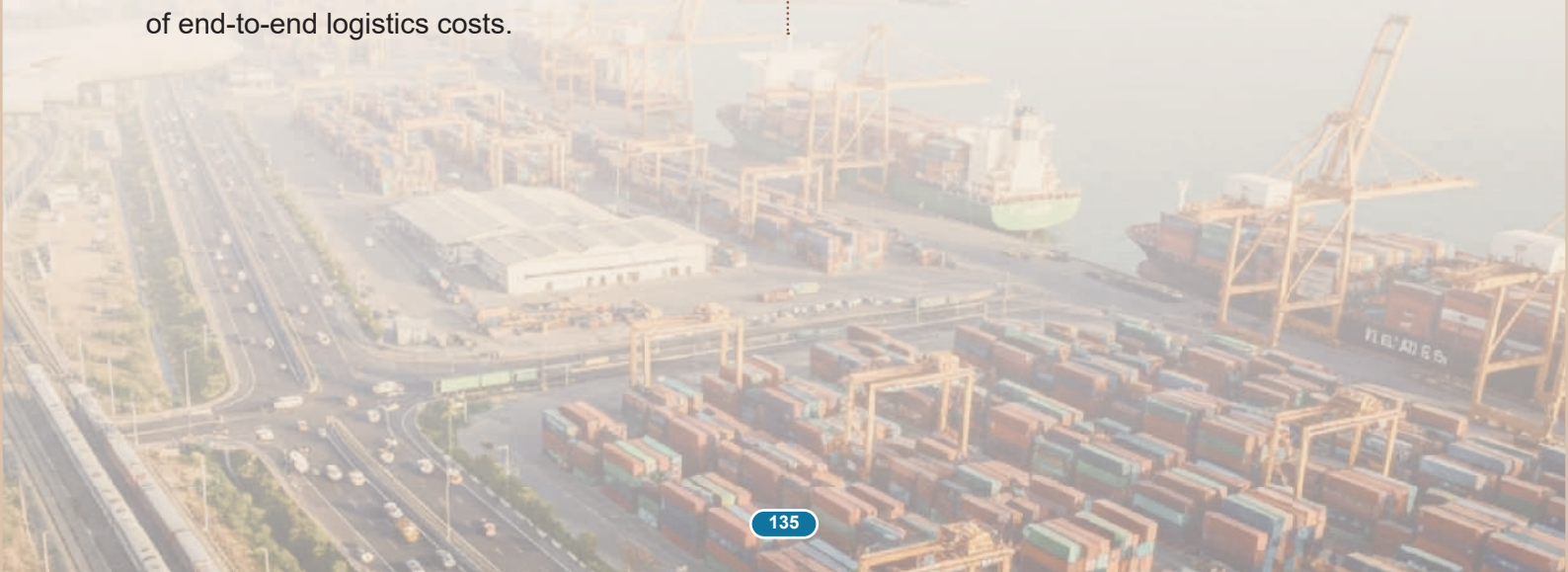
Preparation of State Logistics Action Plans aligned with PM GatiShakti for integrated multimodal planning.

Approval of connectivity initiatives under PM GatiShakti such as multi-tracking of Gondia-Dongargarh railway line at a cost of Rs.2,223 crore, reducing transit times and increasing freight capacity for the region.

Actions Taken on Long-Term Opportunities

Development of multimodal logistics parks, ICDs/dry ports, cold-chain and digital supply-chain platforms in the State to enable lowering of end-to-end logistics costs.

The State envisages enhancing integration efforts targeted at MSMEs and forest-based producers, into the EXIM value chains.



Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Low frequency and limited demand for CONCOR services at ICD Raipur continue to push freight forwarders towards road transport.

> Limited access to containerized rail logistics and lack of handling facilities for heavy steel cargo increase first-mile costs to Vizag and Paradip ports.

> Warehousing and cold storage capacity near ICD Raipur remains inadequate.

> Shortage of quality local logistics service providers increases dependence on outstation freight forwarders, raising costs and transit times.

> Limited awareness and absence of incentives restrict adoption of energy-efficient freight transport.

> Customs documentation services in Raipur are limited, increasing reliance on agents based outside the State.

> Multiple clearances and procedural requirements for EXIM cargo lead to delays in freight booking at ICD Raipur.

> Absence of inspection and certification facilities for steel exports at ICD Raipur delays clearances and affects delivery schedules.

> Awareness and infrastructure for sustainable and eco-friendly packaging solutions remain limited.

Figure: Voice of Logistics Service Providers and Users

> Movement of EXIM cargo depends on distant ports in Odisha, Andhra Pradesh and Maharashtra, increasing transit time and costs for bulk cargo.

> Modern warehousing and cold-chain infrastructure remain limited, contributing to higher inventory holding costs and post-harvest losses of perishables.

> Tribal districts including Bastar, Dantewada and Sukma face access constraints due to difficult terrain, security concerns and limited transport infrastructure.

> Rail freight faces congestion due to inadequate last-mile connectivity around industrial areas.

> The logistics services landscape is dominated by small and fragmented operators with low technology adoption and a limited skilled workforce.

> Inter-departmental coordination gaps and procedural complexities continue to slow approvals for logistics-related infrastructure projects.

Figure: Voice of State Authorities

Potential Opportunities in the State

Chhattisgarh's logistics opportunity lies in transitioning from road-dominated freight movement to a more rail-enabled, integrated logistics ecosystem. While the State has a strong industrial base, especially in steel and minerals, logistics efficiency is constrained by limited containerized rail access, fragmented services and procedural complexity. Targeted interventions to strengthen rail connectivity, develop cargo aggregation facilities and streamline regulatory processes can substantially improve logistics performance and support export competitiveness.

Short-Term Opportunities

1. Improving access to containerized rail logistics from key industrial clusters

There is scope to improve access to containerized rail services from major industrial clusters such as Raipur, Bhilai, and Durg. Stakeholders reported limited availability and infrequent scheduling of container trains, which increases reliance on long-haul road transport. Coordination with Indian Railways and CONCOR to improve rake availability and schedule reliability can support containerized exports and reduce transport costs.

2. Streamlining freight booking and coordination for exporters and MSMEs

Exporters and MSMEs highlighted delays and uncertainty in freight booking, particularly for time-sensitive cargo. Establishing facilitation support through a logistics helpdesk or a designated nodal coordination mechanism can improve planning visibility, reduce transaction delays, and support smoother cargo movement.

Long-Term Opportunities

3. Developing integrated logistics facilities and cargo aggregation hubs

The absence of integrated logistics parks and cargo aggregation facilities limits consolidation of outbound cargo. Developing logistics hubs near the Raipur–Bhilai–Durg industrial belt can support aggregation of steel, mineral, and agri-based cargo, improve scale efficiencies, and strengthen export readiness.

4. Rationalizing and digitizing regulatory clearances for export cargo

Multiple approvals and procedural requirements, including plant quarantine, FSSAI, and sector-specific compliances, increase turnaround time for export cargo. Long-term reforms focused on process integration and digital workflows can simplify compliance, reduce delays, and improve operational predictability for exporters.

5. Promoting modal shift for bulk and heavy cargo through rail-centric planning

Large volumes of steel and mineral cargo continue to move by road despite being more suited for rail transport. Coordinated planning with Railways to expand rail-linked terminals, sidings, and cargo handling infrastructure can lower logistics costs, reduce congestion, and improve efficiency in bulk freight movement.



Haryana

State Performance Snapshot

2025	2024
High Performer	Achiever

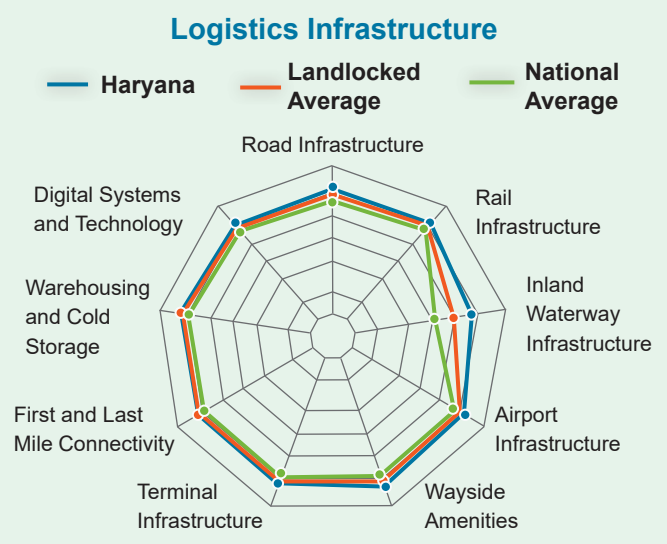
Haryana has placed as an 'High Performer' within the landlocked group with perceived improvements observed across all evaluation pillars, indicating alignment between perception-based improvements across logistics pillars and recent policy and infrastructure initiatives. The LEADS 2025 perceptions record reinforce this position, highlighting perceptions of a strong transport network, a well-established services ecosystem, and the presence of a regulatory framework aligned with national and State priorities.

Logistics Infrastructure

Haryana's logistics infrastructure performance records perception scores well above both the landlocked group average and the national average across all indicators.

The State recorded higher perception scores than both the national average and landlocked group average for improvement in road infrastructure, improvement in rail infrastructure, improvement in Inland waterway infrastructure, improvement in adequacy and quality of Wayside Amenities, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations, indicating stakeholder alignment with State infrastructure and connectivity initiatives.

In terms of improvement in airport infrastructure and improvement in terminal infrastructure, perceptions were positive relative to the national average and aligned with the landlocked group average, indicating scope for further capacity enhancement.



Haryana's logistics infrastructure is guided by the Logistics & Warehousing Policy (2025) which is awaiting official notification and is aligned with the Mission Haryana-2047 Vision document.

The State has accelerated 92 first-mile and last-mile connectivity projects for EXIM logistics linking existing and planned logistics facilities such as ICDs/MMLPs, and warehouses at Karnal, Gurugram,

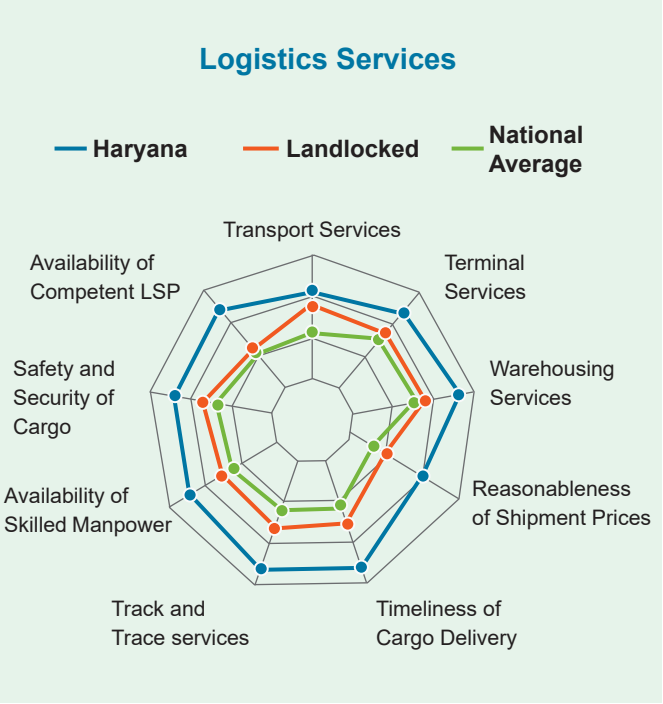
Palwal, Kalka, and Indri. Three Multi-Modal Logistics Parks are planned for Hisar, Ambala, and Mahendragarh districts.

Haryana is prioritizing development of 10 brownfield and greenfield infrastructure projects, each exceeding ₹100 crore, including the Orbital rail corridor, Panchgram, expansion of the Gurugram Metro, the Regional Rapid Transit System (RRTS), the Namo Metro corridor, Global City near Manesar on the Dwarka Highway, and the International Horticulture market at Ganaur, Sonipat.

Logistics Services

Haryana's perception-based logistics services scores are positioned higher than both the landlocked group average and the national average across all parameters, indicating a diversified logistics services environment.

The State has recorded higher perception scores than both the national average and landlocked group average for improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers, highlighting availability of skilled manpower and improved cargo handling practices in the State.



Haryana is prioritizing the Digital transformation of Logistics through data analytics for efficiency tracking, with special thrust on IoT-enabled traffic management and AI-driven logistics optimisation systems.

The State Government in collaboration with the University of Birmingham (UoB) led consortium of Universities, the UK Department of Environment, Food and Rural Affairs, and the United Nations Environment Program (UNEP), has initiated the establishment of a Centre of Excellence (CoE) on Sustainable Crop Post-Harvest Management and Cold Chain (CoE-SPMCC) at Panchkula, Haryana.

The State has undertaken initiatives to strengthen workforce capacity building and skilling for the logistics sector including partnerships with industry bodies such as Japan-India Institute of Manufacturing (JIM), Gurugram and educational institutions such as the Central University of Haryana, Mahendragarh.

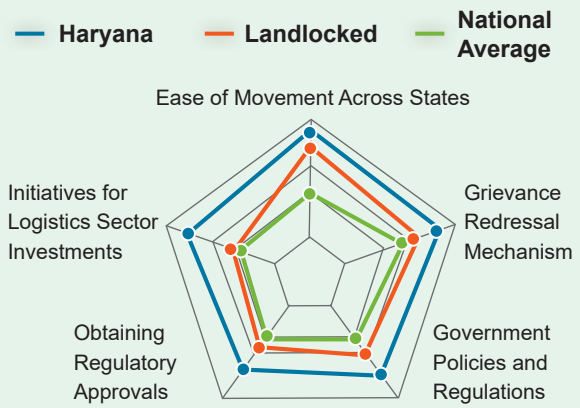
As of FY2024-25, Haryana has operationalized 3 logistics training centers and the Government Training Institute, Hisar has signed MoU with Rajasthan Spare House, Hisar for training Warehouse Technicians.

Operating and Regulatory Environment

Perception scores for the operating and regulatory environment indicate positive perceptions of regulatory clarity, approvals, and grievance mechanisms.

Haryana records higher perception scores than both the national average and landlocked group average for availability of policy initiatives for logistics sector investments, improvement in ease of border crossing, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of grievance redressal mechanism, reflecting an enabling policy environment that supports investment facilitation and streamlined approvals.

Operating and Regulatory Environment



Haryana has established a State Logistics Coordination Cell as the nodal agency for planning and execution of logistics sector initiatives, synchronizing efforts across departments for project clearances and implementation of logistics projects.

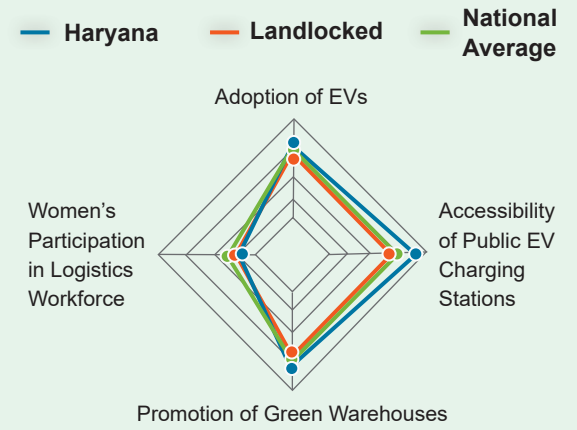
The State is strengthening the State Single Roof Clearances System including the Grievance Redressal and Dispute Resolution Mechanism under the Invest Haryana initiative to streamline registration, clearances, and approvals for logistics sector projects.

Sustainability and Equity Logistics

Haryana demonstrates higher perception scores than both the national average and landlocked group average for the availability of initiatives for promotion of green warehouses, availability of support in EV adoption and availability of public EV charging stations, reflecting policy support for sustainable logistics practices.

Perception scores for the availability of initiatives for inclusion of women workforce remains lower than both the national average and landlocked group average, indicating scope for strengthening workforce inclusiveness.

Sustainability and Equity Logistics



Haryana anchors action on promoting Green Logistics and sustainability through the Haryana EV Policy (2022) and Haryana Solar Power Policy (2023). The State is targeting a renewable energy capacity addition of 4,835 MW by FY2029-30. HREDA has been nominated as the nodal agency for implementing the EV policy.

The State has provided a direct budgetary allocation of Rs. 5 crore to support green logistics initiatives under the budget estimates for FY2025-26. Haryana has also made policy provision to boost green initiatives through subsidy support and incentives notified under the EV Policy (2022).

The EV policy provides incentives to manufacturers involved in the production of electric vehicles (EVs, BEVs, FCEVs), charging infrastructure, battery storage units and components related to EVs, hydrogen, and charging systems.

Progress since LEADS 2024

Haryana has responded to insights from the LEADS 2024 assessment by undertaking initiatives to advance infrastructure development, inter-departmental coordination, logistics approvals, and investment facilitation. These measures indicate an emphasis on infrastructure delivery, service quality, and integration of logistics planning aligned with the State's Vision @2047 goals.

Actions Taken on Short-Term Opportunities

The State has identified a wider pipeline of projects (1500+), alongside the accelerated EXIM connectivity set noted above, to facilitate faster first- and last-mile delivery linking key economic zones such as Karnal-Ramba-Indri-Ladwa road (SH-07) and Karnal-Kaithal road (SH-08) in Karnal, and Jagsi-Safidon section of Meerut-Sonipat-Gohana-Safidon road in Panipat, as well as approach roads linking to SH-132 and SH-134.

The State has revamped the Single Roof Clearance System (SRCS) portal to streamline land acquisition and reduce delays in allotment.

Actions Taken on Long-Term Opportunities

The State through PWD (B&R) and the Haryana Agriculture Marketing Board, is enhancing and upgrading first-mile and last-mile road infrastructure to link agricultural production areas and villages with nearby mandis, warehouses, and cold storage facilities.

Haryana has notified the EV Policy (2022) to strengthen charging infrastructure and support the adoption of electric vehicles. The policy incentivizes manufacturers of EV charging equipment, charging stations, and battery swapping stations.

High Impact Initiatives

Haryana has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements in first- and last-mile connectivity and sustainable transportation. The examples below highlight infrastructure upgrades and policy directives supporting logistics performance and sustainability.

Haryana Orbital Rail Corridor

- Under implementation with 34% completed (March 2025)
- Facilitates cargo movement along the KMP Expressway while avoiding urban congestion.
- Indicative outcomes include reduced cargo dwell time, improved multimodal connectivity, faster approvals through digitization, and strengthened first- and last-mile delivery.

Haryana Registered Vehicle Scrappage & Recycling Facility Incentive Policy-2024

- Notified (August 2024)
- Promotes eco-friendly disposal of End-of-Life Vehicles (ELVs) through incentives.
- Indicative outcomes include reduced cargo dwell time, improved multimodal connectivity, faster approvals through digitization, and strengthened first- and last-mile delivery.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)–style synthesis was prepared to capture policy-relevant issues flagged by logistics service providers, logistics users, and State authorities. The points below reflect constraints affecting logistics efficiency, reliability, and competitiveness.

> Shortage of skilled drivers persists due to poor operating conditions.

> Stakeholders reported strong demand for a dedicated Transport Nagar facility at Sonipat to reduce unorganized truck parking and congestion.

> Udyog Vihar, Sonipat lacks dedicated truck and LMV parking, resulting in unsafe roadside parking.

> Police checks on Bahalgarh Road cause long queues, delays, and higher emissions.

> Poor road conditions on approach roads to Dundahera and key junctions create recurring freight bottlenecks and delays.

> The ten-year truck life restriction in Delhi-NCR impacts fleet viability and raises capital costs.

> Toll tax issues continue to increase logistics costs and route uncertainty.

> The Farrukhnagar–Wazirpur link road and parking facilities at ICD Gurugram require urgent upgrades to support freight movement.

> Lack of wayside amenities and safe stops affects driver welfare and productivity.

> Manual e-way bill processes cause documentation errors and transit delays.

> Low technology adoption in mandis leads to congestion and longer cargo handling times.

Figure: Voice of Logistics Service Providers and Users

> Limited budgetary allocation for logistics R&D is constraining innovation and the establishment of centres of excellence in the sector.

> Low internet penetration in rural areas limits real-time data sharing for infrastructure planning and project execution.

> Delays in implementing the comprehensive logistics action plan, including PM Gati Shakti integration for EXIM logistics, first- and last-mile connectivity, and the single-window system, are impacting coordinated development.

> Reliance on conventional planning tools and resistance to digital platforms such as PM Gati Shakti is slowing modern infrastructure planning and coordination.

> Women's participation in the logistics workforce remains limited and requires targeted policy and skilling support.

> Water scarcity and related ecological challenges are affecting logistics operations and long-term environmental sustainability.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Haryana's logistics ecosystem benefits from proximity to NCR, strong agricultural and industrial output, and the presence of mandis, ICDs, and transport hubs. Stakeholder inputs highlight opportunities to improve operational efficiency, workforce conditions, and cost outcomes through targeted interventions.

Short-Term Opportunities

1. **Opportunity to decongest mandis and improve truck turnaround time.**

   Stakeholders highlighted congestion within agricultural mandis and limited vehicle holding capacity, resulting in delays in aggregation and dispatch. Structured holding areas, scheduled entry systems, and basic amenities can reduce queuing and improve safety and efficiency.

2. **Scope to enhance driver welfare infrastructure at logistics touchpoints.**

   Logistics operators reported limited availability of rest shelters, sanitation, drinking water, medical first-aid, and secure parking at logistics nodes. Short-term provisioning of standardized amenities at mandis, transport hubs, and highways can improve workforce productivity and retention.

3. **Requirement to address manpower and skilled driver gaps in the logistics sector.**

   Stakeholders indicated shortages of trained drivers and logistics manpower affecting service reliability. Targeted skilling and certification programs can support more consistent operations.

Long-Term Opportunities

4. **Potential to develop integrated driver-welfare ecosystems linked to ICDs, mandis, and transport**

   Stakeholders emphasized the need for structured facilities at major freight nodes, including secure parking, rest shelters, medical support, and vehicle repair services.

5. **Requirement to modernize mandi logistics infrastructure to support agri-freight efficiency.**

   Agricultural mandis lack modern logistics features such as designated loading bays, weighbridges, circulation planning, and digital settlement systems. Upgrading these facilities can improve throughput and reduce peak-season congestion.

6. **Scope to institutionalize a logistics workforce development ecosystem.**

   Establishing an integrated workforce development framework covering drivers, warehouse staff, handling personnel, mechanics, and equipment operators can support industrial growth and sustain the logistics talent pipeline.



Himachal Pradesh

State Performance Snapshot

2025	2024
Growth Seeker	Fast Mover

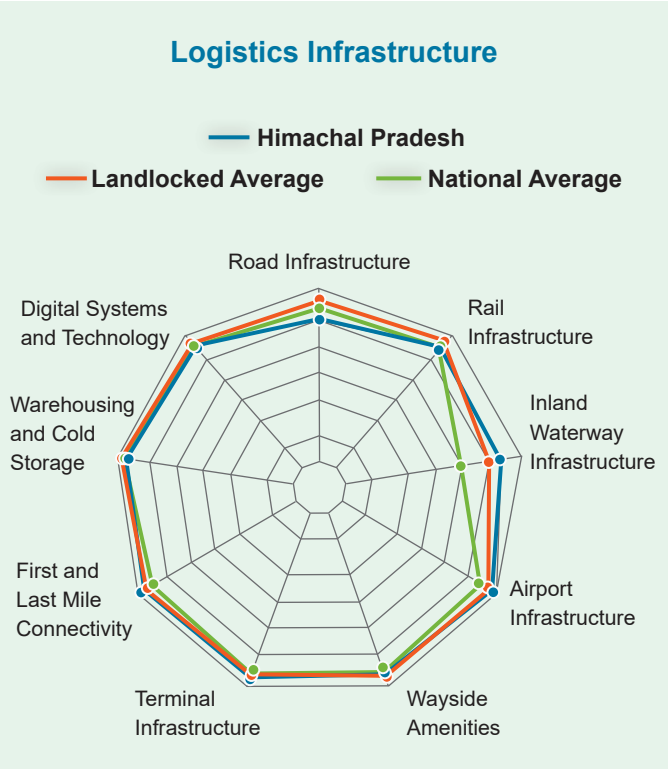
Himachal Pradesh is positioned in the “Growth Seekers” category within the Landlocked group in LEADS 2025, compared to its “Fast Mover” classification in LEADS 2024. The perception assessment indicates relative strengths across logistics infrastructure and services, particularly in airport and terminal infrastructure, warehousing availability, cargo safety, skilled workforce availability, and digital systems. These outcomes are supported by policy initiatives, the industrial base in the Baddi–Barotiwala–Nalagarh cluster, and early adoption of green logistics measures. At the same time, the assessment points to scope for strengthening road and rail connectivity, improving border movement processes, and enhancing institutional facilitation to translate sector-specific initiatives into broader ecosystem-level outcomes.

Logistics Infrastructure

Himachal Pradesh records perception scores higher than both the landlocked group average and the national average for the improvement in Inland waterway infrastructure, improvement in airport infrastructure and improvement in terminal infrastructure, indicating relatively strong performance in these infrastructure segments.

Perception scores for the improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations are also higher than the national average and aligned with the landlocked group average. These outcomes are consistent with infrastructure additions linked to industrial, pharmaceutical, and horticulture supply chains in the State.

In contrast, perception scores for the improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations, while positive, remain below both the national and landlocked group averages, indicating scope for further capacity augmentation and connectivity improvements.



Himachal Pradesh is working to establish an Industrial Logistics and Warehousing hub in the Baddi-Barotiwala-Nalagarh region.

The State is supporting the establishment of transportation and warehousing zones at strategic locations outside city limits through the provision of land at affordable rates equipped with common infrastructure.

Himachal Pradesh is exploring PPP mode for creation of cost-effective ropeway infrastructure leveraging the Government of India's Parvatmala program.

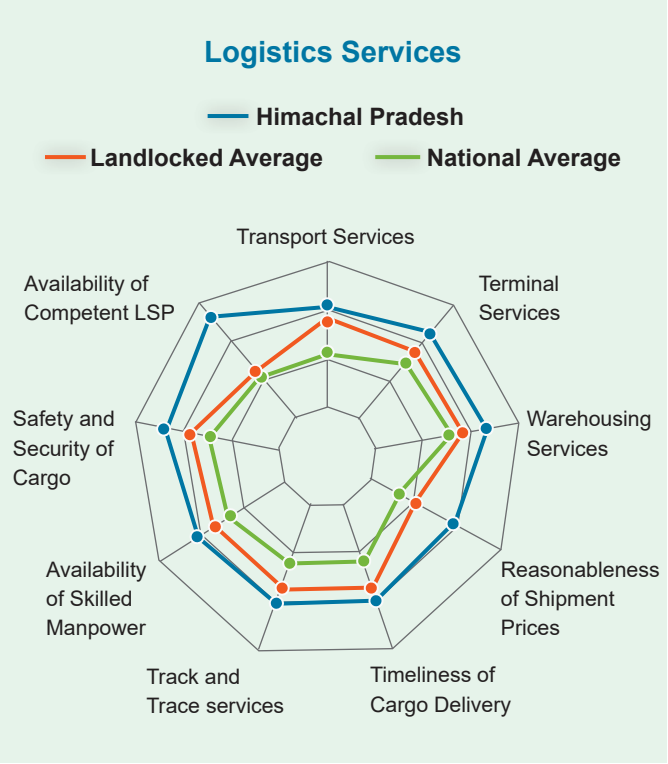
The State also aims to establish high-altitude logistics hubs at Shaghi, Sauli Khad, and Pandoga, to support handling of handling agricultural and horticultural products.

Logistics Services

Himachal Pradesh's logistics services performance outcomes are positioned above both the landlocked group average and the national average across all assessed parameters, indicating relatively strong service availability within the State.

The State records higher perception scores than both comparator averages for the improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers.

These outcomes reflect stakeholder perceptions of consistent service coverage, cargo handling reliability, and workforce availability across key logistics activities in the State.



Himachal Pradesh continues to expand its logistics skill development initiative through Himachal Pradesh Kaushal Vikas Nigam (HPKVN) programs for both skilled and semi-skilled logistics functions such as drivers, loaders, warehouse staff and logistics specialists.

HPKVN leverages schemes under Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Deen Dayal Upadhyay Grameen Kaushal Vikas Yojana (DDU-GKY), State Skill Missions, and Logistics Sector Skill Council (LSC) to drive skilling and employment opportunities in the logistics sector. HPKVN has signed an MoU with LSC to train 1500 candidates across multiple profiles such as Courier Operations Associate, Land Transportation Executive, and Warehouse Executive.

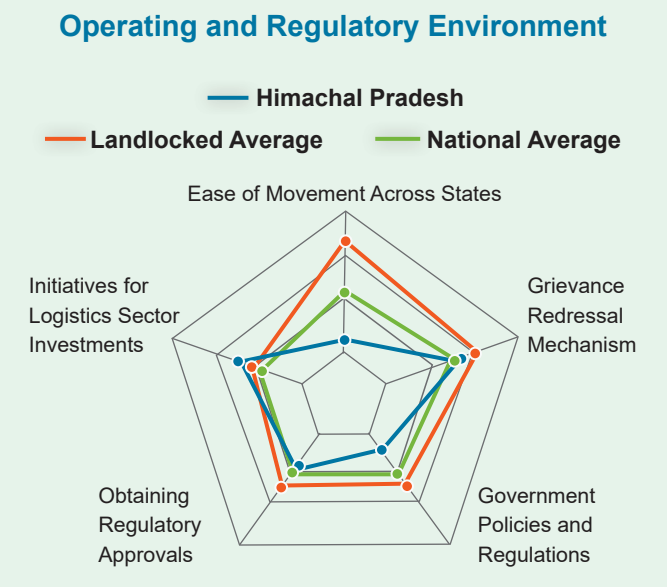
The state is facilitating creation of a Logistics Centre of Excellence (CoE) to boost innovative logistics solutions and identify emerging technologies/practices especially for Agriculture and Horticulture products in consultation with industry and academia.

Operating and Regulatory Environment

Himachal Pradesh recorded higher perception outcome scores than both the national average and the landlocked group average for availability of policy initiatives for logistics sector investments, indicating relatively strong visibility of logistics-linked policy incentives.

The State also received perception scores for ease of obtaining regulatory approvals for setting up new logistics facilities that are aligned with both the national and landlocked group averages, reflecting stakeholder assessments of the State's Single Window Clearance System.

For other dimensions, including the availability of grievance redressal mechanism, improvement in ease of border crossing and availability of government policies and regulations in facilitating logistics operations, perception scores were lower than both the national and landlocked group averages, pointing to scope for further strengthening of regulatory processes and cross-border facilitation.



Himachal Pradesh drives implementation of the Logistics Policy through the Empowered Group of Secretaries (EGoS) and the Network Planning Group (NPG). A dedicated Technical Support Unit (TSU), headed by the Director, Department of Industries, is responsible for supporting the overall development of logistics sector in the State.

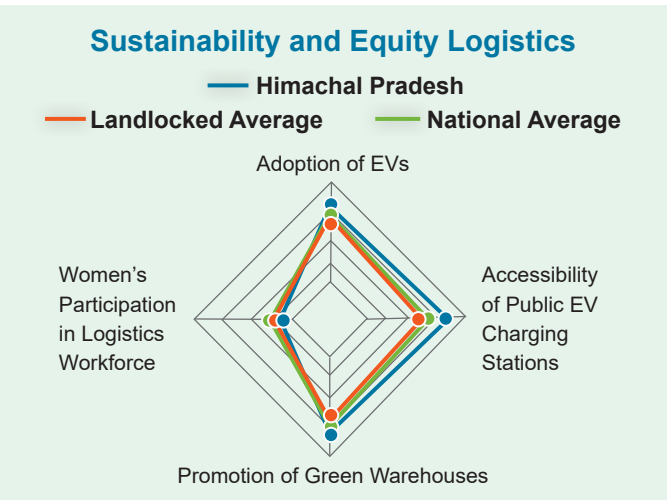
The State has streamlined the Single Window Clearance System to expedite approval of logistics projects. Between 2023 and 2025, 8 Cold Storage (including controlled atmosphere) and Warehouse facilities have been approved under the system.

To enhance logistics ease, Himachal Pradesh has implemented the Automatics Number Plate Recognition System (ANPR) to minimize unwarranted physical checks and the e-Challan system.

Sustainability and Equity Logistics

Himachal Pradesh records higher perception scores than both the national average and the landlocked group average for the availability of initiatives for promotion of green warehouses, availability of support in EV adoption and availability of public EV charging stations, indicating progress in adoption of green logistics measures.

Perception scores for the availability of initiatives for inclusion of women workforce are lower than both the national and landlocked group averages, pointing to scope for improving workforce inclusion within the logistics sector.



Himachal Pradesh drives action to promote green logistics initiatives through the Himachal Pradesh EV Policy (2022). The Himachal Pradesh State Electricity Board Limited (HPSEBL) is the designated nodal agency tasked with supporting EV rollout, including the State's target of achieving at least 15% Battery Electric Vehicles (BEVs) in new vehicle registrations by 2025.

The State has designated six highway stretches as green corridors, aiming to transform into India's first Green Energy State by integrating EVs and clean energy infrastructure. The identified green corridors connect Parwanoo-Nurpur (391 km), Paonta-Shimla (140km), Parwanoo-Losar (582km), Shimla-Chamba (485km), Mandi-Pathankot (158km), and Kiratpur-Zingzingbar (381km).

The State is pursuing PPP mode to establish charging stations with wayside amenities on identified government sites. 41 such sites have been awarded to private players on a concession period of 40 years.

Progress since LEADS 2024

Himachal Pradesh has undertaken a series of initiatives in response to insights from the LEADS 2024 assessment to strengthen infrastructure provision and service delivery, with a focus on increasing investments and reducing end-to-end logistics costs.

Actions Taken on Short-Term Opportunities

- Four-laning between Pinjore-Nalagarh is under implementation. The project is expected to improve regional connectivity and road safety, reduce travel time, and support freight movement linked to the BBN industrial catchment, once commissioned.
- Expansion of existing warehouse facilities supporting FMCG operations in Baddi and Shimla.

Actions Taken on Long-Term Opportunities

- Rail link to Baddi is under implementation and work is in progress.
- New rail link between Baddi and Ghanauli (Punjab) is seeking NPG approval.

High impact initiatives by State

Himachal Pradesh has implemented select initiatives over the last two years aimed at strengthening first- and last-mile connectivity, including rural road and access improvements in hilly and remote areas. These measures are intended to improve access to markets and logistics touchpoints, subject to terrain and execution constraints.

Construction of 43 Rural Roads and Bridges under PMGSY-III

- Under implementation (May 2025). PWD has completed 517km out of 3,123km rural roads.
- Facilitates first- and last-mile connectivity to remote habitations in the State.
- Intended outcomes include improved access to services and markets, enhanced livelihood opportunities, and better first-mile connectivity for agriculture and allied sectors, subject to completion and on-ground performance.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC) synthesis was prepared to capture key issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect constraints affecting logistics efficiency, reliability, and competitiveness.

- Weak enforcement enables undocumented goods movement via buses and other vehicles, leading to revenue leakage.
- Baddi–Barotiwala–Nalagarh faces severe congestion due to a large floating workforce and limited public transport and logistics infrastructure.
- Poor road quality and lack of alternative transport modes make trucking slow and expensive.
- Large trucks face difficulty accessing industrial and rural locations due to narrow and inadequate roads.
- Poor road conditions increase transit time and transport cost for horticulture produce from orchards to markets.
- Infrastructure development and maintenance are cost-intensive due to mountainous terrain.
- Truck unions in Baddi restrict cargo movement by out-of-state vehicles.
- Bulk cargo depends largely on road transport due to lack of rail freight connectivity.
- Limited cold-chain and packing facilities near orchards increase wastage and handling costs.
- Last-mile connectivity from hubs and warehouses is weak in remote and hilly areas.

Figure: Voice of Logistics Service Providers and Users

- Baddi lacks direct rail connectivity and supporting freight facilities
- Existing railway lines are inadequate for freight volumes.
- 1.5-1.9x higher transit times due to congestions at key locations
- Absence of first-mile connectivity for horticulture produce raises time and cost.
- Cartelization in trucking inflates freight rates by 30–40%.
- Lack of standardized freight rates creates pricing uncertainty
- Need for a nodal agency for promoting multimodal logistics
- Need for upskilling and training of farmers and logistics workforce.
- Limited adoption of EVs in logistics operations

Figure: Voice of State Authorities

Potential Opportunities in the State

Himachal Pradesh's logistics ecosystem is shaped by high industrial concentration in a few clusters, difficult terrain, and heavy reliance on road transport. LEADS 2025 points to opportunities to improve efficiency through targeted upgrades to internal roads in industrial areas, streamlined border enforcement, and more structured warehousing development. Over the medium to long term, better rail connectivity to major industrial hubs and more competitive freight markets can help lower logistics costs and support manufacturing growth, particularly in the pharmaceuticals and FMCG sectors.

Short-Term Opportunities

1 Improve first- and last-mile road connectivity in industrial clusters

Stakeholders highlighted poor internal road conditions in Baddi, Nalagarh and Paonta Sahib, which increase truck turnaround time, cause vehicle damage, and raise operating costs.

2 Streamline enforcement and checking at inter-State entry points

Industry participants reported frequent stoppages near the Punjab–Himachal border, especially at Charmandi and Baddi entry points, leading to delays and delivery uncertainty. Better coordination between transport, police and tax departments can reduce avoidable halts.

3 Facilitate organized warehousing near industrial belts

Manufacturers and logistics providers flagged acute shortage of compliant storage near Baddi–Nalagarh and Paonta Sahib. Limited local warehousing increases inventory costs and dependence on out-of-State facilities, particularly for pharmaceuticals and FMCG.

Long-Term Opportunities

4 Enhance rail-based connectivity to industrial regions

Stakeholders reiterated the absence of rail connectivity to Baddi as a major constraint, forcing bulk and long-haul cargo onto roads and increasing logistics costs and risk.

5 Promote competition and transparency in road freight markets

Industry feedback pointed to limited transporter options on key routes, contributing to elevated freight rates. Wider participation of organized operators and digital freight platforms can improve price discovery and service quality over time.



Jharkhand

State Performance Snapshot

2025		2024
Accelerator		Aspirer

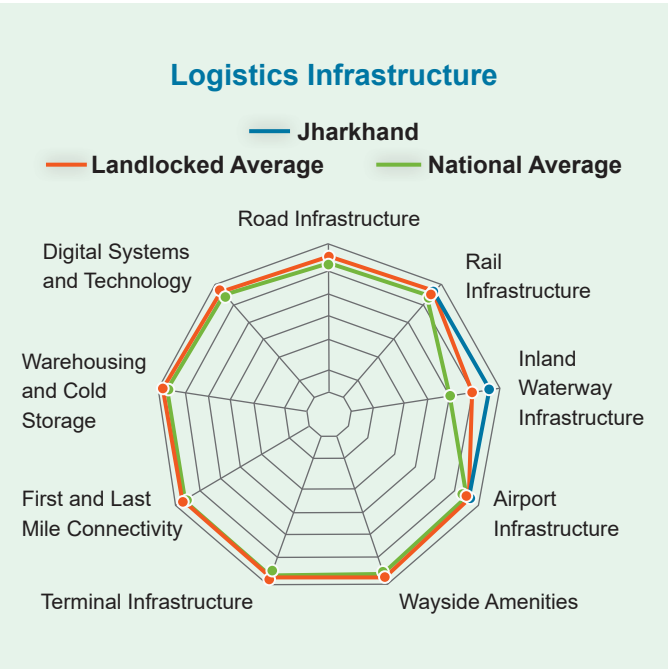
In LEADS 2025, Jharkhand has moved from an "Aspirer" in LEADS 2024 to **"Accelerator"** within the Landlocked group. The State's perception profile reflects improvements across logistics infrastructure, services, regulatory facilitation, and sustainability dimensions, with several indicators positioned above both the national and group averages. These outcomes are aligned with ongoing policy and institutional initiatives related to industrial and logistics infrastructure, digital systems, and skill development, while also indicating scope to further strengthen service capability, multimodal connectivity, and green logistics adoption.

Logistics Infrastructure

Jharkhand's logistics infrastructure performance records higher perception scores than the national average across most infrastructure assessment categories.

The State has received perception scores above both the national average and the landlocked group average for chart to be changed, indicating improved access to digital infrastructure and services, supported by initiatives such as integration with ULIP, cargo track and trace systems, and the Jharkhand GIS portal.

Perception scores for Similarly, the indicator "Improvement in adequacy and quality of Inland Waterway Infrastructure" outshines both averages signalling progress made by the State in this modal connectivity. improvement in airport infrastructure, improvement in adequacy and quality of Wayside amenities, improvement in terminal infrastructure, improvement in first/ last mile connectivity and improvement in warehousing, cold storage, pack-houses etc. remain broadly aligned with the landlocked group average, indicating scope to deepen infrastructure capacity and operational quality relative to leading landlocked peers.



Jharkhand is leveraging the Industrial Park and Logistics Policy (2022) to upgrade the State's logistics and warehousing infrastructure, enhance capacity, and facilitate smoother movement of EXIM and domestic cargo. The policy offers targeted incentives for development of Industrial Parks, MMLPs, Logistics Parks, ICDs, CFSs, Warehouses, and Cold Chain facilities. The State will enable land availability and smoother allotment through the Jharkhand Industrial Area Development Authority (JIADA).

The State is developing a Logistics Park at Nirsa, Dhanbad under the PM GatiShakti initiative. The Rs.108 crore park once complete, will have a warehousing handling capacity of 18,000 MT and cold-chain capacity of 2,000 MT, and is expected to generate about 1,750 direct and 3,000 indirect jobs. JIIDCO is also planning to develop a logistics park at Tetla, East Singhbhum.

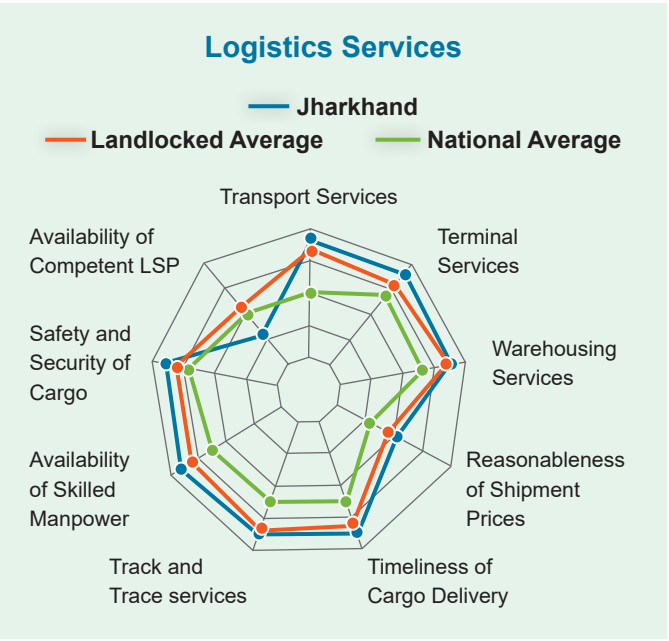
Jharkhand is expediting the phase-II development of the Transport Nagar at Ranchi with an estimated project cost of Rs.61.72 crore, aligned with Ranchi Master Plan 2037 with a focus on creating an integrated transport and logistics hub for the city.

Logistics Services

Jharkhand's logistics services performance outcomes are positioned above both the landlocked group average and the national average across most service-related parameters, indicating a relatively stable logistics services ecosystem.

The State records higher perception scores than both the national average and the landlocked group average for the improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower and improvement in safety and security of cargo, indicating relatively strong service availability and operational performance.

Perception scores for availability of competent logistics service providers remain below both the national average and the landlocked group average, indicating scope to expand the presence of organised and higher-quality logistics service providers in the State, and deepen the 3PL/freight-forwarding ecosystem beyond existing nodes.



Jharkhand drives skill development initiatives through Jharkhand Skill Development Mission Society (JSDMS). Supported by the Jharkhand Skill Development Policy (2018), JSDMS is targeting skilling of two lakh youth by 2025–26 to improve employability across high-impact sectors such as manufacturing, IT and logistics.

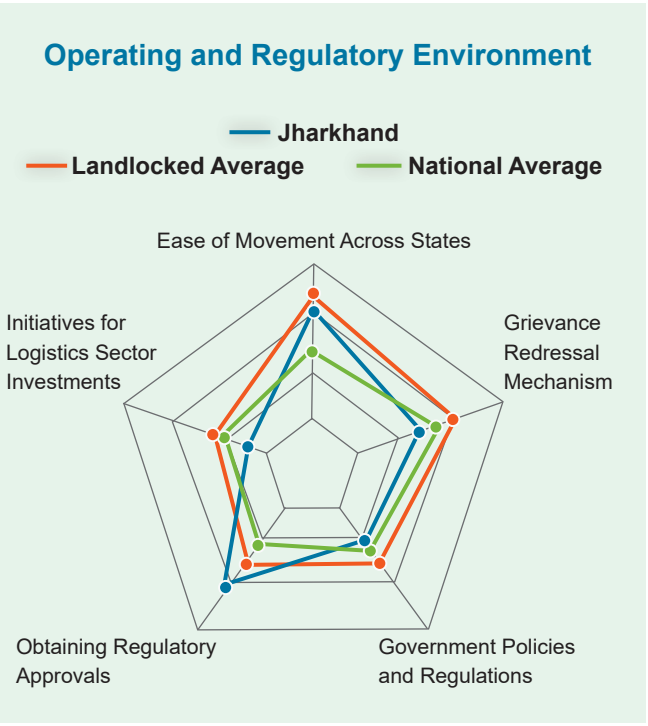
JSDMS leverages the Mukhymantri Sarthi Yojna sub-schemes, namely, Saksham Jharkhand Kaushal Vikas Yojana, which offers National Skills Qualifications Framework (NSQF) - aligned courses with placement-linked and self-employment training, and Deen Dayal Upadhyay Kaushal Kendra, which uses a PPP-route to set-up skill-centers offering long-term courses and apprenticeships. JSDMS has signed an MoU with Sun Bright Manpower Solutions Pvt. Ltd. to deploy skilled talent in the Warehousing sector.

Operating and Regulatory Environment

Jharkhand has recorded higher perception scores than both the national average and the landlocked group average for the ease of obtaining regulatory approvals for setting up new logistics facilities, reflecting stakeholder views on the functioning of the State's Single Window Clearance System.

Perception scores for the improvement in ease of border crossing are higher than the national average but remain below the landlocked group average, indicating scope to further improve transit facilitation.

The State records perception scores below both the national average and the landlocked group average for availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations and availability of grievance redressal mechanism, pointing to gaps in policy depth, regulatory effectiveness, and grievance-handling processes that may affect predictability and investor confidence despite relatively better approval experience.



Jharkhand drives monitoring and implementation of its Industrial Park and Logistics Policy (2022) through the Directorate of Industries. The governance framework aligned with the PM Gati Shakti Master Plan is achieved through the Empowered Group of Secretaries (EGoS). The policy also grants industry status to the logistics sector.

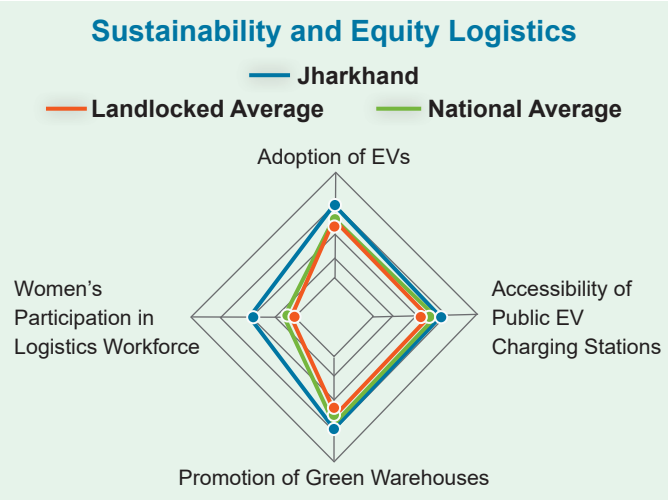
The State's Single Window Clearance System portal is managed through the Jharkhand Industrial Infrastructure Development Corporation (JIIDCO) to expedite approval of logistics projects. Applications are reviewed by the Single Window Clearance Committee (SWCC).

The Grievance Redressal Mechanism includes defined timelines for complaint review and response which shall be escalated to MD, JIIDCO in case of delays.

Sustainability and Equity Logistics

Jharkhand records perception scores higher than both the national average and the landlocked group average for the availability of support in EV adoption and availability of initiatives for inclusion of women workforce.

Perception scores for the availability of initiatives for promotion of green warehouses and availability of public EV charging stations remain below both the national average and the landlocked group average, indicating gaps in enabling infrastructure and support systems for wider adoption of green logistics practices.



The State drives action on green logistics initiatives through the Jharkhand EV Policy (2022). The Department of Industries, Government of Jharkhand is the designated nodal agency tasked with implementation, targeting adoption of at least 10% share of EVs in all new vehicle registrations in the State by 2027 and establishing charging stations every 25km on highways.

Jharkhand has signed an MoU with TATA Cummins (TCPL-GES) with investment of Rs.354.28 crore to manufacture Engines and Battery Systems at Jamshedpur to enable hydrogen-based transport technologies and green energy for logistics hubs and vehicle fleets.

Municipal bodies in Ranchi and Jamshedpur are implementing Integrated Solid Waste Management (ISWM) projects, setting up composting/recycling streams and infrastructure to divert waste from landfills and create feedstock for recycling industries.

The State is prioritizing use of renewable energy to support logistics operations, including EV charging infrastructure, cold-chain electrification, and energy-efficient logistics facilities.

Progress since LEADS 2024

Jharkhand has undertaken a series of initiatives in response to insights from the LEADS 2024 assessment, strengthening the regulatory framework, accelerating infrastructure provision, and enhancing investor engagement.

Actions Taken on Short-Term Opportunities

- Notified the Land Allotment Policy (2025) accelerating land allotments and approvals under Jharkhand Industrial Area Development Authority (JIADA) enabling smoother approval of flagship projects - 1 logistics park and 6 industrial parks with combined investment of Rs.500 crore and potential creation of 30,000 jobs.

Actions Taken on Long-Term Opportunities

- Develop multimodal connectivity nodes (rail-road interfaces, dry ports, logistics parks)
- Promote green logistics through energy-efficient warehouses and electrified fleet adoption
- Institutionalize State Single Window Clearance System

Jharkhand has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements through a policy-led push to strengthen infrastructure and service delivery.

Jharkhand Industrial Park and Logistics Policy (2022)

- Notified (October 2022)
- Targeted incentives and industry status for logistics sector
- Facilitates Lower logistics costs and modal shift to rail/water over the next 5–10 years.
- Measurable outcomes include – reduced transit times on key corridors, higher utilization of warehousing capacity and improved ease-of-doing-business indicators for logistics investors.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

- Limited availability of modern warehousing and cold storage weakens perishable supply chains.
- Traffic bottlenecks on highways and freight corridors cause frequent transport delays and reduce delivery reliability.
- 'Ranchi's road infrastructure is vulnerable to heavy rainfall, affecting continuity of logistics activity.'
- Duplication in documentation and compliance requirements delays inter-State cargo movement.
- Cargo safety and security protocols at freight terminals are weak, with lax enforcement increasing risk of theft and damage.
- Poor road conditions in Kokar Industrial Area disrupt truck movement and daily freight operations.
- Lack of all-weather rural roads constrains last-mile connectivity to agricultural and hinterland markets.
- Overall logistics infrastructure and service quality are perceived to be below average, particularly in transport facilities and cargo handling.
- Process inefficiencies across logistics operations are increasing end-to-end logistics costs.

Figure: Voice of Logistics Service Providers and Users

- Poor road connectivity in rural and mining areas limits last-mile access for freight movement.
- Rail and air cargo facilities remain underutilized due to low demand and limited-service integration.
- Absence of dedicated freight corridors restricts seamless movement of bulk commodities such as coal, steel, and minerals.
- Low adoption of digital logistics solutions constrains real-time tracking, route optimization, and supply chain visibility.
- Limited access to warehousing, cold chain, and logistics parks increases logistics costs and wastage of perishables.
- Shortage of skilled manpower in logistics management and operations reduces service efficiency.
- Weak data sharing and lack of standardization delay approvals and discourage private sector participation
- Land acquisition challenges are slowing implementation of logistics sector projects.
- Need for an integrated logistics strategy to operationalize and align existing policy initiatives

Figure: Voice of State Authorities

Potential Opportunities in the State

Jharkhand's logistics ecosystem is shaped by its location in eastern India, proximity to mineral belts, and links to major inter-State trade corridors. Despite ongoing infrastructure expansion, stakeholders note operational and structural constraints affecting freight reliability, last-mile market access, and perishable inventory management. Building on current priorities and recent initiatives, there is scope to improve logistics efficiency, reduce costs, and support more consistent supply chain performance across the State.

Short-Term Opportunities

1. **Improve road and drainage infrastructure within industrial nodes to ensure uninterrupted freight movement**

   Persistent waterlogging, clogged drains, and potholes in industrial areas disrupt truck circulation and increase operating costs. Targeted rehabilitation of internal roads and stormwater systems can improve freight reliability at key hubs.

2. **Support traffic decongestion and connectivity upgrades on key national and state highways**

   Interventions such as the Rampur interchange on NH-33 show progress in easing congestion at corridor junctions. Similar measures can reduce freight turnaround time and strengthen links between mineral, industrial, and agricultural clusters.

3. **Enable scalable modern warehousing and cold-storage capacity for perishable supply chains**

   Limited warehousing and cold-chain infrastructure constrains inventory management for fruits, vegetables, dairy, and other temperature-sensitive cargo. Incentives and public–private partnerships can help attract investment in modern storage facilities.

4. **Strengthen rural market access through all-weather road connectivity**

   Weak rural feeder roads restrict freight movement from production zones. Integrating all-weather rural connectivity into logistics planning can improve market access and reduce post-harvest losses.

Long-Term Opportunities

5. **Align logistics planning with emerging expressways and economic corridors**

   Proposed corridors such as the Raipur–Ranchi–Dhanbad Expressway and the Varanasi–Kolkata Expressway offer scope to reduce transit times between mineral belts, industrial centres, and port gateways, and to support multimodal freight flows.

6. **Promote integrated multimodal logistics parks and freight aggregation centres**

   Development of logistics hubs combining warehousing, container handling, cold chain, and last-mile distribution can support cargo aggregation, lower logistics costs, and address modal imbalance.

7. **Leverage rail infrastructure upgrades to improve first- and last-mile connectivity**

   Planned multitracking and capacity enhancements on key rail sections can improve freight reliability. Coordinated investments in road–rail interfaces and freight terminals can reduce dependence on long road hauls and lower logistics costs.



Madhya Pradesh

State Performance Snapshot

2025	2024
Accelerator	Fast Mover

Madhya Pradesh is positioned as a **"Accelerator"** within the Landlocked group in LEADS 2025, compared to its "Fast Movers" placement in LEADS 2024. The State's perception profile reflects strengths in road and terminal infrastructure, availability of warehousing, and adoption of digital systems, supported by policy and institutional measures such as the State Logistics Policy, land facilitation through MPIDC, corridor development initiatives led by MPRDC, and multimodal planning around Indore and Pithampur.

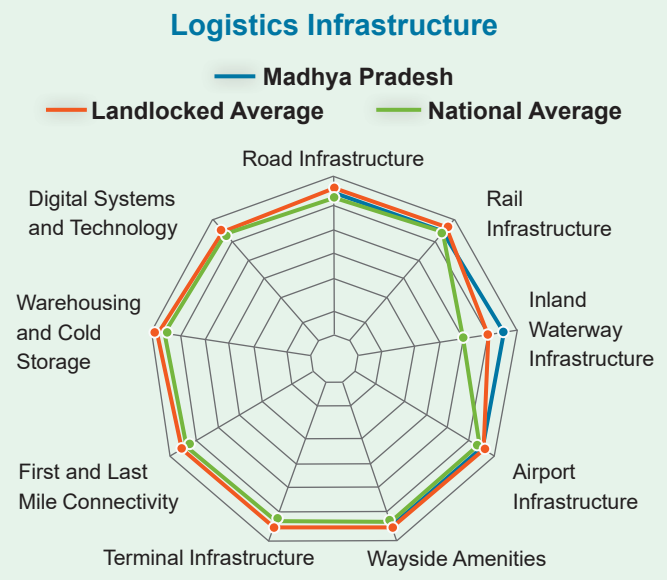
The assessment also highlights opportunities to further deepen logistics service capabilities, streamline regulatory facilitation processes, and strengthen last-mile and multimodal connectivity, which can help translate existing infrastructure and policy foundations into more comprehensive ecosystem-level performance gains.

Logistics Infrastructure

Madhya Pradesh's logistics infrastructure performance records higher perception scores than both the national average and the landlocked group average for the availability of digital systems to support logistics operations indicating positive stakeholder assessments of digital enablement that supports logistics processes, including track-and-trace systems and vehicle visibility tools.

Perception scores for the improvement in adequacy and quality of Wayside amenities are also above the national average and aligned with the landlocked group average, reflecting the impact of State initiatives such as MPRDC's accident response and traffic management systems.

The State has further received positive perception scores that are above, or closely aligned with, the national average for the improvement in road infrastructure, improvement in rail infrastructure, improvement in airport infrastructure, improvement in airport infrastructure, improvement in terminal infrastructure and improvement in warehousing, cold storage, pack-houses etc. However, these scores remain below the landlocked group average, indicating scope for continued strengthening of infrastructure depth and capacity relative to peer States.



Perception scores for the improvement in first / last mile connectivity and improvement in Inland waterway infrastructure remain lower than both the national average and the landlocked group average. This highlights opportunities to further enhance connectivity to industrial areas and logistics nodes,

as well as to assess and develop inland waterway linkages such as the Narmada (NW-73) and Tapi (NW-100) corridors.

Madhya Pradesh is leveraging the State Logistics Policy (2025) to strengthen logistics infrastructure, enhance capacity, and facilitate smoother movement of EXIM cargo, notified on 24 February 2025, The policy provides numerous fiscal and non-fiscal incentives for the development of logistics and warehousing infrastructure. The State will enable land availability and smoother allotment through single window system of the Madhya Pradesh Industrial Development Corporation.

Madhya Pradesh is developing a MMLP at Pithampur, Indore under PPP on 255-acre plot with an investment of Rs.1,110.58 crore. The park is expected to open in 2026. The State is exploring additional locations for MMLP development.

The State has also taken steps to augment last-mile connectivity between major industrial nodes and consumption centers such as Ratlam, Tarapur, Katni, Bina, and Garoth. This has included widening of approach roads and expansion and strengthening of by-pass road sections.

Madhya Pradesh Road Development Corporation (MPRDC) envisages developing 6 new economic corridors covering 3,368 km by 2029 with total investment of Rs.36,483 crore. These include the 244km MP section of the Delhi-Mumbai expressway, MP section of Atal progress-way, Indore-Kota expressway, Amarkantak – West Alirajpur section of Narmada expressway, Ujjain-Jaora-Garoth highway, and Bhopal-Jabalpur/Kanpur economic corridor.

The State is coordinating with Railways to augment capacity of the network in the State including multi-tracking of Vadodara-Ratlam, Itarsi-Nagpur, Bhusawal-Khandwa, Anuppur-Katni and Manikpur-Iradatganj sections.

Logistics Services

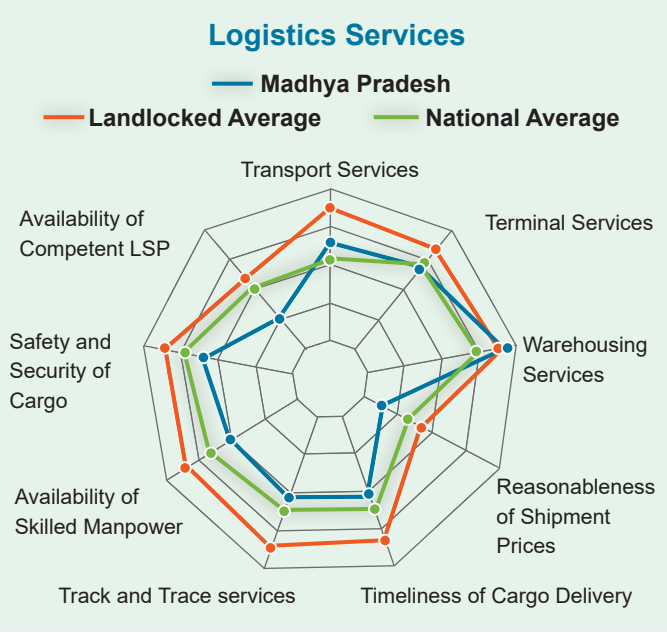
Madhya Pradesh records mixed but generally positive perceptions on logistics services, with clearer strengths in warehousing-related service availability.

Perception outcomes are higher than the national average and aligned with the landlocked group average for the improvement in warehousing services reflecting the effectiveness of policy incentives and facilitation measures supporting the development of organised and higher-quality storage infrastructure and related services.

The State records perception scores above the national average but below the landlocked group average for the improvement across all transport services. This indicates relatively strong performance at the national level, while also highlighting scope to further strengthen multimodal service availability and integration to match leading landlocked peers.

Perception scores for the improvement in terminal services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers remain below both the national average and the landlocked group average.

These outcomes indicate scope for strengthening



service depth, workforce capacity, technology adoption, pricing efficiency, and service provider ecosystems to enhance the overall quality, reliability, and competitiveness of logistics services in the State.

The State drives skill development initiatives through the nodal agency, MP Skill Development and Employment Generation Board (MPSSDEGB).

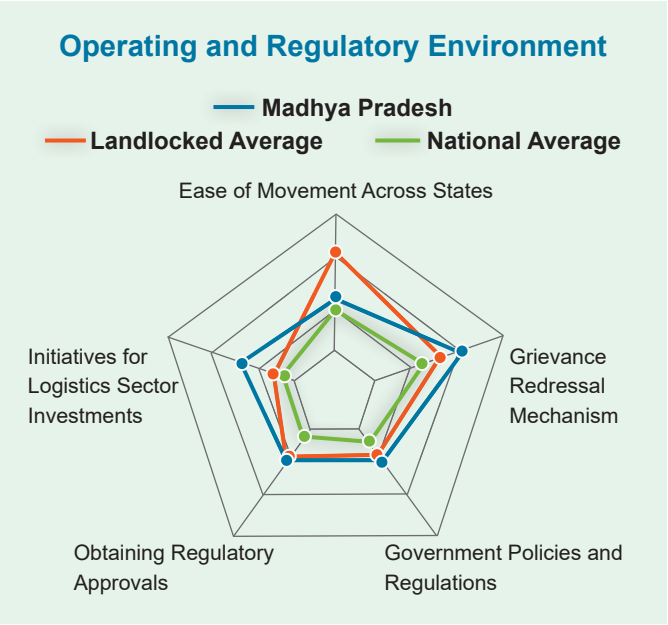
MPSSDEGB is targeting to train 740 candidates under the Pradhan Mantri Kaushal Vikas Yojna (PMKVS) in specialized job roles for the logistics sector. It has also received approval for conducting Short-Term Training (STT) to train 120 women candidates as taxi drivers.

The State through partnerships with educational institutions and industry bodies for skills training in logistics has enabled more than 15k candidates to undergo training in last two years under various schemes such as Mukhya Mantri Seekho Kamao Yojna (State Scheme), National Apprenticeship Promotion Scheme (National Scheme) and the Logistics Sector Skill Council (LSC).

Operating and Regulatory Environment

Madhya Pradesh has recorded perception scores above both the national average and the landlocked group average for the availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations and availability of grievance redressal mechanism reflecting broad stakeholder approval of the current policy framework and investment facilitation measures, including the MPIDC Single Window platform.

Perception scores for the improvement in ease of border crossing and ease of obtaining regulatory approvals for setting up new logistics facilities are above the national average but remain below the landlocked group average, indicating scope for further streamlining approval processes and strengthening interstate movement facilitation mechanisms.



Madhya Pradesh has granted industry status to the logistics and warehousing sector and the State's logistics policy allows continuous 24x7 operations of logistics and warehousing infrastructure.

To facilitate smoother movement of EXIM cargo originating from MMLPs and ICDs located in the State, Madhya Pradesh is planning to designate green channels entailing reduced transit inspections.

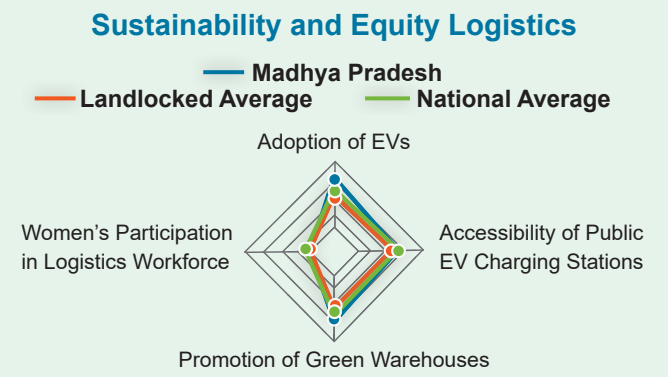
The Madhya Pradesh Industrial Development Corporation Ltd. (MPIDC), Single Window System (SWS) portal as part of Invest MP initiative, enables logistics project approvals and clearances. Investors can utilize the portal for securing land allotment, building plan approvals, end-to-end utility (power and water) clearances, warehouse registration etc.

The State has established a formal, online grievance redressal and dispute resolution mechanism for the logistics sector, aligned with the Madhya Pradesh Public Service Guarantee Act (PSGA), 2010. The system includes a multi-level escalation matrix with defined timelines for grievance resolution, designated officers for handling first and second appeals, and penalty provisions for delays.

Sustainability and Equity Logistics

The State demonstrates perception scores above both the national average and the landlocked group average for the availability of support in EV adoption and availability of initiatives for promotion of green warehouses indicating positive stakeholder views on policy support for electric mobility adoption and environmentally sustainable warehousing practices.

Perception scores for the availability of public EV charging stations are above the landlocked group average but remain below the national average. Similarly, perceptions related to the availability of initiatives for inclusion of women workforce are below both the national and landlocked group averages, reflecting scope to strengthen charging infrastructure rollout, supporting amenities, and workforce inclusion initiatives within the logistics ecosystem.



Green logistics initiatives are centred on the Madhya Pradesh EV Policy (2025) and implementation is driven by the Madhya Pradesh EV Promotion Board (MP-EVPB). The MP Power Management Company Limited is the nodal agency for implementing EV charging infrastructure.

Information on the EV policy is disseminated through the 'EV Tarang' online portal. The portal also supports application submission, approval processes, and status tracking on deployment of public charging stations.

The State is incentivising green certification for MMLPs, ICDs, logistics parks, and warehouses to encourage adoption of sustainable practices like energy efficiency, waste reduction, and renewable energy use.

NTPC Renewable Energy Limited (NREL) is implementing 630MW solar power plant at Barethi, Chhatarpur district with an investment of Rs.3,200 crore and planned commissioning in 2026.

Indore has adopted urban waste management through integrated solid waste segregation and composting process.

Progress since LEADS 2024

Madhya Pradesh has undertaken a series of key reforms and infrastructure interventions in response to insights from the LEADS 2024 assessment, contributing to the strengthening of the logistics ecosystem in the State.

Actions Taken on Short-Term Opportunities

- Abolition of checkposts has helped expedite cross-border movement of freight and reduced turnaround times.
- Infrastructure upgradation works undertaken to strengthen internal roads, drainage, streetlighting and power supply in major industrial areas such as Malanpur (Bhind) and Mandideep (Raisen).
- Formulation of State Logistics Policy (2025) which aims to develop a logistics ecosystem through implementation of integrated, efficient, and technology driven logistics solutions.

Actions Taken on Long-Term Opportunities

- State Logistics Action Plan (SLAP) is under preparation with aim to integrate multimodal infrastructure planning, streamline inter-departmental coordination, and align future projects with the PM Gati Shakti framework.

- State to develop Multimodal Logistics Parks (MMLPs) at strategic locations such as Pithampur (Indore) in Dhar district to connect industrial areas with national freight corridors and strengthen multimodal connectivity.
- State is identifying potential sites for development of dedicated logistics and warehousing zones to promote investment, generate employment, and reduce logistics bottlenecks.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Garbage dumping is rampant around ICD Mandideep causing poor sanitation and hygiene issues in the area

> Road infrastructure at ICD Mandideep is not designed as per the requirements of the logistics sector

> Customs services at ICD Mandideep needs to be made available 24x7 instead of current availability between 10am and 6pm on weekdays.

> ICD Mandideep has very poor road infrastructure including approach roads to the facility and nearby factories

> Drainage system in and around the ICD is poor leading to waterlogging

> Current IT systems made available at the ICD lack integration and does not facilitate data sharing

Figure: Voice of Users and Logistics Service Providers

> Limited multimodal logistics hubs in key cities like Indore, Bhopal, Gwalior, Jabalpur, and Sagar may lead to higher logistics costs and longer transit times.

> Last-mile connectivity to key industrial clusters, mandis, and logistics nodes needs strengthening to ensure efficient freight movement.

> Financing mechanisms needs expansion to attract greater private sector participation

> Availability of skilled manpower remains limited, which affects operational efficiency in logistics management.

> Inter-department coordination requires strengthening for smoother policy implementation and project execution.

> Regulatory overlaps and complex procedures pose challenges for private investments in logistics infrastructure.

> The warehousing ecosystem in the state is fragmented, with many small, unorganized facilities that lack modern storage technologies such as temperature control and automation.

Figure: Voice of State Authorities

Potential Opportunities in the State

Madhya Pradesh's central location positions it as a natural logistics transit and aggregation hub; however, stakeholder feedback indicates that incremental improvements in road quality, digital connectivity, warehousing availability, and driver skilling can significantly enhance logistics efficiency. LEADS 2025 highlights opportunities that are operationally feasible in the short term and structurally transformative in the long term, enabling the State to improve reliability, reduce logistics friction, and strengthen its role in national freight movement without requiring large-scale greenfield investments.

Short-Term Opportunities

1. **Opportunity to improve road quality and safety on key State Highway stretches serving industrial clusters.**

   There is scope to prioritise maintenance, signage standardisation, and removal of unscientific speed breakers on State Highways connecting industrial areas such as Pithampur–Indore, Mandideep–Bhopal, and Satna–Katni, to reduce transit delays and vehicle damage reported by logistics operators.

2. **Opportunity to strengthen digital connectivity around ICDs, MMLPs and industrial areas.**

   Improving mobile and data connectivity around logistics nodes such as ICD Pithampur, ICD Mandideep, and emerging MMLP locations can enable better shipment tracking, e-documentation, and coordination among transporters and warehouse operators.

3. **Opportunity to undertake selective road widening on high-growth rural and semi-urban corridors.**

   There is potential to widen narrow road stretches in Bundelkhand, Vindhya and Malwa regions, where freight movement is increasing but existing road widths constrain smooth truck movement, particularly for multi-axle vehicles.

Long-Term Opportunities

4. **Opportunity to promote development of warehousing capacity at strategic logistics nodes.**

   The State can facilitate development of warehouses and logistics parks near industrial hubs, ICDs and freight corridors through land aggregation and demand assessment, supporting MSME cargo consolidation and reducing empty truck movements.

5. **Opportunity to address driver skill and safety gaps through dedicated training initiatives.**

   Establishing or strengthening driver training and certification facilities, in collaboration with industry and skill councils, can significantly enhance driver training capacity, address reported shortages of trained drivers, and improve safety and efficiency in freight operations across the State.



Punjab

State Performance Snapshot

2025	2024
Accelerator	Fast Mover

Punjab is positioned as an **"Accelerator"** within the Landlocked group in LEADS 2025 compared to "Fast Movers" in LEADS 2024. The State's perception profile reflects an industrial and agricultural logistics ecosystem supported by road connectivity, warehousing capacity, and manufacturing-linked freight flows, while indicating opportunities to deepen multimodal services, regulatory facilitation, and digital systems supporting logistics operations.

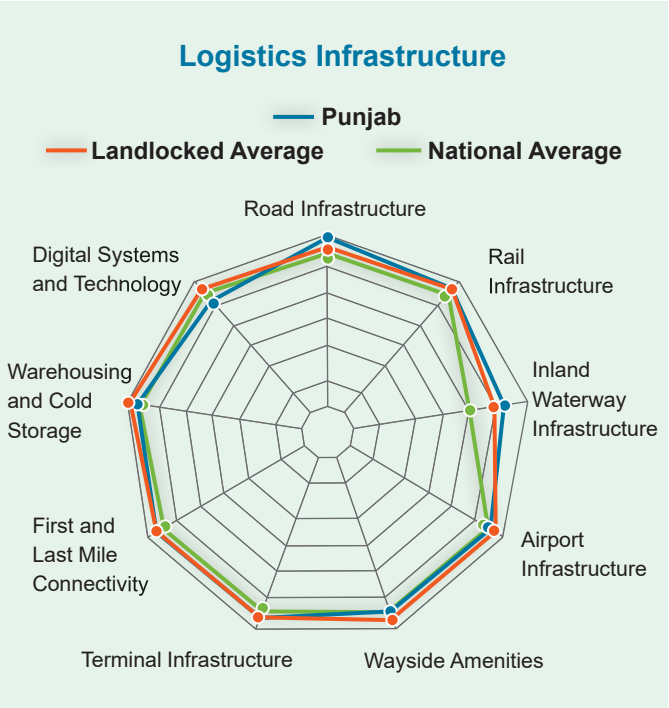
Logistics Infrastructure

Punjab's logistics infrastructure indicators records higher perception scores than both the national average and the landlocked group average for the improvement in road infrastructure, improvement in first/ last mile connectivity , and improvement in Inland waterway infrastructure, indicating positive perceptions of district and rural road coverage, last-mile connectivity, and inland waterways.

Perception score for the improvement in terminal infrastructure is above the national average and aligned with the landlocked group average, highlighting improved infrastructure provision.

The State records positive perceptions compared to the national average but follows the landlocked group average for the improvement in rail infrastructure, improvement in airport infrastructure, improvement in adequacy and quality of Wayside amenities and improvement in warehousing, cold storage, pack-houses etc., reflecting opportunities for further enhancement in infrastructure provision.

Perception score recorded for the availability of digital systems to support logistics operations is below the national average and landlocked group average, indicating opportunities to strengthen digital systems supporting logistics operations.



Punjab has taken numerous initiatives to enhance its logistics infrastructure aligned with the State's Integrated Logistics and Logistics Park Policy (2023).

At least 10% of land, up to 10 acres in upcoming industrial parks will be dedicated to provision of logistics and warehousing activities.

As per the policy, the State has demarcated a 2-km stretch on both sides of state highways, expressways, or industrial corridors for the development of logistics facilities.

The State is pursuing development of two highway projects under PPP including, a 4-lane access controlled Sirhind – Sehna section of NH205AG with total project cost of Rs. 5,082.1 crore, and, a 6-lane Zirakpur Bypass with total project cost of Rs. 1,878.31 crore.

The commissioning of the Sahnewal – Sonnagar section of the Eastern Dedicated Freight Corridor (EDFC) has strengthened freight movement from the State. In addition to the rail corridor, Punjab is prioritizing development of highway corridors such as Chandigarh–Amritsar, Chandigarh–Gurdaspur, Chandigarh–Bhatinda, Amritsar–Katra, and Amritsar–Jamnagar. The State also envisages developing economic corridors along the Ravi, Beas, and Sutlej rivers by exploring canalization.

Leveraging access to the Amritsar Kolkata Industrial Corridor (AKIC), the Punjab Land and Business Park (PLPB) in partnership with Singapore-based Surbana Jurong will develop an industrial park (PBPB IndusPark) over 150 acres in Rajpura, Patiala.

The upgradation of warehousing facilities in the Rajpura-Tepla-Zirakpur region near the Shambhu border, is strategically supporting growing demand from across the region including Shimla, Baddi, and several tier-2 cities in Punjab and Haryana.

Besides existing MMLPs at Ludhiana, Punjab is considering the development of MMLPs at Jalandhar, Amritsar, Gurdaspur, Sangrur, and Patiala to streamline cargo handling, warehousing, storage, and distribution.

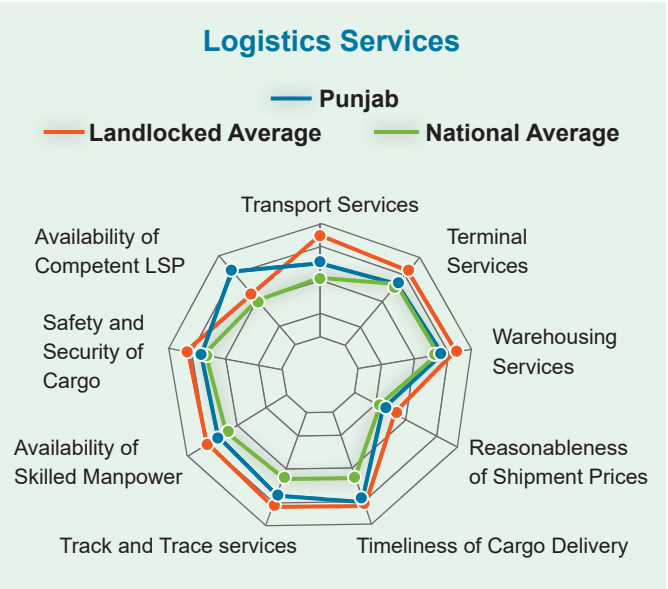
Punjab is prioritizing the operation of the ICD at Bhatinda and proposed upgradation of ICDs at Sahnewal and Chheharta (Amritsar).

Logistics Services

Punjab records higher perception outcomes than the national average across all logistics services indicators.

The State also outperforms the landlocked group average for the availability of competent logistics service providers, indicating positive perceptions of service provider availability.

However, perception outcomes for most service indicators remain below the landlocked group average, including improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower and improvement in safety and security of cargo highlighting potential unmet opportunities in the provision of higher-quality logistics services.



The State drives skill development initiatives through the Punjab Skill Development Mission (PSDM).

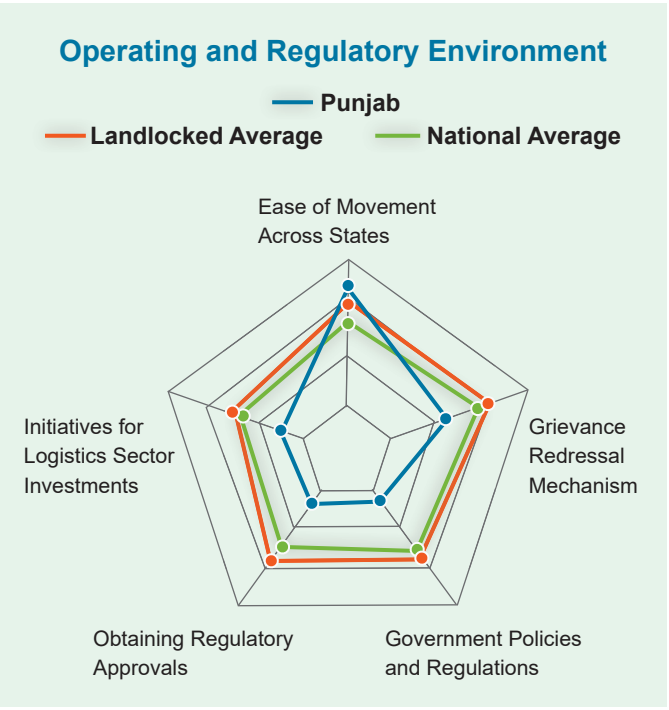
Through PSDM, in partnership with the Logistics Sector Skill Council (LSC), the State has empaneled 13 captive educational institutions and employers for imparting skill training in logistics. The initiative has helped train 1,157 candidates in logistics in 2025. PSDM has leveraged the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) to impart skill training courses in the logistics sector across 10 different job roles. Under DDU-GKY, 4,746 candidates have been trained since 2023.

The State in collaboration with industry partners, Logistics Sector Skill Council (LSC) and ASSOCHAM, has established a Centre of Excellence (CoE) for Logistics at Phagwara.

Operating and Regulatory Environment

Punjab has recorded perception scores higher than both the national average and the landlocked group average for the improvement in ease of border crossing, highlighting implementation of movement facilitation measures such as electronic surveillance and online permit issuance.

Perception scores for the availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations, availability of grievance redressal mechanism and ease of obtaining regulatory approvals for setting up new logistics facilities were recorded lower than the national average and the landlocked group average, reflecting opportunities for further strengthening the policy framework, investment facilitation measures, and grievance redressal mechanisms.



To facilitate smoother implementation of logistics projects, Punjab has notified a State Logistics Cell (SLC) under the chairmanship of Administrative Secretary, Department of Industries & Commerce. The SLC also acts as the Network Planning Group (NPG) under the State Level Institutional Framework (SLIF) of PM Gati Shakti.

Punjab has granted industry status to the logistics and warehousing sector and the State's logistics policy now allows continuous 24x7 operations of logistics and warehousing

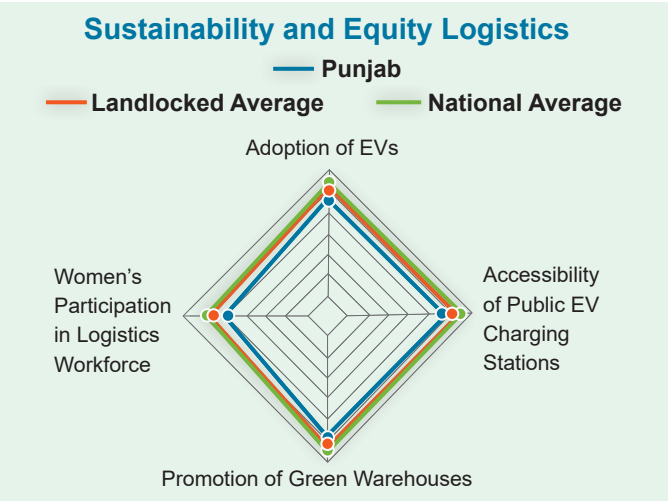
The Punjab Bureau of Investment Promotion (PBIP) has upgraded the existing dedicated Single Window Online Investor Facilitation System, relaunched as "Fasttrack Punjab Portal" for streamlined and time-bound issuance of approvals and regulatory clearances and services. The portal has facilitated issuance of 302 approvals and clearances pertaining to logistics sector investment proposals since April 2023.

The State, through the Department of Industries and Commerce, has established a formal, online grievance redressal and dispute resolution mechanism which is also applicable to the logistics sector. This is aligned with the Punjab Transparency and Accountability in Delivery of Public Service Act, 2018.

Sustainability and Equity Logistics

The State demonstrates positive perception scores across all sustainability parameters.

Perception scores for the availability of initiatives for inclusion of women workforce, availability of initiatives for promotion of green warehouses, availability of support in EV adoption and availability of public EV charging stations are aligned with the national average and landlocked group average scores, highlighting opportunities for further strengthening efforts to broaden adoption of green initiatives as well as workforce inclusivity measures in the State.



Punjab drives implementation action on green initiatives through the State EV Policy (2022), Industrial Policy (2022), and Logistics Policy (2023).

The EV policy incentivises adoption of electric light commercial vehicles (e-LCVs), e-carts, and e-rickshaws for goods transport and last-mile delivery, promotes deployment of EV charging stations, and battery recycling through buy-back schemes.

To promote manufacturing of EVs, the Industrial Policy outlines fiscal incentives for EVs and auto components which are earmarked as thrust sectors.

The Logistics Policy encourages use of vehicles powered by alternative fuels such as CNG, Hydrogen CNG, LNG, ethanol, etc. The policy promotes adoption of sustainable design standards such as wastewater recycling, alternative energy options, energy and waste management systems in the construction of logistics infrastructure.

The Punjab State Power Corporation Limited (PSPCL) is the nodal agency nominated for implementing EV charging infrastructure in the State.

Progress since LEADS 2024

In response to insights that emerged in the LEADS 2024 assessment, Punjab has undertaken a series of key reforms and infrastructure interventions, leading to the strengthening of the logistics ecosystem in the State.

Actions Taken on Short-Term Opportunities

- Upgradation of Roads in industrial areas and transport nagars to reduce congestion, transit delays, and improve turn-around times for trucks and other vehicles.
- Increasing EV Charging Points and access to alternative fuels in Logistics Hubs to support wider adoption of green vehicles and reduce fuel costs for operators.
- Development of modern, spacious transport nagars with centralized logistics support and wayside infrastructure with enhanced handling capacity for large vehicles to support reduction in end-to-end logistics costs for transporters.
- Expansion of the EV charging network to facilitate increased adoption of EVs in freight vehicles and reduce overall logistics carbon footprint.

Punjab has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements to strengthen infrastructure and service delivery.

Fasttrack Punjab Portal

- Upgraded version launched in June 2025.
- Single Window Clearance System facilitating streamlined approvals and clearances.
- Portal has issued 302 clearances against logistics investment proposals since April 2023.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> WDFC connectivity to Kila Raipur is progressing very slowly due to pending bridge height clearances.

> Frequent farmer protests, border closures, and toll shutdowns disrupt operations and create business uncertainty.

> High toll charges (e.g., Ladowal) without dedicated truck lanes lead to congestion and traffic disruption.

> No dedicated Indian Railways technical team is deployed for on-site inspection of freight trains at ICD Ludhiana.

> Repeated PUC certification despite BS-VI compliance and DEF usage increases regulatory burden for transporters.

> Strict speed-limit enforcement for trucks on highways and expressways slows logistics operations.

> Malerkotla faces severe congestion due to the absence of a flyover or bypass road.

> Widening of the Ludhiana–Dhuri road connecting to ICD Ludhiana is critical for smoother freight movement.

> The GST increase from 12% to 18% on transport services has raised logistics costs and reduced competitiveness.

> Reports of collusion between dhaba owners and truck drivers to steal diesel from vehicles.

Figure: Voice of Logistics Service Providers and Users

> Absence of double-stack rail container capability on key freight corridors limits efficiency and increases transport costs.

> MMLPs are operational, but stronger integration with national ports and inland waterways is needed to access coastal shipping routes.

> Poor last-mile connectivity and weak integration with national corridors require urgent attention in coordination with Central agencies.

> Punjab lacks a dedicated Centre of Excellence for logistics to drive innovation, skilling, and policy development.

> Digital platforms such as ULIP and PM GatiShakti are being adopted, but further Central support is needed to streamline regulation and infrastructure planning.

> EV adoption in freight remains low due to high upfront costs and limited incentives; stakeholders seek concessional tariffs and capital subsidies for commercial fleets.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Punjab's logistics opportunity in LEADS 2025 lies in improving urban freight efficiency, strengthening last-mile connectivity to industrial clusters, and enabling gradual modal and energy transitions. With a strong manufacturing and agri-base, targeted interventions in warehousing development, rail freight facilitation, and institutional coordination can deliver measurable efficiency gains while supporting sustainability objectives. LEADS 2025 positions Punjab to transition from fragmented, road-dependent logistics toward a more organised, multimodal, and resilient freight ecosystem.

Short-Term Opportunities

1. **Urban freight movement and parking management**

   Urban freight movement in Ludhiana, Jalandhar, and Amritsar remains poorly organised. Designated truck parking zones, time-window–based entry for heavy vehicles, and basic driver amenities can reduce congestion, improve safety, and cut turnaround times.

2. **Last-mile connectivity to industrial clusters**

   Poor surface quality and junction bottlenecks around Ludhiana and Mandi Gobindgarh delay access to textile, bicycle, agro-processing, and light engineering clusters. Targeted upgradation of approach roads can significantly improve freight reliability.

3. **Organised warehousing for MSME supply chains**

   MSME-dominated clusters lack access to compliant and organised storage. Promoting small and mid-scale warehousing facilities near production centres for textiles and agro-products can reduce dependence on informal storage and lower inventory losses.

Long-Term Opportunities

4. **Rail-based freight utilisation for bulk cargo**

   Punjab generates large volumes of foodgrains, steel, and industrial goods suitable for rail transport. Improving rake availability, terminal access, and service predictability can enable gradual modal shift from road to rail and reduce logistics costs.

5. **Institutionalizing logistics governance**

   Stakeholders highlighted the absence of a dedicated logistics nodal framework. Establishing a State Logistics Coordination Cell across transport, industries, agriculture, and urban development departments can streamline issue resolution and align infrastructure planning with freight demand.

6. **Green logistics infrastructure adoption**

   Demand is emerging for EV charging and alternative-fuel infrastructure at transport nagars and warehousing clusters. A phased rollout at pilot locations can support cleaner freight movement without imposing immediate compliance burdens on operators.



Rajasthan

State Performance Snapshot

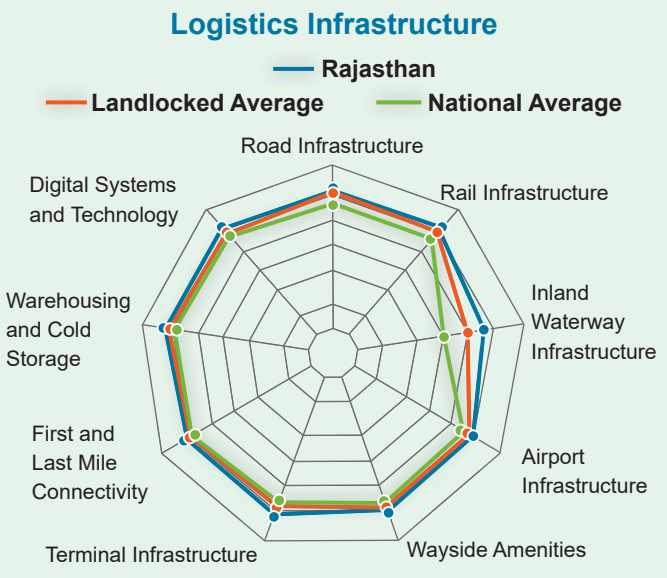
2025	2024
Growth Seeker	Fast Mover

Rajasthan is positioned in **"Growth Seeker"** category within the Landlocked group in LEADS 2025. Perception-based scores indicate relatively strong performance on logistics infrastructure and services, particularly in road connectivity, warehousing, and digital systems, supported by ongoing policy measures, connectivity initiatives, and skill development efforts. At the same time, the assessment highlights scope to streamline approvals, deepen multimodal integration, and expand organized logistics facilities to translate geographic and corridor advantages into operational efficiency.

Logistics Infrastructure

Rajasthan's logistics infrastructure performance records higher perception scores than both the national average and the landlocked group average across most infrastructure assessment indicators.

The State scores above both comparator averages on improvement in road infrastructure, improvement in rail infrastructure, improvement in airport infrastructure, improvement in adequacy and quality of Wayside amenities, improvement in terminal infrastructure, improvemeant in first/ last mile connectivity , improvement in warehousing, cold storage, pack-houses etc. , improvement in Inland waterway infrastructure, and availability of digital systems to support logistics operations, reflecting a comparatively well-developed logistics infrastructure base and strong digital enablement that together support efficient freight movement and operational reliability across the State.



Rajasthan is leveraging its Logistics Policy (2025) to drive action to enhance logistics capacity. The policy offers dedicated incentives to promote logistics and warehousing infrastructure development.

To enhance rail connectivity, the State is facilitating construction of 116 km new line between Abu Road and Taranga Hill at a cost of Rs. 2,798 crore.

Rajasthan is leveraging NHAI expertise to expand road and logistics connectivity through multiple

greenfield projects in PPP such as the 105 km, Rs.6,628 crore, 6-lane Jaipur Northern Ring Road and the proposed 350km Jaipur-Kishangarh-Ajmer-Jodhpur-Pachpadra High Speed corridor to reduce travel time between Jaipur and Jodhpur.

To further strengthen highway connectivity, the State has also proposed the 295 km greenfield Bikaner-Kotputli expressway and upgradation of 77 km Jhunjunu–Chirawa–Pacheri to a 4-lane highway to strengthen freight movement and logistics connectivity to Delhi-NCR and Haryana.

Rajasthan is developing an MMLP at ICD-Swarupganj (Sirohi) under the Sagarmala program. The State also envisages development of an MMLP at strategic locations such as Salawas (Jodhpur), Mandalgarh (Bhilwara), and Phulera (Jaipur).

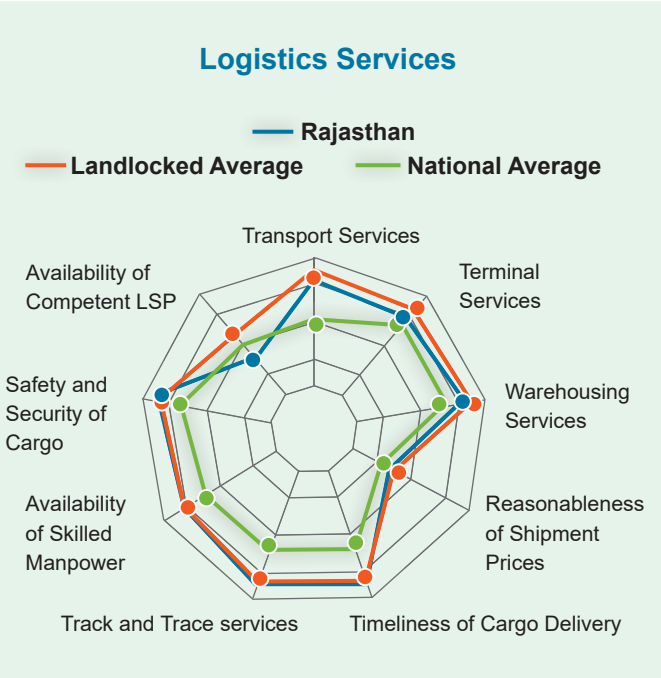
To augment port connectivity, the State is coordinating with CONCOR to improve rail freight services between Jaipur and Mundra port.

Logistics Services

Rajasthan records higher perception outcome scores than the national average across all logistics services parameters.

The State's perception scores are largely aligned with the landlocked group average for the improvement across all transport services, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower and improvement in safety and security of cargo.

Perception outcomes are, however, lower than the landlocked group average for the improvement in terminal services, improvement in warehousing services, improvement in shipment prices and availability of competent logistics service providers, pointing to gaps in service depth and quality within the State's logistics ecosystem.



The State implements skill development initiatives through the nodal agency Rajasthan Skill and Livelihoods Development Corporation (RSLDC).

RSLDC leverages logistics sector skill training through the Deen Dayal Upadhyay Gramin Kaushalya Yojana (DDU-GKY), and state-run schemes namely, Mukhya Mantri Kaushal Vikas Yojana (MMKVY) Cat. I: RAJKViK, and Mukhya Mantri Nari Shakti Kaushal Samarthya Yojana (MNSKSY).

The Nodal agency has empaneled 12 training centers for imparting logistics sector skill training in collaboration with industry partners, Logistics Sector Skill Council (LSC) for conducting assessment and certification.

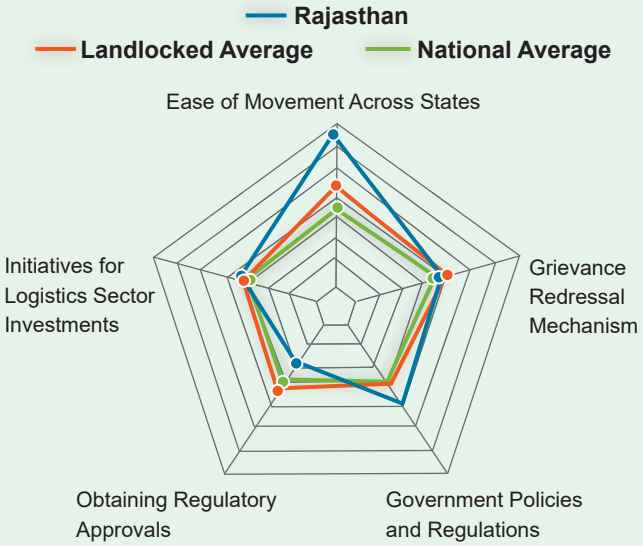
Under RIPS 2024, the State is also supporting skill development initiatives in MSMEs, start-ups and R&D centers. Eligible enterprises shall receive one-time reimbursement up to 50% of total cost of employee training, subject to maximum of Rs. 4000/worker/month for 6 months.

Operating and Regulatory Environment

Rajasthan records perception scores higher than both the national average and the landlocked group average for the availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations, availability of grievance redressal mechanism and improvement in ease of border crossing. These outcomes align with the State's investment facilitation measures, including the Single Window platform, "RajNivesh".

Perception scores for ease of obtaining regulatory approvals for setting up new logistics facilities are, however, lower than both the national average and the landlocked group average, indicating scope to further streamline approval processes.

Operating and Regulatory Environment



The State Industries Department, through the department of Information Technology & Communication (IT&C), is integrating geospatial enablement with the 'Rajdharaa' portal, integrating multiple platforms including citizen portals using GIS applications.

Rajasthan has implemented the Single Window Clearance portal, RajNivesh, supported through the Rajasthan Enterprises Single Window Enabling and Clearance Act, 2011, for enabling time-bound approvals and regulatory clearances pertaining to logistics investment proposals. The State continues to refine the grievance redressal and dispute resolution mechanism as a part of RajNivesh, incorporating proactive monitoring systems to streamline regulatory processes.

Rajasthan has granted industry status to the logistics and warehousing sector, and the State's logistics policy allows continuous 24x7 operations of logistics and warehousing infrastructure to support last-mile connectivity for the e-commerce industry.

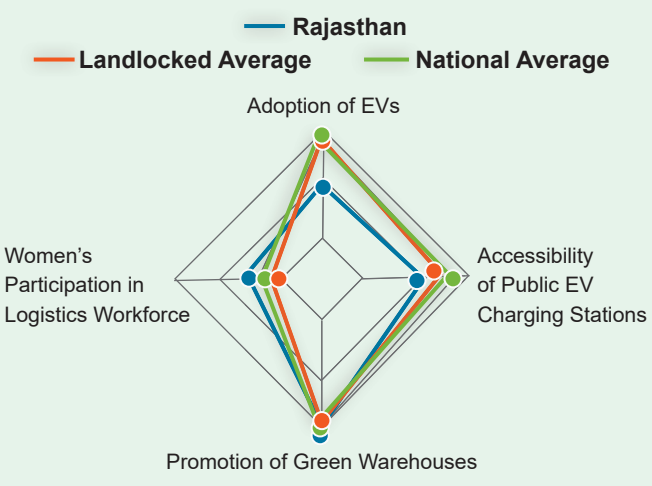
Sustainability and Equity Logistics

Rajasthan records higher perception scores than both the national average and the landlocked group average for the availability of initiatives for inclusion of women workforce.

The State also records perception outcomes above the landlocked group average for availability of initiatives for promotion of green warehouses.

Perception scores for availability of support in EV adoption and availability of public EV charging stations are below both the national average and the landlocked group average, indicating scope to strengthen EV adoption and charging infrastructure within logistics operations.

Sustainability and Equity Logistics



Rajasthan is driving implementation of the State EV Policy (2022) through the State EV Committee, supported by a dedicated EV Cell in the State Transport Department. Implementation of EV charging infrastructure is presently anchored by the Jaipur Vidyut Vitaran Nigam Limited.

To support EV manufacturing, the State has identified 5 special industrial zones under the Delhi-Mumbai Industrial Corridor (DMIC). These are located at Khushkheda-Bhiwadi-Neemrana Investment Region, Jodhpur-Pali-Marwar Industrial Area, Ajmer-Kishangarh Investment Region, Rajsamand-Bhilwara Industrial Area, and Jaipur-Dausa Industrial Area.

The State incentivizes the adoption of sustainable green practices in logistics such as use of renewable energy sources and energy storage.

Progress since LEADS 2024

Rajasthan has responded to insights from the LEADS 2024 assessment through a series of reforms and infrastructure interventions that have strengthened logistics infrastructure provision in the State.

Actions Taken on Short-Term Opportunities

Expansion of Warehousing and Storage facilities through provision of capital subsidies and interest subvention measures under Rajasthan Investment Promotion Scheme (RIPS 2024). Warehousing capacity is projected to increase by 20% over the next three years as RIICO has reserved 10% of land in upcoming industrial areas for logistics use. This will enable reduction in logistics costs for SMEs.

Promote green logistics by incentivizing adoption of ETPs, waste recycling, and renewable energy. The State is also incentivizing technology upgradation in tracking devices and EV-supportive logistics software with the aim to bring 30% of new fleet operations under digital or green compliance by 2027.

Actions Taken on Long-Term Opportunities

Enhance port connectivity by prioritizing first- and last-mile connectivity projects under PM GatiShakti and Bharatmala initiatives. The Delhi-Mumbai and Amritsar-Jamnagar corridors, once operational, will ease cargo flow to Nhava Sheva Port.

Expand cold chain infrastructure for agro-logistics through provision of capital subsidy and concessional financing to cold storages. This is expected to cut post-harvest losses of spices, millets, and fruits by 15–20% in the next five years.

Facilitate land aggregation under PPP for development of MMLPs at earmarked nodes near Jaipur, Udaipur, and Alwar. The MMLPs will integrate warehousing, transport, and IT-enabled services, targeting a 25% modal shift from road to rail by 2030.

Rajasthan has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements to strengthen logistics infrastructure and service delivery.

Rajasthan EV Policy

- Notified in August 2022
- Increase adoption of EVs and EV charging infrastructure and facilitate manufacturing, R&D, and skill development
- 205 Public EV charging stations have been sanctioned for Rajasthan under FAME-II

Rajasthan Investment Promotion Scheme

- Launched in October 2024
- Achieve a US$350 billion economy by 2029
- Prioritize Green growth, Export Promotion, and Capability Development
- Disbursed Rs. 765.78 crore in investment incentives during FY2024-25

Rajasthan EV Policy

- Notified in February 2025
- Enhance efficiency, reliability, and competitiveness of logistics infrastructure and services
- Reserve up to 10% of land in new industrial areas for logistics facilities to increase warehousing capacity by 20% in 3 years
- As of September 2025, with total investment of Rs. 638.12 crore, 111 logistics enterprises have applied for benefits enshrined under the policy

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Access roads to ICD Kanakpura need urgent repair and widening. Container storage space at the terminal is insufficient during peak periods.

> Warehouses within Jaipur face operational constraints due to no-entry restrictions. Dense urban development around Bais Godam and VKIA industrial areas limits logistics and warehousing expansion.

> Absence of ICDs in Bikaner and Udaipur increases first-mile distance and logistics costs for industries in western and southern Rajasthan.

> NH-48 experiences frequent congestion due to lack of flyovers and grade separators at key junctions. Safety concerns persist on NE-3 during night operations.

> First- and last-mile connectivity remains weak, with narrow roads in many industrial areas and limited cargo aggregation and segregation hubs.

> RAJISCO ICT and CONCOR ICT are inadequately connected, affecting smooth cargo transfer.

> Dedicated land-use zoning for logistics facilities is limited. Land acquisition for non-agricultural warehousing is complex in some industrial areas.

> Land allotment processes are lengthy, and there are no specific subsidies for setting up green warehouses.

> Fuel prices in the State are higher than the national average, increasing freight operating costs.

Figure: Voice of Logistics Service Providers and Users

Highways along major industrial corridors and DMIC stretches are capacity-constrained or in poor condition, affecting freight movement reliability.

Delayed approvals, unclear and conflicting land-use classifications, and high tax and duty burdens slow development of logistics infrastructure projects.

Incidents of overloading, inflated cargo weights, and reported collusion between operators and officials continue to disrupt mineral transport operations.

Warehouse utilisation remains low. Many facilities are misclassified as commercial instead of industrial, leading to higher taxes and compliance burden.

Rural logistics is constrained by lack of all-weather roads, limited storage and cold-chain facilities, and weak digital infrastructure.

Recent changes in land registration and stamping rules have increased project costs for renewable energy and logistics developments.

Figure: Voice of State Authorities

Potential Opportunities in the State

Punjab's logistics opportunity in LEADS 2025 lies in improving urban freight efficiency, strengthening last-mile connectivity to industrial clusters, and enabling gradual modal and energy transitions. With a strong manufacturing and agri-base, targeted interventions in warehousing development, rail freight facilitation, and institutional coordination can deliver measurable efficiency gains while supporting sustainability objectives. LEADS 2025 positions Punjab to transition from fragmented, road-dependent logistics toward a more organised, multimodal, and resilient freight ecosystem.

Short-Term Opportunities

1. **First- and Last-Mile Connectivity to Industrial Clusters and ICDs**

   Targeted strengthening of approach roads around Jaipur, Jodhpur, and Bhiwadi can reduce turnaround time at ICDs and logistics facilities, where local bottlenecks persist despite strong trunk road connectivity

2. **Streamlining of Approvals and Inspections for Logistics Facilities**

   Improved coordination among departments can reduce procedural delays and multiple inspections, enabling faster commissioning of warehouses and logistics parks.

3. **Wayside amenity Infrastructure on Freight Corridors**

   Development of organised truck terminals and secure parking facilities along corridors connecting Rajasthan with Gujarat and NCR can address congestion, roadside parking, and safety risks.

Long-Term Opportunities

4. **Integrated Logistics Hubs and MMLPs near Industrial Regions**

   Planned logistics hubs near Jaipur, Udaipur, and Alwar can support cargo aggregation, multimodal transfers, and reduced dependence on logistics nodes in neighbouring States.

5. **Cold-Chain and Value-Added Logistics for Agri-Exports**

   Expansion of modern cold storage and pack-house facilities for commodities such as spices, fruits, and millets can improve handling efficiency and export readiness.

6. **Rail–Road Multimodal Integration for Long-Haul Freight**

   Improving last-mile rail connectivity to industrial clusters and coordination with rail authorities on rake availability and scheduling can increase rail's share in bulk and long-distance cargo movement.



Telangana

State Performance Snapshot

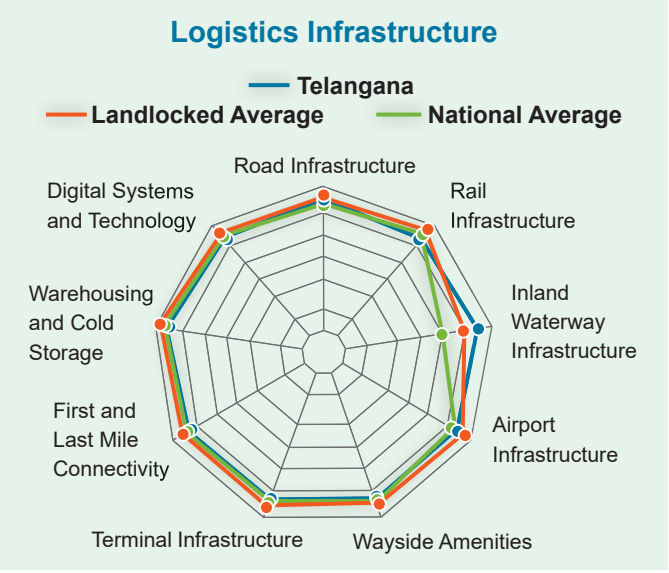
2025	2024
High Performer	Achiever

Telangana has been positioned as a **"High Performer"** within the landlocked States group, consistent with its classification as an "Achiever" in LEADS 2024. Perception-based scores indicate strong alignment with ongoing logistics infrastructure development, service improvements, and regulatory initiatives undertaken by the State, particularly across industrial corridors and clusters surrounding Hyderabad.

The assessment also reflects Telangana's multimodal logistics ambitions, supported by expressway connectivity, logistics parks, and early-stage skill development initiatives. At the same time, it highlights opportunities to deepen service capabilities, streamline regulatory facilitation, and strengthen last-mile connectivity within key logistics and industrial clusters.

Logistics Infrastructure

The State's logistics infrastructure performance presents positive perception scores compared with the national average but trailing landlocked group average across select infrastructure assessment indicators including: improvement in road infrastructure, improvement in airport infrastructure and improvement in warehousing, cold storage, pack-houses etc., indicating positive perceptions across road, airport, and warehousing infrastructure in the State. Telangana recorded higher perception score than both the landlocked group and national averages for improvement in Inland waterway infrastructure, highlighting stronger IWT-linked logistics initiatives in the State. However, for all other indicators under this pillar, the perception scores were recorded below both the comparator averages, reflecting opportunities to further strengthen the logistics infrastructure ecosystem.



To strengthen river-based transportation, Telangana is constructing 3 floating steel pontoons, and 3 gangways across River Krishna (NW-4). Construction of Ro-Ro terminals will benefit riverine transport of cement from Nalgonda district. The State is also planning to utilize the Godavari & Krishna (NW-4), Bheema (NW-21), Manjara (NW-70), Penganga-Wardha (NW-78), Tungabhadra (NW-104) and Wainganga–Pranahita (NW-109) for cargo movement and logistics integration.

To streamline logistics movement in Hyderabad, HMDA is implementing construction of elevated corridors from Paradise Jn- Sameerpet (SH-01) and Paradise Jn- Dairy Farm Road (NH-44).

Telangana is developing an Integrated Logistics Park (ILP) at Chityal, Nalgonda, located east of Hyderabad with investment of Rs. 750 crore and employment potential of 2,750. The facility shall streamline supply chain operations and boost port connectivity. This is aligned with the State's vision to develop an ILP in each district to consolidate logistics activities.

The State is augmenting its logistics infrastructure with strategic projects such as an MMLP on 324 acres at Parkibanda village, Medak district being developed by NHLML and RVNL.

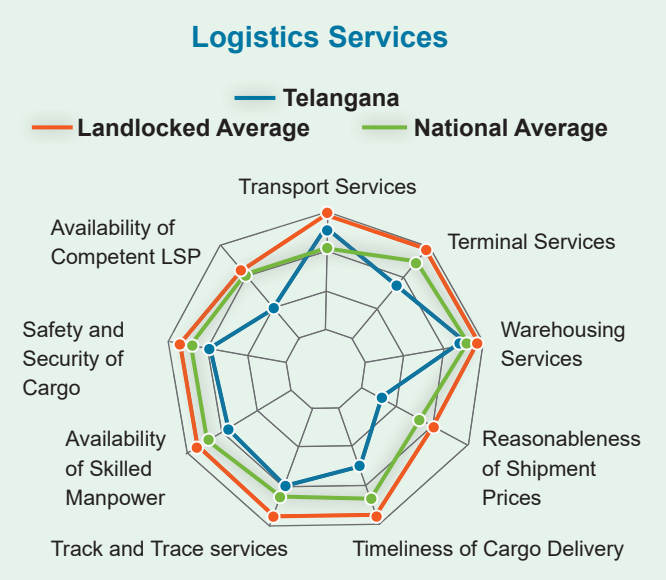
Telangana is proposing to develop an ICD at Nizamabad at a cost of Rs.250 crore which will benefit EXIM trade from the catchment region in (Nanded) Maharashtra and Telangana to bring down logistics costs. An irradiation facility at Koheda village, Rangareddy district is being set up by Telangana State Trade Promotion Corporation (TSTPC) in a JV with GMR Air Cargo and Aerospace Engineering Ltd. (GACAEL) with an investment of Rs. 20 crore.

Telangana has proposed a National Investment and Manufacturing Zone (NIMZ) at Zaheerabad and planned a 9 km greenfield approach road connecting NH-65 to Zaheerabad, facilitating efficient freight movement on the Hyderabad-Nagpur Industrial Corridor. The State Industrial Policy demarcates provision of at least 5 acres of land in each upcoming Industrial Park for common logistics infrastructure. The State Logistics Policy (2021) incentivizes creation of large warehouses and cold chain facilities to augment logistics capacity in the State.

Logistics Services

Telangana has recorded higher perception score than the national average for the improvement across all transport services, highlighting the presence of effective multimodal transport services in the State The State also noted a positive perception score for the improvement in warehousing services, reflecting the wider availability of warehousing services.

Perception scores for other service indicators, however, were below the national average and the landlocked group average for the improvement in terminal services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers, indicating opportunities for further enhancing the provision of quality logistics services in the State.



Telangana is actively pursuing the presence of experienced 3PL, 4PL, and 5PL service providers with international expertise to enhance the overall quality and efficiency of logistics services.

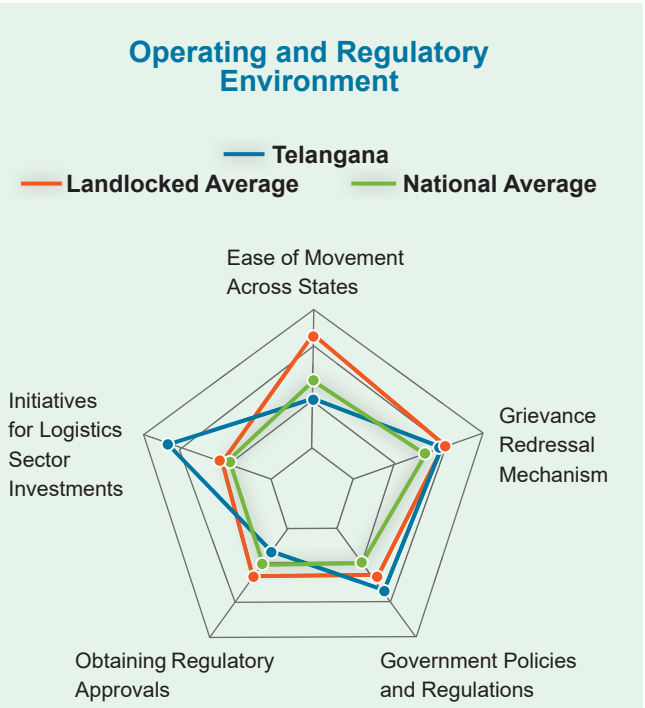
The State has proposed establishment of a dedicated Logistics Centre of Excellence (CoE) in partnership with Telangana Academy of Skill and Knowledge (TASK). The CoE will provide end-to-end logistics training and skill upgradation programmes aligned with industry requirements.

A Centre of Logistics Training for Excellence (COLTE) at Hyderabad has been launched in partnership with the Logistics Sector Skill Council (LSSC) and supported by Redington Foundation (of Redington Ltd). COLTE imparts advanced simulation-based training in logistics aligned to Industry 4.0 standards, thereby strengthening the talent pipeline and making it "future-ready".

Operating and Regulatory Environment

Telangana recorded higher perception scores than both the national average and the landlocked group average for the availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations and availability of grievance redressal mechanism, highlighting wider appreciation and approval of initiatives such as the investor facilitation cell and the TS-iPASS single window facilitation system.

Perception scores for the improvement in ease of border crossing and ease of obtaining regulatory approvals for setting up new logistics facilities, were noted to be lower than the national average and the landlocked group average, reflecting opportunities for further strengthening the online single window interface and facilitation measures supporting smoother transit of cargo.



Telangana is initiating fast-track issuance of commercial driver's license and national permit for cargo-carrying trucks. The State transport department's Friendly Electronic Services of Transport (FEST) application enables digital access to key services such as issuance of e-permits and clearances.

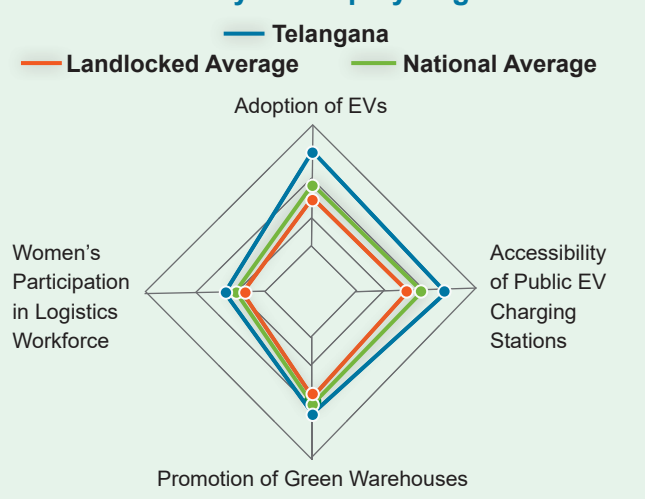
Telangana State Industrial Project Approval and Self-Certification System (TS-iPASS) provides a single-window clearance mechanism for expediting approvals required for logistics infrastructure projects.

Telangana Building Permission Approval and Self-Certification System (TG-bPASS) has streamlined the process of obtaining building and layout permissions for logistics infrastructure projects.

Sustainability and Equity Logistics

Telangana demonstrates higher perception scores than both the national average and the landlocked group average for the availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for inclusion of women workforce, reflecting wider adoption of green logistics and workforce inclusivity initiatives.

Perception score for the availability of initiatives for promotion of green warehouses, however, was lower than both the national average and the landlocked group average, highlighting opportunities for incentivising the adoption of green technologies in warehousing.



Telangana EV and Energy Storage Policy (2020) envisages attracting US$4 billion investment in EV and ESS sector and generating employment for 120,000 by 2030.

The Telangana ZET Accelerator, a collaborative innovation platform with Rocky Mountain Institute (RMI) on zero-emission trucking, promotes development of green freight corridors.

Telangana is actively pursuing development of energy-efficient green buildings in Greater Hyderabad, demonstrating its commitment to reducing carbon emissions. The State is targeting 100% compliance with ECBC norms in new building construction.

The State is planning to set up logistics parks and packaging zones to support the proposed Green Pharma City (NIMZ) in Hyderabad.

Telangana is reimbursing 100% PF contribution for women and physically challenged employees for 3 years, thereby supporting inclusivity in the logistics workforce.

Progress since LEADS 2024

Telangana has undertaken a series of strategic reforms and interventions in response to insights that emerged in the LEADS 2024 assessment. The interventions aim to improve the operating environment, build infrastructure and workforce capacity, attract investments, and lower end-to-end logistics costs.

Actions Taken on Short-Term Opportunities

Increasing digitalisation of logistics processes by scaling single-window clearances (TS-iPASS) to enable smoother issuance of approvals, thereby enhancing Ease of Doing Business in the State.

Setting up skilling infrastructure such as the Centre of Logistics Training for Excellence (COLTE), Hyderabad, in partnership with the Logistics Sector Skill Council to build workforce capacity. The new COLTE centre boosts the pipeline of trained logistics personnel through industry-aligned curricula and use of simulation labs.

Infrastructure provision such as modern logistics parks at Mangalpally and Batasingaram has expanded organised warehousing and truck parking capacity around Hyderabad, eased congestion, and shortened turnaround times for freight. Such measures continually improve the operating environment in the State.

Actions Taken on Long-Term Opportunities

Telangana is preparing an Integrated Logistics Master Plan for the State, with increased emphasis on establishing multimodal connectivity nodes such as the Shamshabad-area multimodal park to strengthen logistics infrastructure and service delivery.

Establish Industrial and Freight Corridors in the State to reduce transit times and lower end-to-end logistics costs.

Promote sustainable and green logistics practices through scaling of reverse/logistics-eco infrastructure.

Telangana has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements to strengthen skill development for the logistics sector.

The Young India Skills University (YISU) – School of Logistics and E-Commerce

- Operational from November 2024
- Skill development initiative for the logistics sector
- Logistics industry partners include Adani Logistics and O9 Solutions
- Commenced industry-linked courses with placement assistance for specialized courses for Warehouse Executive, Key Consignor Executive, etc.
- YISU has trained over 500 students across sectors in its first year of operations.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Warehousing is classified as a commercial activity, limiting access to industrial incentives and benefits.

> Poor connectivity between industrial areas and major highways/ports increases transit time and costs.

> TSRTC Cargo does not provide last-mile delivery services.

> Last-mile connectivity to remote villages is weak, affecting delivery reliability.

> Flyover construction at Achutapuram SEZ has diverted container traffic through narrow village roads, increasing detours and costs.

> The single-window system faces repeated delays due to land conversion and mutation bottlenecks.

> Internal roads in IDA Bollaram, Pashamilaram, and Sangam Valley become non-motorable during monsoons.

> Planned EV charging infrastructure along highways is insufficient to meet growing demand.

> High capital cost of EV-based logistics remains a major adoption barrier.

> ICD Sanath Nagar has inadequate infrastructure and limited scalability for future demand.

Figure: Voice of Logistics Service Providers and Users

Urban congestion in and around Hyderabad significantly slows freight movement.

Limited logistics infrastructure in Tier-II and Tier-III regions constrains agro-processing, pharmaceutical, and textile supply chains.

Lack of integrated multimodal hubs and weak first- and last-mile connectivity restrict multimodal efficiency.

Cold-chain capacity is inadequate, with fragmented storage and outdated refrigeration, leading to post-harvest losses and limited market access for farmers.

Logistics processes across departments are not fully synchronized, increasing compliance delays and transaction costs.

Skill gaps in logistics management persist, with low adoption of real-time tracking and automation technologies.

Figure: Voice of the State Authorities



Potential Opportunities in the State

Telangana's logistics performance in LEADS 2025 is closely linked to the efficiency of last-mile infrastructure within industrial estates, the quality of feeder road connectivity, and the ease of warehousing operations. While the State benefits from a strong industrial base centered around Hyderabad, internal infrastructure gaps, regulatory frictions affecting warehousing, and digital connectivity constraints continue to affect operational efficiency. Addressing these issues presents a clear opportunity to deliver near-term improvements in logistics performance and service reliability.

Over the longer term, the planned development of dedicated logistics zones, strengthening of inter-State freight corridors, and expansion of multimodal connectivity can further enhance Telangana's position as a regional manufacturing and distribution hub, supporting more resilient and cost-efficient supply chains.

Short-Term Opportunities

1. **Opportunity to improve internal road infrastructure within key industrial estates to reduce last-mile inefficiencies.**

   For example, urgent rehabilitation of internal roads and access stretches in IDA Bollaram, Pashamilaram, and Sangam Valley industrial areas can significantly improve truck turnaround times and reduce vehicle damage reported by logistics operators.

2. **Potential to address last-mile connectivity gaps between industrial clusters and arterial corridors through targeted coordination with line departments.**

   For instance, improving feeder road connectivity from Hyderabad-based industrial zones to NH corridors leading towards Mumbai, Chennai, and Bengaluru can reduce delays currently impacting outbound consignments.

3. **Opportunity to rationalize warehousing-related approvals by reviewing the treatment of warehousing as a commercial activity.**

   Streamlining approvals and re-examining fee structures applicable to warehouses, particularly in industrial clusters around Hyderabad, can lower entry barriers for private logistics investments.

4. **Need to strengthen mobile and digital connectivity across logistics clusters to support shipment tracking and operational visibility.**

   Enhancing network coverage in and around industrial estates, logistics parks, and warehouse zones can directly address operational challenges highlighted by logistics service providers.

Long-Term Opportunities

5. **Opportunity to develop planned warehousing and logistics zones aligned with industrial growth corridors.**

   Telangana can undertake structured planning for warehouse clusters near major industrial belts and transport corridors, enabling consolidation of cargo and reducing fragmented storage practices.

6. **Potential to enhance multi-state logistics connectivity by improving road interfaces for long-haul freight movements.**

   Addressing infrastructure bottlenecks impacting movements from Hyderabad to northern markets such as Himachal Pradesh and Haryana can improve reliability and competitiveness for Telangana-based manufacturers.

7. **Opportunity to institutionalize a structured industry–government feedback mechanism for logistics.**

   Establishing a formal forum for regular interaction with logistics service providers and cargo owners can help identify operational bottlenecks early and support continuous improvement in logistics efficiency.



Uttar Pradesh

State Performance Snapshot

2025 Exemplar

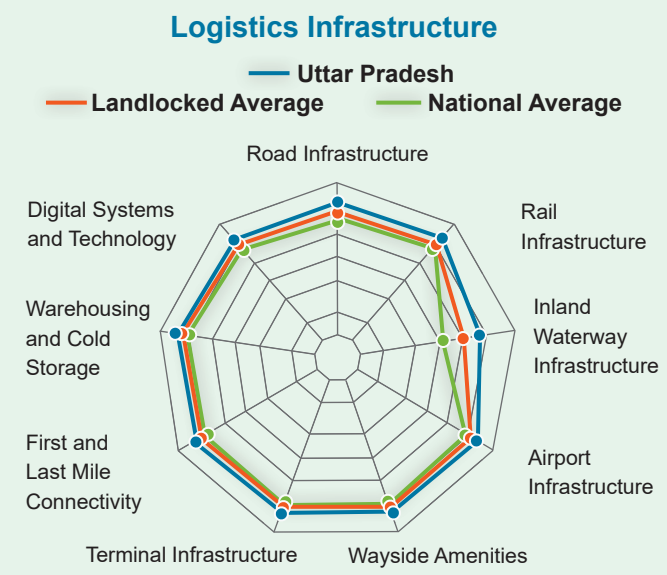
2024 Achiever

Uttar Pradesh has been placed as an **'Exemplar'** within the landlocked group of States.The LEADS 2025 perception scores indicate alignment with ongoing logistics infrastructure, services, and regulatory initiatives in the State.

Logistics Infrastructure

Uttar Pradesh records higher perception scores than both the landlocked group average and national average scores across all infrastructure assessment indicators.

Perception scores were higher than both comparator averages for all indicators under this pillar namely, improvement in road infrastructure, improvement in rail infrastructure, improvement in airport infrastructure, improvement in adequacy and quality of Wayside amenities, improvement in terminal infrastructure, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc., improvement in Inland waterway infrastructure, and availability of digital systems to support logistics operations, reflecting approval and appreciation of measures undertaken to enhance provision of logistics infrastructure in the State.



Uttar Pradesh is promoting logistics sector growth through the Logistics and Warehousing policy and the Multi Modal Logistics policy. The Infrastructure and Industrial Development Department (IIDD) is the nodal agency for promoting integrated development of the logistics sector in the State. Under the Logistics Policy, the State has approved 40 investment proposals reflecting Rs. 10,320 crore in investment readiness.

The State has implemented Srishti 2.0 GIS-based road information system portal, integrating MIS data for streamlined decision-making on road infrastructure development.

Uttar Pradesh inaugurated the 91 km 4-lane Gorakhpur Link expressway connecting NH-27 (Jaitpur) to Purvanchal Expressway (Salarpur) to improve connectivity to Purvanchal and Nepal. The 594 km 6-lane Ganga Expressway linking Meerut and Prayagraj is expected to be commissioned in early

2026. To further enhance connectivity, the State has planned a series of highway projects to interlink the major expressways in the State.

In addition to the Noida International Airport handling capacity, the State is developing an 823-acre Multimodal Logistics Hub at Dadri, Greater Noida interlinked with both the EDFC and WDFC at an estimated cost of Rs. 7,034 crore and a 358-acre Multimodal Transport Hub at Boraki railway station. The State is further strengthening logistics capacity through planned Multimodal Logistics Parks at Kanpur, Gorakhpur, and Tappal Bajna.

Uttar Pradesh has proposed Integrated Manufacturing and Logistics Clusters (IMLCs) at strategic locations along the 594 km Ganga expressway. The IMLCs are planned at Meerut, Hapur, Amroha, Sambhal, Budaun, Shahjahanpur, Hardoi, Unnao, Rae Bareli, Pratapgarh, and Prayagraj.

To support storage and distribution of agri-products, the State is establishing multi-commodity cooling centers and cold storage units at mandis run by UPAPMC.

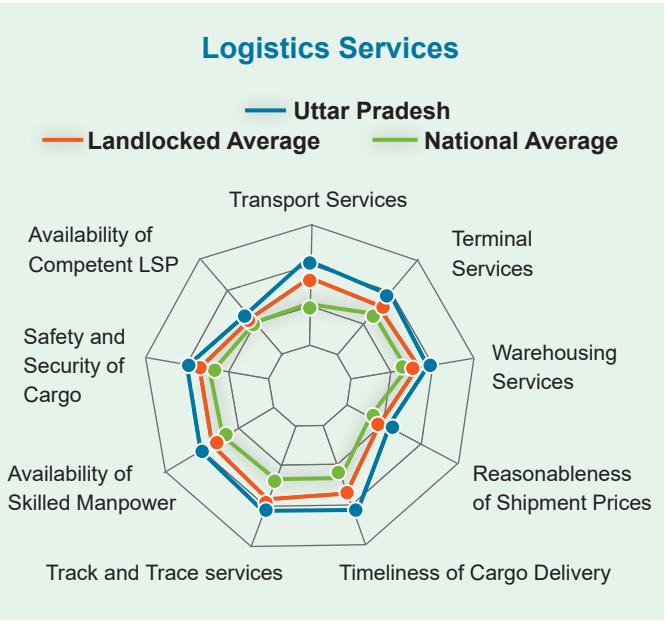
To strengthen river-based transportation of passenger and cargo, Uttar Pradesh is developing 248 km waterway on the Yamuna between Kanpur and Prayagraj. Inland Waterways Authority of India (IWAI) is developing a 75-acre logistics freight village hub adjacent to the Varanasi multimodal terminal to boost cargo handling capacity through NW-1.

UPSIDA is facilitating logistics capacity addition by allocating 13,000 sqm of land to ALIMCO to establish dedicated warehouse in Trans-Ganga City and upgrading infrastructure of roads through widening and flyover construction.

Logistics Services

Uttar Pradesh has recorded higher perception scores than both the national average and landlocked group average across all service assessment parameters.

Perception scores for improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers, were recorded above the national average and landlocked group average scores, reflecting availability of a stable and responsive services ecosystem in the State.



The Uttar Pradesh Skill Development Mission (UPSDM) as the nodal agency drives skill development initiatives and provides training across 12 job-roles in the logistics sector administered through 65 training centers located across the State to address skill-training requirements.

UPSDM in collaboration with the Logistics Sector Skill Council (LSSC) has empaneled major industry players such as RSWM, Safex, and Gati for providing on-the-job training in logistics. Further, a Skill India International Centre (SIIC) has been set up in collaboration with DP World at Varanasi to impart training in logistics and port operations aligned to Gulf region operations.

State-owned Driver Training and Multi-Skill Institutes such as the Institute of Driver Training and Research (IDTR) at Rae Bareli are being set up in 12 State divisions to provide training to truck drivers, and other personnel such as loaders and packers.

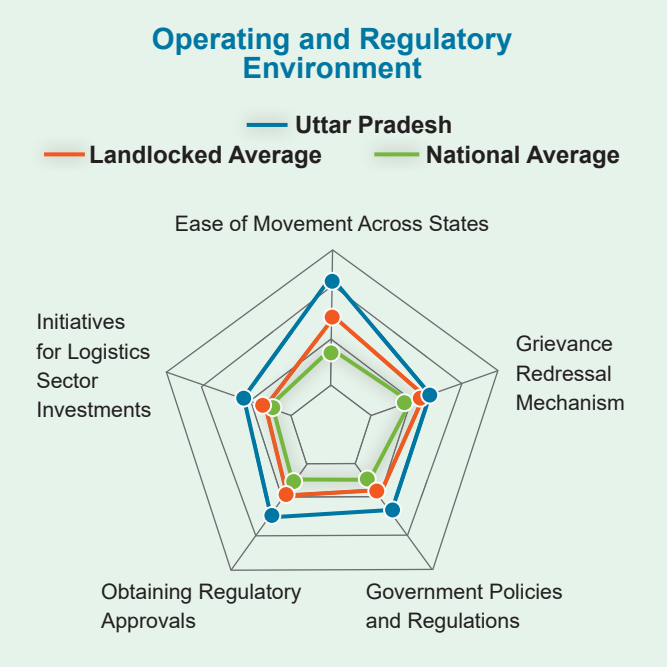
To support creation of a trained workforce pool, the State is also providing a skill development subsidy by way of reimbursement of employee training costs.

Operating and Regulatory Environment

Uttar Pradesh records higher perception scores than both the national average and landlocked group average across all assessment indicators.

Perception scores for the availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and improvement in ease of border crossing, highlight approval of the State initiatives to strengthen the operational and regulatory framework.

Perception score for the availability of grievance redressal mechanism, was largely aligned with the landlocked group average, highlighting opportunities for further streamlining the single window facilitation system.



Uttar Pradesh's single window clearance system online platform Nivesh Mitra integrates services from 43 departments, offering over 520 services for approvals, licenses, and no-objection certificates. To enhance ease-of-doing business, the State is revamping it to a next-generation Nivesh Mitra 3.0 version incorporating AI to power real-time data analysis, grievance redressal, and notification alerts.

In addition, Nivesh Sarthi investment relationship management portal by Invest UP, simplifies MoUs, investor assistance, and project tracking with support of Udyami Mitras offering personal guidance to streamline and expedite approvals.

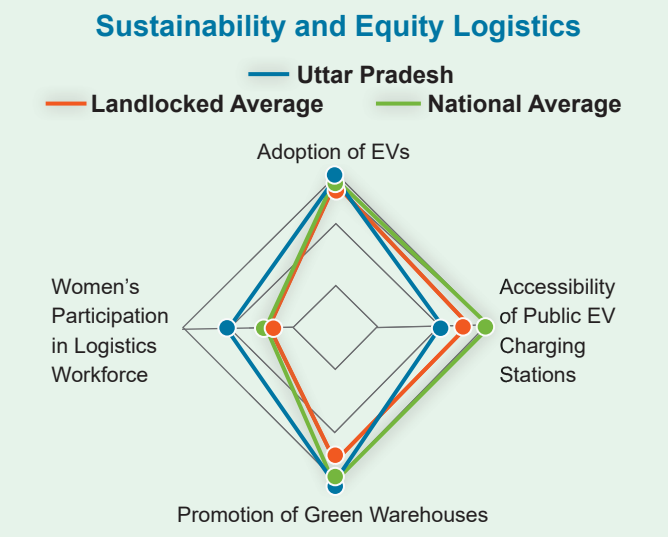
For strengthening grievance redressal, UP has developed the Integrated Grievance Redressal System (IGRS) for receiving and addressing grievances related to government services, including logistics infrastructure and operations.



Sustainability and Equity Logistics

Uttar Pradesh demonstrates higher perception scores than both the national average and landlocked group average for the availability of support in EV adoption and availability of initiatives for inclusion of women workforce, reflecting wider adoption of green logistics and workforce inclusivity initiatives.

Perception scores however for availability of public EV charging stations and availability of initiatives for promotion of green warehouses, were lower than both the national average and landlocked group average, highlighting opportunities for enhancing charging infrastructure provision and incentivizing the adoption of green technologies in warehousing.



Uttar Pradesh offers incentives for adopting sustainable practices in logistics. The State EV policy also incentivizes smart warehousing, captive solar power plants, and solar energy usage.

To promote electric mobility, the State has deployed more than 700 EV buses for urban transport in 14 cities and 450 public charging stations are integrated through GIS mapping.

Uttar Pradesh is supporting private sector participation in solar power generation such as Avaada, Adani, and NTPC. To support sustainable logistics practices, UPNEDA is partnering with THDC and NHPC for developing solar parks in the State.

Uttar Pradesh is promoting Green Hydrogen through the Green Hydrogen policy 2024. The State is advancing bioenergy use for Compressed Biogas (CBG) generation and has approved 24 CBG projects with combined capacity of 210 TPD.

Progress since LEADS 2024

Uttar Pradesh has undertaken a series of strategic reforms and interventions in response to insights that emerged in the LEADS 2024 assessment. These interventions aim to improve the provision of logistics infrastructure and services, and attract investment in sustainable logistics practices to lower end-to-end logistics costs.

Actions Taken on Short-Term Opportunities

Phase-I development of modern Transport Nagar facility at Mohansarai (Varanasi) on 16.8 ha to support truck operations, ease congestion, and facilitate multimodal logistics operations.

Undertake road widening and junction improvements along key corridors and critical junction bottlenecks in Varanasi and Meerut such as Transport-nagar main road, Delhi road, and Baghpat road.

Implement a dedicated freight corridor with dedicated loading/ unloading areas and entry time restrictions in Meerut to streamline and fast-track cargo transit.

Actions Taken on Long-Term Opportunities

Development of Urban Ropeway corridor in Varanasi to enhance public mobility and reduce vehicular load in densely populated areas of the city.

Development of Multimodal Logistics Parks (MMLPs) and dedicated freight terminals at strategic locations such as Daurala and Hapur Road in Meerut.

Create low emission zones and increase adoption of e-freight vehicles to support environment and sustainability goals.

High Impact Initiatives by the State

Uttar Pradesh has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements to strengthen skill development for the logistics sector.

Multi Modal Logistics Park, Varanasi

- Under Implementation (MoU signed between NHLML and IWAI – March 2025)
- Trans-shipment and warehousing hub facilitating Domestic and EXIM trade
- Direct connectivity to NH-7, Eastern Dedicated Freight Corridor (EDFC), and National Waterway-1 (NW-1)
- Streamline multimodal freight movement by road, rail, and water, reducing transport costs and increasing business efficiency

MoU with Indian Railways for Logistics Hubs

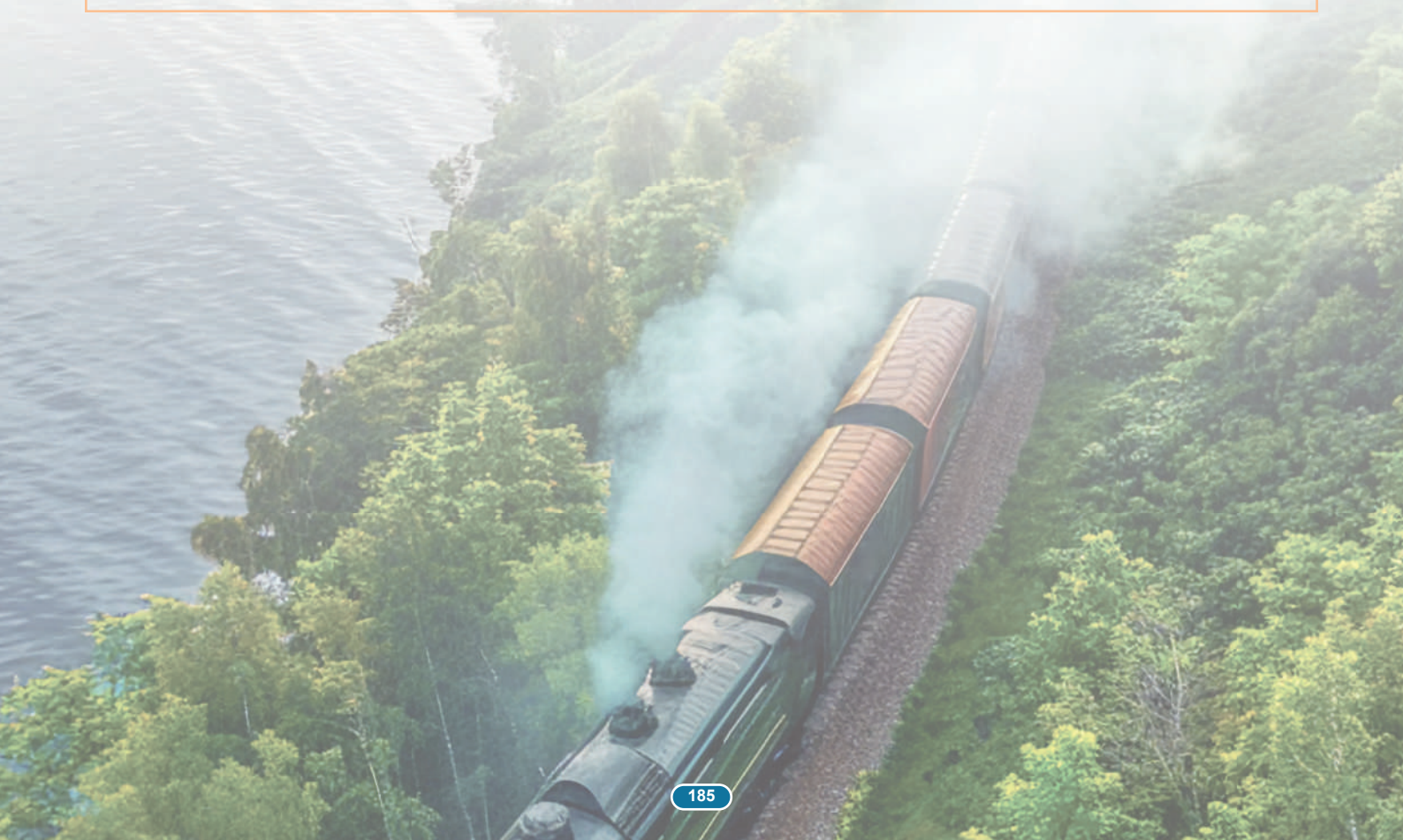
- Implemented May 2025
- Use railways to promote environment-efficient logistics practices
- Develop logistics hubs with multimodal connectivity through concessional lease of railway land at 1.5% of prevailing land rates for 35 years
- Improve operational efficiency for freight transport by prioritizing rail services and support development of multiple logistics hubs and dry ports in the State

UP EV Manufacturing and Mobility Policy 2022

- Notified October 2022
- Promote UP as an EV manufacturing hub
- Incentives restricted to EVs manufactured, sold, and registered in the State to support local manufacturing
- Target investment of Rs.30,000 crore and creation of 10 lakh jobs

Mukhya Mantri Udyami Mitras Yojna

- Launched 2023
- Investor facilitation
- Udyami Mitras provides personal guidance to the investor and coordinate with various departments on behalf of the investor, as well as advise them on policies and services that best suit their needs



Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

- Persistent urban traffic congestion and encroachments in Lucknow impact logistics movements
- Slow translation of approved logistics/ warehousing projects into operations is delaying investments and raising project costs
- There is lack of high-capacity modern warehousing infrastructure in the State
- Traffic jams and vendor encroachments in industrial areas (Greater Noida) affect freight movements
- Rail freight disruption due to train derailment on Delhi-Lucknow route (Amroha)
- Severe winter weather (fog and low visibility) conditions reduce speed limits on expressways slowing freight movement
- Regulatory enforcement action led to cancellation of large number of vehicle permits impacting transport operations
- Uptake of land/ warehousing leases from railways for logistics development is slow due to administrative lethargy
- Chronic congestion and poor non-expressway traffic flow in Lucknow & major cities affecting last-mile delivery
- Seasonal weather impact of fog force operational restrictions and reduced speeds increasing energy costs and emissions

Figure: Voice of Logistics Service Providers and Users

- YEIDA Master Plan 2041 is addressing infrastructure gaps and capacity deficits by identifying strategic locations as dedicated warehousing zones near industrial and connectivity corridors.
- Multimodal connectivity gaps in the State are being bridged through planned setting up of Multimodal Logistics Hubs at Dadri, Boraki, Kanpur, Gorakhpur, and Tappal Bajna.
- Preparation of State Logistics Masterplan and dedicated CLPs for Agra, Kanpur, Varanasi, Prayagraj, Lucknow, Ghaziabad, and Meerut is underway to streamline gaps in urban freight and improve last-mile delivery.
- Lack of integrated planning and data systems is being addressed through deployment of Srishti 2.0 for planning greenfield road networks and OneMap for infrastructure monitoring.
- State is targeting private sector investment in logistics through implementation of the UP Warehousing and Logistics policy.
- There exist inherent gaps in fostering institutional coordination which is being addressed through establishment of State Logistics Cell and Coordination committees.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Uttar Pradesh plays a critical role in the national freight network, supported by expressway development, rail corridors, industrial clusters, and emerging logistics parks. Stakeholder observations highlight opportunities to improve freight reliability, reduce avoidable logistics costs, accelerate infrastructure monetization, and strengthen multimodal and warehousing capacity through targeted interventions.

Short-Term Opportunities

Scope to strengthen freight operating protocols during seasonal weather disruptions.

Winter fog has led to speed restrictions on expressways and operational adjustments for trucks and buses, increasing transit time and logistics costs. Structured fog-season freight protocols, dynamic speed advisories, and visibility management systems can improve predictability during seasonal conditions.

Need to manage urban freight congestion in major cities to enable efficient last-mile deliveries.

Persistent congestion and encroachments in cities such as Lucknow affect commercial vehicle access and delivery schedules. Urban freight zoning, loading/unloading windows, and targeted decongestion measures can improve last-mile performance.

Requirement to improve traffic and encroachment management in industrial belts.

Vendor encroachments and traffic jams in industrial areas (e.g., Greater Noida belt) affect goods vehicle mobility. Streamlined circulation plans, designated vending areas, and logistics parking zones can enhance industrial freight throughput.

Need to strengthen mobile and digital connectivity across logistics clusters to support shipment tracking and operational visibility

Enhancing network coverage in and around industrial estates, logistics parks, and warehouse zones can directly address operational challenges highlighted by logistics service providers.

Long-Term Opportunities

Scope to streamline regulatory and permit compliance to reduce operational friction.

Enforcement-driven cancellation of vehicle permits highlights the need for balanced compliance mechanisms. Digitized permit systems, automated validation, and harmonized enforcement can improve operational continuity while maintaining regulatory objectives.

Requirement to expedite land and warehousing lease processing for logistics development.

Slow uptake of railway land leases for logistics use suggests administrative bottlenecks. Faster land onboarding, model concession frameworks, and standardized lease terms can unlock logistics nodes around rail infrastructure.



Uttarakhand

State Performance Snapshot

2025	2024
Accelerator	Achiever

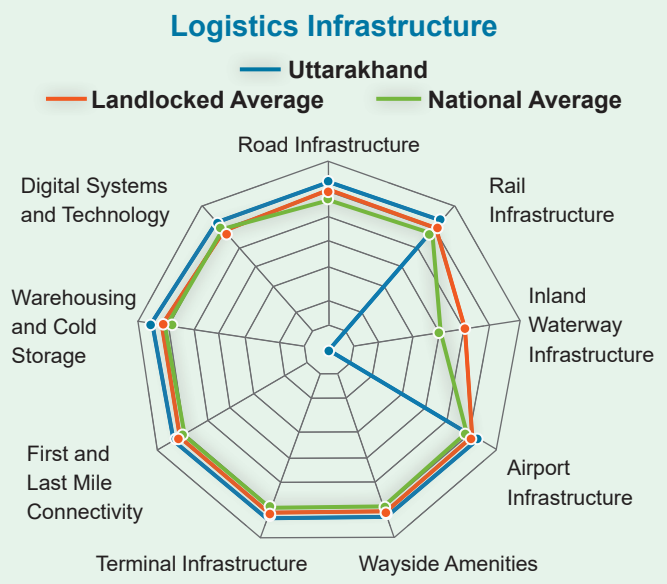
Uttarakhand is positioned as an **'Accelerator'** within the landlocked group. The LEADS 2025 perception scores indicate alignment with an emerging logistics ecosystem supported by ongoing infrastructure and service initiatives.

Logistics Infrastructure

Uttarakhand records perception scores higher than the landlocked group average and national average scores for improvement in adequacy and quality of Wayside amenities and for improvement in first/ last mile connectivity, highlighting improvements in road connectivity and related infrastructure.

Perception scores for improvement in road infrastructure, improvement in airport infrastructure and improvement in warehousing, cold storage, pack-houses etc., are recorded higher than the national average however are lower than the landlocked group average, indicating positive perceptions, though reflecting opportunities for enhancing road, airport, warehousing, and cold chain infrastructure in the State.

Further, perception scores for improvement in rail infrastructure, improvement in Inland waterway infrastructure, improvement in terminal infrastructure and availability of digital systems to support logistics operations, displayed lower than both the national average and the landlocked group average, indicating scope for strengthening multimodal connectivity, particularly, rail-linked infrastructure, within the logistics ecosystem.



Uttarakhand is implementing the Logistics Policy provisions through the State Logistics Coordination Committee supported by the State-level Logistics Cell in the Industries Department which acts as the nodal department.

Under the Parvatmala initiative, Uttarakhand is enhancing connectivity through two ropeway projects including the 12.9 km Sonprayag-Kedarnath Dham ropeway, and the 12.4 km Govindghat-Hemkund Sahib ropeway. The State has signed an MoU with the National Highway Logistics Management Ltd

for the phased implementation of seven ropeway projects for enhancing last-mile connectivity. Other notable ropeway projects under implementation include the 5.2 km Dehradun-Mussoorie ropeway, and the 3.9 km Kharsali-Yamunotri Dham ropeway.

The State is supporting the development of the Banbasa Land Port located on 84 acres on the Indo-Nepal border at Champawat. The Land Ports Authority of India (LPAI) is executing the project on the Indian side of the international border. Once completed it will further streamline and strengthen EXIM cargo movement between India and Nepal.

The State has granted in-principle approval to five warehousing projects at Dehradun, Haridwar, and Udham Singh Nagar.

Uttarakhand is facilitating the strategic Delhi–Dehradun expressway and the Char-Dham National Highway which will improve regional connectivity and access to key destinations.

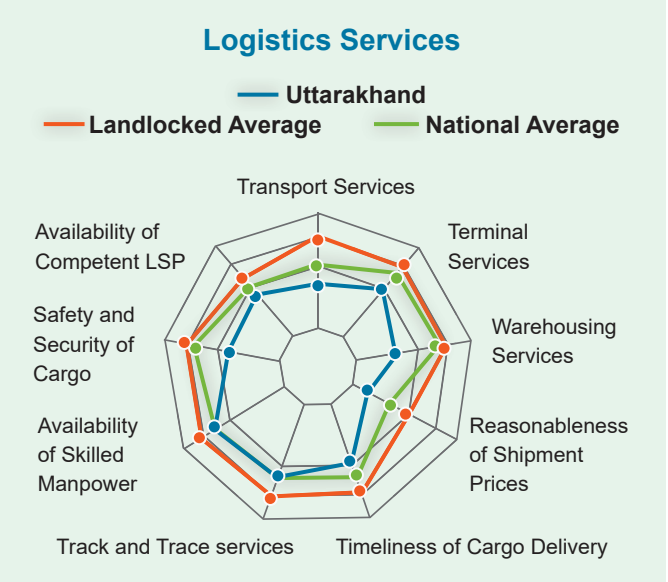
The State is facilitating construction of the Kotdwar bypass (NH-119) which will significantly enhance access to the Garhwal region and facilitate economic and social development in the adjoining areas.

The State is facilitating development of truck terminals, driver rest areas, and parking spaces near industrial parks in Haridwar and Dehradun, to decongest traffic and improve freight movement.

Logistics Services

Uttarakhand logistics services scores have shown improvement across assessment indicators.

The perception scores, however, were noted to be lower than both the national average and the landlocked group average for, improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers, reflecting opportunities for further enhancing the provision of quality logistics services in the State.



Uttarakhand has nominated Doon University as a Centre of Excellence (CoE) in Logistics and Supply Chain Management to serve as a Research, Training, and Innovation hub. In addition, the Uttarakhand Space Application Centre (USAC) has been nominated to function as a Technical Partner to facilitate the use of GIS to promote logistics efficiency in the State.

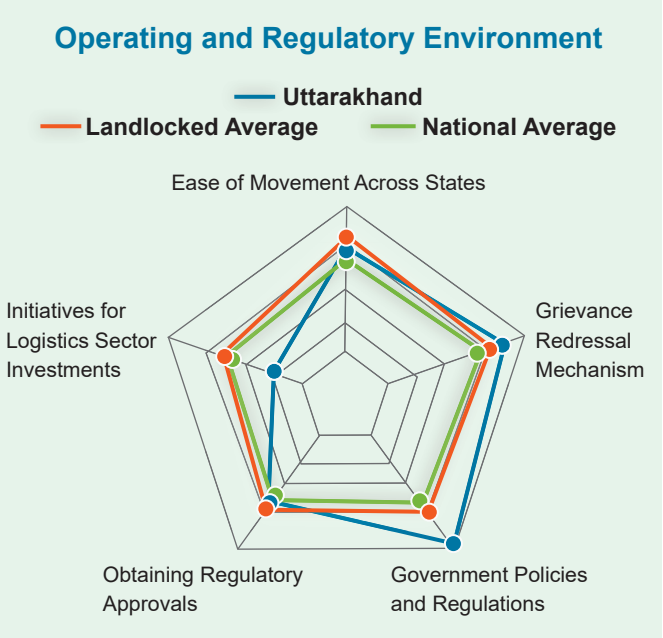
The Uttarakhand Skill Development Mission (UKSDM) as the nodal agency drives skill development initiatives in partnership with the National Apprenticeship Promotion Scheme (NAPS) and provides training in the logistics sector administered through 625 training centers located across the State to address skill-training requirements during FY2024-25.

Operating and Regulatory Environment

Uttarakhand records higher perception scores than both the national average and the landlocked group average for, the availability of government policies and regulations in facilitating logistics operations and availability of grievance redressal mechanism.

Further, the State has recorded perception scores higher than the national average and largely aligned with the landlocked group average for the ease of obtaining regulatory approvals for setting up new logistics facilities and improvement in ease of border crossing, indicating positive perceptions of the regulatory regime and functioning of the single window clearance system.

Perception score however, for the availability of policy initiatives for logistics sector investments was recorded lower than both the national average and the landlocked group average, highlighting opportunities for further expanding logistics-linked policy incentives and regulatory facilitation.



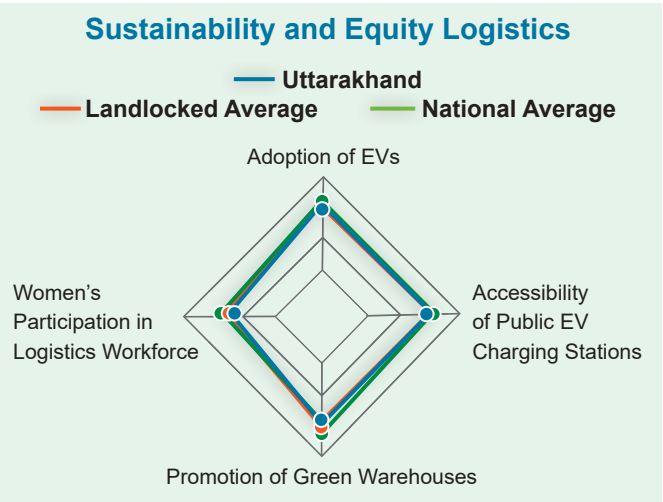
Uttarakhand has strengthened its single window clearance system under the Uttarakhand Single Window Facilitation and Clearance Act, 2012, enabling online submissions, payments, and tracking for logistics approvals and enhancing ease-of-doing business.

The State is facilitating green-channel movement of trucks carrying EXIM and Defence cargo through reduced inspections at checkpoints and bottlenecks.

Sustainability and Equity Logistics

Uttarakhand recorded higher perception scores than both the national average and the landlocked group average for availability of support in EV adoption, availability of public EV charging stations and for availability of initiatives for promotion of green warehouses, reflecting wider approval of state initiatives promoting green logistics.

Perception score however for, the availability of initiatives for inclusion of women workforce, was lower than both the national average and the landlocked group average, highlighting opportunities for further strengthening workforce inclusivity initiatives.



Uttarakhand is promoting the adoption of sustainable practices in logistics through targeted incentives to reduce its carbon footprint.

The State is implementing efficient movement of cargo through checkpoints with a 'green channel', facilitating uninterrupted movement of EXIM and Defence-related cargo.

The State is promoting the use of EVs and hybrid vehicles in the logistics parks planned at Haridwar and Dehradun.

Progress since LEADS 2024

Uttarakhand has undertaken a series of strategic reforms and interventions to improve logistics performance in response to insights that emerged in the LEADS 2024 assessment. These interventions are expected to result in long-term investments, reduced environmental impact, and better employment generation in the logistics sector.

Action Taken on Short-Term Opportunities

Development of Multimodal logistics hubs with public-private partnerships is envisaged in the Uttarakhand Logistics Policy 2023 at Haridwar, Dehradun, Udham Singh Nagar, and Nainital.

The Uttarakhand Housing and Urban Development Authority is undertaking the development of the city-level and comprehensive logistics master plan for improving last-mile connectivity.

Launching of skill development programs in coordination with the Uttarakhand Skill Development Mission, educational institutions, and industry participation.

Strengthening the Single Window Clearance System portal to improve speed of approval of logistics projects.

The draft State logistics action plan prioritizes sustainable logistics through the adoption of green transport solutions to target reduction in logistics-related carbon emissions by 40% and adoption of renewable energy to power 50% of logistics facilities in five years.

Action Taken on Long-Term Opportunities

Expanding logistics infrastructure and capacity through a three-level hub-spoke model comprised of large, medium, and small hubs with private sector investment at strategic locations.

Increasing rail network connectivity through the Char-Dham Railway project including key alignments such as Rishikesh-Karnprayag and Doiwala-Uttarkashi-Barkot.

The logistics policy promotes and encourages the use of new technology such as enhancing digital tracking of goods for improving the capacity of the sector.

High Impact Initiatives by the State

Uttarakhand has implemented select high-impact initiatives over the last two years that demonstrate measurable improvements to strengthen skill development for the logistics sector.

Uttarakhand Logistics Policy 2023 & Digital Single Window System

- Policy Notified in January 2023 and Strengthening of SWS in 2024
- Digital integration to strengthen the approval process for logistics sector projects
- Reduction in approval turnaround time for logistics projects, strengthen online-tracking mechanism, and enhance transparency of project status to improve satisfaction among logistics stakeholders
- The logistics sector has been granted industry status, and 5 logistics projects have received in-principle approval through the single window platform between 2023 and 2025.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by logistics service providers, logistics users, and the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Road infrastructure is poor in higher regions and inadequate for handling larger volume trucks.

> Terminal and warehouse capacity is not sufficient to meet growing demand for horticulture sector.

> Limited multi modal connectivity in the State is driving end-to-end logistics costs.

> Lack of rail and air connectivity options force dependency on road transport for cargo movement.

> There are frequent road closures and service disruptions during winter and monsoon seasons.

> Road maintenance work is prioritized based on evidence from cameras fixed on government vehicles only.

> Grant of approvals through the single window system is time consuming and raises cost of doing business.

> There is loss of perishable cargo due to limited availability of cold chain and climate control warehousing.

> There is lack of skilled manpower and skilling options for logistics.

> Digital adoption and live cargo and vehicle tracking is non-existent.

Figure: Voice of Logistics Service Providers and Users

> Inadequate last-mile connectivity and constrained terminal/warehousing capacity impede agriculture/ horticulture value chains.

> Limited multimodal infrastructure and heavy reliance on road transport raises door-to-door costs and limits bulk/long-haul efficiencies that multimodal hubs deliver.

> Difficult topography fragments the transport network and seasonal vulnerability (monsoon landslides, snow) cause frequent route closures undermining reliability for time-sensitive goods.

> Human-resource gaps, lack of mechanized handling and digital adoption, especially in MSME units, reduce operational efficiency and productivity.

> Investment barriers and procedural friction in setting up logistics infrastructure also deter private operators.

Figure: Voice of thr State Authorities

Potential Opportunities in the State

Uttarakhand's logistics opportunity lies in improving last-mile operational efficiency within existing industrial clusters while strategically enabling air cargo and cold-chain infrastructure to support high-value and perishable commodities. Focused interventions around digital enforcement, transport-area upgradation, and decentralized cold-chain development can significantly improve logistics reliability without large-scale capital-intensive investments, positioning the State for more resilient and efficient supply chains.

Short-Term Opportunities

1. **Opportunity to strengthen operational readiness of Transport Nagar–based logistics clusters through targeted upgradation of basic infrastructure.**

   For instance, Transport Nagar, Haridwar presents an opportunity for improving internal roads, drainage, lighting, and basic amenities to enhance truck turnaround times and reduce operational disruptions reported by logistics operators.

2. **Potential to improve compliance and enforcement efficiency through tighter integration of digital transport systems.**

   Integration of e-way bill systems with the State's enforcement and transport monitoring platforms can enable real-time identification of overloading and routing deviations, improving compliance while reducing physical checks.

3. **Opportunity to enhance the role of Pantnagar Airport as a regional air-cargo gateway for high-value and time-sensitive commodities.**

   Targeted augmentation of cargo-handling infrastructure at Pantnagar Airport can support the movement of pharmaceuticals, flowers, and agri-produce from the surrounding industrial and horticulture clusters.

Long-Term Opportunities

4. **Need to undertake a demand-led assessment for development of a dedicated logistics hub in the Haridwar–Pantnagar industrial belt.**

   A structured feasibility study can help identify optimal locations and scale for a logistics hub catering to manufacturing clusters, thereby reducing dependence on out-of-state facilities.

5. **Opportunity to expand decentralized cold-chain infrastructure to support hill-region horticulture and floriculture.**

   Development of small-scale, aggregation-linked cold storage facilities in regions such as Nainital and Chamoli can reduce post-harvest losses and improve market access for perishable produce.

UNION TERRITORY GROUP

India's Union Territories (UTs) comprise 8 administrative units, including Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Daman & Diu, Delhi (NCT), Jammu & Kashmir, Ladakh, Lakshadweep, and Puducherry. Collectively, these UTs span a wide range of geographies, including island territories, coastal regions, mountainous terrains, and dense urban agglomerations. Owing to their administrative importance, trade linkages, tourism activity, and gateway functions, the UTs occupy a distinct position within India's logistics landscape.

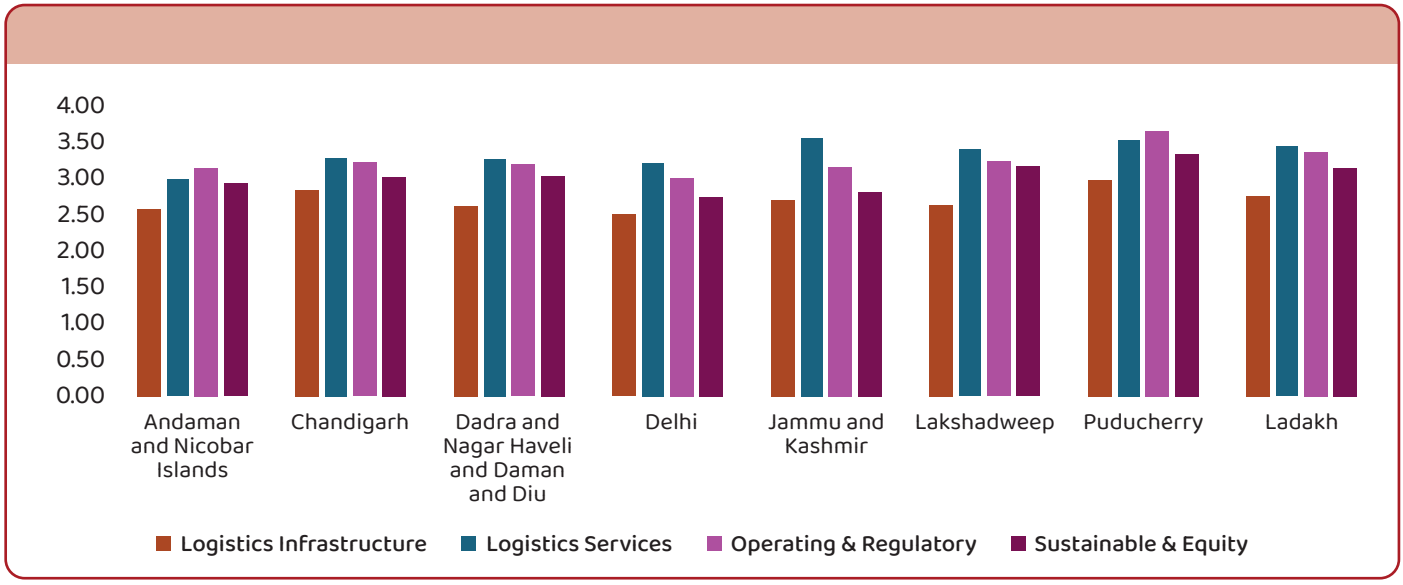
Logistics development across the UTs is shaped by their unique spatial constraints, functional roles, and institutional capacities. Ongoing efforts across multiple UTs reflect a gradual strengthening of logistics ecosystems through policy formulation, infrastructure planning, digital governance initiatives, and alignment with national programmes. Taken together, these initiatives reflect the evolving contribution of UTs in enhancing regional connectivity, facilitating trade, and supporting integration with the national logistics network.



Group Level Performance

Summary of UT Group Performance

LEADS 2025 perception survey data presents a sector-wise assessment of logistics infrastructure across the Union Territories. The analysis captures stakeholder feedback across key logistics components, covering core transport modes, supporting infrastructure, and enabling systems.



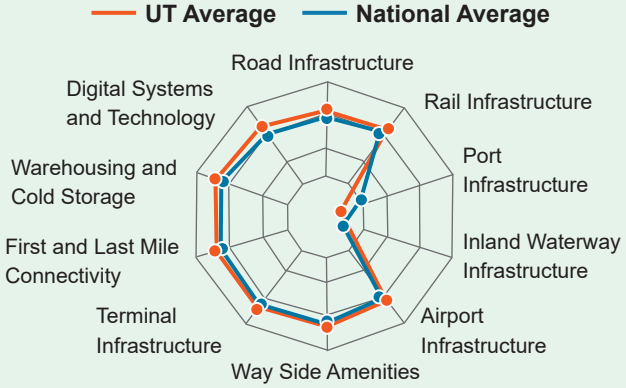
As per the assessment, the improvement in Logistics Services pillar recorded the strongest perception scores across all UTs. Perception scores related to Operating and Regulatory parameters are comparatively higher across several Union Territories.

Logistics Infrastructure Performance

The LEADS 2025 group-level assessment for improvements in logistics infrastructure performance for the Union Territories records average perception scores that are largely aligned with the national average across most infrastructure assessment indicators.

The infrastructure pillars where the Union Territories record lower perception scores than the national average are the provision of Inland Waterway infrastructure and Port Infrastructure, which can be attributed to geographic and topographic characteristics.

Infrastructure|UT Average Vs National Average

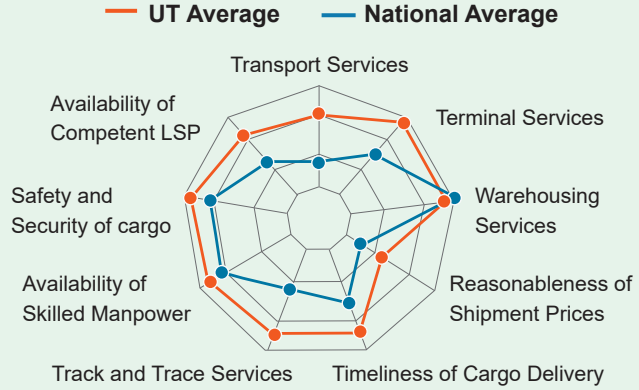


Logistics Services Performance

The LEADS 2025 group-level assessment for improvement in logistics services performance for the Union Territories records average perception scores that are marginally lower than the national average across most logistics services assessment indicators.

The assessment highlights strong performance in warehousing services, where the Union Territories record perception scores aligned with or marginally higher than the national average, reflecting effective delivery of storage-related logistics services.

Services|UT Average Vs National Average

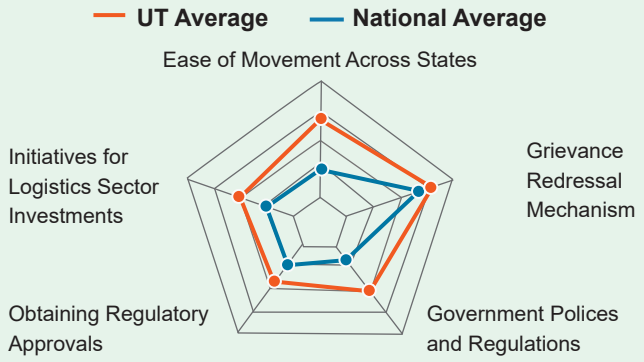


Operating and Regulatory Performance

The group-level assessment for improvements in operating and regulatory performance for the Union Territories records average perception scores that are marginally below the national average across all operating and regulatory assessment indicators.

The assessment indicates that the operating and regulatory environment across Union Territories remains broadly stable and aligned with national average, with opportunities for incremental improvement.

Operating and Regulatory|UT Average Vs National Average

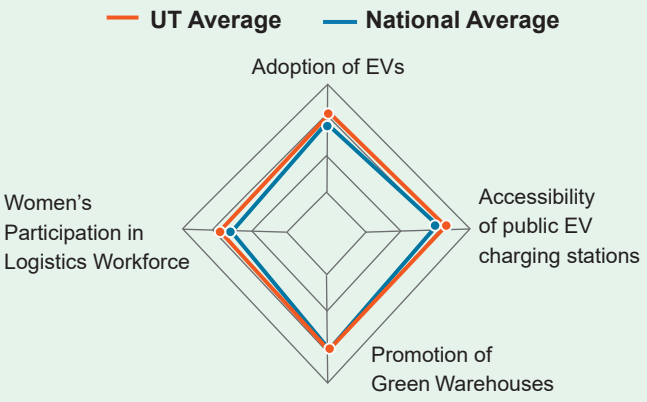


Sustainability Performance

The LEADS 2025 group-level assessment for improvements in sustainability and equity in logistics for the Union Territories records average perception scores that are largely aligned with the national average across most assessment indicators.

The assessment indicates that women's participation in the logistics workforce remains slightly below the national average, highlighting scope for targeted initiatives to strengthen inclusivity and workforce diversity.

Sustainability & Equity | UT Average Vs National Average



Group Level Summary

At the group level, LEADS 2025 presents a consolidated view of perception-based strengths and variations across improvements in logistics infrastructure, logistics services, operating and regulatory environment and sustainable & equity logistics indicators for UTs. While Logistics Services records relatively higher perception scores, variation is observed across infrastructure, regulatory and sustainability parameters, reflecting the diverse geographic, functional, and administrative contexts of UTs. The Perception heatmap that follows illustrates comparative movements across the pillars within the UT Group.

Perception Improvement Heatmap

	Logistics Infrastructure									
State	Road	Rail	Ports	IWT	Airport	Wayside	Terminal	F/L Mile	W/H & CC	Digital
Andaman and Nicobar Islands	🔴	🔴	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Chandigarh	🔴	🟢	🔴	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Dadra and Nagar Haveli and Daman and Diu	🟢	🔴	🟢	🔴	🔴	🔴	🟡	🔴	🔴	🔴
Delhi	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Jammu and Kashmir	🟢	🟢	🔴	🟢	🔴	🟢	🟢	🔴	🔴	🟢
Lakshadweep	🔴	🟢	🟢	🔴	🔴	🟢	🔴	🟢	🔴	🔴
Puducherry	🔴	🔴	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🔴
Ladakh	🔴	🔴	🔴	🔴	🟡	🔴	🔴	🔴	🔴	🟢

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure 2: Perception Heatmap – Logistics Infrastructure

Logistics Services									
State	Transport	Terminal	W/H	Price	Time	Track & Trace	Manpower	Security	LSPs
Andaman and Nicobar Islands	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Chandigarh	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Dadra and Nagar Haveli and Daman and Diu	🟢	🟡	🔴	🟢	🟢	🟢	🟢	🟢	🟢
Delhi	🟢	🟢	🔴	🔴	🟢	🟢	🟢	🔴	🟢
Jammu and Kashmir	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Lakshadweep	🔴	🔴	🟡	🔴	🔴	🔴	🔴	🔴	🔴
Puducherry	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Ladakh	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟡	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure 3: Perception Heatmap – Logistics Services

Operating and Regulatory Environment					
State	Border Ease	Grievance	Policy	Approvals	Investments
Andaman and Nicobar Islands	🔴	🔴	🟡	🔴	🔴
Chandigarh	🔴	🟢	🔴	🟢	🟡
Dadra and Nagar Haveli and Daman and Diu	🟢	🟡	🟢	🟢	🟢
Delhi	🟢	🔴	🔴	🔴	🟢
Jammu and Kashmir	🔴	🔴	🔴	🔴	🔴
Lakshadweep	🔴	🔴	🟢	🟢	🟢
Puducherry	🟢	🟢	🟢	🟢	🔴
Ladakh	🔴	🔴	🔴	🟢	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure 4: Perception Heatmap – Operating and Regulatory Environment

Sustainable and Equity Logistics				
State	EV Adoption	EV Charging	Green W/H	Women
Andaman and Nicobar Islands	🔴	🔴	🔴	🔴
Chandigarh	🔴	🔴	🟢	🔴
Dadra and Nagar Haveli and Daman and Diu	🟢	🟢	🔴	🔴
Delhi	🟢	🟢	🔴	🔴
Jammu and Kashmir	🔴	🔴	🔴	🔴
Lakshadweep	🔴	🟢	🔴	🔴
Puducherry	🟢	🔴	🟢	🟢
Ladakh	🔴	🟢	🔴	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure 5: Perception Heatmap – Sustainable and Equity Logistics

The detailed analysis of each UTs performance in the group across various indicators, along with an overview of initiatives undertaken by the UTs is provided in the subsequent chapters.



Andaman and Nicobar Islands

State Performance Snapshot

2025 Growth Seeker

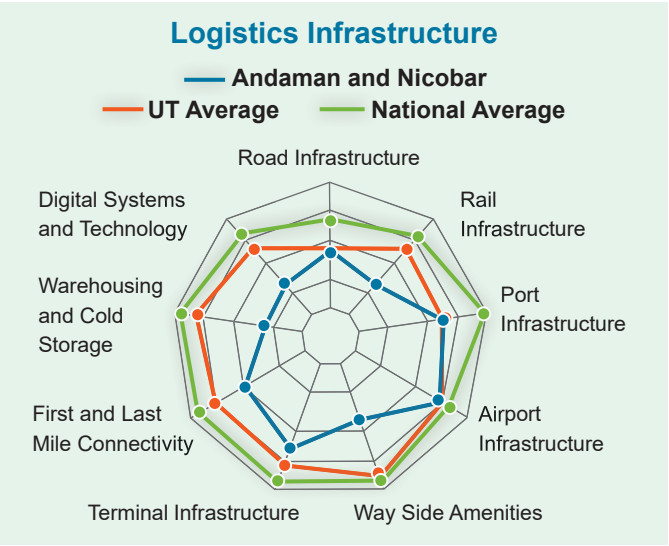
2024 Aspirer

In LEADS 2025, the Union Territory of Andaman and Nicobar Islands is placed in the **Growth Seekers** category, continuing from its earlier transition. The UT has undertaken measures to support and strengthen its logistics ecosystem. At the same time, perception-based assessments suggest that performance across several logistics indicators remains below national benchmarks.

The logistics landscape of the islands is shaped by structural factors, including geographic dispersion, dependence on sea and air connectivity, and the operational requirements associated with ensuring reliable movement of essential goods and services across remote locations.

Logistics Infrastructure

Perception based indicators suggest that the logistics infrastructure scores of the Andaman and Nicobar Islands are below both UT and National average across most core infrastructure parameters, indicating relatively lower assessments within an island-based logistics context. Perceptions related to improvement in road infrastructure are assessed below both UT and national average scores, reflecting comparatively weaker perceptions on the adequacy of road connectivity for intra-island movement of goods. Indicators associated with improvement in rail infrastructure are also assessed below UT and national average, consistent with the limited applicability and absence of rail-based logistics systems in the islands. Perceptions related to improvement in airport infrastructure remain marginally below UT and National average scores, indicating some enhancements required in air connectivity, which plays a critical role in supporting passenger and time-sensitive cargo movement.



Perceptions associated with improvement in adequacy and quality of way side amenities, improvement in terminal infrastructure and improvement in first/ last mile connectivity, are all assessed below UT and National averages, indicating relatively weaker perceptions of supporting roadside facilities, cargo handling infrastructure, and connectivity between transport networks and terminal facilities. Similarly, perceptions related to "Improvement in adequacy and quality of warehousing, cold storages, pack-houses, etc," along with "Accessibility and reliability of digital systems and technologies that support logistics operations" reflect comparatively lower assessments of storage infrastructure and digital

systems supporting logistics coordination and supply chain management. However, perceptions related to improvement in port infrastructure is assessed above the UT average but below the national average, indicating comparatively stronger perceptions within the UT cohort while also highlighting headroom to close the gap with all-India outcomes. This remains a critical backbone of logistics operations for the Andaman and Nicobar Islands. In addition, "Improvement in adequacy and quality of Inland Waterway Infrastructure" is not applicable within the island context and remains consistent with the geographic and modal characteristics of the region.

The UT reports ongoing development and upgradation of port and airport infrastructure to facilitate cargo and passenger movement between the islands and the mainland. Port facilities at Port Blair and other notified ports are identified as key nodes for handling essential commodities and supporting inter-island cargo movement. Airport infrastructure at Veer Savarkar International Airport, Port Blair, is referenced as a critical logistics asset for time-sensitive cargo and passenger connectivity.

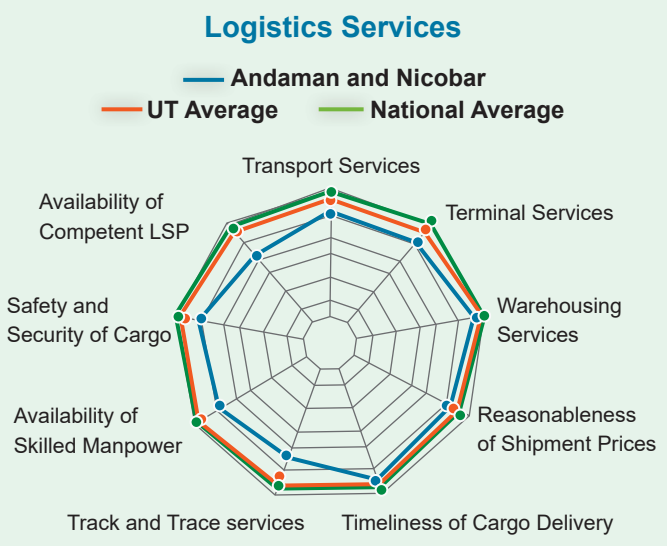
The UT also indicates the presence of warehousing and storage facilities supporting the distribution of essential goods, including food and fuel, across the islands. Development of terminal infrastructure and associated Development of terminal infrastructure and associated facilities is reported to support cargo handling and last-mile distribution within the UT.

Logistics Services

Perception based indicators suggest that the logistics services scores for the Andaman and Nicobar Islands are below both UT and national average scores across all assessed service-related parameters, indicating relatively weaker assessments of logistics service availability and performance within an island-based transport system. Perceptions related to improvement across all transport services are assessed below both comparator averages, reflecting comparatively lower perceptions of transport services supporting cargo movement under island geography constraints.

Indicators associated with improvement in terminal services and improvement in warehousing services and "Improvement in the adequacy and quality of warehousing services" are also assessed below UT and national average, indicating relatively weaker perceptions of cargo handling and storage services supporting logistics operations. Performance on improvement in timeliness of cargo delivery remains below both comparator averages, reflecting comparatively lower assessments of delivery reliability.

Outcomes related to availability of track and trace services and improvement in shipment prices are



assessed below UT and national averages, indicating weaker perceptions related to shipment visibility and cost-related service dimensions. Similarly perceptions associated with availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers are all assessed below both UT and national averages, reflecting comparatively lower assessments of workforce availability, cargo security practices, and the presence of capable logistics service providers within the logistics services ecosystem.

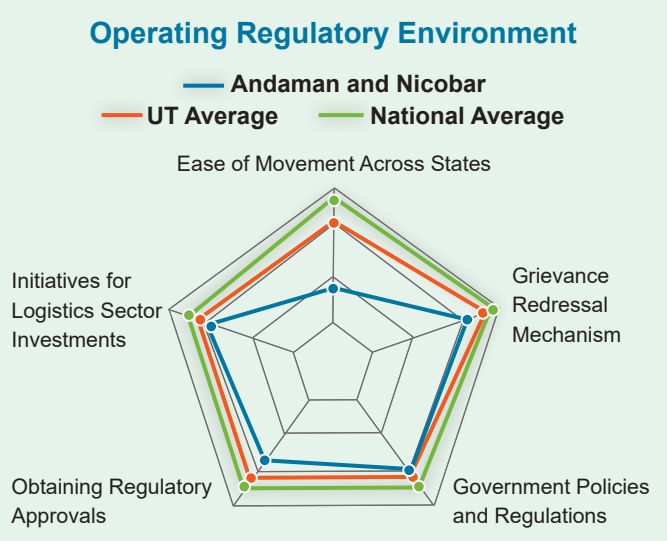
The UT's logistics services are primarily oriented toward sea and air-based transport, with shipping services forming the core backbone of cargo movement between the islands and the mainland. The UT reports reliance on scheduled cargo vessels and passenger-cum-cargo ships to support both inter-island movement and mainland connectivity.

Warehousing and terminal services are reported to support the storage and handling of essential goods, while the scale of logistics service provision reflects the geographic configuration of the islands and the size of the local market. The UT also indicates the availability of basic track-and-trace practices aligned with the operational requirements of island-based logistics systems.

Operating and Regulatory Environment

Perception based indicators suggest that the operating and regulatory environment in the Andaman and Nicobar Islands is assessed below both UT and national average across governance and institutional parameters, reflecting the administrative and geographic characteristics of islands. Perceptions related to improvement in ease of border crossing, are assessed below UT and national averages, reflecting constraints associated with physical separation from mainland States and reliance on maritime and air-based connectivity for inter-regional movement of goods.

Perceptions associated with availability of grievance redressal mechanism and availability of government policies and regulations in facilitating logistics operations are both assessed below both UT and National average scores, indicating comparatively lower perceptions of grievance resolution effectiveness and the enabling role of policy and regulatory frameworks for logistics operations. Outcomes related to ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments, are also assessed below both comparator averages, reflecting relatively lower perceived ease in securing approvals and limited visibility of dedicated policy initiatives aimed at promoting logistics sector investments, consistent with the UT's scale, market size, and logistical structure.



The UT has established administrative and regulatory mechanisms governing logistics operations, including port management, shipping schedules, and cargo handling procedures, with regulatory approvals and operational clearances managed within a centralised administrative framework.

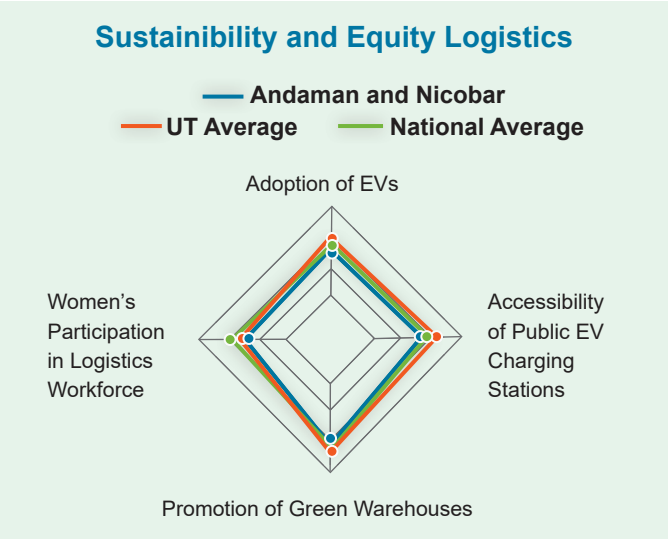
Grievance redressal for logistics and investment-related issues is addressed through existing UT administrative channels, while policies and regulatory measures applicable to logistics operations remain aligned with central government guidelines and UT-level administrative rules.

Sustainability and Equity Logistics

Sustainability and equity related logistics outcomes in the Andaman and Nicobar Islands are assessed below both UT and national average scores across most assessed parameters, indicating relatively weaker perceptions of sustainability- and inclusion-related logistics within the UT's logistics ecosystem. Percepti ons related to availability of support in EV adoption and availability of public EV charging stations are assessed below both UT and national averages, reflecting comparatively lower perceived enabling conditions for electric mobility adoption in logistics operations.

Outcomes associated with availability of initiatives for promotion of green warehouses are assessed below the UT average but above National average, placing this indicator between comparator benchmarks and indicating relatively better perceptions compared to the National level, while remaining below UT performance. This suggests comparatively stronger visibility of initiatives supporting environmentally sustainable warehousing when assessed against the national context.

Perceptions related to availability of initiatives for inclusion of women workforce are assessed below both UT and national averages, indicating relatively lower perceived progress on workforce inclusion efforts within the logistics sector. Overall, the sustainability and equity-related logistics indicators for the Andaman and Nicobar Islands are predominantly below UT and National averages, with select relative strengths emerging in the promotion of green warehousing when compared to the national benchmark, reflecting uneven performance across environmental and social dimensions of logistics outcomes.



The UT has indicated steps aligned with broader national initiatives on electric mobility, including the availability of public EV charging infrastructure to support the gradual adoption of EVs in logistics operations. Measures to promote green practices, including efficient use of warehousing and storage facilities, are also reported to be aligned with the UT's sustainability priorities.

In addition, the UT has indicated efforts towards inclusive workforce participation, including women's participation across service and administrative roles linked to logistics and transport operations, within the broader employment framework of the islands.

Progress since LEADS 2024

In the absence of a consolidated Action Track Record submission, the assessment of actions undertaken is based on initiatives, facilities, and institutional arrangements reflected in the information provided by the UT through LEADS 2025 submissions and related documentation. The observations below reflect currently visible measures and reported system-level practices.

Actions Taken on Short-Term Opportunities

Upgrading existing ports with modern equipment and additional handling facilities

The UT has reported continued utilisation of existing port infrastructure, including Port Blair and other notified ports, for handling essential commodities and inter-island cargo movement. These ports continue to function as key logistics nodes supporting both mainland connectivity and intra-island supply chains.

While port operations and cargo handling activities are referenced in the submissions, specific details on the deployment of advanced cargo handling equipment (such as mechanised stackers or capacity expansion projects) are not explicitly indicated. This suggests that modernisation of handling infrastructure remains an area with scope for further strengthening.

Introducing freight support mechanisms to reduce transportation costs:

The UT submissions indicate sustained reliance on sea and air transport for cargo movement between the islands and the mainland, reflecting the structural realities of island logistics.

However, the available information does not explicitly reference the implementation of dedicated freight subsidy schemes or targeted financial support mechanisms aimed at reducing logistics or transportation costs for businesses and essential supply chains. This highlights a potential area for future policy intervention to improve cost efficiency and affordability of logistics services.

Actions Taken on Long-Term Opportunities

Development of deep-water ports and traffic flow assessments

The UT has consistently highlighted the strategic importance of port infrastructure and maritime connectivity in supporting logistics operations and ensuring reliable movement of goods.

While existing ports are recognised as critical logistics assets, the submissions do not indicate specific initiatives related to the development of deep-water ports or the undertaking of comprehensive traffic flow or capacity planning studies for such facilities. These areas continue to represent long-term opportunities to enhance resilience and scalability of maritime logistics in the UT.

Development of temperature-controlled storage infrastructure at ports

The UT has reported the presence of warehousing and general storage facilities supporting the distribution of essential goods across the islands, including food and fuel supplies.

However, the submissions do not explicitly mention the development or expansion of specialised temperature-controlled or cold storage facilities at port locations. Strengthening cold chain infrastructure at key logistics nodes could further support the handling of perishable goods and improve supply chain reliability in the island context.

This section may be updated upon receipt of a formal Action Track Record submission from the UT in future LEADS cycles.

Voice of Stakeholders and UT Government

To complement the perception scores and the policy narrative, a Voice of Customer (VOC) synthesis has been prepared to capture policy-relevant issues highlighted by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below summarise key constraints affecting logistics efficiency, reliability, and competitiveness.

> Maritime services remain the backbone of inter-island cargo movement. Greater predictability in sailing schedules and vessel allotment would further support planning for traders and MSMEs.

> Logistics costs reflect the structural realities of island operations, including dependence on sea and air transport, higher energy and labour costs, and power reliability challenges.

> Factory stuffing and de-stuffing efficiency is constrained by limited road capacity, the absence of logistics yards, and last-mile cargo handling infrastructure, indicating scope for targeted infrastructure upgrades.

> Port Blair plays a critical role as the main logistics node. Stakeholders highlighted opportunities to strengthen cargo sheds, covered storage, mechanised handling, warehousing, and develop consolidated facilities such as a logistics hub, ICD, or CFS.

> Freight movement is influenced by environmental safeguards and infrastructure limits, including convoy regulations, bridge load restrictions, urban congestion, and limited access to certified weighbridges.

> Air cargo is recognised as an important enabler for time-sensitive shipments. Expanded flight frequency, dedicated freighters, and inter-island cargo connectivity could further strengthen this mode.

> Road and ferry connectivity to the northern islands remains a key determinant of transit times, shaped by NH-4 (ATR) completion, road conditions, and ferry capacity at major straits.

> Logistics issues are currently addressed through existing administrative channels. A unified facilitation or grievance redressal mechanism could further strengthen coordination and service outcomes.

Figure 1: Voice of Logistics Service Providers and Users

> The UT's distance from the mainland makes sea and air transport the primary lifelines for cargo movement. While essential for connectivity, this also shapes freight costs and transit timelines for critical supplies.

> With no land-based link to the mainland, logistics performance is closely tied to the reliability of shipping and aviation services, underscoring the importance of resilient transport operations.

> The archipelagic geography requires dependence on inter-island ferries and a limited road network, adding operational complexity to the movement of goods and people across islands.

> Hilly and uneven terrain across several islands constrains road construction and maintenance, influencing the pace and efficiency of internal logistics connectivity.

> Large tracts of land under forest protection and tribal reserve status limit the availability of sites for ports, warehouses, roads, and logistics facilities, leading to concentrated infrastructure footprints and capacity pressures.

Potential Opportunities in the State

The logistics ecosystem of the Andaman and Nicobar Islands is shaped by geographic separation from the mainland, strong reliance on maritime and air connectivity, and a limited local production base. At the same time, the islands occupy an important position in India's maritime geography. Strengthening logistics performance will therefore depend on addressing infrastructure gaps, capacity constraints, and structural cost pressures in ways that improve supply chain reliability and service outcomes.

Short-Term Opportunities

1

Upgrading port infrastructure and cargo handling facilities

Stakeholders have highlighted scope to modernise existing ports through the addition of cargo handling equipment, expansion of storage areas, and improvements in operational systems. Targeted upgrades at current port locations can enhance handling efficiency, reduce turnaround times, and improve reliability of essential cargo movement.

2

Introducing freight support mechanisms to moderate logistics costs

High freight costs remain a central challenge for businesses and consumers in the islands. There is potential to explore targeted support mechanisms, such as freight subsidies or incentive-based schemes, to improve affordability of essential goods and strengthen the viability of commercial activity.

Long-Term Opportunities

3

Development of deep-draft port infrastructure

There is an opportunity to develop deep-water port facilities capable of accommodating larger vessels. Such infrastructure could strengthen direct connectivity with mainland ports and reduce reliance on trans-shipment. Structured feasibility studies can help identify suitable locations, environmental considerations, and investment requirements.

4

Expansion of cold chain and temperature-controlled storage infrastructure

Given the dependence on imported perishables, strengthening cold chain capacity at ports and key logistics nodes remains a priority area. Strategic investment in temperature-controlled storage, refrigerated handling, and associated systems can reduce spoilage, improve food security, and enhance overall supply chain efficiency.



Chandigarh

State Performance Snapshot

2025	2024
Accelerator	Achiever

In LEADS 2025, Chandigarh is classified as an **"Accelerator"** following its position as an Achiever in LEADS 2023 and 2024. The UT's logistics ecosystem reflects its role as a compact urban and administrative centre, with freight movement largely driven by intra-city distribution and regional connectivity within the tri-city area.

Logistics planning is guided by the Chandigarh Master Plan 2031, with a City Logistics Plan under preparation and coordination through PM GatiShakti to support targeted infrastructure development. Governance and service delivery are strengthened through online single-window approvals, a draft Logistics Policy under consultation, logistics skilling via higher-education institutions, and clean mobility initiatives under the EV Policy 2022, including expansion of charging infrastructure and support for fleet electrification.

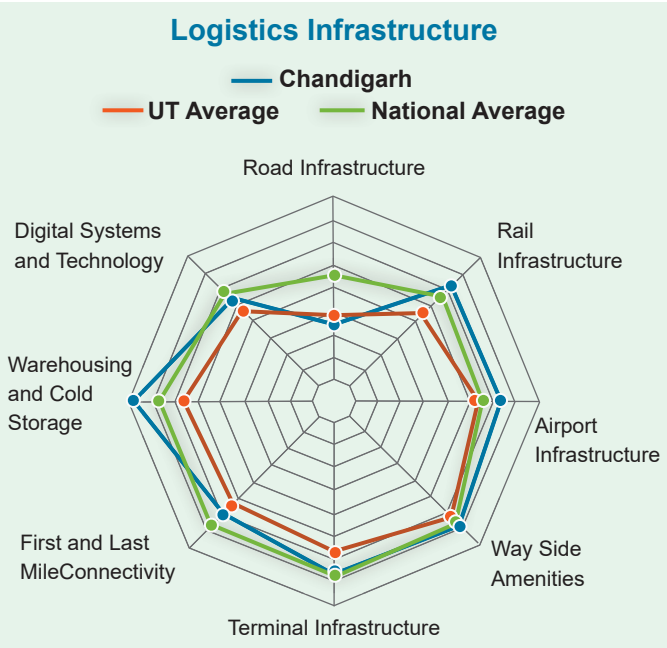
Logistics Infrastructure

Chandigarh's logistics infrastructure perceptions indicate a mixed performance profile for the UT, with strengths observed across several core infrastructure components alongside specific gaps that warrant targeted attention.

The UT records perception scores above the UT average and national average for improvement in rail infrastructure, improvement in airport infrastructure, improvement in adequacy and quality of way side amenities and improvement in warehousing, cold storage, pack-houses etc., reflecting relatively strong performance in core physical infrastructure and support facilities, which is likely contributing to smoother cargo movement and improved logistics efficiency within the UT.

In contrast perceptions on "Improvement in availability and condition of road infrastructure" is below both the UT average and national average indicating a key infrastructure gap that may be constraining overall logistics efficiency.

The UT records perception scores above the UT average and aligned with national average for improvement in terminal infrastructure, improvement in first/ last mile connectivity and availability of digital systems to support logistics operations, reflecting steady progress in core connectivity and digital enablement, while indicating scope for further consolidation to strengthen end-to-end logistics efficiency.



Logistics infrastructure planning in U.T. Chandigarh is guided by the Chandigarh Master Plan (CMP) 2031, prepared by the Department of Urban Planning, which defines land-use zoning across the city. A dedicated City Logistics Plan (CLP) is proposed in alignment with CMP 2031, and the UT is currently in discussions for its preparation. As a pre-planned, landlocked Union Territory with limited land availability, the scope for large-scale logistics infrastructure expansion remains constrained. Infrastructure planning is therefore targeted and optimisation-focused, with the PM GatiShakti National Master Plan (PMGS) portal being used for city-level applications such as cycle-track planning and property records mapping.

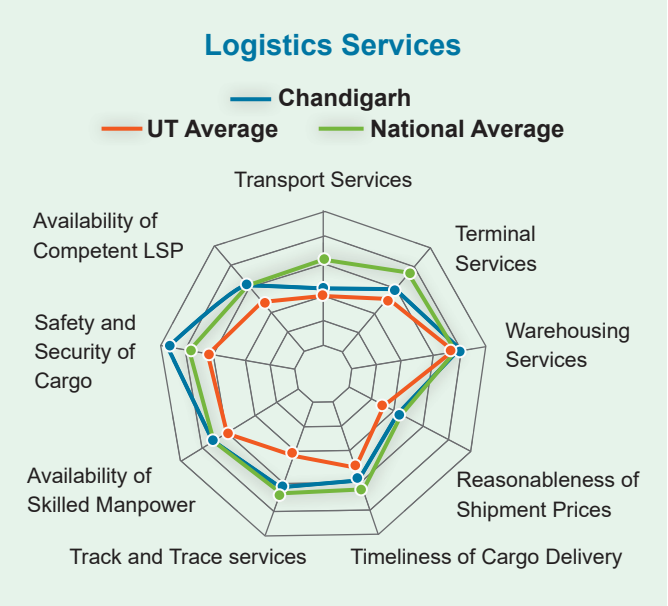
Logistics Services

Chandigarh's logistics services outcomes are broadly aligned with UT and national averages across key service parameters, reflecting user perceptions on service availability, delivery conditions, and operational support across logistics activities.

Perception scores are in line with UT average but below national average for improvement across all transport services and improvement in terminal services, indicating scope for further enhancement in service quality and operational efficiency to converge with broader national performance levels.

In contrast the perception scores for improvement in shipment prices, availability of track and trace services, availability of skilled manpower and availability of competent logistics service providers, are above the UT average and aligned with the national average reflecting relatively stronger performance in service availability and market maturity within the UT.

Perception on improvement in safety and security of cargo is assessed above both the UT and national average and improvement in warehousing services is perceived aligned with both the UT and national average, suggesting a reasonably consistent service environment, with cargo protection measures performing comparatively well and warehousing services demonstrating steady alignment with broader UT and national levels.



Logistics skill development in U.T. Chandigarh is supported under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY). While logistics-related courses are included within the scheme, programme implementation in this domain is yet to commence in the UT. The Chandigarh Skill Development Mission (CSDM), led by the Directorate of Technical Education, serves as a convergent platform to align central and UT-level skilling initiatives with industry requirements.

Private higher education institutions play a significant role in building logistics and supply chain capabilities. GGDSD College, Sector 32, offers a Bachelor of Vocation (B.Voc.) in Logistics Management, while Chandigarh University offers BBA (Hons.) and MBA programmes in Logistics and Supply Chain Management, covering core competencies in supply chain operations, warehousing, and transportation management.

At present, under the existing Industrial Policy, no dedicated incentives are available for micro and

medium enterprises (MMEs) in the logistics sector. However, the forthcoming MSME Policy proposes the introduction of incentives for MMEs and is also considering granting industry status to the logistics sector, based on stakeholder consultations.

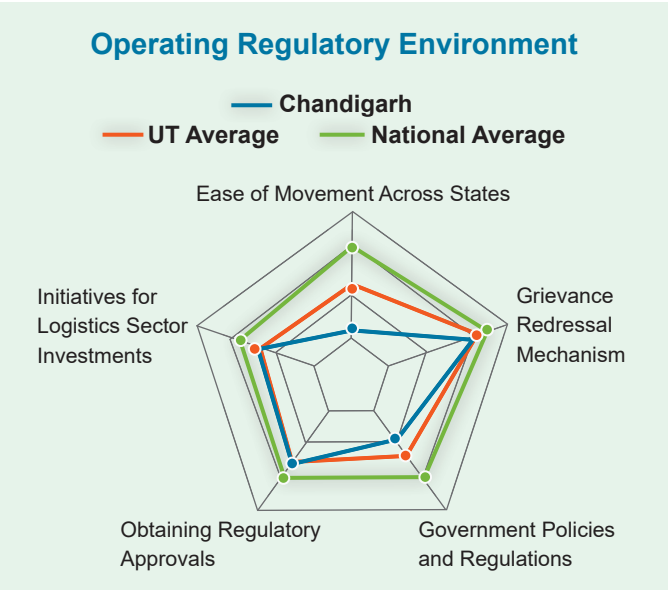
Operating and Regulatory Environment

Chandigarh's operating and regulatory environment perceptions indicates differential performance across regulatory efficiency, policy support, and inter-state facilitation dimensions.

The UT records perception scores aligned with UT and national averages for availability of grievance redressal mechanism and availability of policy initiatives for logistics sector investments suggesting comparable performance with peer UTs and consistency with national benchmarks across these parameters.

Whereas, perceptions on ease of obtaining regulatory approvals for setting up new logistics facilities is are above the UT average as well as national average indicating relatively stronger stakeholder confidence in the regulatory approval process compared to peer UTs and the country overall.

However, perceptions related to improvement in ease of border crossing, as well as the availability of government policies and regulations in facilitating logistics operations, remain below UT and national averages, indicating areas for targeted improvement including inter-jurisdictional coordination frictions that affect freight predictability in the tri-city region.



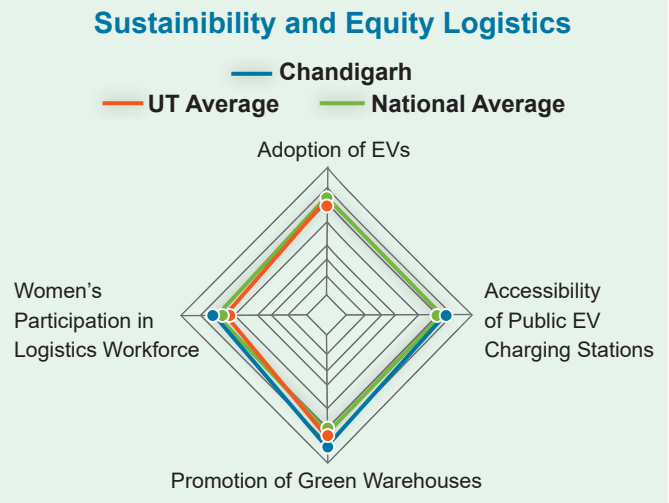
Short-term focus: The draft Logistics Policy for U.T. Chandigarh has been prepared and is currently under stakeholder consultation. Given the UT's land-locked geography and limited land availability, the policy prioritises optimisation of existing infrastructure over large greenfield developments. Logistics planning and inter-departmental coordination are supported through the PM GatiShakti framework, with the Empowered Group of Secretaries (EGoS), Network Planning Group (NPG), and Technical Support Unit (TSU) functioning as a dedicated task force. A separate committee has also been constituted for preparation of the City Logistics Plan to guide urban freight management.

Long-term focus: Chandigarh is strengthening its operating environment for logistics businesses through full digitisation of approvals and compliance processes. All key permissions, including building plan approvals, pollution clearances, Fire NOC, electricity, labour registrations, transport permits, and sector-specific licences, are available online via the e-Services Chandigarh portal, aligned with the Chandigarh Building Rules, 2017 and the Master Plan 2031, enabling predictable, time-bound and transparent facilitation for logistics sector investments.

Sustainability and Equity Logistics

Chandigarh's sustainability and equity outcomes in logistics remain positioned close to UT and national averages across parameters, reflecting user perceptions on green logistics practices and workforce participation. The results indicate a broadly comparable performance with peer regions, with specific strengths emerging in targeted sustainability initiatives.

Chandigarh records perception score above UT and national averages in availability of initiatives for promotion of green warehouses, highlighting stronger uptake of sustainable warehousing practices. Perceptions related to the availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for inclusion of women workforce , remain aligned with UT and national average, suggesting performance comparable with peer UTs and consistency with national averages across these parameters.



The Chandigarh Electric Vehicle (EV) Policy, 2022 has operationalised several LEADS recommendations by supporting clean urban logistics and last-mile delivery. The UT has introduced purchase and registration incentives for electric 2W, 3W, 4W and commercial vehicles, directly benefiting delivery operators and fleet owners. A comprehensive framework has been established for development of public and private EV charging infrastructure, including mandatory installation of charging stations at petrol pumps, along with GST reimbursement and upfront capital subsidies for fast-charging and battery swapping stations.

At present, 36 EV charging stations have been installed across the UT through OPEX-based e-tendering, enabling private sector participation and faster rollout. To ensure sustained financing of clean mobility initiatives, Chandigarh has also created dedicated funding mechanisms such as the UT EV Fund and the Clean Air Cess.

In addition, the Chandigarh Startup Policy, 2025 prioritises sustainability and proposes preferential support for startups engaged in EV manufacturing and clean mobility solutions, strengthening the ecosystem for green and circular economy–linked logistics practices in the UT.

Progress since LEADS 2024

Chandigarh has undertaken a set of targeted interventions in line with the LEADS recommendations, focusing on improving urban freight movement, strengthening digital service delivery, upgrading industrial logistics infrastructure, and advancing green and circular economy–linked logistics practices.

Action Taken on Short-Term Opportunities

Strengthening urban freight and last-mile logistics:

Promotion of electric two- and three-wheelers for urban deliveries under the Chandigarh EV Policy, 2022, supported by sector-wise traffic management measures and time-window–based goods movement regulations to improve efficiency of intra-city freight operations.

Enhancing digital systems and process simplification:

Expansion of online approvals, digital permit systems, and e-governance platforms, including EV portals and digital licensing and consent mechanisms, to enable faster, more transparent logistics-related regulatory processes.

Upgrading infrastructure in industrial areas:

Implementation of road repairs, traffic circulation improvements, and internal mobility enhancements within Industrial Areas Phase I and II to support safer and more efficient movement of goods vehicles.

Action Taken on Long-Term Opportunities

Promoting green logistics and circular economy practices:

Development of solar-powered EV charging infrastructure, expansion of segregated waste collection, establishment of biomethanation facilities, and strengthening of recycling systems to support low-emission logistics and resource recovery.

Skill development in logistics and supply chain:

Initiation of logistics and supply chain skilling initiatives to build workforce capacity aligned with evolving urban logistics requirements and sustainability goals.



Voice of Stakeholders and UT Government

To complement the perception scores and the policy narrative, a Voice of Customer (VOC)–style synthesis was undertaken to capture the most policy-relevant issues highlighted by (i) logistics service providers and logistics users, and (ii) the UT Government. The synthesis reflects key concerns related to infrastructure constraints, service reliability, regulatory processes, and institutional coordination, which are affecting logistics efficiency, operational predictability, and overall competitiveness within the UT.

Surface deterioration on Madhya Marg, Vikas Marg and Dakshin Marg indicates scope for prioritised corridor rehabilitation.

Limited availability of local multimodal logistics facilities presents an opportunity to strengthen intra-UT freight infrastructure.

Slower development of Industrial Area Phase-III constrains warehousing growth, suggesting scope for accelerated logistics-led development.

Monsoon-related waterlogging on key Industrial Area–tri-city routes highlights the need for stronger drainage and climate-resilient road design.

Flooding near the Industrial Area underpass and ISBT affects cargo movement, Proximity to railway lines offers potential to develop rail-linked freight handling interfaces.pointing to the need for targeted upgrades at critical nodes.

Absence of a single logistics coordination interface indicates potential for establishing a dedicated nodal mechanism within the UT.

Proximity to railway lines offers potential to develop rail-linked freight handling interfaces.

Informal para-transit activity affects last-mile delivery efficiency, creating room for improved urban freight management measures.

Fog and extreme weather periodically impact air and rail cargo flows, underlining the value of resilient logistics planning.

Figure: Voice of Logistics Service Providers and Users

The city's compact geography and planned land-use pattern significantly limit the development of large logistics facilities, modern warehouses, cold-chain units, and dedicated fleet parking areas.

Increasing e-commerce activity, combined with high traffic density during peak hours, poses challenges in optimising last-mile delivery turnaround times, particularly in high-density sectors.

Industrial Area Phase I and Phase II face inherent spatial limitations, restricting the scale of logistics operations and efficient circulation of goods vehicles.

Cold-chain and temperature-controlled logistics infrastructure within the city remains limited due to space constraints, necessitating reliance on facilities in neighbouring districts.

Growing goods movement has increased demand for structured parking, holding, and staging areas for commercial fleets, outpacing the availability of suitable space.

Figure: Voice of the UT Government

Potential Opportunities in the UT

Potential Opportunities in the UT – Chandigarh

Chandigarh's logistics ecosystem is shaped by its role as the administrative capital of two States, its integration within the larger tri-city region, and its emerging private logistics footprint. While urban infrastructure and service delivery are relatively advanced, freight mobility continues to be affected by infrastructure bottlenecks, weather-related disruptions, and limited multimodal integration. Addressing these challenges presents opportunities to strengthen freight efficiency and support Chandigarh's role as a connected urban logistics node for the region.

Short-Term Opportunities

1. **Growing requirement for strengthening key freight corridors and drainage infrastructure to ensure year-round connectivity.**

   Stakeholders have highlighted disruptions caused by monsoon-related waterlogging on critical routes connecting Industrial Areas with the tri-city region. Targeted improvements to stormwater systems, road surfaces, and underpasses can significantly improve the reliability of freight movements during extreme weather events.

2. **Increasing demand for rehabilitation of priority arterial roads to support freight and commuter flows.**

   Given deteriorating road conditions on corridors such as Madhya Marg, Vikas Marg, and Dakshin Marg, there is scope to prioritise rehabilitation and maintenance of freight-carrying stretches. Establishing dedicated maintenance plans for high-impact corridors can reduce vehicle downtime and logistics costs.

3. **Opportunity to establish a dedicated logistics coordination mechanism within the UT administration.**

   Stakeholders indicate the absence of a defined nodal interface for logistics and freight-related matters. A dedicated cell to coordinate with industry and tri-city authorities can streamline communication, approvals, and freight planning activities.

Long-Term Opportunities

4. **Scope for developing integrated logistics hubs linked to Industrial Area Phase-III and tri-city corridors.**

   Stakeholders have noted delayed development of Industrial Area Phase-III, which constrains industrial and logistics expansion. Accelerated development, coupled with land earmarking for warehousing and multimodal services, can position Chandigarh as a strategic urban logistics node.

5. **Opportunity to improve urban freight management and last-mile delivery systems.**

   Traffic enforcement challenges and mixed-use urban zones affect last-mile freight flows. Over the long term, Chandigarh can benefit from an integrated urban freight plan—including designated routes, parking zones, and regulatory rationalisation—to improve delivery efficiency and reduce congestion.



Dadra & Nagar Haveli and Daman & Diu

State Performance Snapshot

2025 Accelerator

2024 Fast Mover

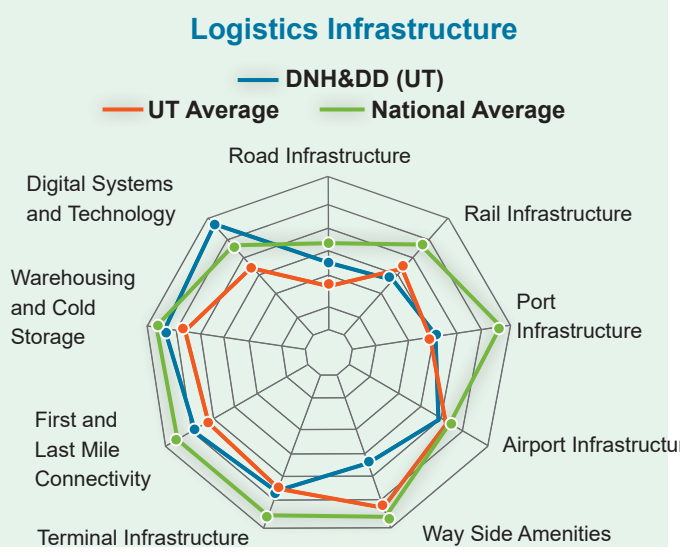
Dadra & Nagar Haveli and Daman & Diu (DNH&DD) has been placed in the **Accelerators** category in LEADS 2025, retaining the same position as in 2024, following its earlier classification as an Aspirer in 2023. Perception-based assessments indicate broad alignment with UT and national averages across logistics infrastructure, services, regulatory facilitation, and sustainability dimensions. This performance is consistent with the UT's ongoing efforts in city-level logistics planning, policy development, and institutional strengthening under the PM GatiShakti framework.

DNH&DD has initiated a structured approach to logistics development through city-level planning, PM GatiShakti–mandated integrated infrastructure planning, and the formulation of a formal policy and institutional framework. Key initiatives include the preparation of City Logistics Plans; mandatory use of the PM GatiShakti National Master Plan Portal for new infrastructure projects; identification of PPP-based logistics infrastructure projects; delivery of logistics-related skilling through ITIs and vocational institutions; drafting of a Logistics Policy with provisions for a dedicated Logistics Policy Cell and Single Window integration; and implementation of sustainability measures under the Investment Promotion Scheme (IPS), 2022. These measures support EV adoption, green-fuel technologies, energy-efficient logistics infrastructure, and environmentally compliant warehousing practices.

Logistics Infrastructure

DNH&DD's logistics infrastructure reflects a regional logistics system, with perception scores broadly aligned with UT and national averages across most indicators.

The UT records perception scores aligned with UT and national average for improvement in road infrastructure, improvement in airport infrastructure, improvement in terminal infrastructure, improvement in first/ last mile connectivity and improvement in warehousing, cold storage, pack-houses etc., indicating a consistent infrastructure baseline while underscoring scope for targeted upgrades to enhance multimodal efficiency and future capacity.



The perception score for the parameter, availability of digital systems to support logistics operations is assessed above the UT and national average, reflecting a reasonably mature operational base.

In comparison, perception related to improvement in port infrastructure is assessed above the UT average but below the national average, indicating relatively stronger performance within the UT cohort while highlighting scope for incremental upgrades to enhance efficiency and competitiveness.

While in contrast the perception scores for improvement in adequacy and quality of way side amenities and improvement in rail infrastructure, are below both the national and UT averages, highlighting the need for targeted investments to strengthen passenger and freight support infrastructure and enhance rail connectivity.

The Union Territory of Dadra and Nagar Haveli and Daman and Diu (DNH & DD) has initiated city-level logistics planning, with City Logistics Plans currently under preparation for identified urban centres. These plans are intended to guide urban freight movement, last-mile efficiency, and congestion mitigation, and are currently at the draft stage.

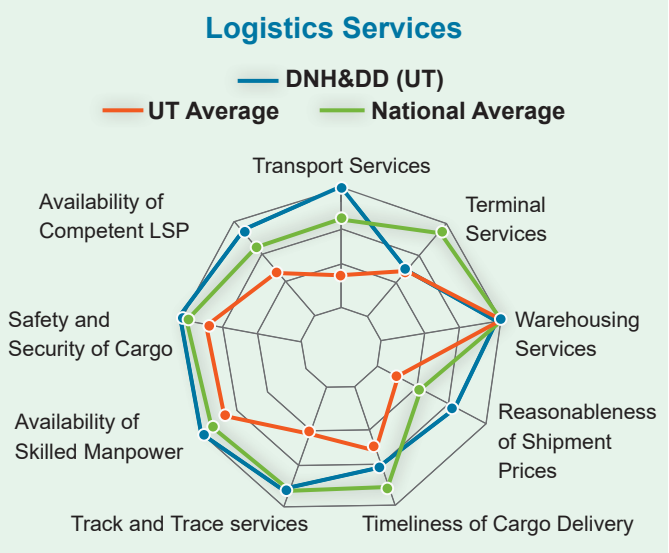
The UT has mandated the use of the PM GatiShakti National Master Plan Portal for all new infrastructure projects through a Government Circular dated 17 November 2023. The circular requires GIS-enabled integrated planning, adherence to DPIIT (Department for Promotion of Industry and Internal Trade) data SOPs, and certification by the Department of Industry prior to administrative or financial approvals being accorded.

With respect to Public-Private Partnership (PPP) participation, logistics infrastructure projects are under consideration across FY 2023-24 to FY 2025-26, with project identification and structuring in progress at this stage.

Logistics Services

Perception indicators suggest that Dadra & Nagar Haveli and Daman & Diu largely outperforms national and UT averages, with scope for improvement across select service dimensions.

DNH&DD scores above the UT and national average on the parameters improvement across all transport services, improvement in shipment prices, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers reflecting strong service delivery capabilities and a relatively mature logistics services ecosystem.



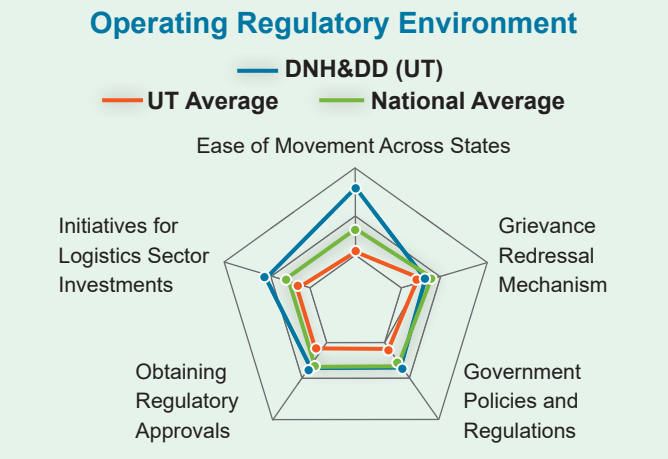
Perception score for improvement in warehousing services, is aligned with both the UT average and national average. Scores for parameter improvement in terminal services is aligned with the UT average but below the national average, while perception score for improvement in timeliness of cargo delivery is above the UT average but marginally below the national average indicating relative strength at the UT level with scope for further convergence towards national performance levels

Dadra & Nagar Haveli and Daman & Diu (DNH & DD) is gradually strengthening logistics services through skill development initiatives and policy-linked incentives. While a dedicated logistics-specific skilling institution is yet to be established, logistics-related training is delivered through existing skill development schemes and UT-supported training centres, including Industrial Training Institutes (ITIs) and allied vocational institutions. These efforts support workforce capacity building for logistics operations, alongside early emphasis on sustainable logistics practices.

Operating and Regulatory Environment

DNH&DD reflects a strong and consistent operating and regulatory environment with perception scores broadly above the UT and national averages across key dimensions.

The UT records perceptions above the national average and UT average on improvement in ease of border crossing, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments, reflecting a supportive regulatory environment and proactive policy framework conducive to logistics sector growth.



Perceptions score for availability of grievance redressal mechanism are aligned with the UT average but below the national average indicating moderate effectiveness of existing grievance redressal systems while highlighting scope for further strengthening to achieve national average score.

Dadra & Nagar Haveli and Daman & Diu (DNH & DD) has initiated the process of strengthening its logistics governance framework through the formulation of a Logistics Policy, which is currently at the draft stage. The draft policy aims to provide a structured policy direction for the development of logistics and supply chain infrastructure across the Union Territory. However, the policy is yet to be formally notified.

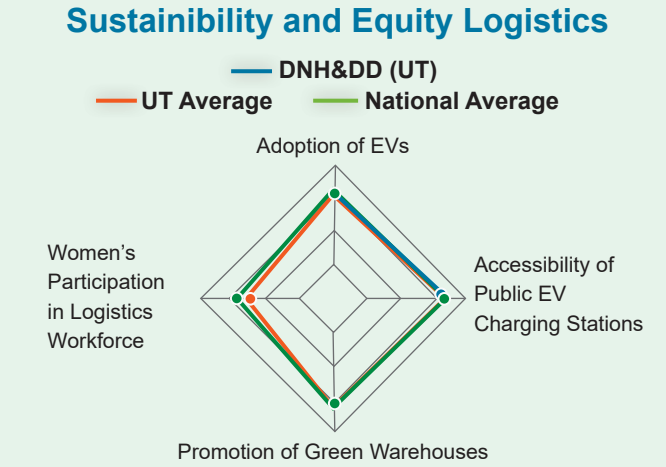
A dedicated Logistics Policy Cell is proposed as the nodal agency, supported by a UT-level Empowered Committee for policy oversight, approvals, and incentive sanctioning. Regulatory facilitation will be streamlined through a separate logistics category on the Single Window Portal, enabling coordinated inter-departmental clearances and incentive processing. The framework aligns with PM Gati Shakti and emphasizes digital processes to enhance transparency, ease of doing business, and operational efficiency.

Sustainability and Equity Logistics

DNH&DD reflects a sustainability and equity logistics framework with outcomes remaining broadly aligned with UT and national averages across indicators.

Perception scores for availability of support in EV adoption and availability of public EV charging stations, are above the UT average and national average reflecting proactive policy support and improving EV infrastructure readiness for advancing sustainable logistics operations.

Performance on parameter availability of initiatives for promotion of green warehousesrecords perception score aligned with the UT average but above the national average, whereas the perception score for availability of initiatives for inclusion of women workforce is aligned with UT average but below national average indicating comparatively stronger progress on the green warehousing initiatives while highlighting scope to further strengthen inclusion of women workforce in the logistics sector.



Sustainability initiatives in Dadra & Nagar Haveli and Daman & Diu are anchored in the Investment Promotion Scheme (IPS), 2022, which seeks to promote a low-carbon and inclusive logistics ecosystem. The UT encourages adoption of electric vehicle (EV) fleets and green-fuel technologies for freight movement, supported by fiscal incentives that can be leveraged for green logistics infrastructure such as EV charging and battery-swapping facilities.

Under IPS-2022, eligible logistics units can avail a capital subsidy of up to 35% of Gross Fixed Capital Investment (GFCI), which may be utilised for sustainable and energy-efficient infrastructure. Environmental sustainability is further reinforced through the Environment Protection Infrastructure Subsidy, which provides support of up to ₹30 lakh or 25% of project cost for setting up Zero-Liquid-Discharge (ZLD) plants, effluent-treatment systems, and hazardous-waste management facilities in logistics parks.

The UT also promotes energy-efficient and green building practices by aligning new logistics warehouses with ECBC-style building standards and encouraging LEED/GRIHA-aligned construction, supported through a 25% capital subsidy (capped at ₹5 lakh) for green retrofits.

Progress since LEADS 2024

DNH&DD has undertaken targeted interventions in line with the LEADS 2024 recommendations, with a focus on strengthening export facilitation mechanisms, enhancing MSME participation in logistics systems, and advancing multimodal and green logistics planning.

Actions Taken on Short-Term Opportunities

Activation of District Export Promotion Committees (DEPCs): Establishment of DEPCs across districts to support export-oriented decision-making, coordination, and facilitation of trade-related approvals.

Capacity building for MSMEs: Implementation of training programmes and awareness initiatives to familiarise MSMEs with logistics-linked schemes, digital tools, and export facilitation platforms.

Simplification and digitisation of documentation: Measures to reduce procedural documentation and expand digital approval mechanisms for logistics and export-related activities.

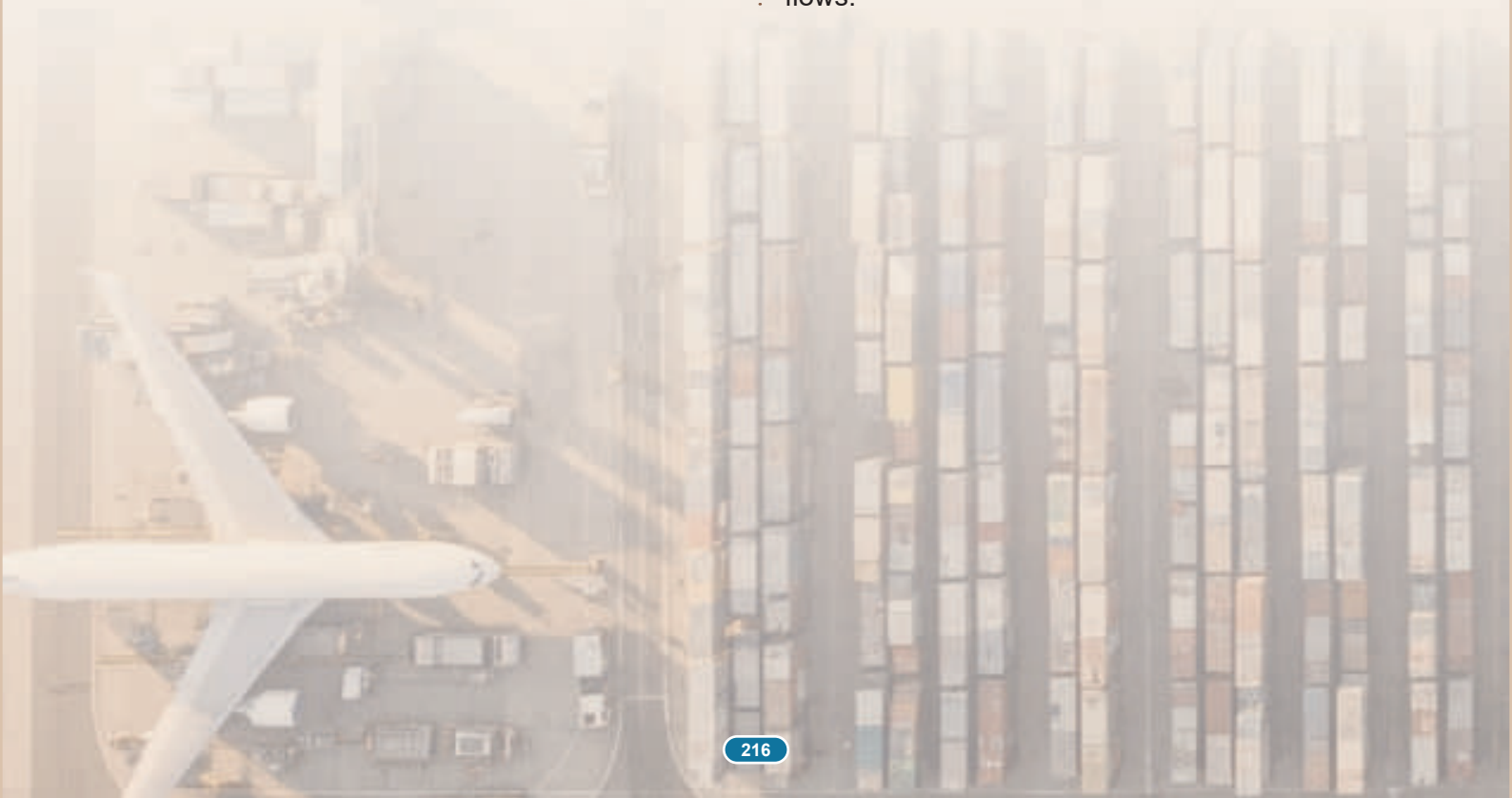
Actions Taken on Long-Term Opportunities

Development of multimodal logistics parks: Planning of integrated logistics hubs comprising warehousing, transport connectivity, and value-added services to support consolidated freight handling and distribution.

Promotion of green logistics initiatives: Initiatives to support adoption of electric vehicles and solar-powered infrastructure within logistics operations.

Encouragement of Public–Private Partnerships (PPPs): Engagement of private sector participation for logistics infrastructure development and service delivery.

Export diversification strategy: Formulation of strategies to broaden the product and market base beyond existing dominant commodities and destinations, supporting diversification of trade flows.



Voice of Stakeholders and UT Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)–style synthesis has been prepared to capture key system-level themes highlighted by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below reflect stakeholder perspectives on factors influencing logistics efficiency, service reliability, and competitiveness, and indicate areas where ongoing and future interventions can further strengthen the logistics ecosystem.

> Deteriorated road conditions create a cascading effect, increasing vehicle maintenance costs by 40–50 percent and raising overall logistics costs that are ultimately passed on to customers.

> The Bharuch–Bhilad stretch has multiple bottlenecks caused by poor road and highway surface conditions, reducing freight speeds to 2–5 km/hr and leading to frequent traffic congestion.

> Bharuch–Karjan toll plaza is one of the slowest points on NH-48, contributing significantly to traffic congestion and delivery delays.

> Proper road maintenance and traffic management at critical junctions can significantly improve logistics efficiency within the UT

> Digitization of toll collection, including satellite-based toll deduction, can benefit the logistics ecosystem by reducing stoppage time.

> Poor highway conditions severely affect heavy logistics vehicles, increasing vehicle wear and tear and reducing the number of trips that can be completed in a month.

Figure: Voice of Logistics Service Providers and Users

> Freight movement currently relies largely on road transport, indicating scope to strengthen rail and air cargo connectivity to improve modal balance, manage logistics costs, and enhance operational efficiency.

> Given its proximity to the Arabian Sea, the UT presents potential for closer integration with port infrastructure to support EXIM cargo flows and reduce transit time and handling costs.

> Expanding organized warehousing, cold storage, and value-added logistics facilities can support improved handling of perishable commodities and higher-value industrial exports.

> Greater formal integration of MSMEs into organized logistics networks can improve access to professional logistics services, government support schemes, and export facilitation channels.

> Wider adoption of digital tools for inventory management, supply chain tracking, and export documentation among MSMEs can help streamline processes and reduce transaction time and costs.

> A growing base of third-party logistics (3PL) providers can strengthen service coverage, introduce greater choice for users, and support improvements in service quality and pricing over time.

Figure: Voice of the UT Government

Potential Opportunities in the State

The Union Territory's strategic location between major industrial states, along with its strong manufacturing base, presents significant opportunities for strengthening logistics and supply chain efficiency. At the same time, rising industrial activity is increasing demand on existing systems, indicating the value of targeted capacity enhancement to support sustainable growth.

Short-Term Opportunities

1

Expansion of modern warehousing and cold storage infrastructure

Stakeholders indicate growing demand for organized warehousing and temperature-controlled storage facilities, particularly in industrial clusters such as Silvassa, Daman, and surrounding industrial estates. Promoting such infrastructure through public–private participation can support manufacturing output, improve handling of perishable goods, and strengthen distribution networks.

2

Streamlining of inter-State permits and regulatory processes

High volumes of freight movement between the UT, Maharashtra, and Gujarat highlight the potential benefits of simplified and harmonized permit and documentation systems. Enhanced coordination among enforcement agencies can reduce transit time, improve predictability, and support smoother goods movement across borders.

3

Strengthening of digital systems for vehicle movement and compliance

Stakeholders point to the value of integrated online platforms for permits, compliance management, and tracking. Wider use of digital systems can reduce manual procedures, improve transparency, and support more efficient freight operations.

Long-Term Opportunities

4

Development of export-oriented logistics hubs for manufacturing sectors

There is scope to establish dedicated logistics and export hubs serving key industries such as textiles, chemicals, and plastics. Such facilities can enable aggregation, organized storage, and value-added logistics services, strengthening the UT's role in regional and international supply chains.

5

Enhanced connectivity with major trade corridors and ports

Strengthening road and rail linkages with major corridors, including the Delhi–Mumbai Industrial Corridor, and ports such as Nhava Sheva and Mundra, can improve market access for manufacturers, reduce logistics costs, and support long-term competitiveness of the UT's industrial ecosystem.



Delhi

State Performance Snapshot

2025 Exemplar

2024 Achiever

Delhi's progression to the Exemplar category in LEADS 2025 reflects improvements across multiple logistics ecosystem dimensions. After being placed among the Achievers in 2023 and 2024, the UT shows continued institutional strengthening, service efficiency, and ecosystem readiness, resulting in its positioning as an Exemplar.

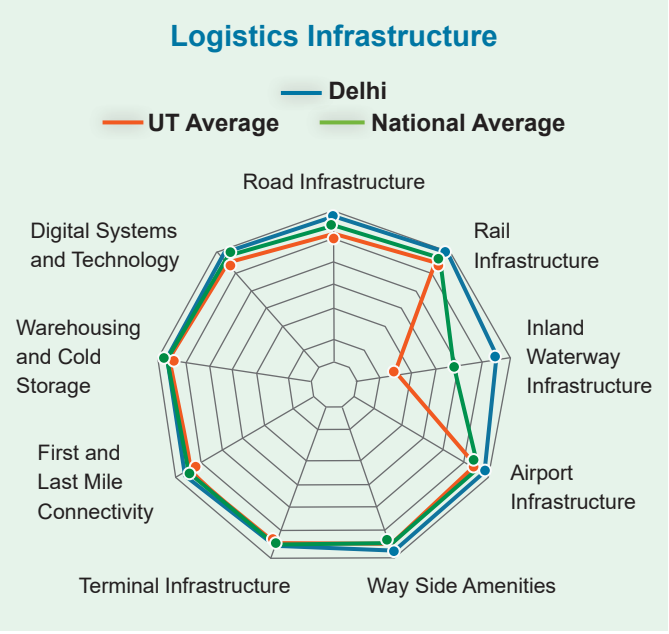
This transition is supported by strengthening of institutional, digital, and planning frameworks linked to urban and regional logistics efficiency. Key developments include preparation of the City Logistics Plan for last-mile and urban freight management, operationalisation of coordinated planning under PM GatiShakti through the Network Planning Group, Technical Support Unit and EGOS, and digitisation of land records across districts to support infrastructure coordination. Logistics skilling initiatives through DSEU and industry partnerships further reinforce Delhi's role as a major consumption and distribution hub.

Logistics Infrastructure

Perception-based indicators place Delhi above UT and national averages across several parameters, reflecting characteristics of a mature urban logistics environment with balanced multimodal availability.

Delhi records strong perception outcomes on improvement in road infrastructure, improvement in rail infrastructure, improvement in airport infrastructure, improvement in Inland waterway infrastructure, improvement in warehousing, cold storage, pack-houses etc., availability of digital systems to support logistics operations and improvement in adequacy and quality of way side amenities, with scores above the UT and national averages reflecting Delhi's comparatively consistent multimodal infrastructure base and digital readiness that support efficient freight movement and service delivery.

Perception scores for improvement in terminal infrastructure and improvement in first/ last mile connectivity, are above UT group average but below national average scores, indicating relative strength within the UT context while highlighting scope for further enhancement to match national scores.



Delhi has advanced strategic logistics planning through the preparation of a City Logistics Plan, endorsed by the Hon'ble Minister and proposed to be notified shortly. The plan, currently at the draft/ approval stage, is intended to guide urban freight management, last-mile connectivity, and overall logistics efficiency.

Under the PM GatiShakti framework, Delhi has constituted the Network Planning Group (NPG), Technical Support Unit (TSU), and Empowered Group of Secretaries (EGOS), establishing institutional mechanisms for coordinated infrastructure planning and appraisal. While a formal order mandating use of the PM GatiShakti Master Plan Portal is under process, departments such as the Delhi Jal Board (DJB) and Irrigation & Flood Control (I&FC) are actively using the portal for project planning beyond mapping.

Delhi has also achieved digitisation of land records across all 11 districts, supporting infrastructure and land-use planning.

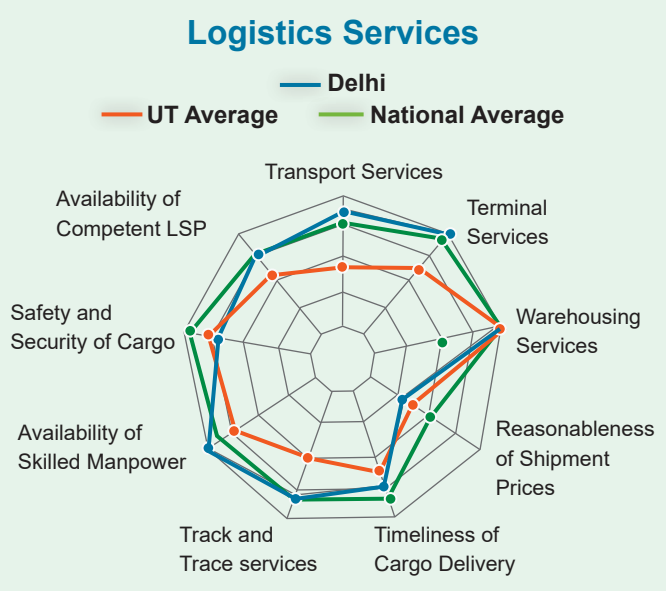
Logistics Services

Delhi's logistics services reflect differentiated perceptions across logistics service parameters when compared with the UT group and national averages.

Delhi records perception scores above the UT and national average for improvement across all transport services, improvement in terminal services and availability of skilled manpower reflecting the capital's comparatively strong service delivery capacity and workforce readiness within the logistics ecosystem.

The perception score for parameters availability of track and trace services, improvement in timeliness of cargo delivery and availability of competent logistics service providers are perceived higher than UT average but aligned with national average indicating steady service maturity alongside scope for further strengthening to reach leading national averages.

Perception scores for parameters improvement in warehousing services, improvement in safety and security of cargo and improvement in shipment prices, are lower than both UT and national averages indicating persistent gaps in warehousing services, cost competitiveness and cargo assurance that warrant focused policy and operational interventions.



Delhi has integrated logistics-focused skill development through a combination of higher education institutions and industry partnerships. Logistics training programmes are delivered in collaboration with organisations such as the Logistics Sector Skill Council (LSC), Even Cargo, and the Chartered Institute of Logistics & Transportation, covering key domains including warehousing, freight operations, supply chain management, and logistics services.

The logistics skilling ecosystem in Delhi comprises multiple institutions, including Delhi Skill and Entrepreneurship University (DSEU), TransGlobe – School of Logistics & Aviation Management, Indian Railways Institute of Logistics & Materials Management (IRILMM), Safeducate Learning Pvt. Ltd., the Warehousing Association of India, and select Delhi University / IP University programmes,

along with private and online training platforms.

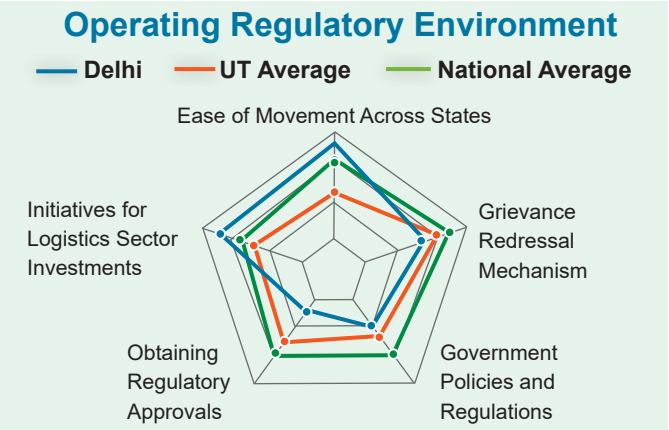
At the institutional level, DSEU has signed an MoU with the Logistics Sector Skill Council (LSC) to introduce apprenticeship-embedded undergraduate BMS programmes, strengthening industry linkage and employability. LSC has enrolled about 8.5 lakh candidates nationwide, while DSEU has facilitated around 2,300 logistics-sector placements up to 2025. Delhi also hosts the CONCOR–TERI Centre of Excellence for Green and Sustainable Logistics, supporting capacity building and research in sustainable logistics.

Operating and Regulatory Environment

Delhi's Operating and Regulatory Environment demonstrates strengths in select regulatory and facilitative dimensions; however stakeholder perceptions also point to underlying institutional frictions that temper overall ease of doing business in the logistics ecosystem.

Perception outcomes recorded for availability of policy initiatives for logistics sector investments and improvement in ease of border crossing, are higher than both the UT average and national average reflecting a supportive policy environment and relatively smoother inter-State freight movement that strengthens Delhi's attractiveness as a logistics and investment hub.

The parameters availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of grievance redressal mechanism, are perceived below both UT and national averages indicating procedural and institutional gaps that may be constraining ease of doing business and slowing logistics ecosystem responsiveness.



Delhi is strengthening its logistics regulatory framework through the Draft Delhi Logistics & Warehousing Policy, which is under Ministerial approval, with implementation proposed after notification. The Delhi Industrial Policy, currently in the final stages, is expected to further support logistics and warehousing sector development. Planning and regulatory efforts also extend to multimodal and last-mile connectivity, including Metro last-mile initiatives and the Delhi–Ghaziabad–Meerut RRTS Corridor Investment Project, aimed at improving regional integration.

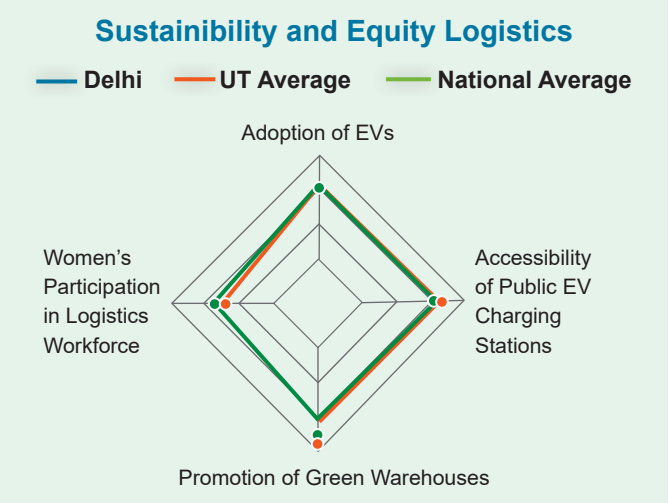
From a digital governance and regulatory streamlining perspective, Delhi is part of the national e-transport Mission Mode Project (MMP) and has integrated key services such as VAHAN (vehicle registration) and SARATHI (driving license services) into the digital transport ecosystem. Integration of transport-related services under Delhi's Single Window System is currently under process.

Sustainability and Equity Logistics

The sustainability and equity dimensions of Delhi's logistics ecosystem reflect mixed performance across key indicators, highlighting areas of relative progress alongside aspects that reflect the need for further attention to support a more balanced and inclusive logistics framework.

Delhi records higher perception outcomes for availability of support in EV adoption and availability of public EV charging stations, compared to both UT and national averages, indicating relatively stronger momentum in EV enablement

Perception scores for availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce are lower than both UT and national averages highlighting gaps in broader sustainability and inclusion initiatives.



Policy action on Green Logistics in Delhi is anchored in the clean mobility and energy-efficiency frameworks. Delhi has notified the EV Policy and the Delhi Motor Vehicle Aggregator & Delivery Service Provider Scheme, 2023, which promote the adoption of electric vehicles and cleaner delivery models, including for last-mile and urban freight operations. The Master Plan for Delhi (MPD) 2041 - Vision Document emphasizes promotion of thermally comfortable and energy-efficient buildings, aligning future urban development with ECBC and UBBL norms, including logistics and warehousing infrastructure.

Delhi has also notified the Charging/Swapping Infrastructure Action Plan (2022–25), which sets public charging and battery-swapping targets, defines guiding principles, and establishes coordinated implementation among stakeholder agencies to support EV adoption. Complementing this, Delhi is scaling up electric public transport, with 2,808 e-buses planned for procurement in 2024–25 and a target of over 10,000 buses by 2025, of which nearly 80% are proposed to be electric, strengthening clean last-mile connectivity and supporting the broader transition toward green logistics.

Progress since LEADS 2024

Following LEADS 2024 recommendations, Delhi has developed the Logistics & Warehousing Policy 2025 to address freight congestion, regulatory overlaps, and infrastructure gaps. These steps reflect ongoing efforts to improve last-mile connectivity, strengthen logistics infrastructure, and support Delhi's role within regional and national supply chains.

Action Taken on Short-Term Opportunities

The Delhi Logistics & Warehousing Policy is in the process of finalisation and notification.

Multimodal integration at metro stations is being strengthened to improve interchange efficiency.

DMRC's Metro-Cargo pilot (2025), in partnership with Blue Dart, has been introduced for parcel movement during non-peak hours to reduce road dependence and waiting time at urban distribution centres.

Plans are underway to establish a dedicated Logistics Cell/Department to improve institutional coordination and policy execution.

Action Taken on Long-Term Opportunities

Expansion of multimodal logistics hubs linked to Metro and RRTS stations is being envisaged.

Deployment of electric buses and electric feeder services to Metro and RRTS stations is being pursued to strengthen first- and last-mile connectivity.

The Logistics & Warehousing Policy is expected to guide coordinated infrastructure development, institutional mechanisms, and sustainable urban freight planning.

Voice of Stakeholders and UT Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> High traffic volumes at major logistics hubs lead to long loading hours and extended truck dwell times

> Freight clusters such as Punjabi Bagh and Sanjay Gandhi Transport Nagar face chronic congestion due to limited space and prolonged loading and unloading activity.

> Port-side delays significantly increase overall turnaround time between dispatch and container loading.

> Warehousing and logistics activities need formal zoning within designated industrial areas to reduce congestion and improve efficiency.

> The current Master Plan does not clearly classify warehousing as a separate logistics activity, resulting in warehouses operating within industrial zones without dedicated logistics zoning

> Exporters report high logistics costs and delays, with one container to Mundra costing around ₹1 lakh and taking nearly 10 days for loading.

> New transport hubs should include adequate truck parking and dedicated loading and unloading bays to avoid spillover onto public roads.

> Mother warehouses are required on the city periphery to enable freight consolidation outside core urban areas.

> Planned transport hubs in Shahdara will require supporting road widening to prevent congestion build-up.

Figure: Voice of Logistics Service Providers and Users

> Limited land availability within Delhi restricts development of large logistics parks, hubs, and modern warehousing facilities.

> Multiple regulatory frameworks governing logistics and freight operations create overlaps and increase compliance burden.

> Last-mile connectivity remains a key bottleneck for efficient goods movement across the city.

> Existing logistics and freight infrastructure faces capacity constraints in meeting current and future demand.

> High freight volumes linked to Delhi's role as a major distribution and consumption hub contribute to persistent congestion.

Potential Opportunities in the State

Delhi's logistics ecosystem plays a critical role in supporting national and regional supply chains, given its position as a major consumption and distribution hub. However, increasing freight volumes, congestion, and environmental constraints necessitate targeted interventions to improve efficiency, sustainability, and service delivery.

Short-Term Opportunities

1

Development of organized transport hubs

Structured transport hubs around Delhi can support freight aggregation, parking, transshipment, and first–last mile connectivity. This can reduce unregulated roadside loading and parking, improve traffic flow, and enhance operational predictability for logistics operators.

2

Use of metro rail for urban freight during non-peak hours:

Persistent road congestion and limited space for freight movement create scope to assess the use of existing metro infrastructure for off-peak or night-time movement of light cargo. This can help shift low-volume freight away from road corridors during peak periods.

Long-Term Opportunities

3

Dedicated freight corridors within the urban road network

Identifying and designating specific arterial corridors for freight movement can enable partial segregation of commercial and passenger traffic. Time-windowed operations, lane management, and supporting infrastructure can improve reliability for freight vehicles and reduce congestion impacts on urban mobility.

4

Productivity enhancement at air cargo terminals

With limited scope for physical expansion, air cargo terminals can improve handling capacity through mechanisation, automation, and digital integration. Automated material handling systems and process digitisation can reduce dwell time and increase throughput without additional land requirements.



Jammu and Kashmir

State Performance Snapshot

2025	2024
High Performer	Acheiver

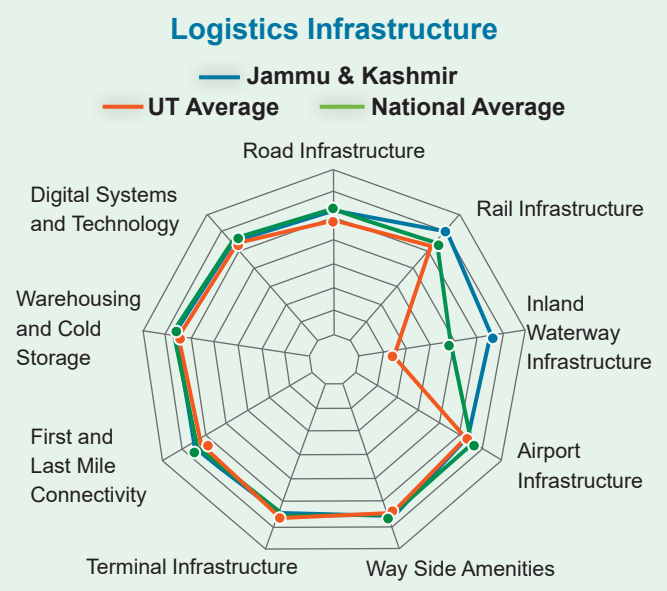
Jammu & Kashmir's positioning among the **High Performers** in 2025 reflects continuity in its logistics development trajectory over recent years. Having remained within the Achievers category in both 2023 and 2024, the UT demonstrates steady institutional consolidation, improving service readiness, and strengthening ecosystem capacity, supporting deeper integration with national supply chains. This positioning is underpinned by the ongoing implementation of structured logistics policies, institutional coordination mechanisms, multimodal infrastructure projects, skilling initiatives, and green logistics measures across the UT.

Key initiatives include logistics-focused training under PMKVY and Mission YUVA; granting of industry status to logistics and warehousing under the J&K Industrial Policy; ULIP integration; PM GatiShakti–aligned planning processes; adoption of City Logistics Plans for Srinagar and Jammu; development of multimodal hubs and rail freight connectivity; establishment of single-window clearance and grievance redressal systems; and the rollout of EV adoption measures, energy-efficient building practices, and green urban transport initiatives.

Logistics Infrastructure

Jammu & Kashmir's logistics infrastructure records perception scores mostly aligned with UT and national averages across indicators. Perception scores for improvement in road infrastructure, improvement in airport infrastructure, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc., improvement in adequacy and quality of way side amenities and availability of digital systems to support logistics operations, are aligned with the UT average as well as the national average, indicating parity with peer UTs and national averages across core infrastructure parameters.

Perception scores for the parameters improvement in rail infrastructure, improvement in terminal infrastructure and improvement in Inland waterway infrastructure are above both the UT and national averages, indicating relatively stronger stakeholder assessment of select multimodal infrastructure components.



Jammu & Kashmir is strengthening its logistics infrastructure through PM GatiShakti–aligned planning, multimodal terminals, and PPP-led investments. City Logistics Plans for Srinagar and Jammu have been prepared and adopted by the UT Logistics Coordination Committee (September 2025), with formal Cabinet notification awaited, to improve urban freight efficiency and last-mile connectivity. The UT has institutionalised PM GatiShakti governance, mandating all projects above ₹20 crore to be mapped on the National Master Plan Portal (July 2025). A dedicated Network Planning Group (NPG) and Technical Support Unit (TSU) are operational.

Key logistics assets include the ACTL Integrated Multimodal Logistics Hub (ICD Samba), connected to NH-44 and rail, supporting road–rail freight movement. Rail-led logistics has expanded with the electrified Udhampur–Srinagar–Baramulla Rail Link (USBRL) and initiation of freight parcel services between Budgam and Delhi, strengthening connectivity to the Kashmir Valley. The UT is facilitating multiple Central and PPP-based logistics projects, including highways, tunnels, airport cargo upgrades, rail freight terminals, and a proposed Multi-Modal Logistics Park (MMLP) at Vijaypur under a DBFOT framework.

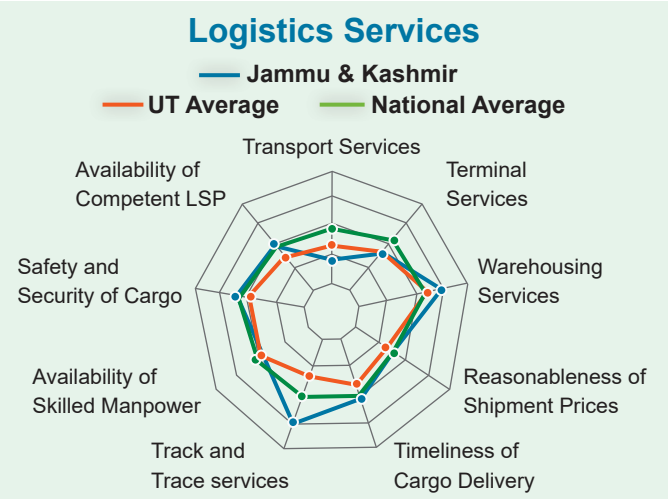
Logistics Services

An assessment of stakeholder perceptions under the logistics services pillar indicates a differentiated performance profile across service quality, digital enablement, and multimodal transport dimensions.

Jammu & Kashmir records perception scores above the UT average and aligned with national average for availability of skilled manpower, improvement in safety and security of cargo, improvement in shipment prices and improvement in timeliness of cargo delivery indicating comparatively stronger performance within the UT group, while remaining aligned with national averages across core service delivery outcomes.

Whereas the UT is perceived to be performing above the UT average but below the national average for “Improvement in the adequacy and quality of terminal services”, indicating scope to strengthen terminal service.

Perception scores for parameters availability of track and trace services, availability of competent logistics service providers and improvement in warehousing



services, are above the UT and national averages, indicating relatively stronger performance in service ecosystem maturity, digital cargo visibility, and storage infrastructure.

In contrast, perception score for improvement across all transport services, is below both UT and national averages, suggesting scope for further strengthening of multimodal service availability and coverage over time.

Jammu & Kashmir is strengthening logistics services through targeted skill development, institutional partnerships, and policy-backed incentives. Logistics-related training is delivered under national and Union Territory–level schemes including the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Mission YUVA (Youth for Unemployment-free Villages and Areas), and the Skill India Digital Hub (SIDH), covering transportation, warehousing, and supply chain management. Formal education and certification in logistics are offered through institutions such as IIM Jammu, IITs, the University of Kashmir, and State-supported skill training centers, with approximately five institutions currently

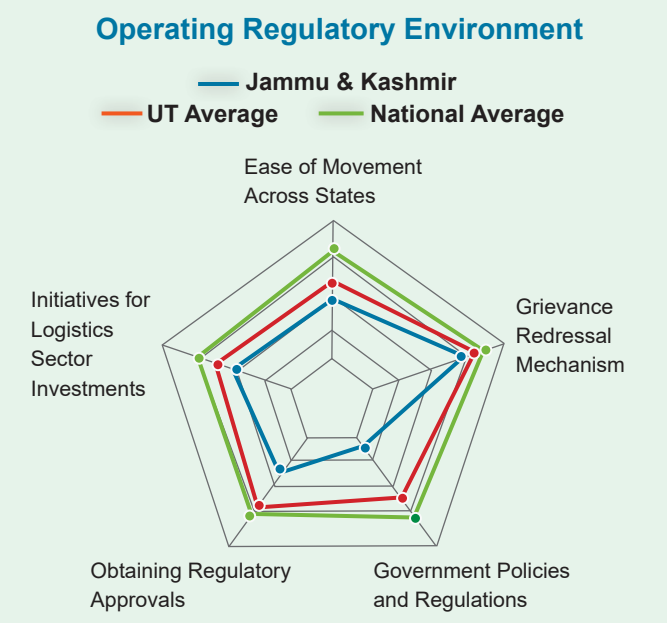
active. As of Financial Year 2025–26, over 900 candidates have been trained in logistics modules, primarily through Mission YUVA delivered across 50 Government Industrial Training Institutes (ITIs) and Polytechnics.

The logistics and warehousing sector has been accorded industry status under the Jammu & Kashmir Industrial Policy 2016–2026, enabling logistics service providers to access incentives such as industrial land allotment, concessional power tariffs, stamp duty exemption, State Goods and Services Tax (SGST) reimbursement, and turnover-linked incentives. To strengthen digital logistics services, Jammu & Kashmir has signed a Memorandum of Understanding (MoU) for integration with the Unified Logistics Interface Platform (ULIP), with departments including Food & Civil Supplies, Agriculture, and Horticulture onboarded to support data-driven logistics planning and analysis.

Operating and Regulatory Environment

Analysis of perception-based indicators under the regulatory and facilitation pillar reflects a mixed performance across policy effectiveness, approval mechanisms, and cross-border facilitation dimensions. Jammu & Kashmir records perception scores below the UT average and national average for improvement in ease of border crossing, availability of policy initiatives for logistics sector investments, availability of government policies and regulations in facilitating logistics operations and ease of obtaining regulatory approvals for setting up new logistics facilities, highlighting relative gaps in the regulatory and facilitation ecosystem and indicating scope for targeted policy and process-level interventions.

Perception score for availability of grievance redressal mechanism, is aligned with the UT average but slightly below the national average, indicating relatively stable institutional support while highlighting scope to match national levels.



Jammu & Kashmir has put in place a structured institutional and regulatory framework to support logistics development. A Logistics Coordination Committee (LCC), constituted in 2021 and re-constituted in 2025, serves as the nodal mechanism for inter-departmental coordination, policy implementation, and grievance resolution. The J&K Logistics Policy has been approved and is under submission to the Cabinet for notification, while City Logistics Plans for Srinagar and Jammu have been adopted by the LCC, with notification pending.

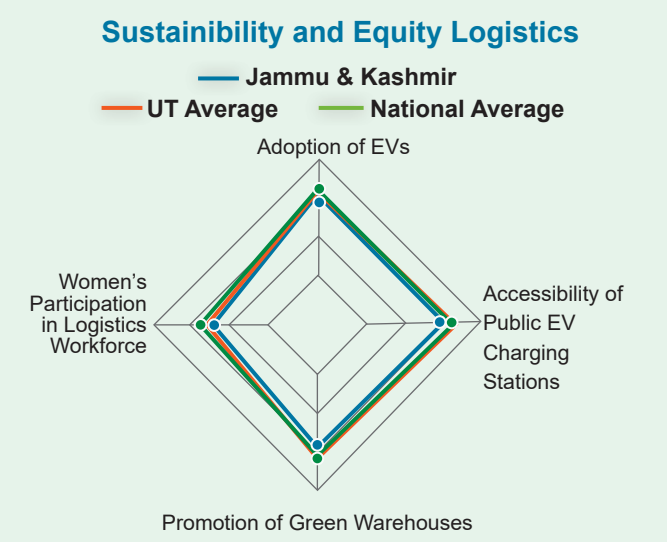
The UT operates a comprehensive Single Window System, covering key approvals such as land allotment, building permissions, utilities, environmental clearances, and warehousing/industrial registration. An Investor Facilitation Cell under the J&K Trade Promotion Organization provides investor support, while JK SAMADHAN, launched in July 2024, ensures time-bound grievance redressal.

Regulatory enforcement is supported through integration with VAHAN and SARATHI platforms, deployment of ANPR-enabled surveillance cameras, and availability of digital weighbridges across the UT. Logistics-compatible land use is guided by the Srinagar Master Plan 2035 and Jammu Master Plan 2032.

Sustainability and Equity Logistics

Assessment of stakeholder perceptions under the sustainability and inclusivity pillar indicates broadly consistent outcomes across green logistics and workforce participation dimensions.

The UT records perception scores aligned with the UT and national averages across all the parameters including availability of support in EV adoption availability of public EV charging stations, availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce indicating parity with peer UTs and alignment with national scores across sustainability and inclusion outcomes.



Green logistics initiatives in Jammu & Kashmir are guided by the State Action Climate Plan, J&K Logistics Policy, and J&K Vision 2047, which promote sustainable logistics practices such as smart warehousing, solar energy use, decongested freight corridors, and Industry 4.0–driven operational efficiency. Under the Green Urban Transport initiative, 200 e-buses are operational under the Smart City Mission, with 200 additional e-buses approved under PM e-Bus Sewa, alongside promotion of e-rickshaws, e-autos, and public bicycles. Jammu & Kashmir has also adopted the JK Energy Conservation Building Code (JK-ECBC) and Eco Niwas Samhita (JK-ENS) in line with national standards.

A draft EV Policy is under formulation, supported by a dedicated committee, and the Union Territory currently has 157 operational public EV charging stations, providing a base for sustainable and low-emission logistics development.

Progress since LEADS 2024

Jammu & Kashmir has undertaken targeted interventions in line with the LEADS 2024 recommendations, focusing on strengthening cold chain infrastructure, improving multimodal freight connectivity, and enhancing market linkages for key commodities.

Action Taken on Short-Term Opportunities

Augmentation of cold chain infrastructure:

Commissioning of large cold storage facilities at Talab Tillo (5,145 MT) and Narwal Fruit Mandi (2,000 MT) to strengthen temperature-controlled storage capacity for horticulture and agri-produce, including integrated pack-house and pre-cooling infrastructure.

Support to agri-processing and value addition:

Establishment of a Common Incubation Centre under the PM-FME scheme at Narwal to promote small-scale dairy and bakery processing and improve local processing capacity.

Strengthening aggregation and market linkage mechanisms:

Registration of over 400 Farmer Producer Organizations (FPOs) with NABARD support to facilitate collective marketing, aggregation, and improved market access for agricultural commodities.

Action Taken on Long-Term Opportunities

Expansion of rail-based freight movement:

Operationalization of rail freight corridors for movement of automobiles, construction materials, military supplies, and perishable horticulture produce, improving long-haul logistics efficiency, reducing transit time, and strengthening multimodal integration.

Development of air cargo logistics

Operationalization of the air cargo terminal at Srinagar Airport to enable time-sensitive and high-value cargo movement, supporting horticulture exports and improving access to distant markets.



Voice of Stakeholders and UT Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

"The commissioning of the Jammu–Baramulla rail line has improved connectivity, but the absence of dedicated rail freight terminals, transload yards, temperature-controlled sidings, and rail–road transfer points limits its use for regular freight movement."

"Several horticulture-producing areas lack nearby cold storage and packhouse facilities, resulting in post-harvest losses and constrained access to distant markets."

"While the J&K Logistics Policy has been announced, details related to implementation timelines, incentives, land allotment, and approval processes are still being operationalized, affecting private sector investment planning.

"Freight costs remain high and volatile due to dependence on a single corridor, seasonal disruptions, and limited availability of smaller reefer vehicles capable of accessing rural production clusters.

"The Jammu–Srinagar National Highway (NH44) is the primary freight corridor, but frequent closures due to landslides, rockfalls, and snow cause unpredictable interruptions to truck movement and increase costs, particularly for perishable cargo.

"Rural feeder roads are narrow and under-surfaced, with limited parking and turnouts for heavy vehicles, leading to bottlenecks when trucks park along hilly stretches.

Figure: Voice of Logistics Service Providers and Users

"Mountainous terrain, harsh weather conditions, and frequent landslides severely disrupt freight movement, with the Jammu–Srinagar National Highway facing recurrent closures, particularly during winter months.

"Dependence on a few critical corridors, with inadequate alternative all-weather road and tunnel connectivity, increases vulnerability to disruptions and supply chain unreliability.

"Heavy reliance on road transport, limited rail freight penetration, and weak multimodal integration result in logistics costs significantly higher than the national average.

"Inadequate rail connectivity for bulk and containerised cargo restricts modal shift to cost-efficient and sustainable transport, especially for long-distance movements to northern and western markets.

"Shortage of modern warehouses, cold storage, and freight terminal, particularly for horticultural and perishable commodities such as apples, leads to post-harvest losses and reduced value realisation.

"Limited private investment in logistics parks, dry ports, and warehousing, driven by high land costs, procedural delays, security perceptions, and low cargo aggregation, constrains capacity expansion and service quality.

Figure: Voice of the UT Government

Potential Opportunities in the UT

Jammu & Kashmir's logistics ecosystem plays a critical role in supporting trade, agriculture, and supply chains for the northern region. While the UT benefits from its strategic location and improving connectivity, several infrastructure and capacity-related gaps continue to affect logistics efficiency. Addressing these gaps can significantly enhance freight movement and economic activity.

Short-Term Opportunities

1. **Increasing demand for development and upgradation of cold storage infrastructure in key horticulture clusters.**

   Stakeholders have highlighted the need for expanding cold storage capacity in major horticulture-producing areas such as Shopian and Baramulla to support preservation, aggregation, and transport of perishable produce.

2. **Growing requirement for strengthening skill development initiatives in the logistics sector.**

   There is a need to enhance skill development programmes focused on logistics operations, warehousing, and supply chain management to address workforce shortages and improve operational efficiency.

3. **Potential for strengthening logistics support for agri and allied sectors through aggregation and packhouse facilities.**

   Opportunities exist to develop aggregation centres, packhouses and grading facilities near production clusters to enable efficient consolidation and movement of agricultural commodities.

Long-Term Opportunities

4. **Unmet demand for upgrading rail connectivity and freight handling infrastructure.**

   Stakeholders have identified the need for enhanced rail-side infrastructure, including improved sidings at stations such as Bari Brahmana and Kathua, to support higher cargo volumes and improve integration with national freight corridors.

5. **Opportunity for development of dedicated air cargo infrastructure.**

   There is potential to establish dedicated cargo handling facilities at airports in Jammu and Srinagar to support time-sensitive and high-value freight, including perishables and pharmaceuticals.



Ladakh

State Performance Snapshot

2025	2024
Accelerator	Aspirer

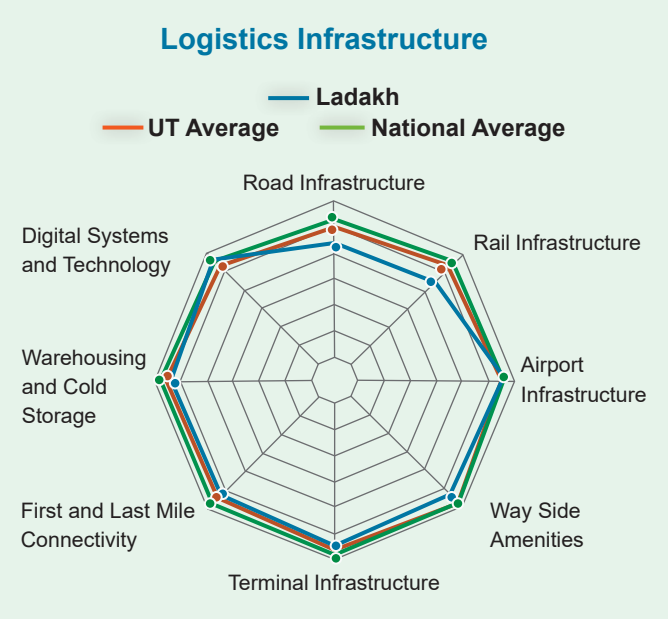
Ladakh is placed as an Accelerator in LEADS 2025, from its earlier positioning as an Aspirer in both 2023 and 2024. The UT's logistics ecosystem continues to be shaped by its high-altitude terrain, extreme climatic conditions, and strong dependence on road and air connectivity for the movement of goods and essential supplies. Ladakh's logistics development is being supported through a combination of digital governance reforms and targeted cost-support initiatives. Key measures include UT-wide digitization of land records, transportation cost subsidies for finished goods under the RAMP Scheme, preparation of a draft Logistics Policy, rollout of single-window approvals, development of MIS platforms, expansion of EV charging infrastructure, adoption of energy-efficient building codes, and the deployment of hydrogen fuel-cell buses in Leh as part of broader sustainability and green mobility efforts.

Logistics Infrastructure

Ladakh's logistics infrastructure performance reflects a predominantly below-average positioning relative to the UT and national averages across most infrastructure indicators, indicating comparatively lower perceptions related to access, connectivity, and support infrastructure within the UT's freight network.

Perception scores for parameters, improvement in road infrastructure, improvement in rail infrastructure, improvement in adequacy and quality of way side amenities, improvement in terminal infrastructure, improvement in first/ last mile connectivity and improvement in warehousing, cold storage, pack-houses etc., are below the UT and national averages, reflecting comparatively lower perceptions across core transport access, terminal facilities, local connectivity, roadside support, and storage-related infrastructure.

Perception outcome for improvement in airport infrastructure is positioned at par with the UT average but below the national average, indicating scope to augment airport-related infrastructure to meet national levels. In contrast, the parameter,



availability of digital systems to support logistics operations, is assessed above both the UT and national averages, reflecting relatively stronger perceptions of digital enablement and technology support for logistics operations within the UT.

The Union Territory of Ladakh is strengthening logistics infrastructure through digital governance and targeted cost-support measures. Digitized land records with comprehensive attribute information are available across the UT, providing a reliable administrative base for logistics planning and facilitation; geo-referencing is planned as a progressive enhancement to further improve spatial integration and decision-making.

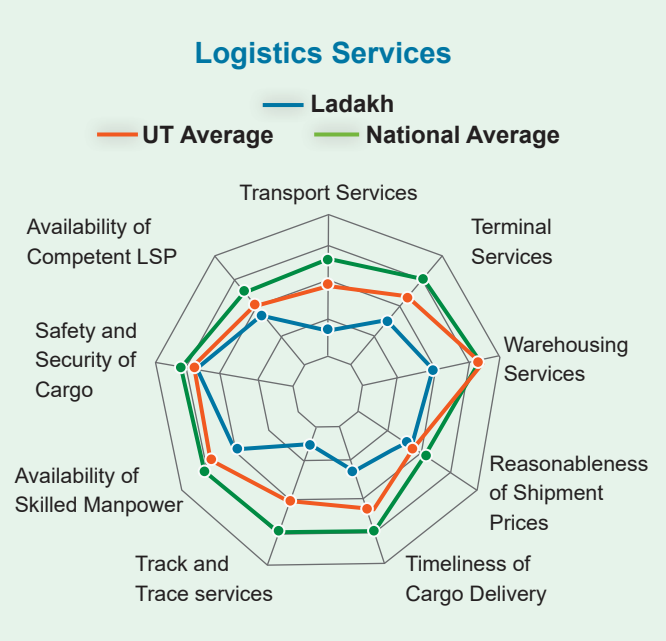
In addition, under the Raising and Accelerating MSME Performance (RAMP) Scheme, Ladakh provides transportation cost subsidies for finished goods, MSMEs by, improving market access, and enhancing supply-chain competitiveness in the region's challenging terrain.

Logistics Services

Ladakh's logistics services performance outcome is assessed below the UT and national averages, across all evaluated service parameters, indicating comparatively lower perceptions related to service availability, delivery performance, pricing, and operational support within the UT's logistics services ecosystem.

Perception scores for improvement across all transport services, improvement in terminal services, improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery and availability of track and trace services, are below the UT and national averages, reflecting comparatively weaker perceptions of core service quality, delivery reliability, pricing reasonableness, and cargo monitoring mechanisms.

Perceptions related to availability of skilled manpower, improvement in safety and security of cargo, and availability of competent logistics service providers, are also assessed below the UT and national averages, indicating relatively lower assessments of workforce availability, cargo protection arrangements, and service provider capacity within the UT.



Overall, Ladakh's logistics services performance shows underperformance across all service-related indicators, with no parameters exceeding or matching UT or national averages, highlighting systemic service delivery and capacity constraints shaped by the UT's terrain, climatic conditions, and operational challenges.

The Union Territory of Ladakh is strengthening its logistics services ecosystem through broad-based skill development initiatives implemented by the Technical Education & Skill Development Department. Under flagship central schemes such as Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 3.0 and 4.0 and PM Vishwakarma, more than 560 trainees were skilled during FY 2022–25, in allied logistics and infrastructure-support functions.

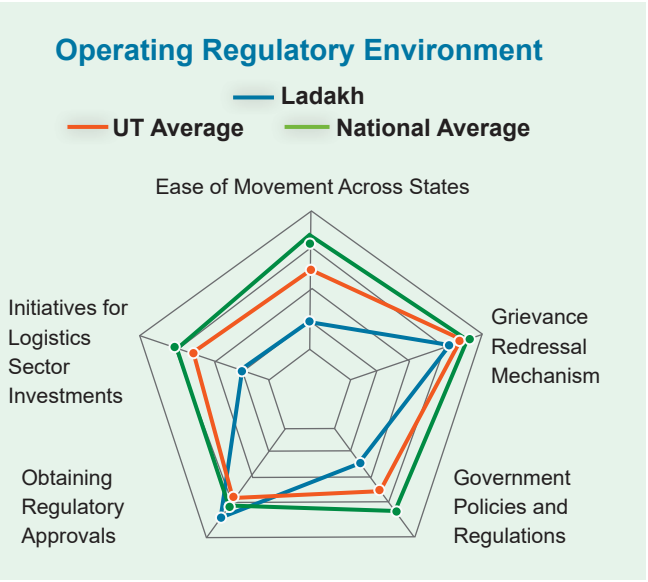
The Government ITIs at Leh and Kargil offer diverse NCVET-aligned trades which provide a strong foundation for transport, warehousing support, vehicle maintenance, and infrastructure-related logistics services. While Ladakh does not yet have dedicated logistics-specific training centers or a Logistics Centre of Excellence, the existing ITI network and central skilling programs provide a scalable base that can be progressively aligned with future logistics-sector requirements.

Operating and Regulatory Environment

Ladakh's operating and regulatory environment reflects a predominantly below-average positioning relative to the UT and national scores across most assessed parameters, indicating comparatively lower perceptions related to movement facilitation, policy effectiveness, grievance handling, and investment-related support within the UT's logistics ecosystem.

Perception scores for improvement in ease of border crossing, availability of grievance redressal mechanism, availability of government policies and regulations in facilitating logistics operations and availability of policy initiatives for logistics sector investments, are below the UT and national averages, reflecting relatively weaker perceptions of inter-jurisdictional movement, institutional responsiveness, policy facilitation, and investment-oriented initiatives.

In contrast, the parameter ease of obtaining regulatory approvals for setting up new logistics facilities is assessed above both the UT and national averages, indicating relatively stronger perceptions of approval processes for new logistics facilities.



Ladakh's Logistics Policy is currently in the draft stage, with efforts underway to strengthen the regulatory and operational ecosystem. Under the Raising and Accelerating MSME Performance (RAMP) Scheme, provisions have been made for transportation cost subsidies for finished goods, supporting logistics users and local enterprises. To improve governance and monitoring, ₹3 crore has been allocated under RAMP for the development of a Management Information System (MIS) portal and dashboard, with implementation currently in progress in collaboration with line departments of the UT Administration.

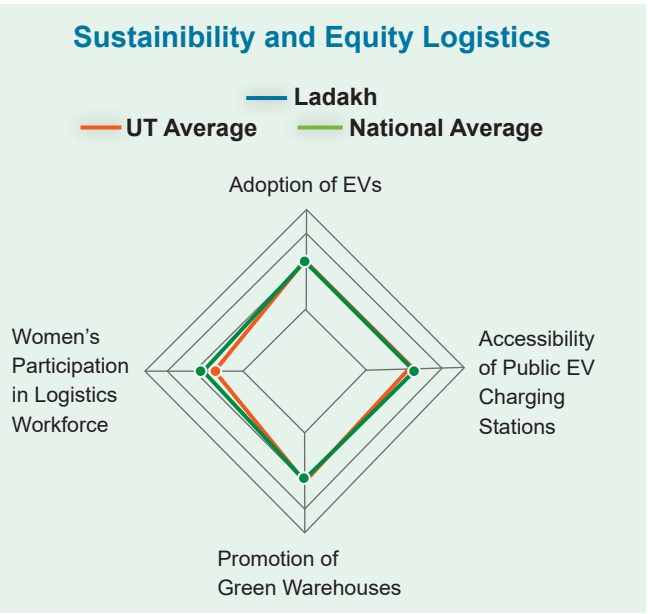
The single-window system for logistics-related approvals is under implementation, and approvals are presently at an in-progress stage. While there is no sector-specific grievance redressal mechanism for logistics, stakeholders can access the UT-wide grievance redressal portal operated by the Ladakh Administration for dispute resolution and service-related complaints.

Sustainability and Equity Logistics

Ladakh's sustainability and equity logistics performance is predominantly below the UT and national averages across most assessed parameters, indicating comparatively lower perceptions around EV adoption support, green warehousing, and workforce inclusion.

Perception scores for parameters availability of support in EV adoption, availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce, are assessed below the UT and national averages, reflecting relatively weaker perceptions of policy support for EV adoption, environmentally oriented logistics infrastructure, and inclusion-related workforce initiatives.

In contrast, availability of public EV charging stations is assessed above both the UT and national averages, indicating a relative strength in charging infrastructure availability and accessibility supporting electric mobility within the UT.



Ladakh's green logistics initiatives are currently driven through pilot initiatives and infrastructure enablement, rather than a dedicated notified green-logistics policy. The Ladakh Power Development Department (LPDD) has not issued specific green-logistics schemes; however, it facilitates EV charging infrastructure by providing HT/LT lines and distribution transformers on a deposit basis, electric mobility deployment.

On the regulatory side, LPDD is formulating the Energy Conservation and Sustainable Building Code (ECSBC) with support from the Bureau of Energy Efficiency (BEE) and The Energy and Resources Institute (TERI), which will guide energy-efficient construction, including logistics facilities. A notable sustainability milestone is the commercial operation of five hydrogen fuel-cell buses in Leh, India's first such deployment.

Progress since LEADS 2024

Ladakh has initiated **policy-level interventions** in line with the LEADS 2024 recommendations, with the formulation of a comprehensive Logistics Policy currently underway.

Development of a comprehensive Logistics Policy: Ladakh has initiated the formulation of a Logistics Policy, which is currently at the draft stage. The policy formulation process is underway, indicating partial progress toward establishing a structured logistics framework in the Union Territory.

Voice of Stakeholders and UT Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)–style synthesis has been prepared to capture the most policy-relevant issues highlighted by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below reflect key constraints affecting logistics efficiency, reliability, and competitiveness across the ecosystem.

> Rail connectivity projects such as the Bilaspur–Leh line are long-term, and freight movement currently depends entirely on road transport.

> There are no logistics parks or warehousing hubs, with limited winter stocking infrastructure and absence of modern warehousing facilities

> The logistics policy is currently at the draft stage, and there is no dedicated warehousing policy in place.

> While national highway road quality is good, there are no designated truck parking or restroom facilities, resulting in trucks parking along roadsides in Leh, Kargil, and near market areas.

> Logistics planning capacity at the UT level is limited, with significant dependence on central agencies for infrastructure development

> Local producers face limited market access and rely heavily on government supply chains, restricting trade-linked livelihood opportunities

> Last-mile connectivity remains constrained, with several remote villages and border areas lacking reliable all-weather road access.

> Limited bypass infrastructure forces freight traffic to pass through Leh town, contributing to congestion within urban areas.

> Transport operations are affected by seasonal availability of trucks and limited access to heavy and specialized vehicles.

Figure 1 Voice of Logistics Service Providers and Users

Heavy snowfall during winter leads to the closure of critical mountain passes such as Zoji La, Rohtang, Khardung La and Chang La, cutting off road connectivity for nearly five to six months each year.

Logistics disruptions adversely affect emergency medical services, education access, and continuity of government and commercial operations, particularly in remote areas such as Changthang and Hanle..

During winter months, air transport becomes the only viable link; however, limited flight capacity and frequent weather disruptions make it unreliable for sustaining regular supply chains.

Freight movement is heavily reliant on a limited summer road window, necessitating advance stockpiling of essential commodities such as food, fuel, and medicines, increasing vulnerability to shortages and price volatility.

Sustenance during prolonged winter isolation relies heavily on government-led airlifts, advance provisioning, and community-level cooperation, highlighting the absence of resilient, all-season logistics infrastructure.

Extreme terrain, avalanche risks, and long lead times significantly increase transportation costs and operational risks, impacting affordability and availability of essential goods.

Figure: Voice of the UT Government

Potential Opportunities in the UT

Ladakh's logistics ecosystem is shaped by its extreme terrain, climatic conditions, and seasonal accessibility constraints. While recent infrastructure investments have improved connectivity, logistics operations continue to face challenges related to terrain, weather, and limited multimodal integration. Addressing these gaps presents opportunities to strengthen year-round connectivity and support economic activity in the region.

Short-Term Opportunities

Need to strengthen mobile and digital connectivity for logistics operations.

Limited mobile and data connectivity in several regions affects coordination and monitoring of freight movement. Expanding network coverage under existing digital connectivity initiatives can support more reliable logistics operations.

Growing demand for strengthening all-weather road connectivity across key corridors.

Stakeholders have highlighted the need to accelerate development of all-weather road infrastructure, particularly along strategic corridors such as the Zojila and Shinku La routes, to ensure uninterrupted movement of goods throughout the year.

Opportunity to enhance roadside infrastructure and emergency support facilities.

There is a requirement to improve availability of roadside amenities, including medical assistance points, fuel stations, and vehicle repair facilities, to support freight movement in remote and high-altitude stretches.

Long-Term Opportunities

Potential for development of additional air connectivity infrastructure to ensure year-round access.

There is scope to develop additional civil aviation infrastructure, including airstrips and terminals in locations such as Kargil and Nubra, to improve year-round accessibility and support both civilian and strategic logistics needs.

Opportunity to advance multimodal connectivity through integration with national rail networks.

The proposed Bilaspur–Leh railway corridor presents a long-term opportunity to integrate Ladakh with the national rail network, significantly improving freight movement capacity and reducing logistics costs.



Lakshadweep

State Performance Snapshot

2025	2024
Accelerator	Fast Movers

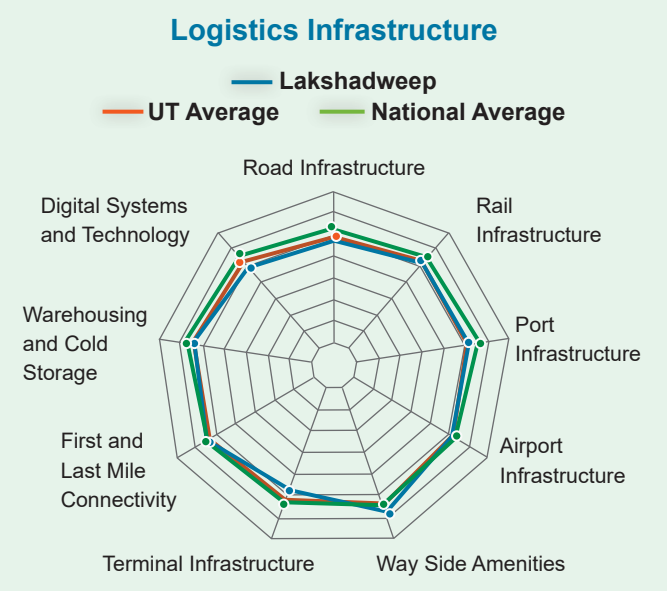
In LEADS 2025, Lakshadweep is placed in the **"Accelerator"** category, moving from its earlier Fast Movers position. The UT's logistics ecosystem continues to be shaped by it's island geography, with a strong dependence on sea and air connectivity for movement of goods and essential supplies. The administration is focused on addressing structural constraints related to port infrastructure, storage capacity, shipping frequency, and inter-island connectivity, while taking steps to strengthen logistics operations and ensure reliable access to essential commodities across the islands.

Logistics Infrastructure

Perception based indicators suggest that Lakshadweep's logistics infrastructure performance reflects a mixed pattern across infrastructure parameters, with several indicators positioned below UT and national averages, select indicators performing above both average scores, and a few positioned between UT and national averages, reflecting differentiated assessments across components relevant to island geographies.

The UT records below the UT group and national average scores on improvement in road infrastructure and improvement in airport infrastructure, indicating relatively lower perceptions of internal road connectivity and air-based access compared to both comparators. In contrast improvement in adequacy and quality of way side amenities, is assessed above both UT and national averages, reflecting relatively stronger perceptions of roadside support facilities within the islands.

Performance on "Improvement in the adequacy and quality of terminal infrastructure" is assessed below both UT and national averages, indicating relatively weaker perceptions of terminal-related facilities. The parameters, improvement in port infrastructure and improvement in first/ last mile connectivity



are positioned above the UT average but below the national average, reflecting an intermediate performance wherein maritime infrastructure and local connectivity are perceived as stronger than the UT score.

Outcomes related to "Improvement in adequacy and quality of warehousing, cold storages, pack-houses etc." and "Accessibility and reliability of digital systems and technologies that support logistics operations" are both assessed below UT and national averages, indicating relatively

lower perceptions of storage-related infrastructure and digital enablement supporting logistics operations. Perceptions related to improvement in rail infrastructure are assessed above the UT average but below the national average, despite the absence of rail-based infrastructure within the UT and reliance on alternative transport modes. Overall, Lakshadweep's logistics infrastructure reflects clear differentiation across indicators, with port infrastructure and wayside amenities performing above benchmarks, several core logistics components performing below both UT and national averages, and select indicators positioned between benchmarks, shaped by the UT's island-based geography and transport dependencies.

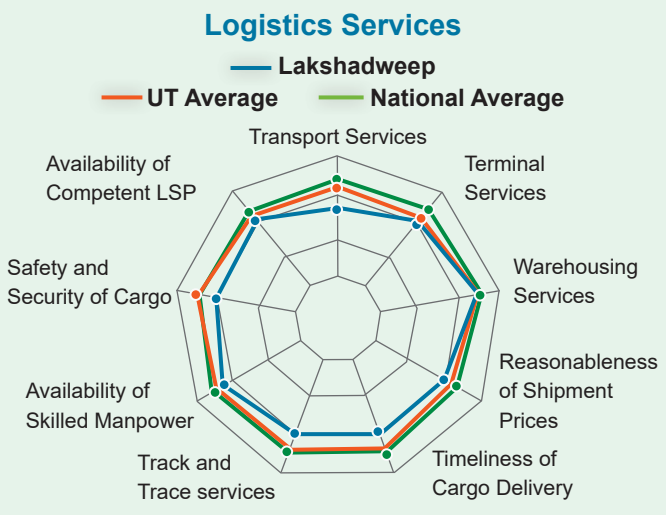
Lakshadweep's logistics infrastructure is primarily characterised by its island-based geography, with freight movement dependent on sea and air transport. Cargo handling is supported through jetties and major port facilities across inhabited islands, facilitating inter-island and mainland connectivity. Limited land availability and environmental sensitivity influence the scale and configuration of logistics infrastructure within the UT.

Logistics Services

Lakshadweep's logistics services performance scores reflect a largely below-average positioning relative to UT and national averages across most service-related parameters, indicating comparatively lower perceptions of logistics service availability and performance within the constraints of an island-based transport system. The UT records below UT and national average scores on improvement across all transport services and improvement in terminal services, indicating relatively weaker perceptions of core transport and terminal service functions supporting cargo movement.

In contrast, improvement in warehousing services, is assessed above both UT and national averages, reflecting relatively stronger perceptions of storage-related service availability within the UT. Performance on improvement in timeliness of cargo delivery and availability of track and trace services is assessed below both UT and national benchmarks, indicating comparatively lower perceptions of service reliability and cargo monitoring mechanisms.

Perceptions related to "availability of competent logistics service providers, improvement in safety and security of cargo and availability of skilled manpower, are all assessed below UT and national averages, reflecting relatively lower perceptions of service capacity, workforce availability, and cargo protection arrangements within the logistics services ecosystem. Perceptions associated with "Improvement in reasonableness of shipment prices" also remain below both UT and national benchmarks, indicating comparatively lower assessments of logistics cost-related service dimensions within the UT.



Logistics services in Lakshadweep rely on scheduled shipping services and air connectivity for movement of essential commodities and goods between islands and the mainland. Basic cargo handling, storage, and distribution services operate at island-level facilities, aligned with local demand and population requirements.

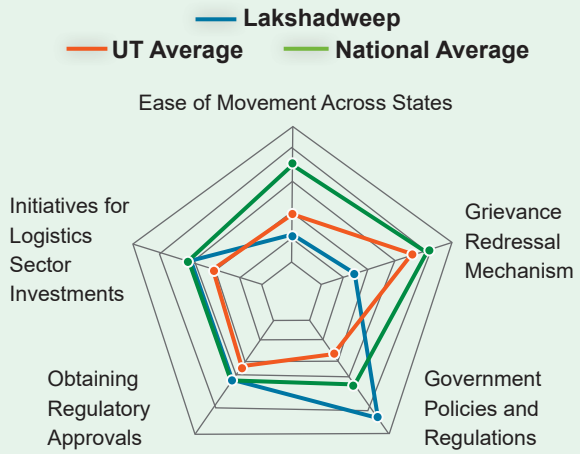
Operating and Regulatory Environment

Perception based indicators suggest that Lakshadweep's operating and regulatory environment for logistics reflects a mixed performance across assessed parameters, with certain regulatory dimensions performing above UT and national averages, some positioned between the comparators, and others assessed below both scores indicating differentiated perceptions across regulatory and institutional dimensions. The UT records above UT and national average scores on availability of government policies and regulations in facilitating logistics operations, reflecting relatively stronger perceptions of the policy frameworks governing logistics activities. The parameter availability of policy initiatives for logistics sector investments is also assessed above both UT and National average, indicating comparatively positive perceptions of investment-related policy support.

Performance on "ease of obtaining regulatory approvals for setting up new logistics facilities is positioned above the UT average but marginally below the national average, reflecting an intermediate assessment where approval processes are perceived stronger than the UT benchmark but remain slightly below national levels.

However, perceptions related to improvement in ease of border crossing and availability of grievance redressal mechanismare both assessed below UT and national average, indicating comparatively lower perceptions of inter-jurisdictional movement facilitation and grievance handling mechanisms within the UT context. Overall, Lakshadweep's operating and regulatory environment shows uneven perceptions across parameters, with policy frameworks and investment initiatives performing above benchmarks, regulatory approval processes positioned between benchmarks, and movement facilitation and grievance redressal assessed below UT and national averages, shaped by administrative structures and the geographic characteristics of the UT.

Operating Regulatory Environment

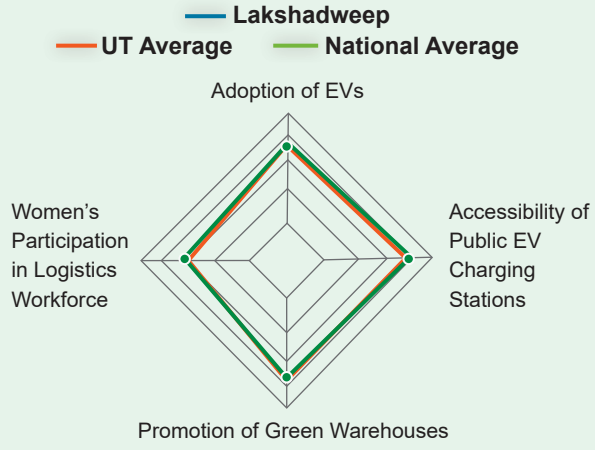


Administrative coordination for logistics operations is undertaken through UT-level governance mechanisms, with increasing use of online systems for documentation, coordination, and communication related to transport and logistics activities. These systems support operational continuity, particularly in remote island contexts.

Sustainability and Equity Logistics

Perception based indicators suggest that Lakshadweep's performance on sustainability and equity related logistics parameters reflects a mixed positioning relative to UT and national averages across the assessed dimensions, indicating differentiated perceptions across environmental sustainability and inclusion-related aspects within the context of an island-based logistics system. The UT records below both the UT and national average scores on availability of support in EV adoption, indicating relatively lower perceptions of electric

Sustainability and Equity Logistics



mobility adoption in logistics activities.

In contrast, availability of public EV charging stations is assessed above both the UT and national averages, reflecting comparatively stronger perceptions of charging infrastructure availability within the UT. Performance on availability of initiatives for promotion of green warehouses is positioned below the UT average but above the national average, reflecting an intermediate assessment where green warehousing initiatives are perceived stronger than the national level but remain below UT-level perceptions.

Outcomes related to availability of initiatives for inclusion of women workforce are assessed above the UT average but below the national average, reflecting a mixed positioning in perceptions of workforce inclusion within the logistics sector. Overall, Lakshadweep's sustainability and equity logistics performance reflects uneven perceptions across parameters, with EV charging infrastructure emerging as a relative strength, EV adoption support assessed below both comparators, and green warehousing and workforce participation positioned between UT and national averages, shaped by the UT's scale, geography, and transport characteristics.

Sustainability related actions reported by Lakshadweep include adoption of solar-powered infrastructure, promotion of cleaner transport options, and capacity building and training initiatives related to sustainable practices. These measures reflect efforts to align logistics operations with environmental considerations specific to fragile island ecosystems.

Progress since LEADS 2024

This section outlines the actions reported by Lakshadweep in response to the short-term and long-term opportunities identified in the LEADS 2024 report. The actions taken by the Government reflect measures related to port and storage infrastructure, shipping services, inter-island connectivity, and support mechanisms for essential goods within the UT's island-based logistics context.

Actions Taken on Short-Term Opportunities

Development of modern port infrastructure at small ports such as Kavaratti, Minicoy and Agatti

- The UT has reported upgradation of existing jetties and port-related facilities across inhabited islands to support cargo handling operations.
- Improvements include strengthening of basic port infrastructure to facilitate safer berthing and handling of cargo, aligned with local operational requirements.

Development of storage facilities including warehouses and cold storage units

- The UT has reported initiatives to improve availability of storage facilities for essential goods at island locations.
- These measures are aimed at addressing shortages and supporting preservation of goods, particularly during periods of transport disruption.

Streamlining shipping schedules and enhancing frequency and reliability of cargo ships

- Lakshadweep has reported efforts to improve inter-island and mainland shipping services, including measures to enhance coordination and scheduling of cargo vessels.
- These actions are intended to reduce delays caused by irregular shipping schedules and weather-related disruptions.

Actions Taken on Long-Term Opportunities

Promotion of inter-island cargo movement through ferries or carrier services

- The UT has reported steps towards strengthening inter-island transportation services, including the use of ferries and carrier vessels for movement of goods between islands.
- These measures support improved connectivity and distribution of cargo across inhabited islands.

Implementation of subsidies for essential goods to reduce transportation costs

- Lakshadweep has reported continuation of subsidy support for transportation of essential commodities, aimed at reducing the cost burden associated with island logistics.
- These subsidies support affordability and access to critical supplies for residents across the UT.

Voice of Stakeholders and UT Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> The existing marine fleet is ageing and insufficient to meet the growing demand for inter-island and mainland connectivity, resulting in repeated delays and disruptions for traders

> There is a lack of basic logistics infrastructure such as cold storage, modern cargo handling facilities, and dedicated logistics assets across the islands

> Limited cargo handling jetties and absence of island-specific cold chain facilities affect the movement and storage of fish and other perishable commodities

> Exclusive dependence on marine transport makes supply chains costly and complex, as every essential item must be shipped from the mainland, leading to high logistics costs and delays

> As noted in the draft Logistics Policy 2024, logistics infrastructure in Lakshadweep is under-developed, and high costs combined with limited facilities are constraining economic activities

Figure: Voice of Logistics Service Providers and Users

> Lakshadweep's island geography and reliance on sea and air transport highlight the importance of strengthening maritime and aviation connectivity to further improve the reliability of goods movement.

> Sea transport remains the primary logistics lifeline, and seasonal disruptions during the monsoon underline the value of enhancing fleet capacity, scheduling resilience, and storage buffers for essential and perishable commodities.

> Gaps in digital connectivity and trained logistics manpower point to opportunities for expanding digital systems, remote monitoring tools, and skill development initiatives tailored to island logistics operations.

> High operating costs and low cargo volumes indicate scope for targeted policy support and viability-gap mechanisms to encourage greater private sector participation in logistics infrastructure and services.

> Limited land availability and strong environmental safeguards reflect the need for innovative, space-efficient, and eco-sensitive logistics infrastructure solutions such as modular warehousing and small-scale port facilities

> Addressing these structural constraints can progressively reduce transportation costs, improve supply reliability, and unlock greater potential for trade, local enterprise, and sustainable tourism development.

Figure: Voice of the UT Government

Potential Opportunities in the UT

Lakshadweep's logistics ecosystem is shaped by its island geography, heavy dependence on maritime connectivity, and limited local production capacity. The remoteness of the islands and dependence on sea transport for essential supplies make logistics reliability and capacity critical. Addressing existing gaps can significantly enhance supply chain resilience and service delivery across the islands.

Short-Term Opportunities

1. **Demand for development of modern port infrastructure to enhance cargo handling capacity.**
   Stakeholders have highlighted the need to upgrade port infrastructure at key islands such as Kavaratti, Minicoy and Agatti through the provision of improved berthing facilities, cargo handling equipment, and container handling capabilities to support growing freight movement.

2. **Growing requirement for strengthening storage and warehousing infrastructure.**
   There is a need to establish adequate warehousing and cold storage facilities to reduce dependence on frequent shipments and minimise losses of perishable goods. Improved storage capacity would support better inventory management and ensure availability of essential commodities.

3. **Need to improve reliability and frequency of shipping services.**
   Irregular shipping schedules and weather-related disruptions impact the timely movement of goods. Enhancing vessel frequency and scheduling reliability can significantly improve supply chain stability across the islands.

Long-Term Opportunities

4. **Potential to strengthen inter-island cargo connectivity through dedicated transport services.**
   There is scope to develop dedicated inter-island cargo movement systems, including smaller feeder vessels and coordinated logistics services, to improve distribution efficiency between inhabited islands.

5. **Requirement for policy support to reduce logistics costs and improve affordability.**
   Introducing targeted support measures such as freight subsidies or cost-sharing mechanisms can help offset high transportation costs and improve access to essential goods for island communities.



Puducherry

State Performance Snapshot

2025	2024
High Performer	Fast Mover

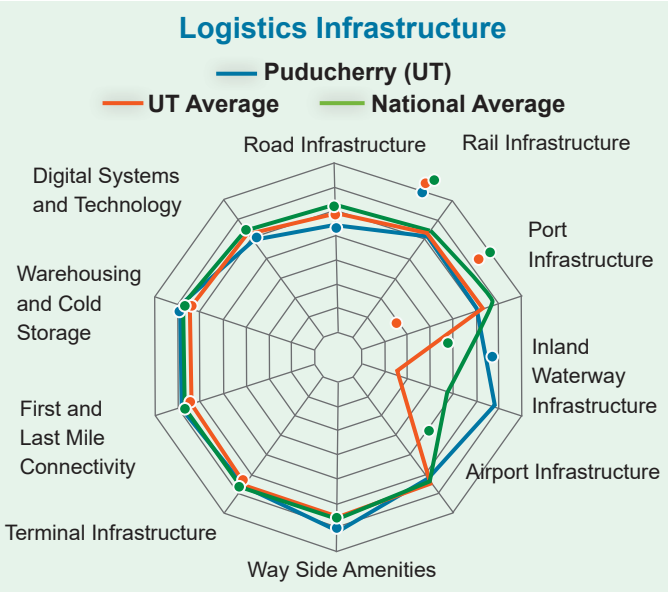
Puducherry is positioned as a **"High Performer"** in 2025 within the UT group, as compared to Fast Mover in LEADS 2024. Perception-based indicators reflect broad-based strengths across logistics infrastructure, logistics services, regulatory facilitation, and sustainability dimensions. This improvement is consistent with the UT's policy-led institutional measures, growing digital integration, and the adoption of structured urban logistics planning initiatives.

Puducherry is implementing CMP-guided urban logistics planning, PM GatiShakti–based integrated infrastructure planning, and policy-driven institutional and regulatory frameworks for logistics development. Key initiatives include PPP-based deployment of electric buses, grant of industry status to logistics and warehousing, notification of the Puducherry Integrated Logistics Infrastructure, Multi-Modal Logistics Park and Warehouse Policy (2023) along with its Action Plan, establishment of the Puducherry Logistics Cell and inter-departmental coordination committees, initiation of ULIP integration, rollout of skilling and incentive frameworks, and formulation of green logistics and electric mobility measures supported by notified energy-efficient building codes and the development of EV charging infrastructure.

Logistics Infrastructure

Puducherry's logistics infrastructure reflects a compact multimodal system, with perception scores broadly aligned with UT and national averages across most indicators. The network demonstrates corridor-level readiness across terminal, storage, and service support infrastructure within a coastal operating context.

Puducherry records perception outcomes aligned with UT and national averages on improvement in rail infrastructure, improvement in airport infrastructure, improvement in terminal infrastructure, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc., improvement in adequacy and quality of way side amenities and availability of digital systems to support logistics operations indicating a stable infrastructure and digital enablement baseline, while underscoring the opportunity to accelerate targeted upgrades to enhance multimodal efficiency and future-readiness.



Perception score for improvement in Inland waterway infrastructure is above both the UT and national averages, distinguishing this component from other infrastructure indicators. In contrast, the

parameters, improvement in road infrastructure and improvement in port infrastructure, scores below both the UT group and national averages highlighting the need for targeted road network and maritime infrastructure upgradation to improve connectivity and overall logistics efficiency.

Puducherry's logistics infrastructure development is guided by the Comprehensive Mobility Plan (CMP) prepared by the Transport Department, which functions as the city-level framework for urban mobility and city logistics planning. Implementation of electric bus services under a PPP (Gross Cost Contract) model has commenced, with 25 electric buses operational, and in-principle approval for 75 additional electric buses from the Ministry of Housing and Urban Affairs (MoHUA), supported by Central funding for charging and depot infrastructure.

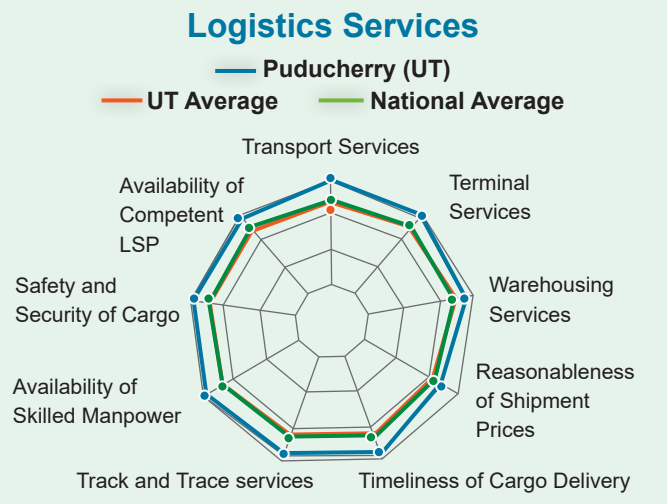
The Government of Puducherry has mandated the use of the PM GatiShakti National/State Master Plan Portal for all infrastructure projects with a capital outlay of ₹1 crore and above and is actively utilizing the portal, with 72 projects planned through integrated and area-based development approaches.

Logistics Services

Puducherry's logistics services reflect a service-intensive logistics ecosystem, with outcomes remaining above UT and national averages across indicators.

Puducherry records perception outcomes above both UT and national averages on improvement across all transport services, improvement in terminal services, improvement in warehousing services, availability of competent logistics service providers, availability of skilled manpower and availability of track and trace services reflecting a relatively mature logistics services ecosystem and strong service delivery capabilities across key operational dimensions.

Perception scores for the parameters improvement in timeliness of cargo delivery, improvement in safety and security of cargo and improvement in shipment prices also remain above UT and national averages reinforcing Puducherry's strong operational performance and cost competitiveness within the logistics services ecosystem.



Puducherry is strengthening logistics services through policy-backed skilling, incentives, and digital integration. While three skill development schemes are operational under the Department of Industries and Commerce, dedicated logistics-specific training is proposed through the establishment of a Logistics Centre of Excellence (LCoE) under the Puducherry Integrated Logistics Infrastructure, Multi-Modal Logistics Park and Warehouse Policy, 2023, and its Action Plan.

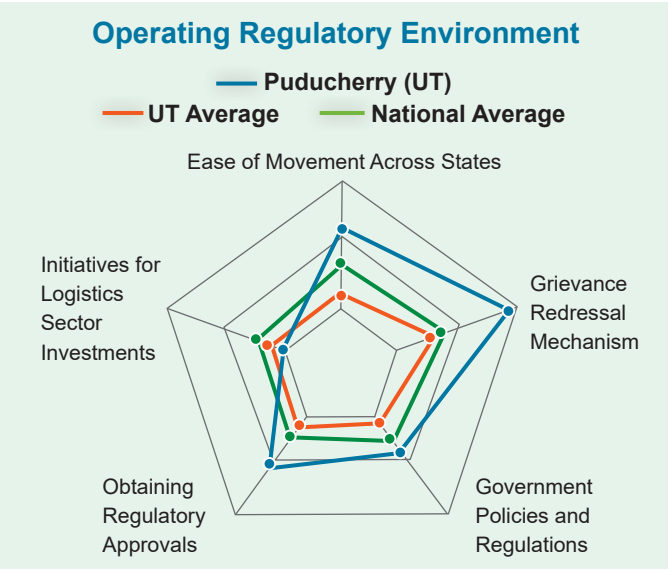
The logistics sector has been granted industry status, enabling access to industrial land allotment, concessional power tariffs, and capital and interest subsidies. Additional support includes incentives for quality certification, intellectual property protection, training and capacity building, and adoption of advanced logistics technologies, strengthening service quality and competitiveness. On the digital front, Puducherry has initiated integration with the Unified Logistics Interface Platform (ULIP), with a draft Memorandum of Understanding (MoU) in process. Development of a dedicated ULIP interface linked to State systems and single-window platforms is also underway.

Operating and Regulatory Environment

Puducherry reflects a facilitative operating and regulatory environment, with outcomes remaining aligned with or above UT and national averages across indicators.

Puducherry records perception scores above both UT and national averages on improvement in ease of border crossing, availability of grievance redressal mechanism, availability of government policies and regulations in facilitating logistics operations and ease of obtaining regulatory approvals for setting up new logistics facilities indicating a relatively facilitative regulatory environment and efficient administrative processes supporting logistics operations in the UT.

Perceptions on parameter, availability of policy initiatives for logistics sector investments remains slightly below the UT and national averages indicating scope to further strengthen investment-focused policy frameworks to enhance private sector participation in logistics development.



Puducherry has established a policy-led institutional framework to support logistics sector development. The Puducherry Integrated Logistics Infrastructure, Multi-Modal Logistics Park and Warehouse Policy (2023) has been notified, supported by a separate Logistics Action Plan outlining phased implementation. The Action Plan identifies priority initiatives including warehousing clusters, mega food parks, cargo terminals, bonded warehouses, cold storage facilities, port cargo handling enhancement, coastal shipping, and inland water transport–linked logistics.

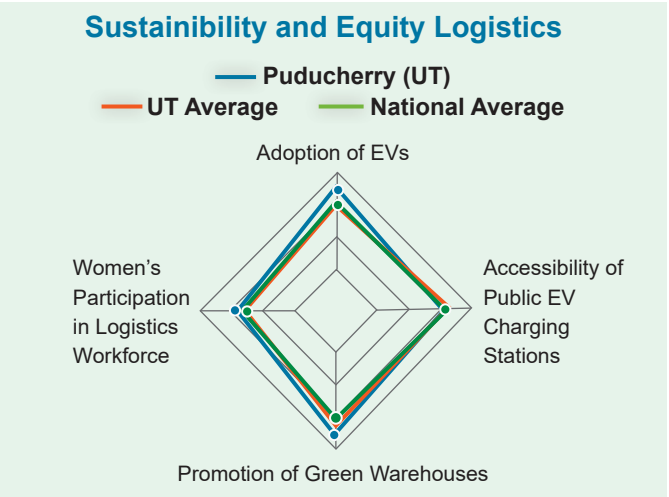
The Action Plan provides for the establishment of a Puducherry Logistics Cell (PLC) as the nodal agency for planning and coordination, along with a State Logistics Coordination Committee and City Logistics Coordination Committees to enable inter-departmental coordination and stakeholder engagement.

Sustainability and Equity Logistics

Puducherry reflects an advancing sustainability and equity logistics framework, with outcomes remaining aligned with UT and national averages across indicators.

Puducherry records perception outcomes above the UT and national averages on availability of support in EV adoption and availability of initiatives for promotion of green warehouses reflecting proactive policy support for sustainable logistics practices and providing a strong foundation for further green transition within the UT's logistics ecosystem.

The parameter availability of public EV charging stations remains aligned with UT and national averages, while the indicator availability of initiatives for inclusion of women workforce is aligned with the national averages but above UT average score collectively reflecting steady progress toward sustainable and inclusive logistics practices, with further scope to scale enabling infrastructure and workforce participation initiatives.



Green logistics initiatives in Puducherry are at a policy formulation and early implementation stage. The Transport Department has prepared a draft Electric Mobility Policy, which has been submitted to the Government for approval. Sustainability has been incorporated as a new initiative under the Puducherry Integrated Logistics Infrastructure, Multi-Modal Logistics Park and Warehouse Policy, with an associated Logistics Action Plan outlining measures for environmentally responsible logistics development.

From a regulatory perspective, Puducherry has notified the Puducherry Energy Conservation Building Code (PECBC), 2022 (G.O. Ms. No. 7/2022-Envt dated 2 September 2022), mandating energy-efficient standards for eligible buildings, including logistics facilities. The UT is also promoting EV charging infrastructure, with charging stations approved at Maraimala Adigal Salai, supporting the transition toward green logistics and sustainable mobility.

Progress since LEADS 2024

Puducherry has undertaken a set of policy, institutional, and infrastructure-focused interventions in line with the LEADS 2024 recommendations, aimed at strengthening urban freight management, streamlining regulatory processes, and advancing green and multimodal logistics planning.

Action Taken on Short-Term Opportunities

Institutionalisation of logistics governance:
Operationalisation of the Puducherry Logistics Cell (PLC), State Logistics Coordination Committee (SLCC), and City Logistics Committees across Puducherry, Karaikal, Mahe, and Yanam.

Green and inclusive logistics initiatives
Rollout of EV policy measures including charging stations and e-cargo bike pilots, and introduction of SOPs for gender-safe logistics workplaces.

Regulatory and digital streamlining:
Launch of a Single Window Clearance System for logistics approvals and notification of fast-track land conversion guidelines.

Skilling and innovation:
Establishment of a Logistics Centre of Excellence and initiation of logistics skilling programmes, along with startup incentives and innovation challenges.

Actions Taken on Long-Term Opportunities

Integrated logistics infrastructure development
Completion of the Integrated State Logistics Master Plan, development of an Integrated Multi-Modal Logistics Park, satellite logistics parks, warehousing and cold chain clusters, port upgrades, and development of airport-linked freight stations.

Sustainability and private sector participation:
Planned electrification of logistics fleets, expansion of charging infrastructure, support for logistics technology startups, and mobilisation of private investment through PPP/VGF frameworks.

Voice of Stakeholders and UT Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the UT Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Although port development under the Sagarmala programme was planned, the absence of regular cargo services has created uncertainty for businesses dependent on coastal and sea-based connectivity.

> The lack of a clear timeline and communication on the restart of cargo operations affects planning and confidence among port users and logistics operators.

> Container and cargo services at Puducherry Port remain halted despite dredging and readiness; the last container feeder vessel was detained and regular cargo operations have not resumed.

> Most MSMEs are limited to local markets, as high transportation and freight costs reduce competitiveness for exports compared to other states.

> Urban congestion and parking shortages, especially during the tourist season, affect freight movement and last-mile deliveries within cities.

> There is limited multimodal connectivity, with weak hinterland linkages constraining efficient cargo movement to and from the port.

Figure: Voice of Logistics Service Providers and Users

> The UT lacks a major commercial port with container-handling facilities and deep-draft capability, limiting its ability to handle large vessels and forcing reliance on ports in neighbouring states for EXIM cargo.

> Warehousing remains largely fragmented, with limited availability of modern, large-scale facilities aligned with organised logistics and industrial requirements.

> Limited availability of suitably sized, contiguous land parcels restricts the development of logistics parks, integrated freight terminals, and private sector-led infrastructure

> A constrained rail network with minimal freight-oriented infrastructure results in heavy dependence on road transport, restricting modal diversification and cost-efficient cargo movement.

> Inadequate Grade A warehouses with integrated cold storage constrains sectors such as agriculture, food processing, and pharmaceuticals, affecting supply chain reliability and compliance.

> Despite a relatively dense road network, narrow carriageways and urban congestion increase last-mile delivery times and transport costs, reducing overall logistics efficiency.

Figure: Voice of the UT Government

Potential Opportunities in the UT

Puducherry's logistics ecosystem is influenced by its coastal location, proximity to major industrial clusters in Tamil Nadu, and growing demand for efficient cargo movement. While the UT benefits from proximity to major markets, limitations in port capacity, road connectivity, and logistics infrastructure present opportunities for targeted improvements.

Short-Term Opportunities

1. **Growing requirement for promoting Puducherry Port through focused infrastructure and operational enhancements.**
   Stakeholders have highlighted the need to revitalise port operations through improvements in cargo handling infrastructure, mechanisation, and better utilisation of existing facilities to attract greater cargo volumes.

2. **Demand for immediate improvements in road connectivity and maintenance.**
   Critical road stretches such as Cuddalore Road and Villianur Road have been identified as requiring urgent upgradation to improve connectivity between industrial areas, the port, and hinterland markets.

3. **Requirement for encouraging private sector participation in warehousing development.**
   There is scope to promote public–private partnerships for the development of modern warehousing facilities to support industrial and trading activities within the UT.

4. **Need to strengthen skill development initiatives in logistics and supply chain management.**
   Stakeholders have indicated a requirement for short-term training and certification programmes to build a skilled workforce in logistics operations, warehousing, and transport management.

Long-Term Opportunities

5. **Potential to upgrade port infrastructure to handle higher cargo volumes and diversified cargo types.**
   Long-term planning is required to expand port capacity, modernise cargo handling equipment, and enhance berth infrastructure to support future growth in maritime trade.

6. **Requirement for integrated logistics planning to support multimodal connectivity.**
   Developing integrated logistics infrastructure, including road connectivity, logistics parks, and multimodal linkages, can improve efficiency and support Puducherry's role as a regional logistics node.

7. **Opportunity to establish a dedicated logistics training and research ecosystem.**
   The establishment of specialised training and research centres focused on logistics and supply chain management can support workforce development and enhance sectoral capabilities.

NORTH-EASTERN STATES GROUP

The North-East Group comprises the States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. The region's geographic location and ongoing connectivity initiatives shape its domestic and cross-border linkages. Ongoing initiatives across multiple States indicate efforts related to logistics ecosystem development, including the development of inland water transport in Assam and Arunachal Pradesh, operationalization of international trade points along the borders with Myanmar and Bangladesh in Mizoram, establishment of aggregation and consolidation hubs in Nagaland and Tripura, and integration with regional connectivity frameworks such as the Bangladesh-Bhutan-India-Nepal (BBIN) corridor through Meghalaya. Collectively, these initiatives illustrate the region's evolving connectivity and trade facilitation linkages within the national framework.

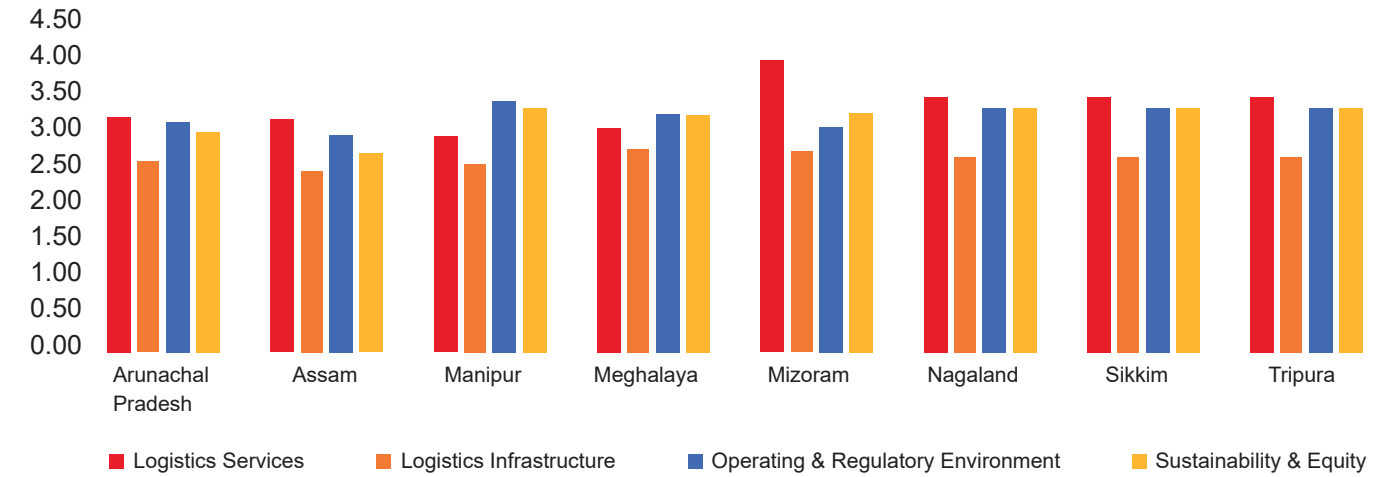


Group Level Performance

Summary of NER Group Performance

LEADS 2025 perception survey data presents a sector-wise assessment of improvements during the past year in logistics infrastructure across the Northeastern States. The analysis captures stakeholder feedback across key logistics assessment pillars, covering core transport modes, supporting infrastructure, and enabling systems.

Summary of NER Group Performance

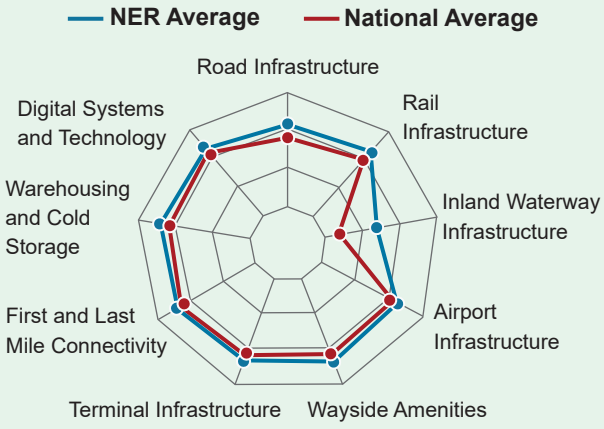


As per the assessment, improvement in Logistics Services recorded the highest score among the four pillars. Improvements in the Operating and Regulatory Environment, as well as Sustainable and Equity Logistics, are also observed across the NER group. However, the assessment highlights the need for targeted improvements in Logistics Infrastructure.

Logistics Infrastructure Performance

The LEADS 2025 group-level assessment of improvements in logistics infrastructure across the North-Eastern States indicates relatively strong performance in the development of Inland Waterways, along with convergence toward national averages across key parameters, including digital systems and technologies, warehousing and cold storage infrastructure, first and last-mile connectivity, terminal infrastructure, and wayside amenities. The assessment also highlights opportunities to further strengthen road and rail connectivity, which, if addressed, can significantly enhance multimodal integration and improve regional accessibility.

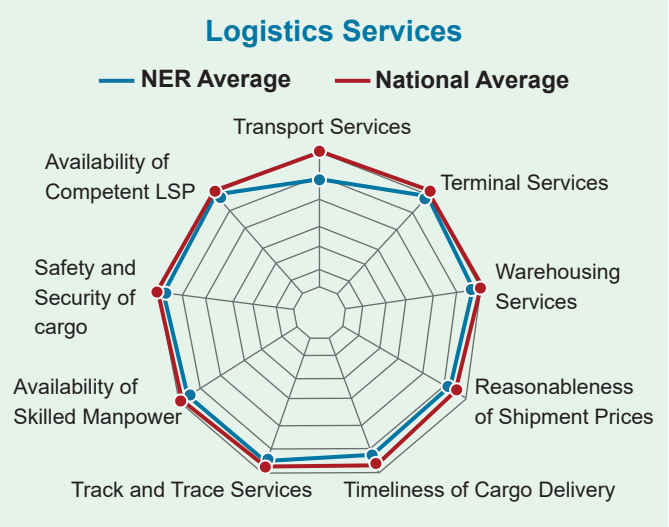
Logistics Infrastructure



Logistics Services Performance

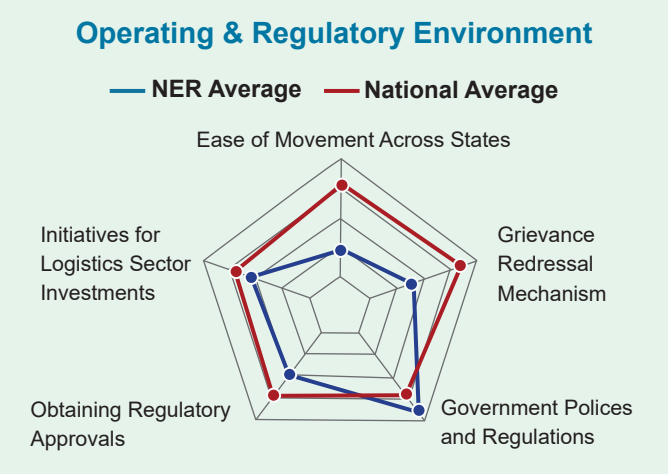
The LEADS 2025 group-level assessment of improvement in Logistics Services performance across the North-Eastern States indicates broad alignment with national averages across most parameters, including availability of logistics service providers, cargo safety and security, availability of skilled manpower, track-and-trace services, timeliness of cargo delivery, and reasonableness of shipment pricing.

However, the assessment also identifies gaps in transport services, and warehousing services.



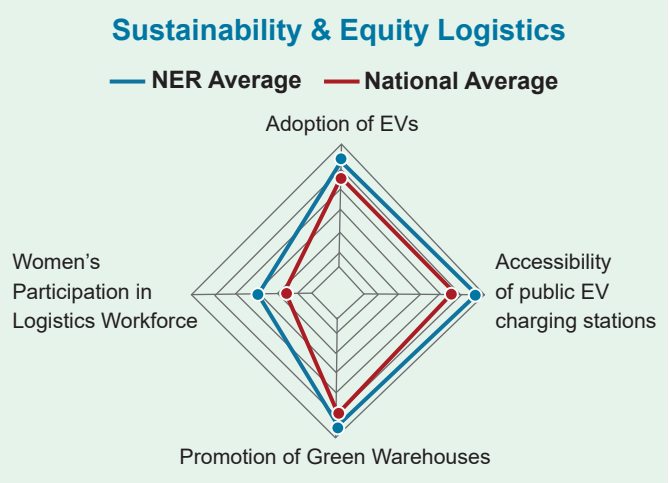
Operating and Regulatory Performance

The assessment of Operating and Regulatory Performance across the NER group indicates relatively higher perception scores related to improvement in government policies and regulations relative to the national average. However, the findings also highlight the need for enhancement in ease of inter-state movement, grievance redressal mechanisms, initiatives to attract logistics sector investment, and the efficiency of regulatory approval processes.



Sustainability and Equity Logistics Performance

The assessment of Sustainable and Equity Logistics indicates strong performance by the North Eastern States across all parameters relative to the national average, including improvement in adoption of electric vehicles, accessibility of public EV charging stations, promotion of green warehousing, and women's participation in the logistics workforce reflecting the region's growing emphasis on inclusive and environmentally sustainable logistics practices.



Group Level Summary

At the group level, LEADS 2025 highlights differentiated perception patterns across the four logistics pillars for the North-Eastern States. While Logistics Services records relatively higher perception scores, Logistics Infrastructure shows comparatively lower assessments across several indicators. Variation is also observed across operating environment and sustainability parameters, reflecting diverse structural and operational contexts of States within the NER Group. The perception heatmap that follows, illustrates these comparative movements across States and pillars.

Perception Heatmap

Logistics Infrastructure

State	Road	Rail	IWT	Airport	Wayside	Terminal	F/L Mile	W/H & CC	Digital
Arunachal Pradesh	🔴	🟢	🟢	🔴	🟡	🟡	🔴	🔴	🔴
Assam	🟡	🔴	🟢	🟢	🔴	🔴	🔴	🔴	🔴
Manipur	🟢	🟢	🔴	🟢	🔴	🟢	🟢	🟢	🟢
Meghalaya	🔴	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🟢
Mizoram	🔴	🔴	🟢	🟢	🔴	🟡	🟢	🟢	🟢
Nagaland	🟢	🔴	🟢	🟢	🟡	🟡	🔴	🟢	🔴
Sikkim	🟢	🟢	🔴	🔴	🟢	🔴	🔴	🔴	🟢
Tripura	🟢	🟢	🔴	🔴	🟢	🟢	🟢	🔴	🟢

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Logistics Infrastructure

Logistics Services

State	Transport	Terminal	W/H	Cost	Time	Track & Trace	Manpower	Security	LSPs
Arunachal Pradesh	🔴	🟡	🟢	🟡	🟢	🟡	🔴	🟡	🔴
Assam	🔴	🔴	🟡	🔴	🟡	🔴	🟡	🔴	🟡
Manipur	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Meghalaya	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟢	🔴
Mizoram	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Nagaland	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Sikkim	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Tripura	🔴	🟢	🟢	🟢	🟢	🟡	🟢	🟡	🟢

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Logistics Services

Operating and Regulatory Environment					
State	Border Ease	Grievance	Policy	Approvals	Investments
Arunachal Pradesh	🔴	🟢	🟢	🔴	🟡
Assam	🔴	🟢	🔴	🔴	🔴
Manipur	🟢	🟢	🟢	🟢	🟢
Meghalaya	🟢	🟡	🟢	🟢	🟡
Mizoram	🔴	🔴	🟢	🔴	🟢
Nagaland	🟢	🟢	🟢	🟡	🟢
Sikkim	🟡	🔴	🟡	🟢	🔴
Tripura	🟢	🔴	🟢	🔴	🟢

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Operating and Regulatory Environment

Sustainability and Equity Logistics				
State	EV Adoption	EV Charging Stations	Green W/H	Women Participation
Arunachal Pradesh	🔴	🟡	🟡	🔴
Assam	🔴	🔴	🔴	🔴
Manipur	🟢	🟢	🟢	🟢
Meghalaya	🟢	🟢	🟢	🟡
Mizoram	🟢	🟢	🟢	🟢
Nagaland	🟢	🟢	🟢	🟢
Sikkim	🟢	🔴	🔴	🔴
Tripura	🟢	🔴	🟢	🔴

Legend 🟢 Above Group Average 🟡 Aligned with Group Average 🔴 Below Group Average

Figure: Perception Heatmap – Sustainable and Equity Logistics

A detailed analysis of each State's performance in the North-East Region group across various indicators, along with an overview of initiatives undertaken by the State and potential opportunities that exist in the State is provided in the subsequent chapters.



Arunachal Pradesh

State Performance Snapshot

2025	2024
Accelerators	Achiever

Arunachal Pradesh is positioned as an “Accelerator” within the North-East Region Group. The assessment indicates stable positioning across infrastructure, regulatory, and sustainability dimensions, supported by ongoing policy and institutional initiatives. At the same time, terrain-related constraints and service depth continue to influence logistics efficiency, indicating areas for focused development.

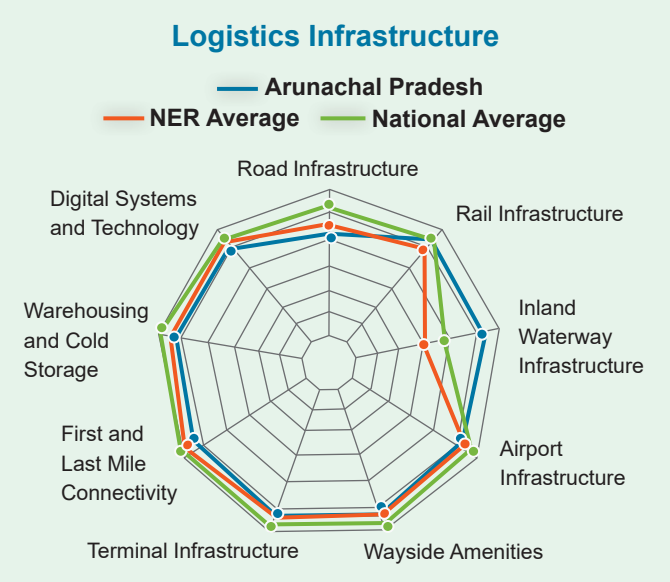
Logistics Infrastructure

Across logistics infrastructure parameters, Arunachal Pradesh reflects varied perceptions across different modes and supporting facilities when viewed alongside the NER group and national averages.

Perceptions related to improvement in road infrastructure are positioned below both the NER group and national averages. In contrast, views on improvement in rail infrastructure are above the NER group average and aligned with the national average, indicating weaker assessments for road connectivity alongside relatively stronger perceptions for rail infrastructure.

Parameters related to improvement in Airport infrastructure, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations are positioned below both the NER group and national average indicating infrastructure and digital enablement gaps and underscoring priority areas for focused capacity augmentation.

In contrast, the perceptions for improvement in Inland waterway infrastructure are above both the NER group and national averages, suggesting improved waterway infrastructure provision in the State. Perception scores for improvement in terminal infrastructure and adequacy and quality of Wayside amenities indicate alignment with the NER group average, while remaining below the national average, indicating parity with regional peers alongside a residual gap relative to national the national average.



Arunachal Pradesh has formulated the Logistics Policy, 2023, aligned with the national logistics vision while responding to the State's unique geographic and operational challenges. Given the rugged terrain, high logistics costs, and infrastructure constraints, the policy focuses on strengthening the logistics ecosystem through improved connectivity, targeted infrastructure development, and the adoption of advanced technologies where feasible.

In line with the policy, the State has prepared an Action Plan on Connectivity and Infrastructure. The plan proposes the development of 12 civil aviation centres, 11 road projects, 9 railway projects, 3 power projects, 3 telecom projects, and 5 port-related projects. It also includes the development of 9 logistics hubs, 1 Special Economic Zone (SEZ), 4 International Integrated Check Posts (ICPs), 6 Domestic Integrated Check Points (DCPs), and 2 district-level truck terminals. In addition, the Action Plan outlines initiatives focused on technology adoption, skill development, and capacity building.

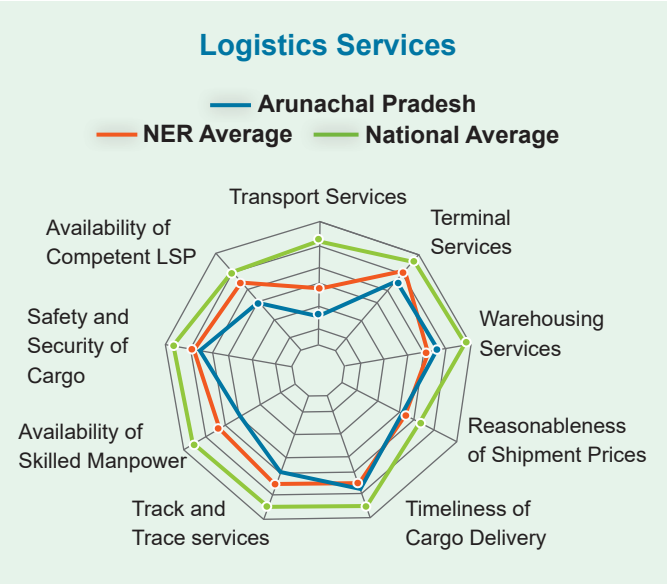
Logistics Services

Arunachal Pradesh reflects mixed perception scores across logistics service parameters when compared with the NER group average and national average.

Assessment of improvement across all transport services is positioned above the NER group average but below the national average, indicating relatively more favourable conditions within the regional context.

Perceptions related to the indicators improvement in warehousing services, improvement in terminal services, availability of track and trace services, availability of skilled manpower, improvement in safety and security of cargo, and availability of competent logistics service providers are broadly aligned with the NER group averages but trail the national averages reflecting moderate service-level performance regionally alongside a scope to improve compared to national levels.

Perceptions related to improvement in shipment prices and improvement in timeliness of cargo delivery are aligned with both the NER group and national average, indicating broadly comparable assessments on pricing and delivery reliability.



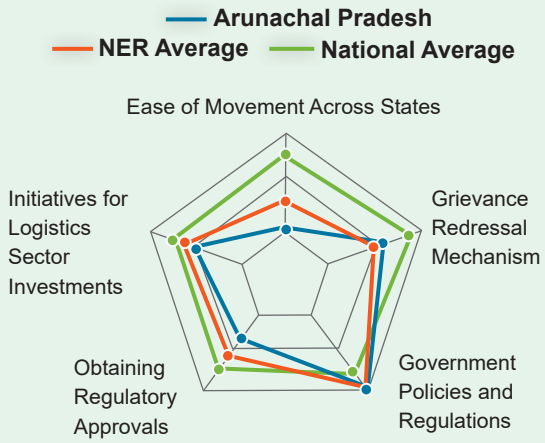
The State has initiated efforts to upskill human resources for the logistics sector. Currently, seven training institutes are operational under the Chief Minister Yuva Kaushal Yojna (CMYKY). In addition, three logistics-related job roles are proposed for training through their partnership at the Centre of Logistics Training for Excellence, Chennai.

Operating and Regulatory Environment

Assessment outcomes across operating and regulatory parameters in Arunachal Pradesh show mixed alignment with NER and national average.

Perceptions of improvement in ease of border crossing, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments remain below both the NER group and national average, indicating continued constraints in cross-border facilitation and the regulatory investment environment relative to both comparators. Perception scores for availability of grievance redressal mechanism is above the NER average but below the national average, indicating relatively stronger regional performance in grievance redressal effectiveness, alongside scope for further improvement to reach national levels. In contrast, assessments of the availability of policy initiatives for logistics sector investments align with the NER average and exceed the national average reflecting favorable views on policy effectiveness.

Operating and Regulatory Environment



Arunachal Pradesh established the Arunachal Pradesh Innovation & Investment Park (APIIP) in April 2025 to function as the Investment Promotion Agency (IPA) under the Investment Division of the Finance, Planning & Investment Department. In addition to responsibilities assigned under the Arunachal Pradesh Allocation of Business Rules, 2021, APIIP provides institutional support for investment facilitation, including in the logistics sector.

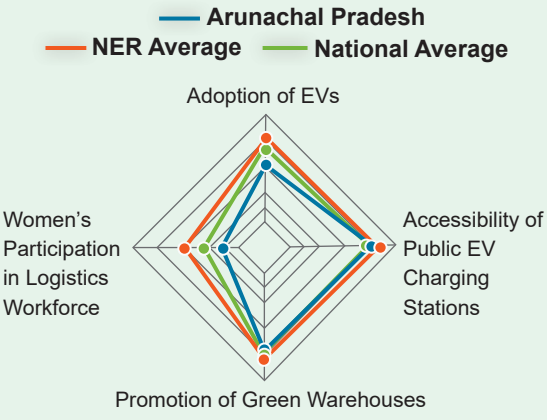
Sustainability and Equity Logistics

Across sustainability and equity logistics parameters, Arunachal Pradesh shows differentiated assessment outcomes relative to NER and national averages.

Perceptions for parameter “Support provided by the State/UT for adoption of electric vehicles (EVs) in logistics operations” is placed below comparator average, indicating relatively weaker enabling support for EV uptake.

In contrast, assessments of the “Availability and accessibility of public EV charging stations for electric vehicles (EVs)” and “Support extended by the State/UT for the promotion of Green Warehouses,” align closely with the NER average and exceed the national average, indicating relatively stronger performance on enabling green infrastructure, alongside comparatively weaker institutional support for EV adoption in logistics operations.

Sustainability and Equity Logistics



Perceptions related to availability of inititiatives for inclusion of women workforce remain below both NER and national average, indicating need for targeted measures to strengthen workforce inclusion.

Arunachal Pradesh is implementing the State Energy Efficiency Action Plan (SEEAP). Analysis indicates that the industrial, building, and transport sectors are the primary drivers of energy consumption in the State and are projected to account for over 90% of total energy demand by FY 2030–31, providing important context for sustainability planning within the logistics sector.

The transport sector is a significant contributor to energy use and greenhouse gas emissions. Key interventions under SEEAP include notification of the State Electric Vehicle Policy, expansion of EV charging infrastructure, awareness and capacity building initiatives, and technology-based measures aimed at improving energy efficiency and reducing emissions.

Progress since LEADS 2024

Taking into account the LEADS 2024 recommendations, the State has undertaken an assessment of gaps and priority areas across logistics infrastructure, regulatory frameworks, and service delivery mechanisms. Based on this assessment, a set of short-term and long-term interventions has been identified to address constraints affecting the logistics ecosystem. These proposed actions reflect the State's response to the LEADS 2024 findings and are intended to support improvements in infrastructure development, planning and regulatory processes, service delivery, and sustainable and inclusive logistics outcomes.

Actions Taken on Short-Term Opportunities

Recommendation: Strengthen storage and handling infrastructure to support urban and agri-logistics needs.

In response, the Logistics Action Plan 2025 envisages the development of a modern warehousing facility at Chimpu to serve the Itanagar Capital Complex. The project is planned with an implementation horizon of three years and is intended to support organised storage and distribution requirements.

Recommendation: Improve visibility and monitoring of cargo movement.

As part of the short-term response, the Action Plan includes the implementation of GPS-based vehicle tracking systems to enhance monitoring, routing efficiency, and operational transparency.

Actions Taken on Long-Term Opportunities

Recommendation: Develop organised truck terminal infrastructure across districts.

The State Logistics Action Plan, 2025 proposes the development of district-level truck terminals at strategic locations. Location feasibility studies are planned to guide phased implementation.

Recommendation: Enhance rail connectivity to support multimodal freight movement.

The Action Plan identifies the completion and development of rail infrastructure as a priority, including:

- Completion of the ongoing Murkongselek–Pasighat rail line.
- Development of a new rail line along the Pasighat–Tezu–Parshuram Kund–Rupai corridor (approximately 218 km).
- Development of a new rail line along the Silapathar–Bame–Along corridor (approximately 96 km).
- Development of a new rail line along the Misamari–Tawang corridor (approximately 201 km).

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)–style synthesis was prepared to capture key policy-relevant inputs from (i) logistics service providers and logistics users, and (ii) the State Government. The points below highlight operational constraints and systemic gaps influencing logistics efficiency, reliability, and overall competitiveness.

> Due to limited industrial activity within the State, a significant share of goods and essential supplies is currently sourced from outside the region via road transport.

> Availability of modern warehousing and cold-storage facilities remains limited, indicating scope for expansion of storage and aggregation infrastructure.

> Road infrastructure quality varies across corridors, highlighting the need for continued upgrading and maintenance to support freight movement and heavy vehicles.

> Key routes such as Tezu–Wakro Road, Roing–Dambuk Road, and Dirang–Tawang Road present opportunities for road widening and development of designated truck parking areas with basic amenities.

> Along major freight corridors, including NH-415, narrow carriageways and limited formal truck parking capacity lead to on-road halting, affecting traffic flow during peak movement periods.

> Adoption of green logistics solutions is at a nascent stage, with potential to introduce EV pilots and incentive frameworks for low-emission freight operations.

Figure: Voice of Logistics Service Providers and Users

> Multimodal connectivity is currently constrained by limited warehousing and cold-chain infrastructure, weak first- and last-mile linkages, absence of truck terminals along NH-29 and NH-13, and gradual expansion of rail connectivity to Tezu, Roing, and Itanagar.

> While logistics policies are progressing, further strengthening of institutional capacity, geo-referenced land records, and integration with national digital logistics platforms presents a key opportunity.

> Limited adoption of platforms such as ULIP and a small base of specialised logistics operators currently restrict real-time cargo visibility, ODC handling capability, and seamless multimodal operations.

> The State's terrain and seasonal weather patterns increase transit time and logistics costs, while the Siang River's untapped potential as a riverine trade corridor remains an opportunity for future connectivity enhancement.

> Arunachal Pradesh demonstrates strong environmental performance; however, increasing women's participation and addressing skill gaps across technical, managerial, and operational roles can further support inclusive growth in the logistics sector.

> Limited direct access to technology-enabled airports requires reliance on neighbouring hubs (e.g., Guwahati or Bengaluru) for air cargo movements, affecting time-sensitive exports.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Arunachal Pradesh's logistics priorities focus on strengthening connectivity resilience, improving multimodal integration, and enabling agri-logistics in line with the State's terrain and economic profile. Stakeholders highlight the need to enhance the reliability of key road corridors, develop organised logistics support infrastructure, and extend multimodal linkages to reduce logistics costs and strengthen trade with neighbouring States. Targeted interventions around corridor-based connectivity, storage and aggregation facilities near horticulture clusters, and coordinated institutional mechanisms can improve logistics reliability and overall system efficiency across the State.

Short-Term Opportunities

1. **Strengthen critical road corridors linking production and consumption centres.**
   Targeted upgradation of stretches such as Itanagar–Naharlagun–Banderdewa and Pasighat–Roing–Tezu can reduce terrain-related transit disruptions and support more consistent year-round cargo movement.

2. **Establish organised truck-parking and lay-by facilities along strategic routes.**
   High-traffic corridors, including NH-13 (Trans-Arunachal Highway) and NH-229 connecting Pasighat with Assam, face limited rest infrastructure. Designated parking areas with basic amenities and security can ease congestion and improve driver safety.

3. **Develop small-scale aggregation and storage facilities near agri-horticulture clusters.**
   Locations such as Ziro Valley, Pasighat, and Yingkiong offer potential for low-cost storage and consolidation hubs, enabling faster movement of perishable produce to markets in Assam and other regions.

Long-Term Opportunities

4. **Establish integrated logistics hubs in the Itanagar–Naharlagun belt.**
   A multimodal logistics hub with warehousing, truck terminals, and cargo consolidation facilities can support growing industrial and construction demand while reducing dependence on facilities in Assam.

5. **Enhance rail connectivity to improve multimodal freight integration.**
   Coordination with Indian Railways to extend rail links beyond Harmuti towards Itanagar and Tezu can improve bulk cargo movement, including cement, steel, and food grains.

6. **Expand cold-chain and reefer transport for horticulture and floriculture.**
   Solar-powered or hybrid cold-storage units near production zones in West Kameng, Papum Pare, and Lower Subansiri can reduce post-harvest losses and strengthen farm-to-market linkages.

7. **Institutionalise an inter-departmental logistics coordination mechanism.**
   A dedicated State-level coordination cell can align transport, industry, border trade, and rural development departments, enabling integrated planning and sustained stakeholder engagement.



Assam

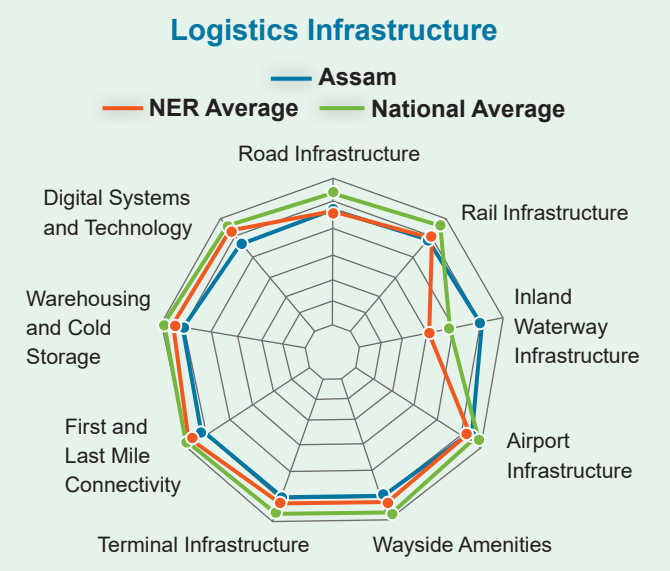
State Performance Snapshot

2025 **Accelerator** | 2024 **Achiever**

Assam is positioned as a Accelerator within the North-East Group, following its categorization as an Achiever in LEADS 2024. This shift is reflected in perception-based assessments across logistics infrastructure, services, and the regulatory environment. The State demonstrates relatively stronger performance in Inland Water Transport (IWT) and multimodal logistics planning, supported by ongoing initiatives in these areas. However, these strengths are balanced by lower assessments in surface connectivity, regulatory facilitation, and depth of logistics services. While Assam continues to signal policy intent and multimodal development through IWT expansion and Multi-Modal Logistics Park (MMLP) planning, the current assessment highlights the need to translate these initiatives into broader, ecosystem-level improvements across infrastructure quality, service delivery, and operating conditions.

Logistics Infrastructure

Assessments of logistics infrastructure in Assam indicate varied outcomes across individual infrastructure components when benchmarked against the NER group and national averages. Perceptions on improvement in road infrastructure and improvement in rail infrastructure are broadly aligned with NER average and remain below national average, indicating moderate surface connectivity outcomes. The indicator improvement in Inland waterway infrastructure is in line with the NER group average and placed above the national average, reflecting the State's relative strength in IWT development. Views on improvement in airport infrastructure are close to both NER and national average, suggesting convergence across comparison levels.



Parameters including "Adequacy and Quality of Wayside Amenities", "Improvement in adequacy and quality of terminal infrastructure", "Improvement in the adequacy and quality of first/last mile connectivity (by rail and/or road) to industrial infrastructure/economic zones/terminal infrastructure", and "Improvement in adequacy and quality of warehousing, cold storages, pack-houses, etc." remain aligned with NER averages and below national average, highlighting constraints in logistics support infrastructure. Perceptions on availability of digital systems to support logistics

operations similarly align with NER average while remaining below national levels, pointing to scope for further strengthening digital enablement within the State's logistics ecosystem.

A MoU has been signed between the Inland Waterways Authority of India (IWAI) and Assam Petro-Chemicals Ltd. to develop a ₹400 crore project for transporting methanol and formalin through the Indo-Bangladesh Protocol Route and National Waterways. The project includes the construction of 10 flat-bottom tanker barges, upgradation of terminals at Bogibeel, Pandu, and Jogighopa, and the installation of navigation support systems.

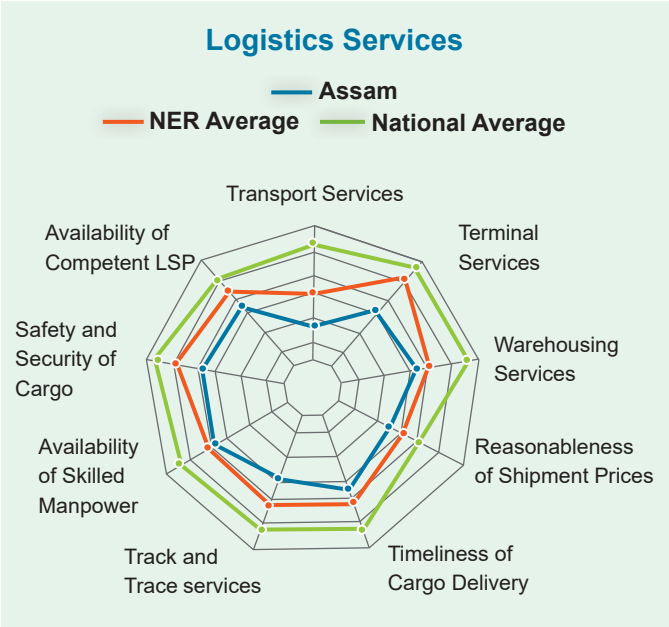
The Jogighopa Multi-Modal Logistics Park (MMLP), India's first such facility in the Northeast, is being developed over an area of approximately 280–317 acres with integrated road, rail, and inland water transport connectivity. It is strategically linked to the Jogighopa IWT terminal, developed at a cost of ₹82 crore, which has an annual cargo handling capacity of 1.1 million tonnes. The MMLP is envisaged as a key logistics hub and trade gateway for facilitating regional and international trade with Bhutan and Bangladesh under the Bharatmala and Sagarmala initiatives.

Logistics Services

Perception-based assessments of logistics services in Assam indicate varied views across individual service parameters when compared with NER group and national average.

Perceptions on "Improvement in the adequacy and quality of transport services across road, rail, air, and waterways" and "Improvement in the adequacy and quality of terminal services" are placed above the NER average while being below the national average, indicating relatively stronger performance within the regional context.

Perception scores for "Improvement in the adequacy and quality of warehousing services", "Improvement in reasonableness of shipment prices," "Improvement in timeliness of cargo delivery, in terms of how often it reaches the consignee within scheduled or expected delivery time," "Improvement in availability of track and trace services for cargo movement," "Improvement in availability of skilled manpower involved in the delivery of logistics services", "Improvement in safety and security of cargo", and "Availability of competent logistics service providers such as freight forwarders, logistics service providers, and terminal service providers" are aligned with NER averages but remain below national averages, suggesting broadly average regional service depth alongside a persistent gap versus national levels across service capability, reliability, visibility, and provider capacity.



Assessments of logistics services in Assam indicate varied views across individual service parameters when benchmarked against NER and national average. Perceptions on "Improvement in the adequacy and quality of transport services across road, rail, air, and waterways" and "Improvement in the adequacy and quality of terminal services" are placed above the NER average while remaining below the national average, indicating relatively stronger performance within the regional context. For "Improvement in the adequacy and quality of

warehousing services" and "Improvement in reasonableness of shipment prices," assessments are broadly aligned with NER average and remain below national average, reflecting moderate service depth and cost competitiveness.

Service efficiency indicators including "Improvement in timeliness of cargo delivery," "Improvement in availability of track and trace services for cargo movement," and "Improvement in availability of skilled manpower involved in the delivery of logistics services" are aligned with NER average and remain below national average, pointing to scope for improvement in reliability and workforce capacity. Similarly, perceptions on "Improvement in safety and security of cargo" and the "Availability of competent logistics service providers such as freight forwarders, logistics service providers, and terminal services" remain consistent with the NER group average while trailing national the national average.

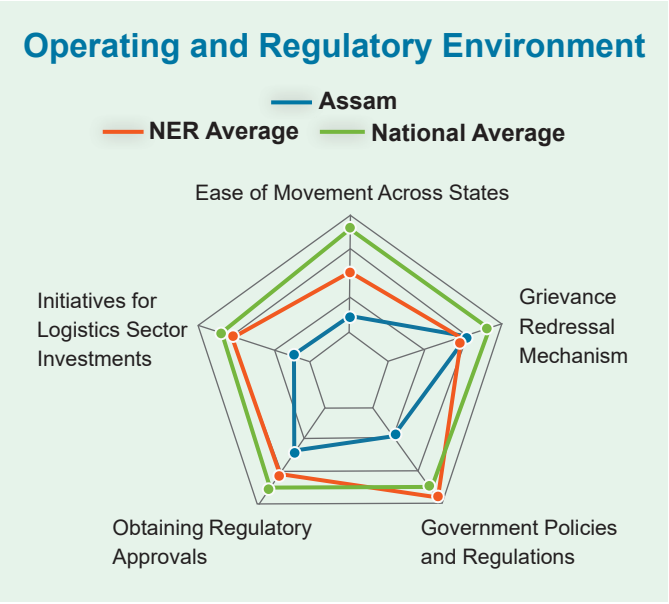
Assam is implementing a range of skill development initiatives through the Assam Skill Development Mission (ASDM) and allied departments, covering logistics-relevant job roles across warehousing, supply chain management, and transport operations. These initiatives include State-led programmes such as the Placement Linked Skill Development Training Programme and Advanced Skill Training Institutes, alongside Central schemes including PMKVY, NAPS, RPL, and DDU-GKY. Together, these programmes provide a mix of short-term skilling, apprenticeship-based training, and recognition of prior learning, supporting the development of a skilled workforce for the logistics sector.

Operating and Regulatory Environment

Assessments of operating and regulatory aspects in Assam indicate differentiated views across individual parameters when considered alongside NER and national averages.

Perceptions on improvement in ease of border crossing, availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments, are positioned below both the NER group and national averages, indicating relatively weaker assessments of facilitation, approvals, and investment support.

Perception score for availability of grievance redressal mechanism is aligned with the NER average but below the national average highlighting relative gaps in regulatory effectiveness and facilitation frameworks and indicating scope for targeted institutional and process-level strengthening.

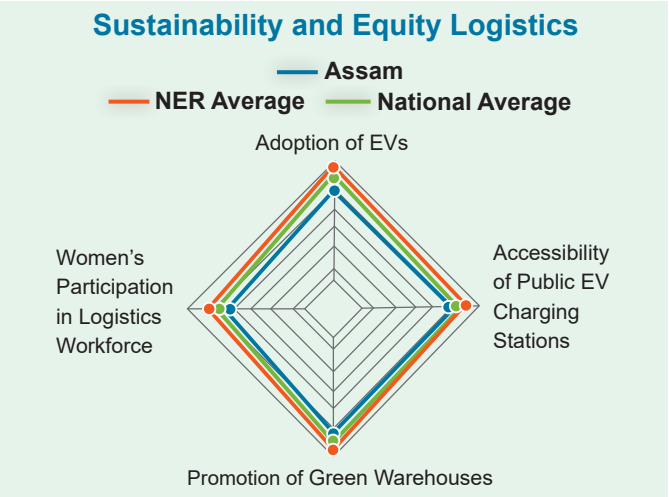


To strengthen infrastructure and port access, the Jogighopa Inland Waterways Terminal has been declared an international Port of Call under IBPR and is strategically linked to the upcoming Multi-Modal Logistics Park (MMLP). The terminal is equipped with customs and immigration facilities, along with rail and road connectivity, facilitating trade with Bhutan and Bangladesh. Additionally, terminals at Pandu, Dhubri, and Bogibeel have been upgraded to support cross-border cargo movement and exports to Southeast Asia, including specialized logistics backed by MoUs with Assam Petro-Chemicals Ltd. for the transportation of methanol and formalin.

Sustainability and Equity Logistics

Perception-based assessments of sustainability and equity logistics in Assam are below both the NER group and national average across all assessed indicators.

Perceptions on availability of support in EV adoption, availability of public EV charging stations, availability of initiatives for promotion of green warehouses and availability of inititiatives for inclusion of women workforce are placed below both NER group average and national average, highlighting scope for stronger enabling incentives, infrastructure rollout, and workforce-focused interventions.



Urban Water Transport (Water Metro) is a proposed ₹1,000 crore initiative aimed at improving urban mobility along the Brahmaputra by connecting Guwahati, Tezpur, and Dibrugarh through electric-hybrid boats. The project seeks to integrate river-based transport with existing road and rail networks to reduce congestion, enhance connectivity, and promote environmentally sustainable travel. Kochi Metro Rail Limited has been entrusted with conducting the feasibility study and preparing the planning framework for the project.

Progress since LEADS 2024

The LEADS 2024 recommendations for Assam emphasized bridging key infrastructure gaps, strengthening digital integration within logistics systems, and enhancing multimodal coordination over the short and long term. A review of the State's response indicates partial alignment with these recommendations, reflecting progress in policy preparedness and inland water transport–led initiatives, while also highlighting gaps in addressing several specific, location-focused interventions identified in the LEADS assessment.

Action Taken on Short-Term Opportunities

Assam has put in place the enabling policy and project pipeline. The Assam Logistics & Warehousing Policy, 2025 has been notified, and a State Logistics Action Plan has been drafted and submitted to Government for approval.

Assam has implemented key infrastructure initiatives, including the Chaygaon–Ukium road widening project and the Bhuragaon–Kaupati bridge, along with the development of new railway lines.

Action Taken on Long-Term Opportunities

In the Draft Logistics Action Plan, the State has prioritized the construction of truck terminals and Multi-Modal Logistics Parks (MMLPs), with these projects proposed for implementation following approval of the Logistics Action Plan.

Assam has operationalized cargo movement on National Waterway-2 and revived routes like Kopili, supported by terminals at Pandu, Jogighopa, and Dhubri. It is also developing multimodal hubs like the Jogighopa Logistics Park and planning IWT-linked projects under PM Gati Shakti and Indo-Bangladesh Protocol routes.

Voice of Stakeholders and State Government

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Export infrastructure is viewed as a high-impact enabler for unlocking Assam's agri-export potential, particularly for high-value horticultural and spice products.

> Absence of agri-testing laboratories in and around Guwahati increases export timelines and compliance costs for products such as Big Lemon, Litchi, and Red Chilli (Bhoot Jhaloka).

> Limited availability of aggregation, storage, and organized transport services constrains market access for small and perishable-goods producers.

> Dependence on Kolkata Port for empty containers raises logistics costs for tea exports and encourages trucking to distant processing hubs.

> Limited access to modern preservation and cold-chain technologies restricts shelf life and export scalability for perishable commodities.

> Challenging connectivity in rural and remote areas increases last-mile delivery costs and limits service coverage and customer reach.

Figure: Voice of Logistics Service Providers and Users

> Road-based freight continues to dominate, contributing to congestion, higher logistics costs, and sensitivity to disruptions, even as inland water transport options begin to emerge.

> Flagship projects such as Jogighopa MMLP, Water Metro, and IWT terminals are progressing in phases, with stakeholders expecting their full logistics benefits to accrue as implementation and coordination mature.

> Gaps in last-mile connectivity to logistics hubs, industrial clusters, and terminals, along with limited urban freight management measures, affect operational efficiency and increase cargo dwell time.

> Organised warehousing, cold chain, and value-added logistics investments remain selective, influenced by land availability constraints, capital intensity, and procedural complexity.

> Adoption of national digital logistics platforms and end-to-end tracking systems is advancing, with further integration expected to strengthen real-time visibility, data-driven planning, and inter-agency coordination.

> Green logistics initiatives, including EV freight, low-emission fleets, and green warehousing — are gaining policy support, with scale-up linked to continued expansion of charging infrastructure, access to finance, and industry preparedness.

Figure: Voice of the State Government

Potential Opportunities in the State

Assam's logistics ecosystem reflects its strategic location as the gateway to the North-Eastern Region, its dependence on multimodal transport, and the prominence of agri-based and resource-linked cargo flows. Stakeholders recognise the State's comparative advantages in inland waterway connectivity and regional market access, while also pointing to infrastructure gaps, capacity constraints, and fragmented service delivery that influence logistics efficiency. Targeted interventions across physical infrastructure, digital systems, and institutional coordination are viewed as important to strengthen cargo movement, improve reliability, and moderate logistics costs over time.

Short-Term Opportunities

1. **Enhance cold chain and aggregation infrastructure for agri and horticulture produce**

   Stakeholders consistently highlight gaps in cold storages, pack-houses, and organised aggregation facilities for fruits, vegetables, spices, and other perishables. Expanding decentralised cold chain and aggregation infrastructure closer to production clusters is expected to improve shelf life, reduce post-harvest losses, and support more stable market access for farmers and exporters.

2. **Increase agricultural exports from the State.**

   Feedback indicates that the absence of accredited testing and certification facilities remains a key bottleneck for agri-exports. Facilitating the establishment of Plant Quarantine Authorities (PQAs/PGAs) in Guwahati, including through public-private partnership models, is seen as a practical step to strengthen export readiness and regulatory compliance.

3. **Improve last-mile road connectivity to logistics and industrial clusters**

   Stakeholders point to constrained road width and access conditions around several industrial estates and logistics nodes as factors affecting freight movement and vehicle turnaround times. Targeted improvements to approach roads connecting warehouses, transport nagars, terminals, and industrial clusters are expected to enhance operational efficiency and reduce congestion at critical nodes.

Long-Term Opportunities

5. **Establish integrated logistics parks to support industrial and trade activity**

   Stakeholders note the limited availability of large, planned logistics parks offering warehousing, consolidation, and value-added services. Developing integrated logistics facilities near major industrial centres and consumption markets is expected to support emerging manufacturing and agri-processing clusters while improving the attractiveness of the State for private logistics investment.

6. **Strengthen institutional coordination for logistics planning and implementation**

   Inputs suggest that logistics development is influenced by the involvement of multiple departments and agencies, often with limited formal coordination mechanisms. Institutionalising structured coordination platforms can support more cohesive planning, smoother project implementation, and systematic monitoring of logistics initiatives.

7. **Promote environmentally sustainable logistics practices**

   There is increasing recognition of the scope to encourage cleaner transport technologies, energy-efficient warehousing, and gradual modal shift towards rail and inland waterways. Stakeholders view such measures as important for balancing long-term environmental sustainability with improvements in logistics efficiency and cost competitiveness.

Short-Term Opportunities

Strengthen adoption of digital systems for logistics coordination

Uneven use of digital tools for documentation, tracking, and inter-agency coordination continues to be reported. Wider deployment of integrated digital platforms is viewed as an opportunity to improve shipment visibility, reduce transaction delays, and strengthen coordination across logistics service providers and government agencies.



Manipur

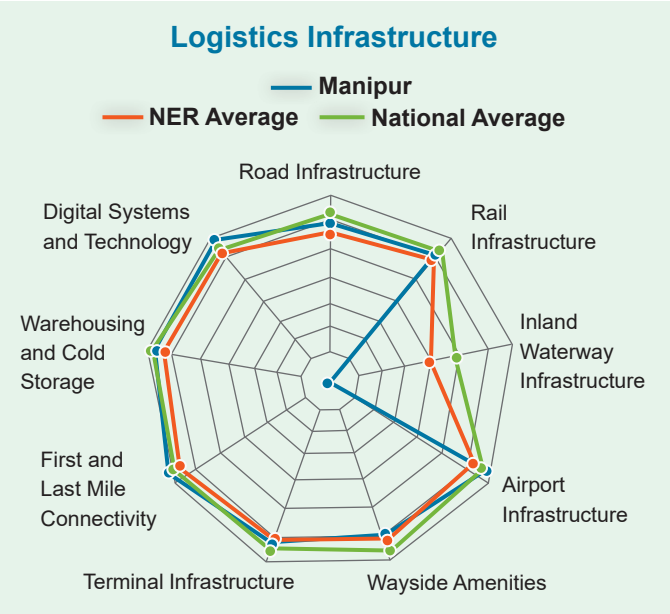
State Performance Snapshot

2025		2024
Accelerator		Aspirer

Manipur is positioned as an “Accelerator” within the North-East Group under LEADS 2025, reflecting an improvement from its positioning as “Aspirer” in LEADS 2024. This shift indicates perceptible progress across logistics infrastructure, services, and operating and regulatory parameters, supported by policy actions and institutional measures undertaken by the State. At the same time, the assessment highlights the need for sustained policy and implementation efforts to address remaining gaps related to connectivity, service delivery, and multimodal integration.

Logistics Infrastructure

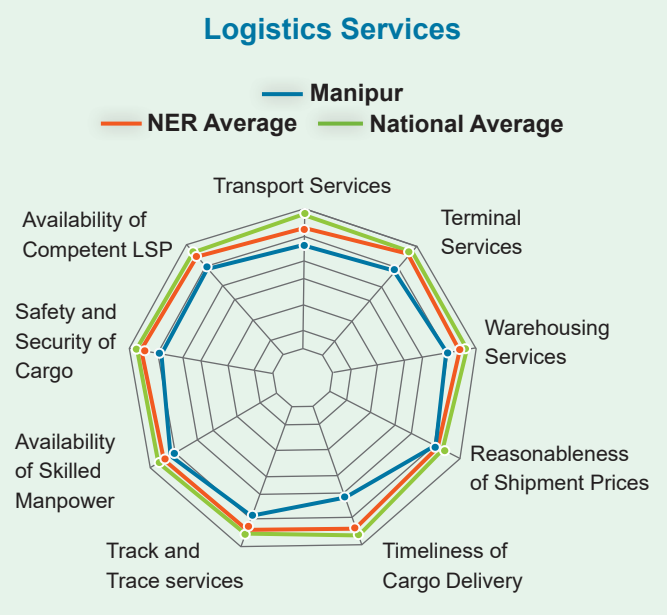
Perception-based assessments of logistics infrastructure in Manipur indicate variation across parameters when compared with the NER group and the national average. Perception scores for the parameters improvement in road infrastructure, improvement in rail infrastructure, improvement in airport infrastructure, improvement in terminal infrastructure, improvement in first/ last mile connectivity, improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations are above the NER group average and aligned with the national average. In contrast, perceptions of improvement in Inland waterway infrastructure remain below both the NER group and national average levels. Perceptions related to improvement in adequacy and quality of Wayside Amenities remain aligned with the NER group average but below the national average.



Under the Industrial and Investment Promotion Policy of Manipur, 2022, the State is facilitating construction of a cargo terminal at Imphal International Airport to cater to air cargo handling requirements and growing freight demand. The facility is intended to strengthen forward linkages for industrial units by improving access to domestic and international markets and enhancing marketing and export capabilities beyond the State.

Logistics Services

Assessment of Manipur's logistics services indicates varied views across service-related parameters when compared with the NER group and the national average. Perception scores for parameters improvement across all transport services, improvement in terminal services, improvement in shipment prices and improvement in timeliness of cargo delivery are below both the NER group and national averages. Perceptions for improvement in warehousing services, improvement in timeliness of cargo delivery, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers are aligned with the NER group average while remaining below the national average.



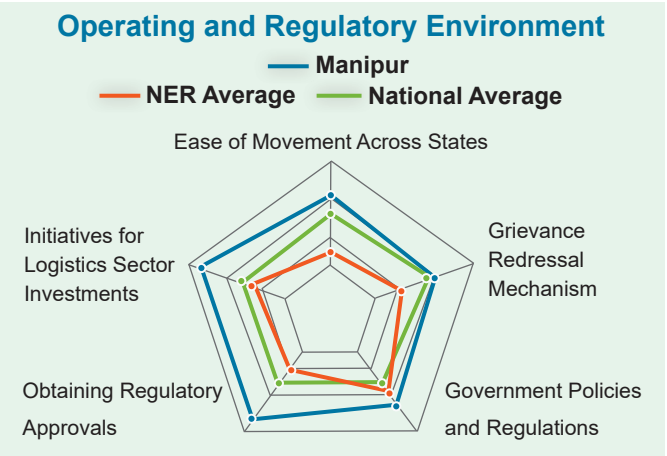
The Logistics Policy, 2022 envisages multiple technology interventions to improve resource utilisation and cargo visibility across the supply chain. These technologies include Automatic Identification and Data Capture (AIDC), network optimisation tools, Quick Response (QR) codes, real-time locating systems, and Radio Frequency Identification (RFID).

The policy also explores the establishment of a limited number of Integrated Check Posts, in consultation with relevant departments, to enable seamless movement of cargo and improve logistics cost efficiency.

Operating and Regulatory Environment

Assessments of Manipur's operating and regulatory environment indicate stronger perception scores across parameters when compared with the NER group and the national average. Perceptions on improvement in ease of border crossing and availability of grievance redressal mechanism are above both the NER group and national average.

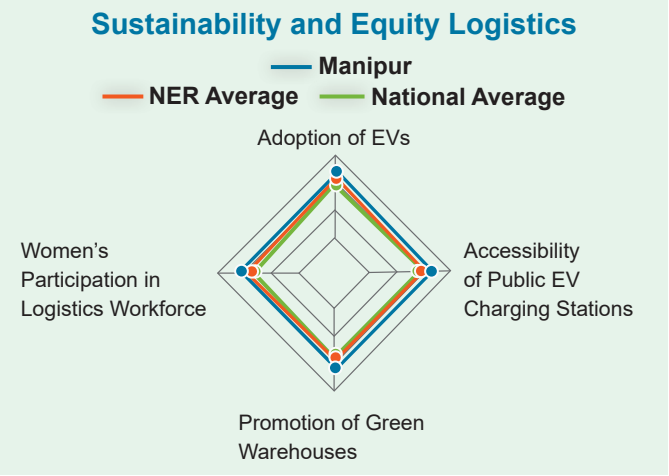
Perceptions scores for the availability of government policies and regulations in facilitating logistics operations, ease of obtaining regulatory approvals for setting up new logistics facilities and availability of policy initiatives for logistics sector investments are above the NER group and national averages, indicating a relatively favorable operating and regulatory environment in the State.



Manipur facilitates regulatory approvals for investors through the National Single Window System (NSWS) portal, which serves as a unified digital platform for obtaining central and state-level clearances. In addition, the State operates its own dedicated online portal under the Ease of Doing Business framework to streamline state-specific approvals. Together, these platforms reduce procedural delays, enhance transparency, and provide a coordinated, time-bound mechanism for granting permissions, and clearances.

Sustainability and Equity Logistics

Perception assessments related to the sustainability and equity dimensions of logistics in Manipur indicate relatively favorable views across the covered parameters when compared with the NER group and the national average. Perception scores for availability of support in EV adoption, availability of public EV charging stations, availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce are above both the NER group and national average.



The State Logistics Policy, 2022 places strong emphasis on sustainability and decarbonization of the logistics sector.

The policy states the following to promote green logistics-

- Encourage green and sustainable logistics through rail and inland waterways to reduce emissions,
- Improve vehicle utilisation and energy efficiency,
- Promote use of renewable energy at logistics facilities, solar installations, rainwater harvesting, waste-management, and adoption of sustainable development norms,
- Explore development of EV charging infrastructure for freight movement,
- Adopt green concepts and rating systems to reduce carbon footprint.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Road collapses and subsidence on the Phesama–Kisama stretch near the Nagaland–Manipur border, caused by heavy rains, repeatedly disrupt NH-2, halting movement of goods and passengers.

> Shortage of modern warehouses: mostly small, non-mechanized godowns with limited IT, no integrated logistics park, weak aggregation and cross-docking, with only shared warehouses and mini cold stores near Imphal and Jiribam.

> Prolonged or recurring blockades on NH-2 and NH-37 have led to commodity shortages and price inflation in areas such as Churachandpur and Imphal.

> Recurring blockades on NH-2 and NH-37 have caused commodity shortages and price inflation in Churachandpur and Imphal.

> Limited access to modern preservation and cold-chain technologies restricts shelf life and export scalability for perishable commodities.

> Rail connectivity exists at Jiribam, but freight services are underdeveloped, with minimal handling, no container or ICD-type facilities, and limited rail–road integration.

Figure: Voice of Logistics Service Providers and Users

> The State faces persistent challenges in maintaining all-weather road connectivity due to difficult terrain, high rainfall, and construction constraints. Recurrent subsidence and damage on key corridors such as NH-2 and NH-102A disrupt freight movement and impose recurring fiscal and administrative burdens for restoration and traffic management.

> Although rail connectivity has reached Jiribam, the absence of adequate freight handling infrastructure, container facilities, and rail–road integration limits the State's ability to leverage rail as a cost-effective alternative to road transport.

> Movement of goods through adjoining States involves multiple checkpoints and verification processes, resulting in increased transit time and logistics costs. Limited digital integration across jurisdictions further affects predictability and ease of movement.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Manipur's logistics ecosystem is shaped by its challenging terrain, dependence on a limited set of transport corridors, and its strategic role as a gateway to the eastern border. While the State plays an important role in regional connectivity, logistics efficiency continues to be affected by infrastructure constraints, limited multimodal integration, and operational bottlenecks. Addressing these factors can significantly improve supply chain reliability and market access.

Short-Term Opportunities

1. Potential to strengthen road connectivity along critical corridors prone to frequent disruptions

Stakeholders highlighted repeated disruptions along key stretches such as the Phesama–Kisama and Ukhrul–Toloi–Tadubi corridors due to road subsidence and inadequate slope protection. Targeted interventions to stabilise vulnerable sections and improve road resilience can reduce supply disruptions and enhance the reliability of freight movement.

2. Potential to improve the availability of organised warehousing and storage infrastructure

The logistics ecosystem is characterised by a predominance of small, fragmented godowns with limited mechanisation. There is scope to develop shared warehousing facilities, including cold storage and mini-warehouses near Imphal and key aggregation points, to strengthen food security and improve trade efficiency.

Long-Term Opportunities

3. Potential to develop integrated logistics and distribution facilities to support regional trade

The absence of organised third-party logistics facilities and cargo aggregation centres currently limits the efficiency of freight movement within the State. Developing integrated logistics hubs with storage, consolidation, and last-mile connectivity functions can strengthen supply chains and support regional commerce.

4. Opportunity to strengthen cross-border and regional trade logistics infrastructure

Given Manipur's strategic location and proximity to international borders, there is long-term potential to support structured border-trade logistics, subject to enabling conditions. Planned logistics infrastructure can facilitate smoother cross-border movement when trade operations are active.

5. Scope to promote sustainable and resilient logistics solutions

Stakeholders indicated the need for environmentally sensitive interventions such as slope stabilisation, green infrastructure, and the promotion of low-emission transport solutions suited to hilly terrain. These measures can enhance long-term resilience while reducing environmental impact.



Meghalaya

State Performance Snapshot

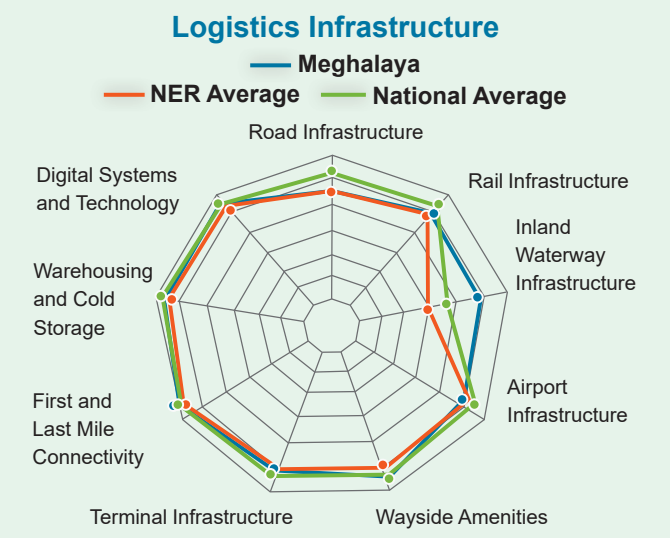
2025	2024
High Performer	Fast Mover

Meghalaya has been positioned as a "High Performer" in LEADS 2025, marking an improvement from its earlier classification as a "Fast Mover" within the North-East Group. This upward movement reflects progress across infrastructure, services, and regulatory dimensions, supported by ongoing planning efforts and institutional initiatives. While several parameters now show closer alignment with national averages, the assessment also highlights continued scope for strengthening connectivity, service depth, and multimodal integration.

Logistics Infrastructure

Meghalaya's logistics infrastructure shows varied performance across parameters when compared with the NER group and national average. Perceptions related to improvement in road infrastructure, improvement in rail infrastructure and improvement in airport infrastructure are aligned with the NER group average but below the national average. In contrast, the parameter improvement in Inland waterway infrastructure is perceived to be above both NER and national average.

Perception scores for improvement in adequacy and quality of Wayside amenities, improvement in terminal infrastructure and improvement in first/ last mile connectivity are above the NER group average and aligned with the national average. Similarly, perceptions related to improvement in warehousing, cold storage, pack-houses etc. and availability of digital systems to support logistics operations are higher than the NER average and close to the national average, reflecting a comparatively stronger assessment of supporting logistics assets such as storage facilities and digital enablement systems.

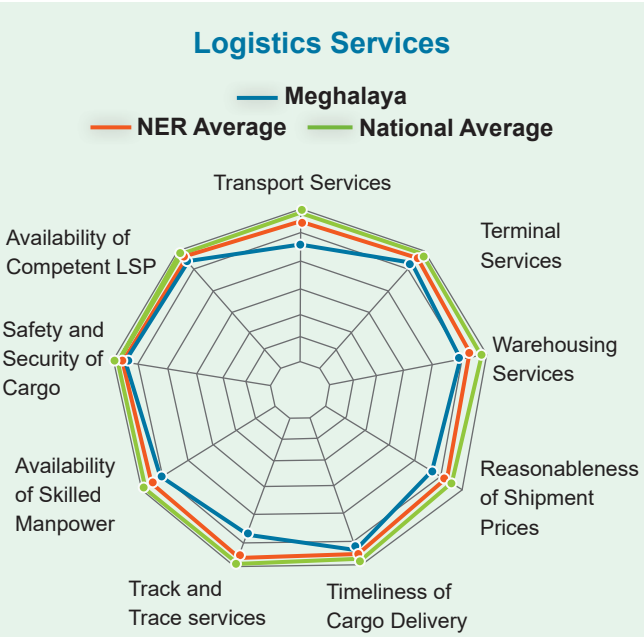


The Draft Meghalaya Logistics Action Plan (MLAP) 2025 sets out a strategic roadmap for the phased development of the State's logistics ecosystem. The Plan identifies specific action areas for multiple stakeholders across the short-, medium-, and long-term horizons. Implementation is proposed to be led by the Meghalaya Infrastructure Development & Finance Corporation (MIDFC), under the oversight of the Empowered Group of Secretaries (EGoS) and the Network Planning Group (NPG). Through structured monitoring, periodic evaluation, and timely course correction, the Action Plan aims to enable coordinated planning and systematic implementation of logistics infrastructure and related interventions across the State.

Logistics Services

Assessments of logistics services in Meghalaya reflect mixed perceptions across service parameters when compared with the NER group and national average scores. Perception scores for improvement across all transport services, improvement in warehousing services and improvement in shipment prices are below the NER average and below the national average scores.

Similar positioning is observed across service indicators such as, including improvement in timeliness of cargo delivery, availability of track and trace services, availability of skilled manpower and availability of competent logistics service providers, which are below NER averages and remain below national average scores. Perceptions on improvement in terminal services are below the NER average while continuing to trail the national average. In contrast, perceptions related to improvement in safety and security of cargo are assessed above the NER group average while remaining below the national average, indicating improved perception of secure handling of cargo in the State.

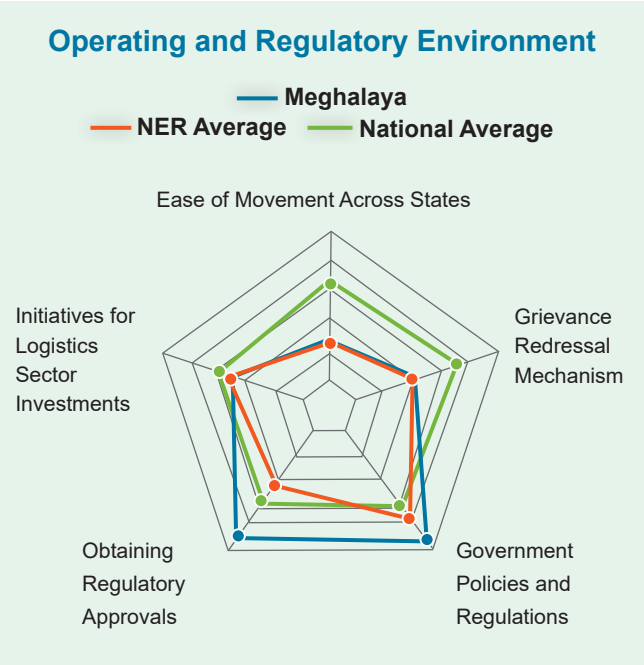


Meghalaya is undertaking workforce development initiatives to strengthen skills relevant to the logistics sector. At present, seven skill development schemes with logistics-linked components are being implemented across the State. These include PRIME (Promotion and Incubation of Market-driven Enterprises), initiatives under the Directorate of Food Processing, Pradhan Mantri Kaushal Kendra (PMKK), Entrepreneurship Among Women, the North East Industrial Development Scheme (NEIDS), the PM FME Scheme, and the Craftsman Training Scheme.

Operating and Regulatory Environment

Assessment of the Operating & Regulatory Environment in Meghalaya reflects varied perceptions across individual parameters when compared with the NER group and national averages. Perceptions related to improvement in ease of border crossing, availability of grievance redressal mechanism and availability of policy initiatives for logistics sector investments, are aligned with the NER group average but remain below the national average.

In contrast, perception scores for availability of government policies and regulations in facilitating logistics operations and ease of obtaining regulatory approvals for setting up new logistics facilities are higher than both the NER group and national average, indicating improved regulatory oversight and effectiveness.

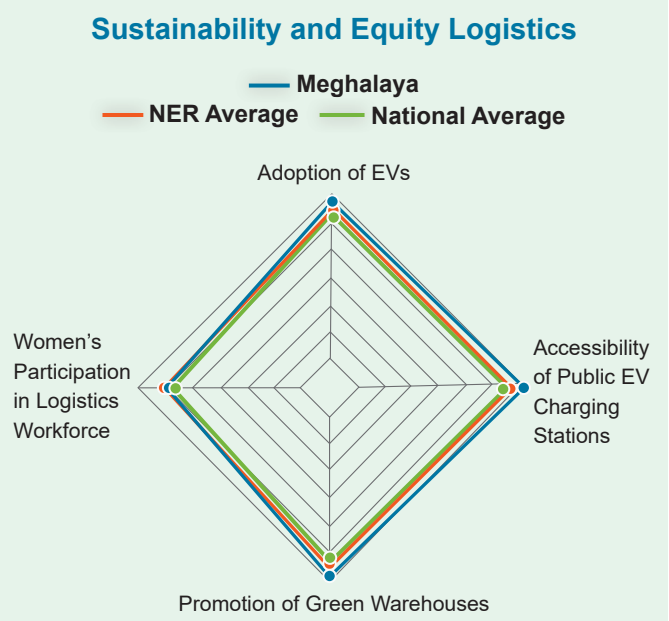


Meghalaya has envisaged an integrated single-window framework to streamline regulatory approvals, permissions, and statutory clearances across departments. The platform is intended to reduce procedural delays, strengthen inter-departmental coordination, and enhance transparency in decision-making. By enabling time-bound approvals through a unified interface for investors and project proponents, the framework is expected to support the planning, development, and expansion of logistics infrastructure and improve the overall ease of doing business in the State.

Sustainability and Equity Logistics

Assessment of the sustainability and equity dimension of logistics in Meghalaya reflects generally positive perceptions across most parameters when compared with the NER group and national average. Perception scores for availability of support in EV adoption, availability of public EV charging stations and availability of initiatives for promotion of green warehouses, are higher than both the NER group and national average.

Perceptions related to availability of initiatives for inclusion of women workforce is aligned with the NER group average and positioned above the national average, indicating convergence with regional trends and relatively stronger performance on gender inclusion within the sector.



The Draft Logistics Action Plan (2025) places strong emphasis on advancing green and sustainable logistics practices in the State. It encourages the adoption of electric vehicles for cargo movement, supported by the development of enabling charging and support infrastructure. The Plan also promotes energy-efficient and sustainable construction practices for warehouses and cargo-handling facilities, while supporting sustainable packaging solutions and the adoption of circular economy principles across the logistics value chain.



Progress since LEADS 2024

Meghalaya has undertaken several targeted initiatives in response to the recommendations of the LEADS 2024 report. The State has progressed with a mix of infrastructure-focused and policy-driven measures aimed at addressing identified gaps in logistics infrastructure and service delivery. These efforts have been shaped through consultations with key stakeholders and are being advanced through coordinated, inter-departmental mechanisms to ensure aligned planning and effective implementation.

Action Taken on Short-Term Opportunities

Meghalaya has taken focused steps to strengthen storage and warehousing capacity by leveraging its agricultural base and geographic advantages.

Through the Meghalaya State Agricultural Marketing Portal, supported by mandis, rural markets, and food processing units, Farmer Producer Organizations (FPOs) are being enabled to access wider markets. At present, the State has 97 warehouses with a total capacity of 59,750 MT and 33 food processing units, supporting value addition in key segments such as spices, fruits, and vegetables.

In parallel, policy measures have been introduced to support logistics development and allied sectors. The EV Policy (2021) promotes green mobility, while the PPP Policy (2021) facilitates private participation in border infrastructure.

The Industrial Policy (2024) offers incentives and land banks, the Tourism Policy (2023) strengthens destination-led economic activity, the Parking Policy (2025) addresses congestion in trade hubs, and the revised Mines & Mineral Policy (2012) supports sustainable mineral logistics.

Action Taken on Long-Term Recommendations

Meghalaya is strengthening long-term connectivity and trade infrastructure, particularly along its 443 km international border with Bangladesh. The State currently operates one Integrated Check Post at Dawki and nine Land Customs Stations, supporting cross-border trade.

Road connectivity linking urban centres such as Shillong and Tura to national corridors is improving steadily, including the 93.4 km Garobadha–Dalu Road Project supported by the Asian Development Bank. Over the past three years, investments of approximately ₹440 crore have been made towards upgrading national highways in the Shillong and Tura divisions, reinforcing regional and international connectivity.



Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Freight movement into and out of the State currently depends on the Umium Dam Bridge, where safety-related cargo restrictions affect routing flexibility and trip planning.

> The available alternate route adds significant distance, increasing transit time and transportation costs for goods vehicles.

> Formal warehousing infrastructure remains limited, with logistics activity relying largely on a small number of legacy State-developed facilities.

> In the absence of rail connectivity, road transport continues to be the sole mode for cargo movement into the State.

> Cross-border cargo flows through the Dawki ICP are growing, while the connecting road corridor has limited suitability for sustained heavy-freight operations.

> Through-traffic by long-haul trucks is high, but designated truck parking areas and basic driver amenities along key routes remain limited.

Figure: Voice of Logistics Service Providers and Users

> Meghalaya's hilly terrain and river valleys increase construction and maintenance costs for roads and logistics infrastructure, making network expansion more capital-intensive than in plains States.

> Land ownership under the Sixth Schedule and customary community systems limits the availability of readily transferable land parcels, making land aggregation and land banking for logistics infrastructure more time intensive.

> The State's economy remains largely agriculture-based, with limited diversification into manufacturing and large-scale industry, reducing the scale of freight generation and logistics demand.

> Dispersed settlement patterns, including a large number of habitations without all-weather road access, add complexity to last-mile connectivity and service delivery.

> Low levels of formal rural land ownership further constrain the creation of large, contiguous sites for logistics parks, warehousing, and industrial infrastructure.

> Industrial activity is primarily concentrated in micro and small enterprises, with high input costs and connectivity constraints affecting expansion into logistics-intensive sectors.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Meghalaya's logistics ecosystem is shaped by its hilly terrain, dispersed production centres, and reliance on a limited number of arterial road corridors. While the State plays an important role in regional trade, particularly with neighbouring States and Bangladesh, logistics efficiency remains constrained by infrastructure gaps and the limited availability of organised logistics facilities. Addressing these challenges presents an opportunity to strengthen supply chain reliability, improve market access, and reduce overall logistics costs.

Short-term Opportunities

1

Strengthening Storage and Warehousing Capacity

There is clear potential to develop storage and cold-chain infrastructure across key locations in the State. Stakeholders have highlighted limited availability of warehousing, particularly for agricultural and horticultural produce. Priority locations such as Byrnihat, Umiam, Dawki and Jowai offer opportunities to support aggregation, reduce post-harvest losses and improve market access.

2

Improving Road Connectivity Along Key Freight Corridors

Freight movement is constrained along important corridors such as Shillong–Byrnihat (NH-40/ NH-6), Shillong–Tura (NH-217) and the Dawki corridor. Targeted upgradation and widening of these stretches can enable smoother cargo movement, reduce transit delays and facilitate the use of higher-capacity vehicles.

3

Developing Transport and Logistics Support Facilities

There is an unmet demand for organised truck terminals and logistics hubs with parking and rest facilities along major freight corridors, particularly Shillong–Dawki and Shillong–Tura. Developing such facilities can improve driver welfare, reduce roadside congestion and enhance overall operational efficiency.

Long-term Opportunities

4

Integrated Logistics Infrastructure for Regional Trade

Over the long term, Meghalaya has the opportunity to develop integrated logistics infrastructure that combines warehousing, aggregation and transport services. Such facilities can support both domestic and cross-border trade flows, strengthen regional supply chains and enhance the State's role in regional and international logistics networks.





Mizoram

State Performance Snapshot

2025		2024
Exemplar		Achiever

Mizoram is positioned as an “Exemplar” in LEADS 2025. The State performs above both the NER and National averages across all parameters under the Logistics Services pillar, reflecting favourable stakeholder assessments on transport services, terminal and warehousing services, delivery timelines, track-and-trace availability, and presence of logistics service providers.

Further, Mizoram records above-average perception scores on parameters related to “Ease of Movement Across States”, “Grievance Redressal Mechanism”, and “Government Policies and Regulations”, supporting the statement on improvements in the operating environment and institutional coordination.

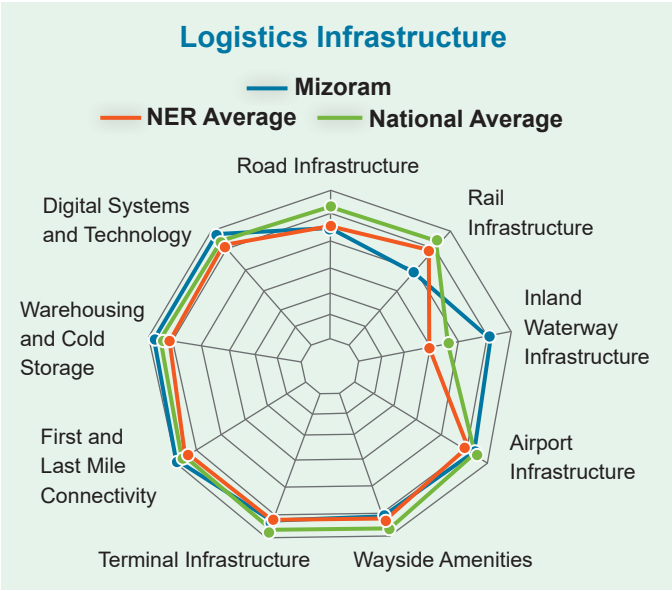
Under the Sustainability and Equity pillar, Mizoram performs above the NER and National average across all parameters, providing the basis for references to environmentally responsible and inclusive logistics practices.

Logistics Infrastructure

Assessment outcomes for Mizoram indicate relatively favourable perceptions across select logistics infrastructure parameters, particularly those linked to operational efficiency and last-mile performance, when compared with the NER group and national average.

The State records favourable perceptions compared to the NER Group average and the National average on parameters such as improvement in airport infrastructure, improvement in first/ last mile connectivity, improvement in terminal infrastructure and improvement in warehousing, cold storage, pack-houses etc. In addition, perceptions for availability of digital systems to support logistics operations and improvement in Inland waterway infrastructure are also assessed to be above both NER and national average, reflecting improving adoption of technology-enabled logistics processes.

Perceptions related to the improvement in adequacy and quality of Wayside amenities are broadly aligned with NER group average and national average. Perception score for improvement in road infrastructure is below both NER and national average, reflecting terrain-related constraints, limited rail penetration, and continued reliance on external connectivity corridors.



The State has initiated integrated logistics master planning through the formulation of a Draft Logistics Master Plan, with inputs from line departments on ongoing and proposed infrastructure projects. This exercise is being aligned with Mizoram Vision 2047 and Viksit Bharat @2047, with the objective of embedding logistics infrastructure development within the State's long-term economic and infrastructure planning framework.

Mizoram has proposed Inland Water Transport (IWT) projects on River Khawthlangtuipui (Karnaphuli)–Tuichawng, River Chhimtuipui, and River Tlawng (NW-102). These initiatives are intended to support the development of alternative and more sustainable logistics modes, particularly for bulk and low-value cargo movement, subject to technical feasibility and regulatory approvals.

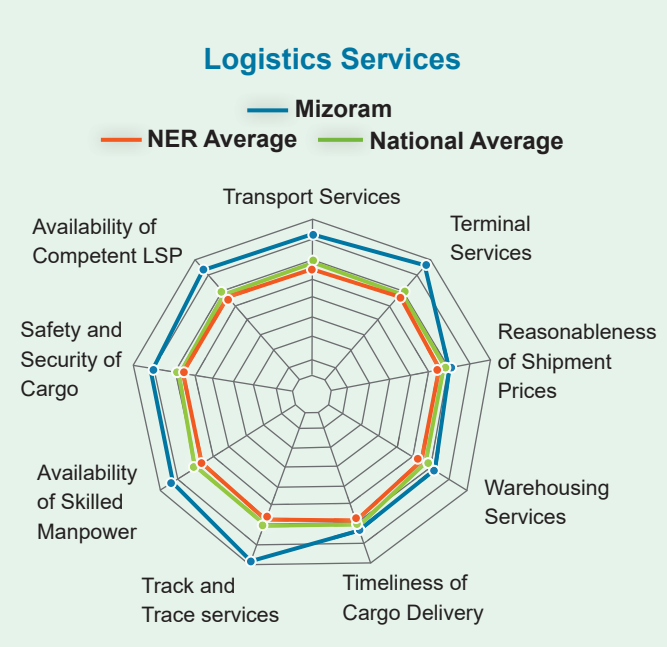
At the urban level, city logistics infrastructure planned under the Aizawl Sustainable Urban Transport Project is expected to improve the efficiency of urban freight movement. In parallel, the development of storage, processing, and material recovery facilities across the State is aimed at strengthening cargo handling, segregation, and onward movement of goods, supporting smoother logistics operations within urban and peri-urban areas.

Logistics Services

Across key logistics service parameters, Mizoram's average perception scores are positioned above the corresponding NER group and national average, indicating relatively higher levels of service efficiency within the State's logistics ecosystem.

The State records perception outcomes above both the NER and national average on improvement across all transport services and improvement in warehousing services Assessments related to improvement in shipment prices and improvement in timeliness of cargo delivery also reflect favourable views, suggesting improved cost efficiency and delivery predictability across logistics operations.

Mizoram further performs above the NER group and national average on availability of track and trace services highlighting progress in service transparency and digital enablement. Perceptions related to availability of skilled manpower and improvement in safety and security of cargo are similarly favourable, indicating workforce readiness. and operational reliability. In addition, the availability of competent logistics service providers including freight forwarders and terminal operators, reinforces the overall maturity of the State's logistics services ecosystem.



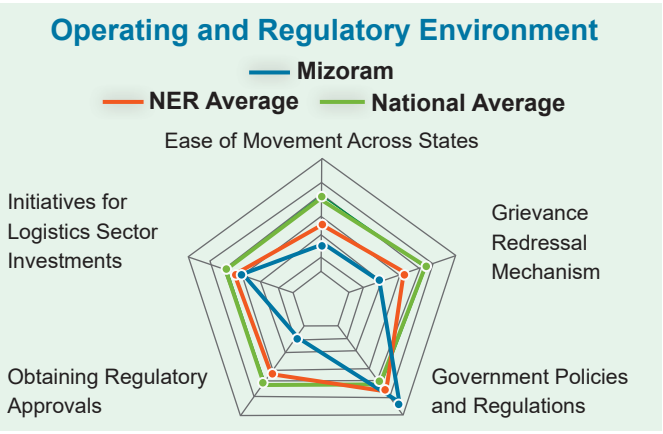
The State has undertaken measures to improve logistics service delivery by strengthening the operational ecosystem supporting freight movement and material handling. By enabling private sector participation in facility operations and creating linkages between material recovery facilities and recyclers, the State is facilitating more reliable and structured logistics service provision.

Operating and Regulatory Environment

Perception outcomes for Mizoram indicate mixed assessments across operating and regulatory parameters, with strengths on policy effectiveness and scope for improvement in approvals, grievance responsiveness, and interstate movement facilitation.

Perception scores for availability of policy initiatives for logistics sector investments are aligned with NER and national average, whereas, scores for availability of government policies and regulations in facilitating logistics operations exceed the NER average as well as national average, reflecting the smooth functioning of logistics operations and providing a degree of regulatory stability and predictability.

Parameters including improvement in ease of border crossing, availability of grievance redressal mechanism and ease of obtaining regulatory approvals for setting up new logistics facilities are assessed to be below both the NER and national average; however, ongoing administrative coordination and reform measures are expected to contribute to improved operational efficiency over time.



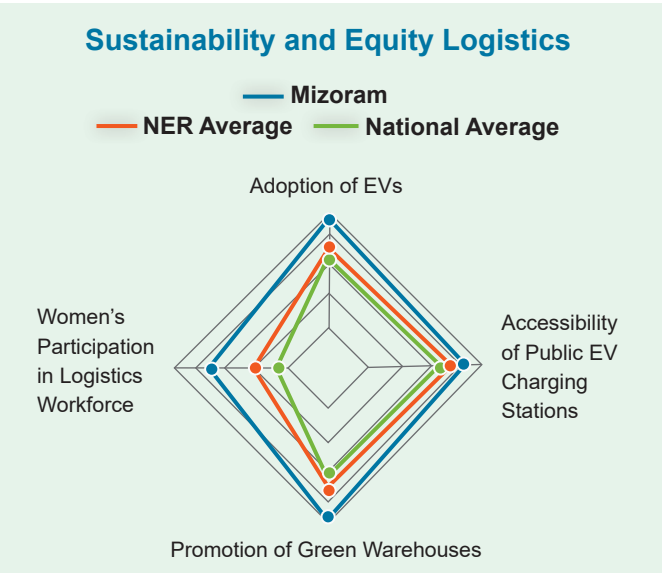
The State has strengthened its institutional and governance framework for logistics development through a whole-of-government approach. The Transformed Mizoram Vision 2047 Roadmap Workshop established a coordinated planning mechanism across departments, enabling convergence and alignment of logistics-related initiatives. The State Institute for Transformation (SIT) Mizoram, through its Programme Implementation, Monitoring and Evaluation (PIME) Unit, has been positioned as the institutional anchor for data-driven planning, monitoring, and outcome-oriented implementation.

In parallel, the State has adopted SPV-led operational models to support infrastructure delivery and service management. Aizawl Smart City Ltd is currently managing key urban facilities and is being considered for expanded operational responsibilities in logistics-related assets, contributing to improved governance efficiency and inter-agency coordination in the planning and operation of logistics infrastructure and services.

Sustainability and Equity Logistics

Mizoram records higher perception scores for availability of initiatives for inclusion of women workforce compared with both NER and national average, indicating a relatively inclusive approach to workforce participation within the logistics sector.

The State also scores higher than both the NER and national average on availability of initiatives for promotion of green warehouses, reflecting growing attention to environmentally sustainable logistics infrastructure. In addition, Mizoram performs above both average on availability of support in EV adoption, supported by perceptions of availability of public EV charging stations, suggesting enabling conditions for cleaner logistics practices.



Mizoram notified the Mizoram Electric Vehicle (EV) Policy, 2024 with the objective of facilitating adoption of electric vehicles to achieve a target of at least 5% EV penetration by 2029. The State's approach focuses on developing a supportive electric mobility ecosystem through expansion of charging infrastructure, ensuring reliable power supply, and strengthening service and maintenance facilities. The policy also outlines measures aimed at fostering innovation, developing a skilled EV-related workforce in collaboration with technical institutions, and encouraging entrepreneurship across the electric mobility value chain.

Progress since LEADS 2024

Mizoram has undertaken a series of strategic initiatives in line with the recommendations of LEADS 2024 to strengthen urban and municipal logistics, improve operational efficiency, and encourage sustainable practices. These initiatives reflect the State's focus on infrastructure development, professional management of logistics-related facilities, and integration of logistics planning within its long-term development vision.

Action Taken on Short-Term Opportunities

Urban freight infrastructure:

Planning of truck terminals, regional bus terminals, and maxi-cab terminals under the Aizawl Sustainable Urban Transport Project to improve cargo circulation and ease congestion within Aizawl city.

Integrated planning and institutional support:

Alignment of logistics initiatives with Mizoram Vision 2047, coordinated through SIT Mizoram and its PIME Unit, to support data-driven planning, inter-departmental convergence, and structured implementation.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised on constraints affecting logistics efficiency, reliability, and competitiveness.

> Champhai, located on the Myanmar border, currently lacks dedicated border logistics infrastructure such as customs-linked warehousing and EXIM support facilities, constraining formal cross-border trade operations.

> Mizoram's logistics network is highly dependent on the NH-6 (NH-306) corridor via Silchar, making supply chains sensitive to landslides, flooding, and road condition disruptions.

> Interior and border districts are served by lower-quality feeder roads, increasing first-mile transport costs for agricultural produce and MSMEs.

> The absence of freight consolidation hubs limits efficient aggregation, sorting, and distribution of cargo within the State.

> While the Bairabi–Sairang railhead is operational, the State does not yet have major goods terminals, container yards, or rail-linked warehousing, keeping rail freight utilisation limited.

> Dependence on transit through Assam involves multiple checkpoints and manual verification processes, leading to documentation delays and limited end-to-end digital integration along key entry points such as Lailapur and Vairengte.

Figure: Voice of Logistics Service Providers and Users

> Border trade faces operational constraints at key points such as Zokhawthar and Kawrpuichhuah due to limited customs infrastructure, clearance capacity, and security-related movement protocols.

> Freight movement remains predominantly road-based, with rail connectivity limited to Sairang, air cargo infrastructure absent, and inland waterways yet to be utilised resulting in higher costs due to single-mode dependence and low return loads.

> Shortages of organised warehousing, cold-chain facilities, and last-mile links to industrial and border trade nodes constrain cargo handling and time-sensitive trade.

> Capacity gaps in trained logistics and customs personnel, along with limited use of modern logistics and digital systems, affect processing efficiency at border locations.

> Digital freight tracking and data integration remain at an early stage, while fragmented institutional responsibilities and overlapping departmental roles reduce coordination and dampen private investment appetite due to higher operating costs.

Figure: Voice of the State Authorities



Potential Opportunities in the State

Mizoram's logistics ecosystem is shaped by difficult terrain, limited transport corridors, and reliance on a few arterial routes for the movement of goods. Despite the State's strategic location near international borders, logistics efficiency remains constrained by infrastructure gaps and the limited presence of organised logistics facilities. Addressing these constraints presents opportunities to strengthen supply chains and improve market access across the State.

Short-Term Opportunities

1 Development of region-specific storage and warehousing infrastructure

There is potential to create decentralised storage and warehousing facilities, particularly for agricultural and horticultural produce. Limited availability of storage across the State affects aggregation, post-harvest handling, and market access. Identifying suitable locations can help reduce losses and strengthen market linkages.

2 Upgradation of road connectivity between production centres and markets

Improving road links between production areas, towns, and market nodes remains a priority. Narrow carriageways, steep gradients, and capacity constraints along key corridors continue to impact freight movement. Targeted road improvements can support smoother cargo flow and reduce transit delays.

3 Strengthening logistics support for essential commodities

Given the State's dependence on external supply chains, there is scope to enhance logistics preparedness for essential commodities. Improved route planning, storage provisioning, and contingency arrangements can increase resilience during weather-related or terrain-induced disruptions.

Long-Term Opportunities

4 Development of integrated logistics and transport hubs

The absence of organised logistics hubs with warehousing, truck parking, and support services limits consolidation and operational efficiency. Identifying and developing dedicated logistics hubs can streamline freight movement and improve service delivery.

5 Enhancement of cross-border and regional trade facilitation infrastructure

Mizoram's proximity to international borders presents long-term opportunities to strengthen cross-border trade. Improved road connectivity, logistics facilities, and coordinated border management systems can support regional trade flows and strengthen the State's role within regional logistics networks.



Nagaland

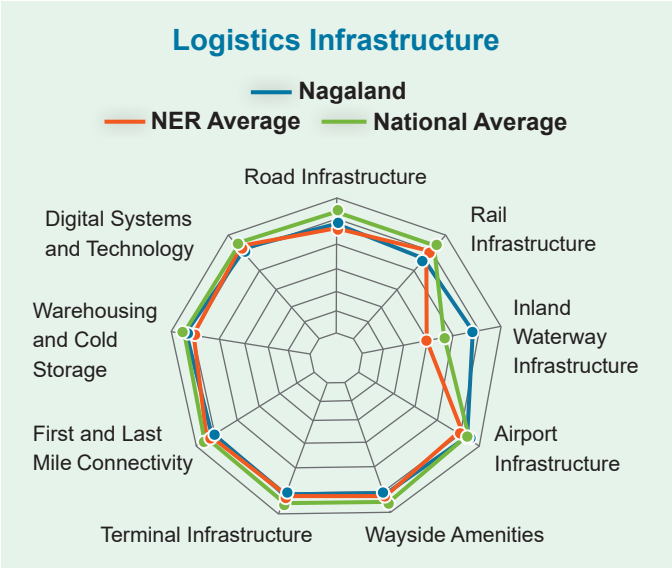
State Performance Snapshot

2025	2024
Accelerator	Fast Mover

Nagaland continues to be positioned as an “Accelerator” in LEADS 2025 within the North-East Group, retaining its categorization from LEADS 2024. This continuity reflects steady progress across multiple dimensions of the logistics ecosystem, particularly in services, regulatory facilitation, and sustainability-related initiatives. Gaps in surface connectivity and logistics infrastructure depth remain, indicating the need for focused interventions to translate policy intent and service capability into ore balanced system-level outcomes.

Logistics Infrastructure

Perception-based assessments of the State’s logistics infrastructure indicate varied views across individual infrastructure parameters when considered alongside NER group and national average. Perceptions on improvement in road infrastructure, improvement in adequacy and quality of Wayside amenities, improvement in terminal infrastructure, improvement in first/ last mile connectivity and availability of digital systems to support logistics operations are closely aligned with the NER group average but remain below the national average. Perception score for improvement in rail infrastructure is below both NER group and national average. Perceptions pertaining to improvement in Inland waterway infrastructure, improvement in airport infrastructure are assessed to be above both the NER group and national average, indicating a positive perception relative to other infrastructure segments. Perception on improvement in warehousing, cold storage, pack-houses etc. is positioned above the NER average and close to the national average.

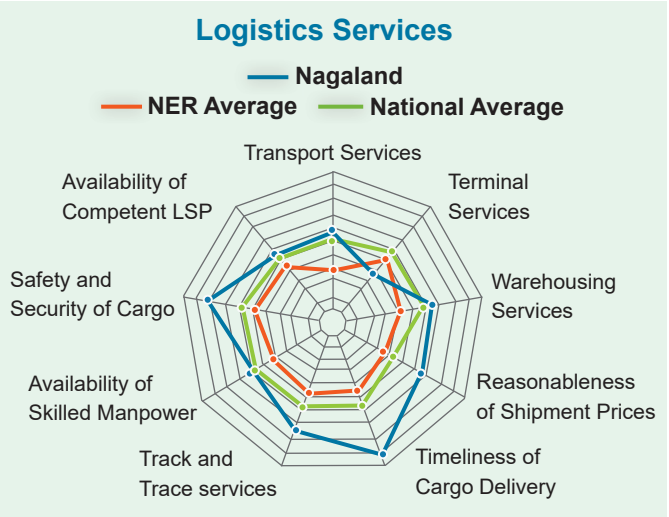


Logistics Services

Assessments of logistics services in Nagaland reflect generally favourable views across service-related parameters when compared with NER and national average. Perception scores for improvement across all transport services, availability of skilled manpower, improvement in safety and security of cargo and availability of competent logistics service providers are above the NER average and aligned with the national average. Perception on “Improvement in the adequacy and quality of terminal services” is above the regional average but below the national average.

Evaluation related to improvement in warehousing services, improvement in shipment prices, improvement in timeliness of cargo delivery and availability of track and trace services are perceived above the NER group and national average.

In contrast, perception on "Improvement in the adequacy and quality of terminal services" is below both the NER group average and the national average scores.



Government of Nagaland intends to promote innovation in the logistics sector by encouraging technology providers, startups, and other business entities to file technology patents and implement specialized technology solutions. The State Logistics Policy also aims to establish awards and annual recognition programs for the best technology and innovative solutions in the logistics industry.

Key initiatives planned for this purpose include:

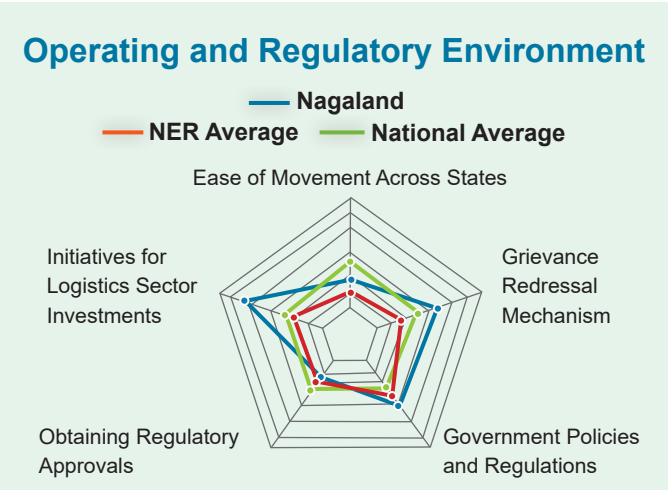
- Use of robotics and automation in material handling and cargo transportation, to improve efficiency at logistics facilities and reduce congestion in high-activity areas.
- Blockchain technology to enable secure and reliable verification of transactions and exchange of documentation and information.
- Artificial intelligence and augmented intelligence tools for advanced demand planning, route planning, and operations planning. These technologies can also be used to identify lower-emission route options, supporting environmental sustainability initiatives.

These initiatives provide a framework for technology adoption without attributing system-wide performance outcomes at this stage.

Operating and Regulatory Environment

Assessments related to operating and regulatory aspects in Nagaland indicate relatively stronger assessments across several parameters when compared with NER group and national average scores.

Perception scores for improvement in ease of border crossing and ease of obtaining regulatory approvals for setting up new logistics facilities are equivalent to the NER group average but marginally below the national average. Perceptions on availability of grievance redressal mechanism, availability of policy initiatives for logistics sector investments and availability of government policies and regulations in facilitating logistics operations are positioned above both the regional and national average indicating a relatively favourable assessment of the policy environment supporting logistics investments in the State.



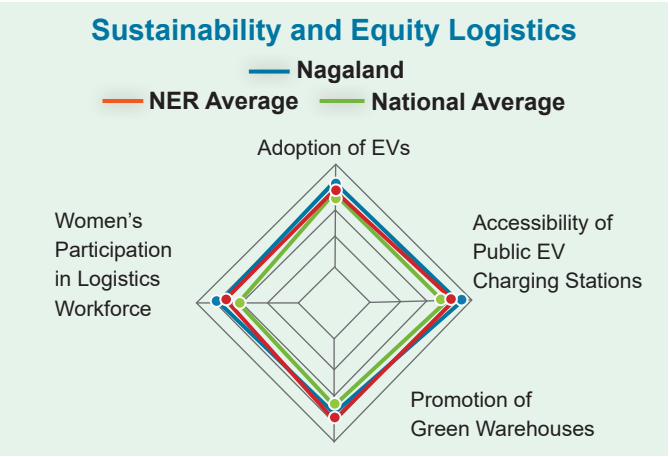
To improve convenience and transparency, the State intends to introduce a common application form for setting up logistics-sector units under the existing single-window clearance system. Under this policy, Warehouses, Logistics Parks, Inland Container Depots, MMLPs, PM GatiShakti Multi-Modal Cargo Terminals, Air Freight Stations, Private Freight Terminals, Cold Chain Facilities, Processing Centres, and Truck Terminals will be granted "Industry" status. 5-7% of the area will be earmarked for the development of logistics facilities in upcoming industrial parks/hubs.

Producers and traders will be encouraged to utilize existing and upcoming warehouse facilities in the State. Private transporters will be encouraged with adequate credit support through financial institutions to purchase light commercial vehicles and operate. The State will endeavour to accord the non-polluting Warehousing sub-sectors "White Status" to facilitate approvals and eliminate the need for Consent to Establish / Consent to Operate. Promotional campaigns highlighting the benefits of using organised warehousing facilities and the systematic use of truck parking zones to ease traffic conditions on roads will be developed and implemented.

These measures outline the intended regulatory framework for logistics facilitation.

Sustainability and Equity Logistics

Findings under Sustainability and Equity Logistics for Nagaland reflect comparatively strong perceptions across all assessed dimensions. Perception scores for availability of support in EV adoption, availability of public EV charging stations, availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce are higher than both the NER group and national average, pointing towards encouraging efforts in sustainable and equity logistics.



The State Logistics Policy, 2025 includes a set of incentive provisions aimed at encouraging the adoption of green logistics practices. These include financial support for electric and hybrid cargo vehicles, measures to promote last-mile electrification, and incentives for the development of environmentally sustainable logistics infrastructure

The policy also provides support for green warehousing, renewable energy use at logistics facilities, and logistics-related waste management solutions, offering a policy framework to advance sustainability objectives within the logistics ecosystem.

Progress since LEADS 2024

Action Taken on Short-Term Opportunities

- Establish a Logistics Cell to develop regulatory frameworks.
- Conduct a survey of existing infrastructure and identify gaps.
- Develop and pilot a digital logistics tracking system.
- Set up cold storage units in agricultural districts such as Dimapur and Mokokchung.

Action Taken on Long-Term Opportunities

- Develop integrated logistics hubs with roads, rail, and air connectivity.
- Complete priority infrastructure projects to enable seamless movement of goods.
- Adopt IoT, AI, and blockchain applications to improve supply chain efficiency.
- Promote EVs, solar-powered warehouses and waste management systems.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Champhai (Myanmar border) lacks a border logistics hub, customs-linked warehousing, and EXIM facilities, resulting in gaps in cross-border trade infrastructure.

> Developing connectivity infrastructure to identified growth areas will be essential to leverage the State's inherent advantages.

> The industry sees significant potential in developing an agriculture-based economy, but many agriculturally rich areas lack road connectivity. While the Centre provides North East Development Fund grants for Nagaland-specific infrastructure, the allocation remains minimal.

> Road conditions are poor, with the Dimapur-Kohima route-the main corridor to the capital-in particularly bad shape.

Figure: Voice of Logistics Service Providers and Users

> Hilly terrain and weather sensitivity increase transit times and vehicle operating costs on key freight corridors.

> Gaps in first- and last-mile connectivity, limited modern warehousing, and a shortage of trained logistics manpower constrain supply-chain efficiency.

> Small landholdings, limited cold storage, and post-harvest infrastructure gaps affect agricultural value-chain integration and loss reduction.

> Access to long-term capital for fleets, warehouses, and logistics technology remains limited, slowing private sector capacity expansion.

> Absence of a dedicated State logistics funding mechanism restricts the scale of infrastructure support and targeted incentives.

> Limited real-time tracking and digital coordination systems reduce end-to-end visibility and operational efficiency.

> Together, these factors increase logistics costs and moderate the pace of private investment and ecosystem development.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Nagaland's logistics ecosystem is shaped by its hilly terrain, dependence on limited transport corridors, and growing movement of goods linked to trade, agriculture, and consumption. While the State has strategic importance in the North-East, logistics efficiency continues to be constrained by infrastructure gaps and limited handling capacity. Addressing these challenges presents opportunities to strengthen supply chains and improve market connectivity.

Short-Term Opportunities

1. **Need to enhance inter- and intra-state road connectivity along key corridors.**
   Stakeholders have highlighted capacity limitations along important routes such as NH-29, NH-702, and NH-202. Targeted improvements along these corridors can support smoother movement of goods within the State and across borders.

2. **Demand for augmentation of handling capacity at key freight nodes.**
   Stakeholders have highlighted the need to enhance the handling capacity at existing freight and logistics facilities, particularly at Dimapur, to accommodate growing cargo volumes. Upgradation of storage, handling, and container-related infrastructure can improve throughput and reduce congestion.

3. **Requirement to strengthen security arrangements at logistics and warehousing locations.**
   Incidents of cargo and vehicle-related theft have been reported, indicating the need for improved security measures at warehouses, truck terminals, and freight handling areas. Enhancing surveillance and access control can improve operational reliability and stakeholder confidence.

4. **Potential for improvement of road connectivity between industrial areas and major transport corridors.**
   Several industrial and commercial clusters face constraints due to inadequate road width and pavement condition. Upgrading connectivity between these clusters and major highways can enable movement of larger vehicles and improve overall logistics efficiency.

Long-Term Opportunities

5. **Opportunity to develop integrated logistics parks and warehousing infrastructure.**
   There is potential to establish organised logistics parks and modern warehousing facilities to support consolidation, storage, and distribution activities. Locations such as Dimapur have been identified as suitable for such developments, given their strategic position and existing logistics activity.

6. **Potential to develop cold storage and agri-logistics infrastructure.**
   Given the importance of horticulture and agri-based produce in the State, there is scope to develop cold storage and post-harvest infrastructure along key transport corridors to reduce losses and improve market access.

7. **Scope to undertake feasibility studies for planned logistics infrastructure development.**
   Stakeholders have indicated the need for structured feasibility assessments to identify optimal locations and phasing for logistics parks, storage facilities, and transport hubs, ensuring alignment with demand patterns and future growth.



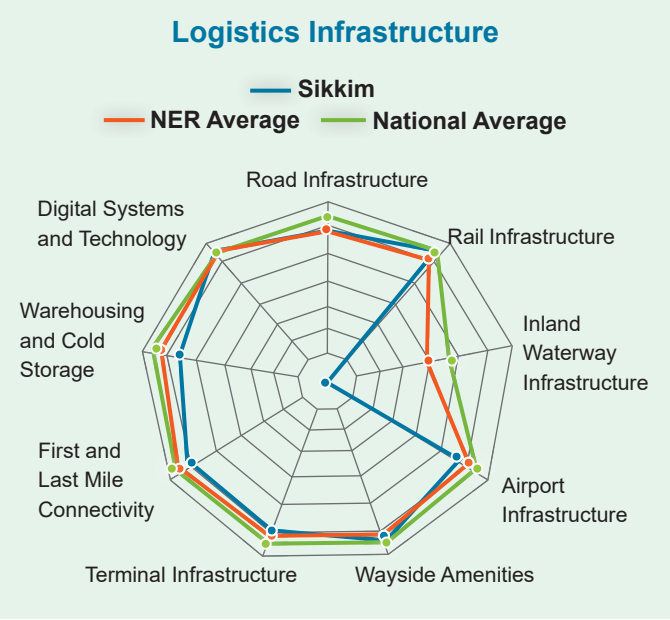
Sikkim

2025 Growth Seeker | 2024 Aspirer

Sikkim is positioned as Growth Seeker in LEADS 2025, consistent with its placement as Fast Mover in LEADS 2024. Perception-based assessments indicate varied outcomes across logistics infrastructure and services when compared with NER and national average, while the operating and regulatory dimension reflects differentiated stakeholder views across institutional capacity and facilitation-related parameters. Assessments related to sustainability and equity present mixed outcomes, indicating areas where continued policy focus and implementation efforts can support further strengthening of the State's logistics ecosystem and enable gradual progression across performance dimensions.

Logistics Infrastructure

Perception scores for infrastructure-related parameters reflect mixed outcomes across when compared with the NER and national average. Perception scores for "Improvement in availability and condition of road infrastructure" are marginally higher than the NER average but remain below the national average, while scores related to "Improvement in adequacy and quality of rail infrastructure", "Improvement in availability and quality of wayside amenities", and "Accessibility and reliability of digital systems and technologies that support logistics operations" are above the NER group average and closely aligned with national levels.



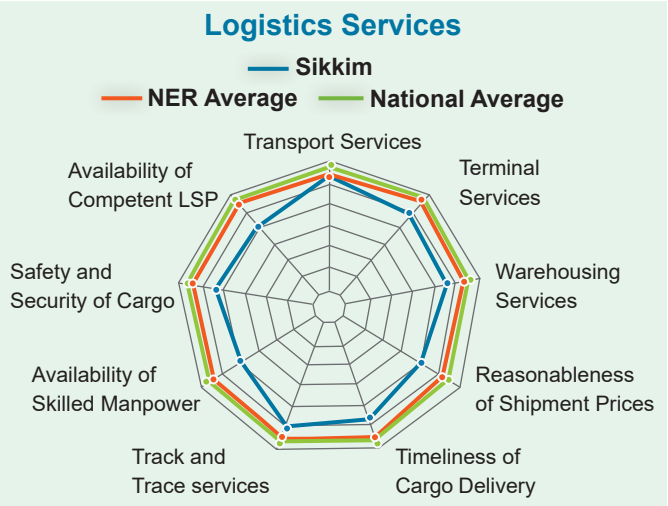
Assessments related to "Improvement in adequacy and quality of Inland Waterway Infrastructure" , "Improvement in adequacy and quality of airport infrastructure", "Improvement in adequacy and quality of terminal infrastructure", "Improvement in the adequacy and quality of first/last mile connectivity (by rail and/or road) to industrial infrastructure/economic zones/terminal infrastructure", and "Improvement in adequacy and quality of warehousing, cold storages, pack-houses, etc." remain below both the NER and national average, indicating perceived gaps in supporting logistics infrastructure.

The construction of the Siliguri–Rangpo railway line is currently underway and is expected to enhance passenger and freight movement and improve market access once operational. This first rail network for the State will also provide connectivity to Bagdogra, the nearest functional airport, and substantially reduce travel time to the State capital, Gangtok.

Logistics Services

The perception scores of logistics services in Sikkim reflect varied outcomes across service-related parameters when compared with the NER and national average. Scores for “Improvement in the adequacy and quality of transport services across road, rail, air, and waterways” are above the NER average, though they remain below the national average, indicating relatively stronger regional perceptions.

Perceptions associated with “Improvement in the adequacy and quality of terminal services” ,“Improvement in the adequacy and quality of warehousing services” , “Improvement in reasonableness of shipment prices” , “Improvement in timeliness of cargo delivery, “Improvement in availability of track and trace services for cargo movement”, “Availability of skilled manpower involved in the delivery of logistics services”, “Improvement in safety and security of cargo” and “Availability of competent logistics service providers such as freight forwarders, logistics service providers, and terminal service providers” are below both the NER group and national average levels highlighting opportunities for further strengthening the logistics services ecosystem in the State.



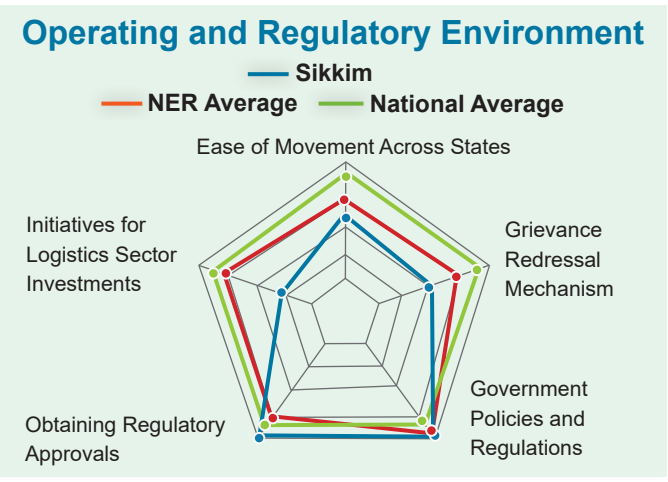
The State hosts a robust higher and technical education ecosystem, comprising one Central University of the Government of India, three State Universities, a National Institute of Technology (NIT), and fifteen private universities, including Sikkim Manipal University, Shri Ramasamy Memorial (SRM) University, and the Institute of Chartered Financial Analysts of India (ICFAI) University. The Sikkim Manipal Institute of Technology and the National Institute of Technology are the premier engineering institutions in the State.

In addition, there are fifteen Government colleges offering a wide range of academic programmes. To ensure a steady supply of technical manpower, the State has two diploma-level institutions—Advanced Technical Training Centre (ATTC), Bardang, and Centre for Computers and Communication Technology (CCCT), Chisopani. Further, multiple Industrial Training Institutes (ITIs) across districts support the development of skilled manpower for various industrial sectors including the logistics sector.

Operating and Regulatory Environment

Perceptions under the operating and regulatory dimension for Sikkim indicate a diverse opinion across institutional and facilitation-related parameters when compared with the NER and national average.

The parameter “Improvement in facilities at the border crossing points and the ease of movement across neighboring States/UTs”, and “Ease of obtaining regulatory approvals for setting up new logistics facilities” are broadly aligned with the NER average, while remaining below the national



average. Perceptions related to "Satisfaction levels with State-based logistics issues related grievance redressal mechanism", and "Availability of policy initiatives for logistics sector investments" remain below both the NER and national average, suggesting scope for strengthening institutional responsiveness and resolution processes.

With respect to "Effectiveness of existing government policies and regulations in facilitating logistics operations to run smoothly", perceptions are closely aligned with the NER average and marginally above the national average, reflecting relative consistency in the regulatory framework.

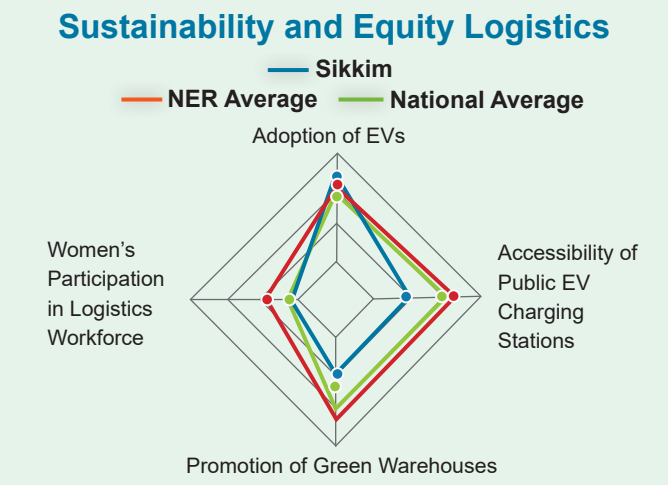
The State of Sikkim has onboarded the National Single Window System (NSWS), enabling approvals and clearances from various departments through a unified platform. In addition, approval processes are being simplified to facilitate ease of doing business and attract investment in the State. A State Single Window System (SWS) at both the State and District levels is proposed to provide time-bound clearances under the policy framework. All applications will be streamlined and monitored to ensure faster and more efficient approvals, with all State departments integrated into a single portal.

To further enhance investor facilitation, Business Facilitation Cells have been established at the State and District levels, staffed with dedicated personnel to ensure a seamless and coordinated experience for investors.

Sustainability and Equity Logistics

Perception scores reflect mixed outcomes across assessment indicators.

Support provided by the State for "Adoption of electric vehicles (EVs) in logistics operations" is perceived to be above both the NER and national average, indicating recognition of policy support in this area. Assessment on the "Availability and accessibility of public EV charging stations for electric vehicles (EVs)" and "Promotion of Green Warehouses" are perceived to be below both the NER and national average, pointing to scope for further strengthening of EV charging infrastructure and sustainable warehousing initiatives. Efforts to promote women's participation in the logistics workforce, captured under "Promoting women's participation in logistics workforce", is considered slightly below the NER average but closely aligned with the national average. Together, these perceptions highlight areas where initiatives have gained recognition, as well as dimensions where additional policy focus and implementation efforts may support more balanced sustainability and equity outcomes.



Under the Sikkim Industrial and Investment Policy, 2024, the Government of Sikkim has identified Green Hydrogen as a high-potential sector for future investment. The State's abundant renewable energy resources provide a strong foundation for the production of green hydrogen using clean technologies. The green hydrogen generated is intended for use within the State.

Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> The state is connected to Siliguri, West Bengal, via a single road (NH-10), which frequently faces landslides, causing unpredictable closures. A permanent solution is needed to ensure reliable access to and from Sikkim.

> Each monsoon, the Teesta River swells and floods many areas in Sikkim. A proper flood-control solution is needed to ensure uninterrupted industrial activity and tourism during this period.

> Rail connectivity is under development but progressing slowly and is expected to take several more years to complete.

> Rail connectivity exists at Jiribam, but freight services are underdeveloped, with minimal handling, no container or ICD-type facilities, and limited rail–road integration.

> During the monsoon, most roads are badly damaged, anad repairs are slow or inadequate, whereas BRO-maintained roads remain in good condition for most of the year.

Figure: Voice of Logistics Service Providers and Users

> Mountainous terrain and fragile ecology increase infrastructure costs and periodically disrupt logistics operations, especially during the monsoon and landslide seasons.

> Absence of operational rail connectivity and limited air cargo infrastructure results in high dependence on road transport, particularly along NH-10, increasing cost sensitivity to corridor-specific disruptions.

> Heavy reliance on Siliguri (West Bengal) as the primary gateway creates concentration risk during landslides, road closures, or administrative disruptions outside the State's control.

> Environmental safeguards and difficult terrain raise the cost of constructing and maintaining roads, bridges, and logistics facilities, requiring sustained investment and resilient design approaches.

> Adoption of digital logistics platforms and integrated planning frameworks is progressing gradually, with scope to further improve end-to-end visibility, coordination, and data-driven decision-making.

> High operating costs, small market size, and connectivity limitations moderate private sector participation in organized logistics services, warehousing, and 3PL operations, indicating potential for targeted facilitation and risk-sharing mechanisms.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Sikkim's logistics ecosystem is shaped by its mountainous terrain, dependence on a limited number of access corridors, and vulnerability to climatic disruptions. While the State has made progress in improving connectivity, logistics efficiency continues to be influenced by road capacity constraints and limited storage infrastructure. Addressing these gaps presents opportunities to strengthen supply chains and support economic activity.

Short-Term Opportunities

1

Opportunity to enhance connectivity between Sikkim and neighboring States.

The road corridor linking Sikkim to West Bengal, particularly the NH-10 stretch, has been identified as a critical lifeline for freight movement. Upgrading this corridor to ensure all-weather connectivity can significantly improve supply chain reliability.

2

Potential for improvement of road infrastructure connecting key economic and administrative centers.

Stakeholders have highlighted the need for strengthening road connectivity to major nodes such as Rangpo and surrounding industrial and commercial areas. Improving road conditions and capacity can support smoother movement of goods and reduce transit disruptions.

Long-Term Opportunities

3

Growing requirement for development of warehousing and cold storage infrastructure.

There is increasing demand for organized storage and cold chain facilities to support movement of agricultural and horticultural produce. Identifying suitable locations and undertaking feasibility studies for such facilities can strengthen agri-logistics and reduce post-harvest losses.

4

Opportunity to strengthen river management and climate-resilient logistics infrastructure along the Teesta corridor.

Recurring seasonal swelling of the Teesta River disrupts road connectivity, industrial activity, and freight movement across key corridors in the State. There is potential to undertake integrated river management and flood-mitigation interventions, including riverbank protection, slope stabilization, and climate-resilient infrastructure development.



Tripura

State Performance Snapshot

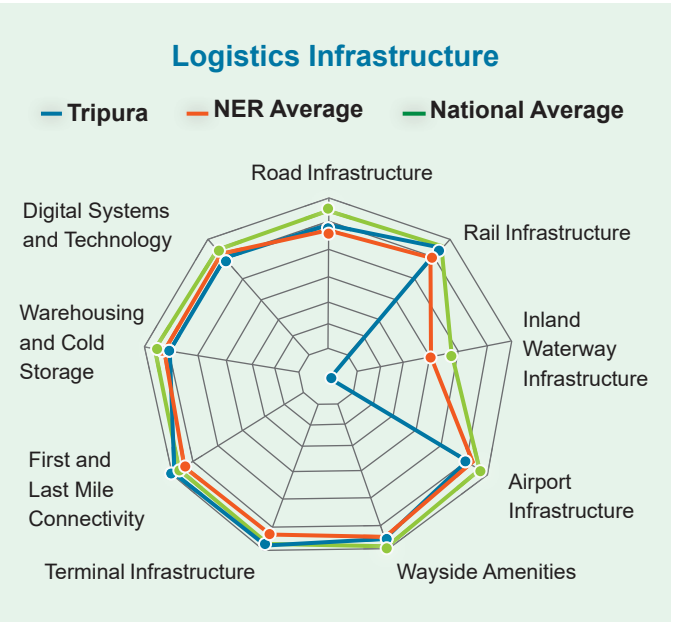
2025	2024
High Performer	Fast Mover

Tripura is positioned as a High Performer within the North-East Group, reflecting steady progress across multiple dimensions of the logistics ecosystem. Perception-based assessments indicate differentiated outcomes across logistics infrastructure, services, and operating and regulatory parameters when viewed alongside NER and national reference levels. The sustainability and equity dimension reflects mixed assessments across environmental and inclusion-focused parameters, underscoring continued scope for focused interventions to strengthen integration, service delivery, and inclusive logistics development.

Logistics Infrastructure

Perception scores under Logistics Infrastructure exhibit differentiated performance across parameters, with Tripura scoring above the NER group average on selected indicators, while trailing the national average on several others.

The parameters improvement in road infrastructure and improvement in adequacy and quality of Wayside amenities are perceived above the NER average while remaining below the national average. Perception scores for improvement in rail infrastructure, improvement in terminal infrastructure and improvement in first/ last mile connectivity are above both the NER and national average. In contrast, improvement in Inland waterway infrastructure scores below both NER and national average. Perceptions regarding improvement in airport infrastructure and availability of digital systems to support logistics operations are aligned with the NER average but remains below the national average.



Tripura is undertaking a range of logistics-focused interventions to strengthen multimodal connectivity and cross-border trade. According to the State submissions, Tripura is currently implementing 24 logistics-related projects with a total outlay of ₹1,908.79 crore, aimed at improving transport infrastructure, enhancing connectivity, and facilitating efficient movement of goods and services. Key initiatives include the electrification and capacity augmentation of railway corridors, expansion of rail links to industrial areas, and development of alternative rail routes to improve intra-State and regional

connectivity.

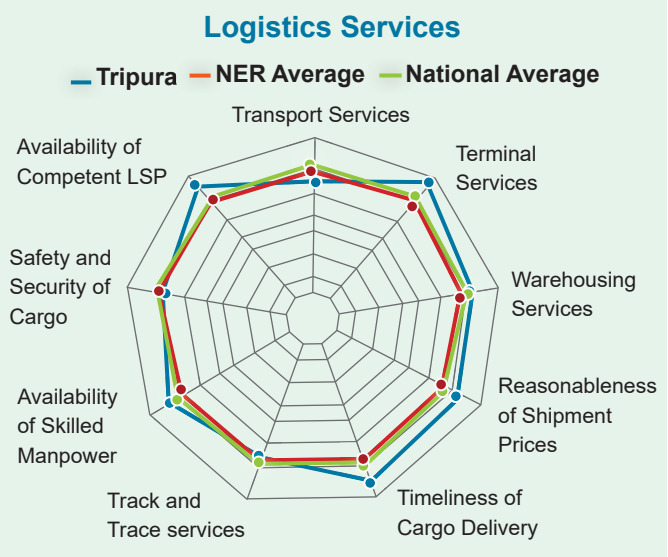
Cross-border connectivity is being expanded through the operational Agartala–Akhaura rail link and the ongoing Belonia–Feni rail project. Inland Water Transport on the Gumti River is being developed to establish connectivity with the Meghna river system in Bangladesh through dredging, bank protection, and construction of floating terminals. In addition, investments in airport upgradation and the development of transport terminals, including bus ports and motor stands, are improving last-mile connectivity and supporting efficient movement of goods and passengers across the State.

Logistics Services

In Tripura, perceptions under Logistics Services reflect varied assessments across service-related parameters when compared alongside the NER group and national averages.

The parameters improvement across all transport services and availability of skilled manpower are perceived above the NER average while remaining below the national average. Perception scores for improvement in terminal services, improvement in warehousing services, improvement in shipment prices and improvement in timeliness of cargo delivery are above both the NER and national averages. The indicator availability of track and trace services is assessed close to the NER average but below the national average.

The parameter improvement in safety and security of cargo is perceived slightly below both the NER and national averages. Perception regarding availability of competent logistics service providers is assessed above the NER average and close to the national average.

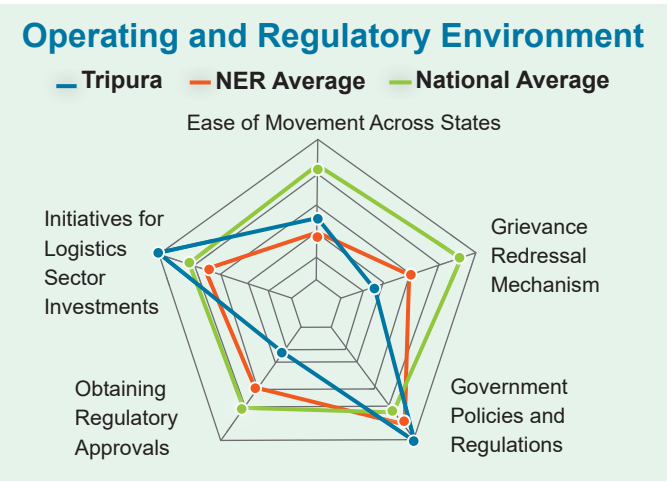


The State reports implementation of focused initiatives for human resource development in the logistics sector through MMDUP and PMKVY 2.0. Logistics-specific skill training is being delivered through partnerships with the SIPARD School of Logistics and TBL Education (India) Pvt. Ltd. Under the MMDUP Scheme, two dedicated training centres have been established at Kumarghat and Sepahijala, aimed at building a skilled logistics workforce to support the State's growing logistics and transport ecosystem.

Operating and Regulatory Environment

Perception scores under the Operating and Regulatory Environment pillar vary across facilitation-oriented parameters, with relatively stronger assessments on policy availability and comparatively weaker perceptions around approvals and grievance redressal mechanisms.

The parameter improvement in ease of border crossing is perceived to be broadly aligned with the NER average, while remaining below the national average. Perceptions associated with availability of grievance redressal mechanism and ease of



obtaining regulatory approvals for setting up new logistics facilities are assessed below both the NER and national average, highlighting scope for improving responsiveness and resolution timelines.

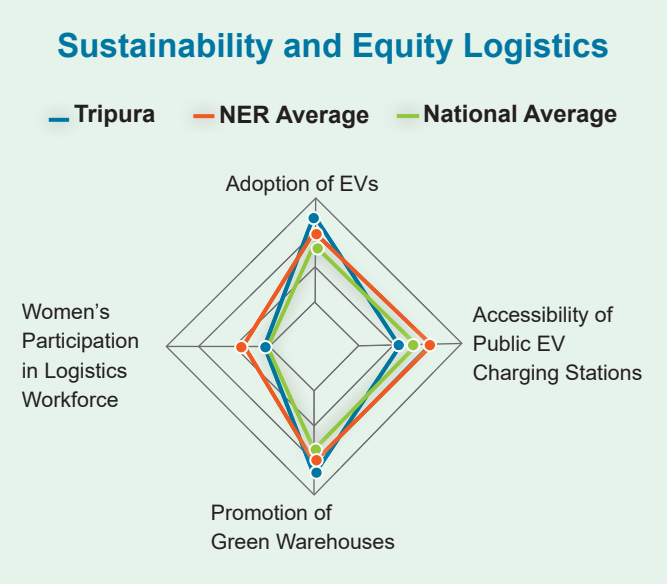
The parameters availability of government policies and regulations in facilitating logistics operations and availability of policy initiatives for logistics sector investments are perceived to be marginally above the NER average and close to the national average, reflecting moderate confidence in the current regulatory framework.

The SWAAGAT (Single Window for Approvals and Grievance Assistance in Tripura) portal is the State's integrated single-window platform designed to facilitate ease of doing business. It enables investors to obtain time-bound approvals, permissions, and clearances from multiple State departments through a unified digital interface. The portal also provides end-to-end tracking of applications, enhances inter-departmental coordination, and offers grievance redressal support. By streamlining regulatory processes and improving transparency, SWAAGAT is intended to support investment facilitation and time-bound clearances within the State.

Sustainability and Equity Logistics

Tripura records varied perception outcomes across environmental and inclusion-focused parameters under the Sustainability and Equity Logistics dimension, when compared with the NER group and national average.

The parameter availability of support in EV adoption is perceived to be above both the NER and national average, reflecting positive stakeholder views on the State's policy intent towards cleaner freight mobility. Perception associated with availability of public EV charging stations indicate an assessment below both the NER and national average, pointing to infrastructure gaps that continue to limit large-scale EV deployment in logistics operations.



Perception scores for availability of initiatives for promotion of green warehouses and availability of initiatives for inclusion of women workforce are aligned with the NER average and marginally above the national average, suggesting gradual progress in sustainability-linked warehousing practices, alongside scope for strengthening workforce inclusion initiatives within the logistics sector.

Tripura has amended its Integrated Logistics Policy, 2022 to strengthen the enabling environment for the logistics sector. Under the amendments, logistics-sector industries have been accorded 'White Status', thereby exempting them from obtaining Consent to Establish (CTE) and Consent to Operate (CTO).

The amendments also provide for a 25% exemption on road tax for electric vehicles (EVs), along with the reservation of 10% of new permits for EVs and 30% for CNG vehicles. These measures are aimed at encouraging the adoption of cleaner mobility solutions, supporting the expansion of EV charging infrastructure, and facilitating sustainable logistics operations within the State.

Progress since LEADS 2024

Initiatives undertaken by Tripura align closely with the recommendations outlined in LEADS 2024, which emphasise policy simplification, sustainability, multimodal integration, and institutional strengthening as key levers for improving logistics performance. The State has taken targeted steps to address these priorities, particularly in reducing regulatory burdens for logistics operators and promoting the adoption of green logistics practices. These measures reflect a focused effort to translate assessment insights into practical reforms aimed at improving efficiency, compliance, and long-term sustainability of the logistics ecosystem.

Action Taken on Short-Term Opportunities

The State has undertaken the construction of motor stands at Jirania (West District), Melaghar (Sepahijala District), Gandatwisa (Dhalai District), and Jolaibari (South Tripura District) to strengthen transport and logistics infrastructure.

Tripura has also installed digital weighbridges at the Churaibari Check Post to improve monitoring, efficiency, and regulatory compliance in freight movement.

Actions Taken on Long-Term Opportunities

Tripura has amended the Tripura Integrated Logistics Policy, 2022 to promote green logistics by granting White Category status to non-polluting and low-polluting logistics and warehousing units. A Tripura State Logistics Action Plan (SLAP) has been prepared, outlining priorities for infrastructure augmentation, multimodal connectivity, and alignment with the PM GatiShakti framework.

The State has established institutional mechanisms for monitoring and implementation through the State Logistics Cell. Further amendments to the Logistics Policy are proposed to enhance private sector participation and introduce digital tracking systems to improve transparency and real-time performance assessment.



Voice of Stakeholders and State Authorities

To complement the perception scores and policy narrative, a Voice of Customer (VOC)-style synthesis was prepared to capture the most policy-relevant issues flagged by (i) logistics service providers and logistics users, and (ii) the State Government. The points below reflect concerns raised regarding constraints affecting logistics efficiency, reliability, and competitiveness.

> Upgrading narrow roads outside Agartala, strengthening flood-prone stretches in Gomati and South Tripura, and developing truck terminals and parking zones can improve freight efficiency.

> NH-8 (Agartala–Udaipur–Sabroom) serves as the main freight corridor, creating an opportunity to develop alternate routes and improve network resilience.

> Land Customs Stations at Akhaura, Srimantapur, and Sabroom offer scope to develop integrated border logistics hubs.

> Rail-linked freight terminals and better last-mile connectivity can improve multimodal logistics

> Urban bypasses around Agartala and Udaipur can ease congestion and support smoother long-distance cargo movement.

> Expanding cold-chain facilities near pineapple, rubber, fisheries, and dairy clusters can strengthen perishable supply chains and exports.

> Greater presence of organised 3PL providers can help MSMEs scale and access national markets

Figure: Voice of Logistics Service Providers and Users

> Integrating road, rail, port and inland water transport planning can help overcome geographical and connectivity constraints.

> Reducing dependence on a single transport mode can improve resilience against disruptions.

> Streamlined multimodal networks can enhance overall logistics efficiency and supply chain reliability.

> Stronger connectivity can support growth in regional and international trade.

> Cost-effective and reliable transport options can strengthen industrial competitiveness and economic development.

Figure: Voice of the State Authorities

Potential Opportunities in the State

Tripura's logistics ecosystem is influenced by its landlocked geography, dependence on limited arterial corridors, and growing role as a gateway for trade with neighbouring regions. While recent improvements in connectivity have enhanced access, gaps remain in logistics infrastructure, storage capacity, and support services. Addressing these issues presents opportunities to improve supply chain efficiency and regional integration.

Short-Term Opportunities

1. **Demand to widen road segments outside Agartala.**

   Narrow road stretches outside Agartala were reported by stakeholders, especially in Gomati and South Tripura districts.

2. **Unmet demand for augmenting dedicated transport hubs with adequate parking and resting facilities.**

   Stakeholders highlighted the need for well-planned transport hubs with parking, resting, and basic amenities for freight vehicles, particularly along major movement corridors. Enhancing such facilities can improve operational efficiency and reduce congestion at informal stopping points.

3. **Potential for strengthening security arrangements at critical logistics locations.**

   Incidents related to theft of cargo and vehicle accessories have been reported at certain locations. There is scope to enhance surveillance, lighting and access control at identified vulnerable stretches to improve safety of freight movement.

4. **Opportunity to improve road connectivity between industrial areas and major transport corridors.**

   Connectivity gaps between industrial clusters and national/state highways continue to affect freight movement. Upgrading connecting roads to support higher-capacity vehicles can reduce transit time and logistics costs.

Long-Term Opportunities

5. **Growing requirement for cold storage, warehousing and pack-house infrastructure.**

   There is increasing demand for organised storage and cold chain facilities to support agricultural and horticultural produce, such as pineapple, rubber, fisheries, and dairy. Conducting detailed feasibility assessments can help identify suitable locations and investment priorities.

6. **Potential to strengthen logistics support systems for regional trade.**

   With Tripura's proximity to international borders, there is scope to enhance logistics infrastructure that supports cross-border trade and regional supply chains, especially strengthening the infrastructure at Land Customs Stations at Akhaura, Srimantapur & Sabroom.

Chapter 5

Analysis of Objective Indicators

Objective Indicators in LEADS 2025 complement perception-based assessment by providing objective reference points based on documented, auditable information on the strengthening of logistics ecosystems across States and UTs. They focus on two areas: First the policy and regulatory environment, covering notified policies, institutional arrangements and process measures that enables reforms and reduces operational frictions, and second infrastructure and ecosystem enablers, covering the availability of logistics assets and capacity that influence the scale and efficiency of logistics related activity on ground. Together, these indicators enable a clearer understanding of both policy intent and implementation progress, particularly across areas such as policy notification, institutionalization, and implementation readiness.



A. Regulatory and Institutional Measures

The regulatory component is assessed across 10 indicator groups, using a structured questionnaire supported by documentary evidence (policies, Government Orders, approvals, meeting records, project lists, and portal snapshots). The indicator groups include:

1. State Logistics Policy and its Action Plan
2. City Logistics Plan
3. PM GatiShakti State Master Plan
4. Human Resource Development for Logistics Sector
5. Green Logistics Initiatives
6. Facilitation for Central Government projects
7. Public–Private Partnerships for logistics infrastructure/services
8. Industry status for logistics and warehousing
9. Streamlining of regulatory processes
10. ULIP adoption by States/UT

Unlike simple “Yes or No” checks, the 2025 framework assesses the stage of development and readiness for implementation for instance whether policies and plans are notified/approved, action plan of policy, whether institutional mechanisms are in place and whether there is evidence of project pipeline, budget provisioning, and expenditure or implementation progress.

B. Enablers of Logistics

To capture the enabling ecosystem, LEADS 2025 uses objective indicators on the availability, scale, and evolution of key logistics assets and operational measures. These include transport network indicators such as highways, railways, and last-mile connectivity (and their year on year change), ecosystem depth indicators such as registered goods vehicles and drivers, logistics capacity indicators such as cold storages and warehousing capacity, and node and gateway indicators such as the presence of ports/MMLPs/ICDs (where applicable). The framework also includes enabling transition and performance indicators such as operational EV charging stations, speed, and terminal access to reflect connectivity to key logistics nodes.

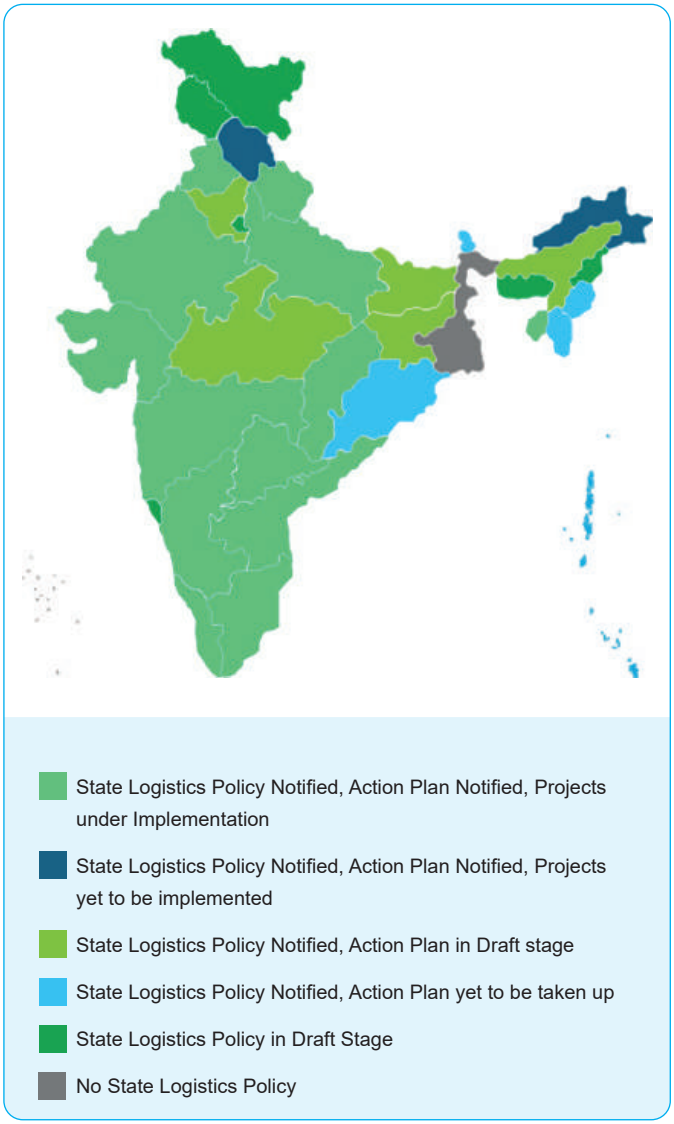
The objective indicator results are presented in the following section indicator group wise, highlighting both coverage across States/UTs and key gaps that can be addressed through targeted reforms and investments.

It is to be noted that West Bengal has not been included in the objective indicator assessment, as the State did not participate in the LEADS Objective Survey.

1. State Logistics Policy

This indicator evaluates the progression of States and UTs from formal policy intent to time-bound, implementation programmes, and further to a broad set of policy-backed interventions that enable effective delivery, including multimodal enablement, urban logistics measures, and targeted support for the logistics sector.

- **State Logistics Policy status:** Policy adoption is now largely mainstream. 28 States/UTs have notified a logistics policy. 7 States/UTs are at the draft stage (Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Delhi, Jammu and Kashmir, Ladakh, Meghalaya, Nagaland). This indicator evaluates the progression of States and UTs from formal policy intent to time-bound, implementation programmes, and further to a broad set of policy-backed interventions that enable effective delivery, including multimodal enablement, urban logistics measures, and targeted support for the logistics sector.
- **Implementation plan of State Logistics Policy:** A State Logistics Action Plan refers to a implementation document that translates State Logistics Policy intent into a prioritised set of interventions, with indicative sequencing and implementation responsibilities. 18 States/UTs have developed a State Logistics Action Plan linked to logistics policy. Whereas, 7 States/UTs have drafted the State Logistics Action Plan.
- **Status of Logistics Infrastructure Projects:** During FY 2024-25, a total of 15 States/UTs have commenced 2848 number of logistics projects identified in previous year. In FY 2024-25, 13 States/UTs have identified 2553 projects for logistics development. Additionally, 14 States/UTs have extended policy-based support to 2324 logistics infrastructure projects



States/UTs implemented Logistics Infrastructure Projects	States/UTs identified Logistics Infrastructure Projects	States/UTs provided policy based support to Logistics Infrastructure Projects
Andhra Pradesh, Chhattisgarh, Goa, Gujarat, Haryana, Jammu and Kashmir (UT), Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand	Andaman and Nicobar Islands (UT), Andhra Pradesh, Chhattisgarh, Gujarat, Haryana, Kerala, Maharashtra, Punjab, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand	Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir (UT), Karnataka, Maharashtra, Meghalaya, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

- **Logistics infrastructure projects linked to IWT for cargo movement:** 14 States/UTs have IWT linked projects under planning or implementation.

States/UTs with IWT linked projects
Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Jammu and Kashmir, Karnataka, Kerala, Maharashtra, Meghalaya, Puducherry, Telangana, Tripura, Uttar Pradesh

- **Coastal shipping promotion for cargo movement:** Within coastal States/UTs, 9 have implemented initiatives or issued policy provisions to promote coastal shipping for managing cargo movement through sea routes along the coast. No policy provisions are initiatied for Andaman and Nicobar Islands, Dadra and Nagar Haveli and Daman and Diu, Lakshadweep.

States/UTs with policy provisions to promote coastal shipping
Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Tamil Nadu

- **Urban logistics measures under State policy:** Urban freight is beginning to find explicit policy expression in several States/UTs. 20 States have taken initiatives under State policy covering measures such as urban freight consolidation centres, micro-warehousing, dark stores, time-window based freight entry, and gender-safe logistics workspaces. This is a meaningful shift, given that these measures typically require coordination across urban local bodies, enforcement agencies, and private operators.

States/UTs with initiatives in promotion of the following under State Policy

Urban Freight Consolidation Centres (UFCCs)	Micro-Warehousing	Dark Stores in Urban Clusters	Time-Window Based Urban Freight Entry	Gender-Safe Logistics Workspaces
Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi (UT), Goa, Gujarat, Jammu and Kashmir (UT),a Karnataka, Kerala, Maharashtra, Puducherry (UT), Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh	Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi (UT), Goa, Gujarat, Jammu and Kashmir (UT), Karnataka, Kerala, Maharashtra, Meghalaya, Mizoram, Puducherry (UT), Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand	Andhra Pradesh, Chhattisgarh, Delhi (UT), Goa, Gujarat, Karnataka, Kerala, Maharashtra, Puducherry (UT), Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh	Andhra Pradesh, Chhattisgarh, Delhi (UT), Goa, Gujarat, Karnataka, Kerala, Maharashtra, Puducherry (UT), Rajasthan, Tamil Nadu, Uttar Pradesh	Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Maharashtra, Meghalaya, Puducherry (UT), Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh

With policy foundations largely in place, the differentiator increasingly lies in how effectively States/UTs convert intent into delivery through a strong policy to action plan to funded project pipeline execution continuum, Policy and State Logistics Action by multimodal initiatives, urban freight interventions, and policy-backed support.

2. City Logistics Plan

This indicator captures whether States/UTs have moved towards urban freight planning through a City Logistics Plan for at least one city, and whether such plans have progressed from preparation to formal approval.

Approved City Logistics Plans are in place in 6 States/UTs. An additional 7 jurisdictions have City Logistics Plans at the draft stage.

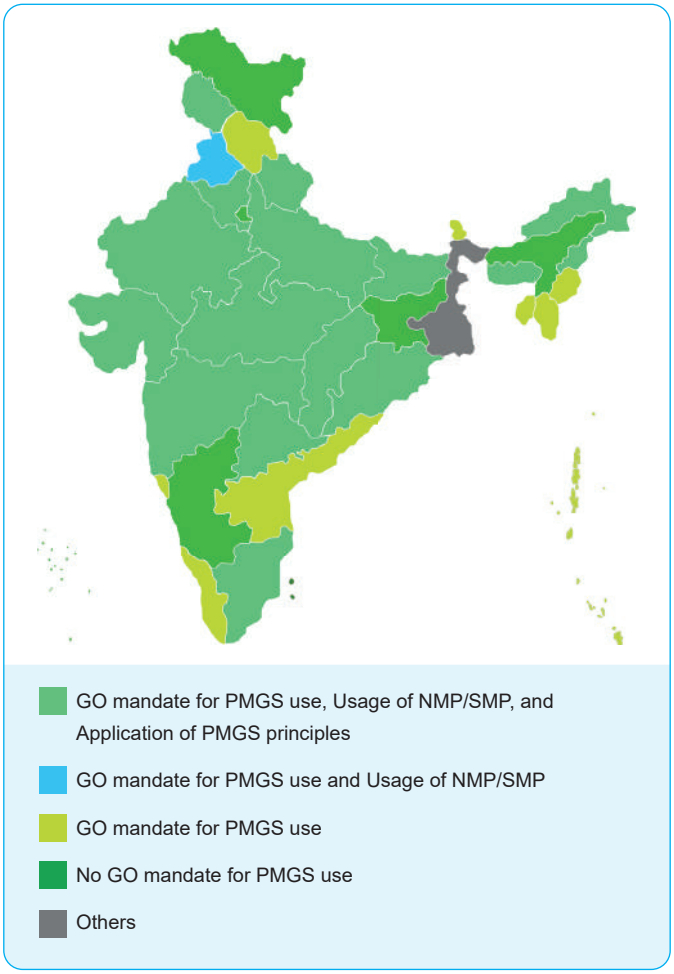
State/ UTs with Approved City Logistics Plan	States/UTs with City Logistics Plans at the draft stage
Gujarat, Jammu and Kashmir, Karnataka, Tamil Nadu, Telangana, Uttar Pradesh	Chhattisgarh, Delhi, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Rajasthan

3. PM GatiShakti State Master Plan

PM GatiShakti supports integrated infrastructure planning by enabling inter-departmental review and alignment of projects. This indicator covers the mandate for using the PM GatiShakti portal, the institutional mechanisms in place, the extent of portal use for project planning, the number of projects evaluated through the framework, and the integration of key layers related to land and environment with Parivesh Portal.

- **Government Order/mandate:** 29 States/UT have issued a notification of mandating the use of PM GatiShakti NMP/SMP portal for planning and mapping the upcoming infrastructure projects demonstrating the State's intent to adopt the platform for their ongoing and upcoming infrastructure projects.
- **Active use beyond mapping:** 18 States/UTs actively use the portal for project planning and decision support beyond mapping. This indicates that, in a significant number of jurisdictions, PM GatiShakti is yet to be embedded as a working tool for alignment studies.
- **Application of PM GatiShakti Planning Principles:** 17 States/UT demonstrate alignment with core GatiShakti principles, including an integrated approach, multimodal connectivity, first and last mile connectivity, reduced ecological impacts.
- **Institutionalisation:** Institutional structures are largely in place. Network Planning Groups (NPG) and Technical Support Units (TSU) exist in all States/UTs.
- **Projects evaluated through the PM GatiShakti framework:** Most States are still in the early scale-up phase of using PM GatiShakti as a project evaluation mechanism. 12 States/UTs have evaluated 0 to 50 projects, 2 States/UTs evaluated 51 to 100 projects (Andhra Pradesh, Jammu and Kashmir), and 2 States/UTs have evaluated more than 100 projects (Gujarat, Tamil Nadu).

States/UTs which have evaluated projects through PMGS
Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Punjab, Tamil Nadu, Telangana, Uttar Pradesh



- **Land records integration with the PMGS portal:** Land records of 20 States/UTs have been integrated with the PM GatiShakti-NMP portal through API - Andaman & Nicobar Islands (Except Nicobar group of Islands as Tribal area under PATR), Andhra Pradesh, Assam (excluding scheduled districts), Chandigarh, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Mizoram (excluding community land), Odisha, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand and Jharkhand. This layer strengthens planning readiness and reduces friction on land-related assessment during project preparation.

- **Integration of key environment and forest clearance layers through Parivesh Portal:** 25 States/UTs have integrated key layers such as forest clearance, environmental clearance, eco-sensitive zones, protected areas, recorded forest area, and coastal regulation zones on the Parivesh portal. This improves early identification of statutory and environmental constraints during planning and helps avoid downstream delays.

States/UTs with an integrated Parivesh portal
Andaman and Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Bihar, Chandigarh, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Puducherry, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand

States/UTs following principles of PM GatiShakti

Integrated Development/ Area Development Approach	Multimodal Infrastructure	Last and First Mile Connectivity	Reduced Ecological Impacts	Project planning using NMP
Arunachal Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir (UT), Madhya Pradesh, Meghalaya, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand	Arunachal Pradesh, Bihar, Chhattisgarh, Gujarat, Jammu and Kashmir (UT), Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand	Arunachal Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir (UT), Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand	Arunachal Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir (UT), Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand	Arunachal Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Madhya Pradesh, Maharashtra, Meghalaya, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

Overall, the PM GatiShakti results strong progress on institutional set-up and formal adoption. Many States and Union Territories are also strengthening project evaluation under the framework and statutory clearances, supporting integrated, multimodal planning.

4. Human Resource Development

This indicator assesses whether States/UTs are building the workforce capabilities required for a modern logistics ecosystem. It examines whether skilling programmes include a logistics-specific component, whether training is anchored through partnerships with academia and industry, and whether the skilling ecosystem is being institutionalized through engagement with the Logistics Sector Skill Council, supported by the scale of training infrastructure, training throughput, and the presence of Logistics Centres of Excellence.

- **Logistics-specific training component in skilling schemes:** 28 States/UTs have implemented skilling schemes that include a logistics-specific training component. This indicates that logistics skilling is beginning to be treated as a distinct requirement.
- **Partnerships with educational institutions and industry bodies:** 23 States/UTs have established partnerships with educational institutions and industry bodies for logistics sector training. This is an important development indicator because partnerships typically improve curriculum relevance, trainer availability, certification pathways, and placement outcomes.
- **Partnership with Logistics Sector Skill Councils:** Engagement with logistics sector skill councils is uneven. 17 States/UTs have partnered with the Logistics Sector Skill Council for promoting logistics

skilling. This indicates that logistics skilling has strengthened linkage to sector-skilling ecosystem that supports standardization, certification and scalability.

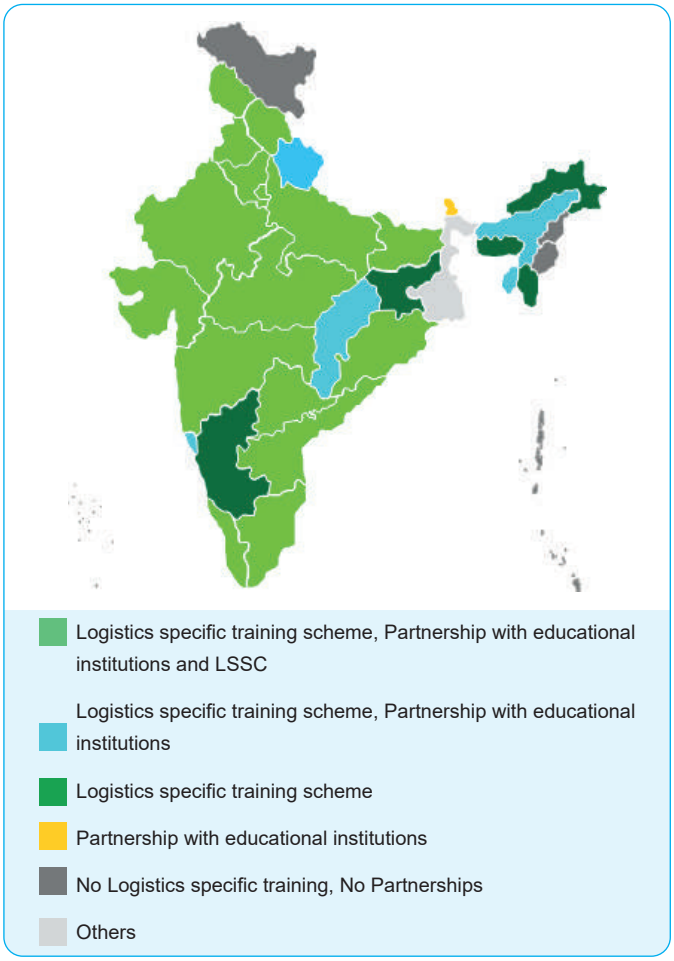
- **Logistics training centres:** The footprint of logistics training centres varies across States/UTs. 17 States/UTs have developed up to 100 logistics training centres. A higher scale, with more than 100 logistics training centres, are seen in Kerala, Tamil Nadu, Uttarakhand.

States/UTs that have established Logistics Training Centres
Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

- **Individuals trained through logistics training centres:** Training throughput also shows dispersion. 4 States/UTs have trained up to 500 individuals during FY 2024–25, while 13 have trained more than 500 individuals during FY 2024–25. A total of 113,236 individuals were trained through these training centres during FY 2023–24, increasing to 182,660 in FY 2024–25, reflecting a 61% rise. Tamil Nadu contributes approximately 80% of the total training capacity.

States/UTs that have trained up to 500 individuals at logistics training centres	States/UTs that have trained more than 500 individuals at logistics training centres
Haryana, Himachal Pradesh, Karnataka, Meghalaya	Bihar, Goa, Gujarat, Jammu and Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

- **Logistics Centres of Excellence:** 10 States/UTs have established up to 10 Centres of Excellence. Bihar and Gujarat stand out with more than 10, signalling relatively deeper institutional focus on logistics skilling, capability-building and knowledge support.



States/UTs that have established Logistics Centres of Excellence
Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Kerala, Maharashtra, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

The skilling ecosystem is expanding, and several States and Union Territories have established strong foundations. The next step is to further strengthen programmes so they are sector-aligned, partnership-led, and scalable, with clearer pathways from training to employability in logistics roles.

5. Green Logistics

This indicator assesses whether green logistics has progressed from policy intent to an implementable agenda, spanning the presence of enabling policies and action plans, the strength of notified provisions including budget-backed measures, and the supporting ecosystem for adoption through energy-efficient codes, EV manufacturing enablement, and EV charging infrastructure promotion.

- **Policy and initiatives:** A total of 25 States/UTs have policies or initiatives in place to promote green logistics, indicating that the green logistics agenda is now widely embedded across most

jurisdictions.

- **Action planning for implementation:** 24 States/ UTs have a dedicated action plan to implement green logistics initiatives. This distinction matters because an action plan typically sets out the proposed interventions, assigns implementation responsibility, and provides sequencing and monitoring arrangements.
- **Provisions and budget support:** 11 States/UTs have notified green logistics provisions backed by direct budget allocation (Chhattisgarh, Delhi, Gujarat, Haryana, Jammu and Kashmir, Jharkhand, Kerala, Karnataka, Rajasthan, Tamil Nadu, Telangana). 14 States/UTs have notified policy provisions without direct budget allocation, indicating reliance on regulatory or facilitative levers to encourage adoption. Meghalaya is in the process of formulating provisions.
- **Energy-efficient codes:** Energy-efficient building codes, referring to notified guidelines for energy-efficient design and construction, have been adopted by 25 States and Union Territories for buildings and infrastructure, supporting greener logistics parks, warehouses, and allied infrastructure.
- **EV ecosystem measures linked to logistics:** States/UTs are increasingly using EV-related policy measures as part of the green logistics transition. 26 States/ UTs have introduced schemes or policy support mechanisms for EV manufacturing. 28 are promoting the installation of EV charging stations. Green logistics is reflected in policy and planning across many States and Union Territories. Further progress can be supported through stronger implementation measures, alongside the EV and energy-efficiency ecosystem required for adoption at scale.

6. Facilitation for Central Government Logistics Projects

This indicator captures how effectively States/UTs are aligning with the national logistics infrastructure agenda through two practical signals: first facilitation of Central Government logistics projects on the ground, and second, formal collaboration through MoUs or partnership agreements for logistics infrastructure development.

- A. During FY 2023–24, 106 Central Government projects were facilitated by 12 States/UTs. This increased to 329 projects facilitated by 17 States/UTs in FY 2024–25, reflecting a significant strengthening of State-level facilitation mechanisms and growing alignment with national infrastructure development priorities.
- B. MoUs and partnership agreements during FY 2024–25: 11 States/UTs signed MoUs or partnership agreements with Central Government agencies or Ministries.

logistics sector projects undertaken by the Central Government are being facilitated by the State/UT		State/UT signed Memorandums of Understanding (MoUs) or partnership agreements with Central Government agencies or Ministries	
FY 2023-24	**FY 2024-25**	**FY 2023-24**	**FY 2024-25**
Assam, Chhattisgarh, Goa, Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, Uttarakhand	Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir (UT), Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, Ladakh (UT)	Bihar, Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Punjab, Tamil Nadu, Uttar Pradesh, Uttarakhand	Assam, Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Meghalaya, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

Overall, facilitation is evident across a meaningful set of States/UTs, with growing collaboration through MoUs with Central Ministries. These MoUs enable structured coordination, improve alignment with national priorities, and facilitate faster approvals and resource convergence. Strengthening this indicator group can further institutionalize such arrangements, enabling scalable and repeatable coordination across multiple projects, agencies, and modes.

7. Public Private Partnerships

This indicator assesses the extent to which States/UTs are using PPP as a mechanism to expand logistics infrastructure and services, both through State-led PPP projects and through active participation in PPP projects initiated by the Central Government.

- **PPP projects in the logistics sector:** A total of 59 logistics infrastructure and service-related projects were undertaken across 14 States/UTs during FY 2023–24, increasing to 69 projects across 13 States/UTs in FY 2024–25. Uttar Pradesh leads in terms of project count (25 projects during FY 2024-25), reflecting sustained momentum in logistics project implementation
- **Participation in Central Government initiated PPP projects during FY 2024–25:** A total of 46 logistics sector PPP projects were initiated by the Central Government with the participation of 12 States/UTs during FY 2023–24, followed by 20 projects across 9 States/UTs in FY 2024–25. Haryana (14 projects) and Telangana (12 projects) emerge as key contributors during FY 2023-24 and FY 2024-25, reflecting strong engagement in PPP-led logistics development.

States/UTs with active participation in Central Government initiated logistics PPP projects
Delhi (UT), Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Madhya Pradesh, Tamil Nadu, Telangana, Uttarakhand

PPP provides an additional mode of implementation beyond budget-funded projects for developing logistics infrastructure and services. This can be strengthened further through improved project identification, transaction structuring, and facilitation mechanisms.

Logistics infrastructure or service-related projects in the State/UT are being developed through Public-Private Partnerships (PPP)		Logistics sector PPP projects initiated by the Central Government involve active participation from the State/UT Government	
FY 2023-24	**FY 2024-25**	**FY 2023-24**	**FY 2024-25**
Assam, Bihar, Chhattisgarh, Delhi (UT), Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand	Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir (UT), Karnataka, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand	Bihar, Chhattisgarh, Delhi (UT), Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Maharashtra, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand	Delhi (UT), Gujarat, Haryana, Jammu and Kashmir (UT), Kerala, Madhya Pradesh, Tamil Nadu, Telangana, Uttarakhand

8. Industry Status for Logistics and Warehousing

Industry status is a key policy lever to formalize the logistics and warehousing sector and improve access to incentives and facilitation mechanisms that typically apply to industrial activity. This indicator also examines whether the grant of industry status is supported by clearly notified benefits and the extent to which logistics units are actively availing these provisions.

- A. Grant of industry status: 32 States/UTs have extended industry-linked incentives and benefits to the logistics sector projects through granting industry status, priority/ thrust sector classification, policy inclusion, or through notified provisions. Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Ladakh, Lakshadweep are yet to grant status.
- B. Policy benefits or support measures following grant of industry status: Beyond granting industry status, 28 States/UTs have notified policy benefits or support measures for logistics industries. These include measures such as land allotment at industrial rates, concessional power tariffs, stamp duty exemptions, SGST reimbursement, and assistance such as interest

subvention, employment-linked support, or capital support.

States/UTs with notified policy benefits or support measures for logistics units
Andhra Pradesh, Andaman & Nicobar Islands (UT), Assam, Bihar, Chhattisgarh, Delhi (UT), Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir (UT), Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Puducherry (UT), Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand

- **Uptake of industry status benefits:** Uptake is visible across several States, with encouraging signs of on-ground operationalisation. Up to 50 projects/companies have availed the benefits in Andhra Pradesh, Assam, Goa, Gujarat, Karnataka, Maharashtra, Meghalaya, Punjab, and Rajasthan, reflecting early adoption. A stronger scale of uptake is seen in Haryana, Himachal Pradesh, Jammu and Kashmir, Kerala, and Uttar Pradesh, where more than 50 and up to 100 projects/companies have already accessed the notified support measures. Bihar, Tamil Nadu, and Telangana demonstrate particularly strong performance, with more than 100 projects/companies availing benefits, A total of 32,284 projects/companies have availed benefits under industry status provisions, with Telangana accounting for over 90% of the beneficiaries.

Overall, industry status has been adopted widely. States and Union Territories can further build on this progress by clearly notifying benefits and enabling higher uptake through outreach, facilitation, and predictable access to the support measures.

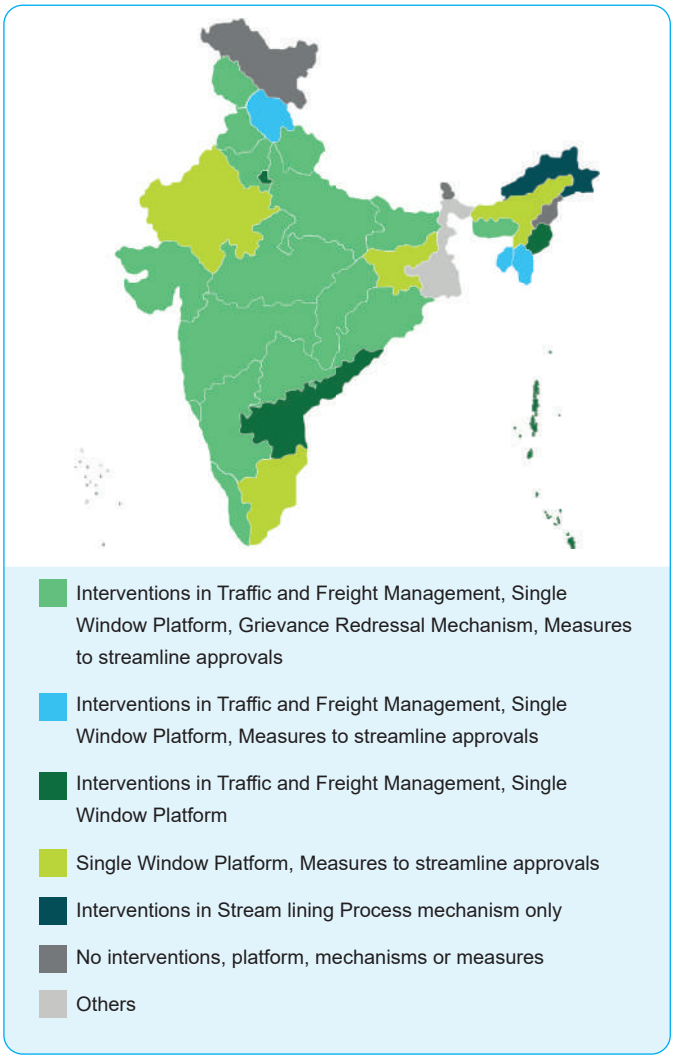
9. Streamlining of Regulatory Processes

This indicator group assesses whether States/UTs have put in place the institutional and regulatory machinery required to make logistics operations and logistics infrastructure development faster, more predictable, and easier to navigate. These mechanisms include the official arrangements, platforms, and procedures used to deliver approvals and manage logistics operations. The indicators span institutional set-up, technology-enabled freight movement management, single-window approvals, formal mechanisms for issue resolution and grievance redressal, and targeted reforms for logistics infrastructure development.

- **Institutional set-up for logistics initiatives:** A dedicated institutional set up is in place in a significant number of jurisdictions. 25 States/UTs have an institutional set up such as a dedicated nodal agency—for planning and executing all the logistics sector initiatives, which can be in the form of PM GatiShakti Logistics Cell or a Dedicated Logistics Cell/Department. 2 States (Arunachal Pradesh and Maharashtra) have indicated that plans are in place to establish such an arrangement. This institutional setup is an enabler because it creates continuity in programme management, inter-departmental coordination, and accountability for reform delivery.

States/UTs with Logistics cell / Inter departmental Task Force
Andhra Pradesh, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Mizoram, Odisha, Puducherry, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, Bihar, Chandigarh, Madhya Pradesh, Meghalaya, Tripura, Sikkim

- **Traffic and freight movement management interventions:** Technology-backed regulatory interventions such as surveillance at key borders or checkpoints, integration with vehicle and driver platforms (Vahan, Sarathi), and digital weighbridges are being undertaken in 25 States/UTs. These measures influence enforcement consistency, reduce friction at key movement points, and improve compliance outcomes.
- **Service Improvement Group mechanism:** Only 2 States have constituted a mechanism similar to Service Improvement Group for registering and resolving regulatory and policy issues raised by the logistics sector, namely Chhattisgarh and Gujarat.
- **Single-window approvals for logistics:** A dedicated or integrated single-window platform for streamlining approvals and clearances related to logistics operations and infrastructure exists in 28 States/UTs. Out of these, 27 States/UTs cover key approvals relevant to logistics projects, encompassing land allotment, building plan approvals, power and water connections, road access permission, warehousing registration, and environmental clearances. A total of 21,684 approvals were granted through the Single Window System across 14 States during FY 2023–24, which increased to 25,726 approvals across 16 States in FY 2024–25. Kerala emerged as the leading contributor, with 21,286 approvals in FY 2024–25
- **Grievance redressal and dispute resolution:** A formal grievance redressal and dispute resolution mechanism for the logistics sector is in place in 23 States/UTs. This supports improvement in the operating environment, particularly for recurring regulatory frictions faced by logistics operators.
- **Streamlining processes for logistics infrastructure development:** Measures to streamline approvals and facilitation for logistics infrastructure development, including land allocation mechanisms, zoning provisions, fast-tracking construction permits, and investor facilitation arrangements, are in place in 25 States/UTs.



The overall architecture for streamlining is visible across multiple indicators, particularly on single-window platforms and project facilitation measures. The opportunity now is to strengthen institutional setup, expand technology-backed freight movement management, and put in place mechanisms that translate industry feedback into time-bound regulatory improvements.

10. Unified Logistics Interface Platform (ULIP) Adoption for State-level Logistics Planning

ULIP is a national digital platform that enables secure data exchange across logistics-related systems and stakeholders. For States and Union Territories, ULIP can support better logistics planning and coordination through improved visibility, data-driven decision-making, and smoother inter-departmental workflows. The indicators cover formal engagement on ULIP, the availability of an integration interface, and multi-department involvement in integration.

- **Formal engagement through MoU or specific actions:** 11 States/UTs have signed an MoU or initiated specific actions for ULIP integration.

States/UT with MoU for ULIP Integration
Andhra Pradesh. Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir, Madhya Pradesh, Nagaland, Tamil Nadu, Uttar Pradesh, Uttarakhand

- **Dedicated interface portal for ULIP integration:** A dedicated interface portal for ULIP integration exists in 7 States/UTs (Chhattisgarh, Goa, Gujarat, Haryana, Jammu and Kashmir, Tamil Nadu, Uttar Pradesh).
- **Multi-department integration:** 7 States/UTs have at least three State departments involved in ULIP integration (Bihar, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir, Madhya Pradesh, Tamil Nadu). ULIP integration is most effective when multiple departments use shared data flows for permits, planning, enforcement, and coordination.

ULIP adoption is at an early stage overall. Progress depends on moving from an MoU or initial actions to a functioning integration interface and sustained multi-department participation, which can support States and Union Territories in improving logistics planning and coordination.

Chapter 6

Corridor Based Logistics Efficiency



1 Purpose, Coverage and Analytical Lens

1.1 Context

India's road corridors, carrying ~71% of its freight ecosystem[1], are vital pathways of trade and regional integration. The efficiency of logistics along these corridors significantly influences the pace of economic development, determining how quickly and reliably freight can move from production centres to consumption markets and port gateways. In this context, understanding the operational performance of major road corridors becomes essential for identifying bottlenecks and opportunities for improvement.

This chapter presents findings from an empirical corridor-based study assessing freight movement across six identified corridors in India. The study focuses on establishing comparable indicators such as corridor speeds, daily truck runs, waiting times, and other operational parameters to evaluate logistics performance.

1.2 Study Coverage

The study covers six major freight corridors that represent India's long-haul road movement across industrial regions, consumption centres, port-linked routes, and the North-East gateway. The selected corridors include Chennai-Mumbai-Chennai (NH 48) and Mumbai-Delhi-Mumbai (NH 48) as high-density trunk routes, Bengaluru-Delhi-Bengaluru (NH 44) as a north-south manufacturing spine, Bengaluru-Kolkata-Bengaluru (NH 16) as an east-coast industrial corridor, Delhi-Kolkata-Delhi as an eastbound trunk movement system, and Kolkata-Guwahati-Kolkata (NH 27) as the primary road gateway to the North-East.

The assessment uses two complementary data layers to evaluate logistics performance. Mixed-traffic network speeds from API sources and truck GPS data are analysed together with stakeholder inputs to capture both movement conditions and operational factors such as access delays, stoppages, and waiting times. This integrated approach provides a corridor-wise view of performance, helps explain differences between mixed-traffic and freight speeds, and identifies specific locations where slowdowns and operational inefficiencies are more likely to occur.

Table: List of corridors and their distances

S. No.	Route	NH	Distance (Km)
1	Chennai - Mumbai - Chennai	NH 48	1337
2	Mumbai - Delhi - Mumbai	NH 48	1538
3	Delhi - Kolkata - Delhi	NH 19	1555
4	Kolkata - Guwahati - Kolkata	NH 27	915
5	Bengaluru - Kolkata - Bengaluru	NH 16	1877
6	Bengaluru - Delhi - Bengaluru	NH 44	2172

[1]PIB - INTERMODAL CONNECTIVITY FOR FREIGHT TRAFFIC (28 March 2025)
https://www.pib.gov.in/PressReleasePage.aspx?PRID=2116158&reg=3&lang=2

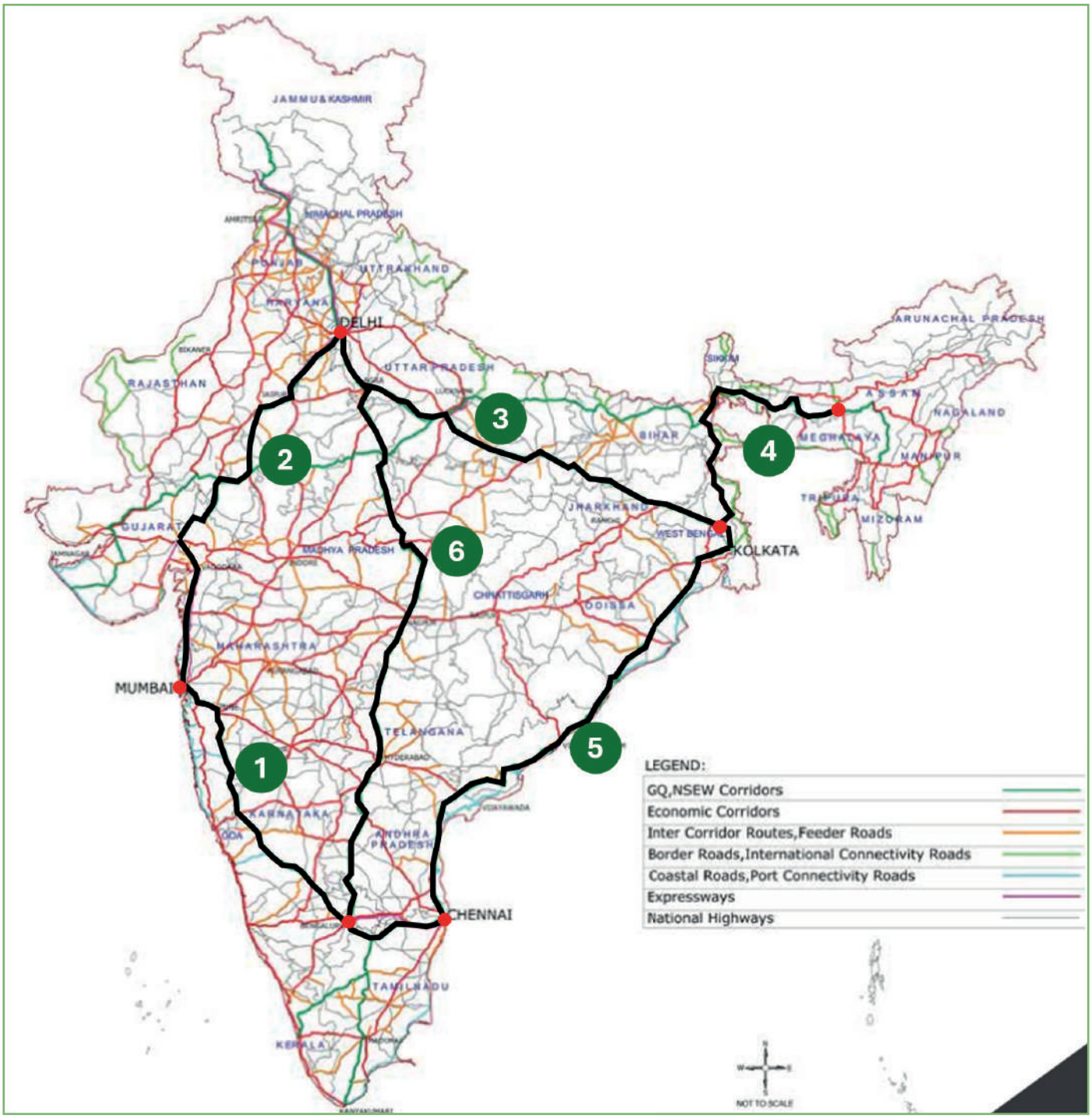


Figure: Map of six corridors analyzed

2 Corridor Assessment - Approach and Methodology

The analysis of corridor logistics efficiency integrates two primary data streams comprising mixed-traffic network speeds derived from API platforms and truck-level GPS tracking records. These quantative sources are further enriched through consultations with key industry participants, including trucking firms, transport associations, and professional drivers, ensuring operational realities are adequately reflected. This enabled separation of network-related conditions from operational factors such as access delays and stoppages. An overview of the adopted approach and methodology is presented below.

2.1 Identification of Key Performance Indicators

Key performance indicators, grouped into four categories as shown below, were identified to support benchmarking and diagnosis:

A. Movement Efficiency (Speed & Time)	B. Terminal & Trip operations
1. Average daily distance covered by trucks 2. Running vs. waiting time split: Daily productivity 3. Corridor Running Speed (km/hr)= Transit Distance/ Transit time	4. Terminal Dwell Time (hrs.) 5. First + Last Mile Penalty (%)*= (First mile time + Last mile time) / Total time 6. First- and Last-Mile speed vs. Corridor operating speed
C. Handling Charges and Cost per ton-km	
7. Freight Cost per ton-km (Rs./ton-km) 8. Handling Charges (Rs./ton) (Loading and Unloading)	
Bottlenecks & Constraints based on stakeholder consultations	
• Major bottlenecks observed by stakeholders on the concerned route	

Note: Definition *First + Last Mile Penalty (%) - The share of total journey time spent on accessing the network at the start and exiting it at the end, expressed as a percentage of the total travel time.

Figure: Key Performance Indicators for Logistics Corridor Assessment

2.2 Corridor Efficiency Evidence Model

Freight corridor performance is evaluated through a layered assessment framework that combines system wide traffic indicators with field-based freight movement data. While API-based network metrics establish a standardized performance benchmark, truck GPS observations and stakeholder feedback provide practical insights into actual operating conditions experienced by freight carriers.

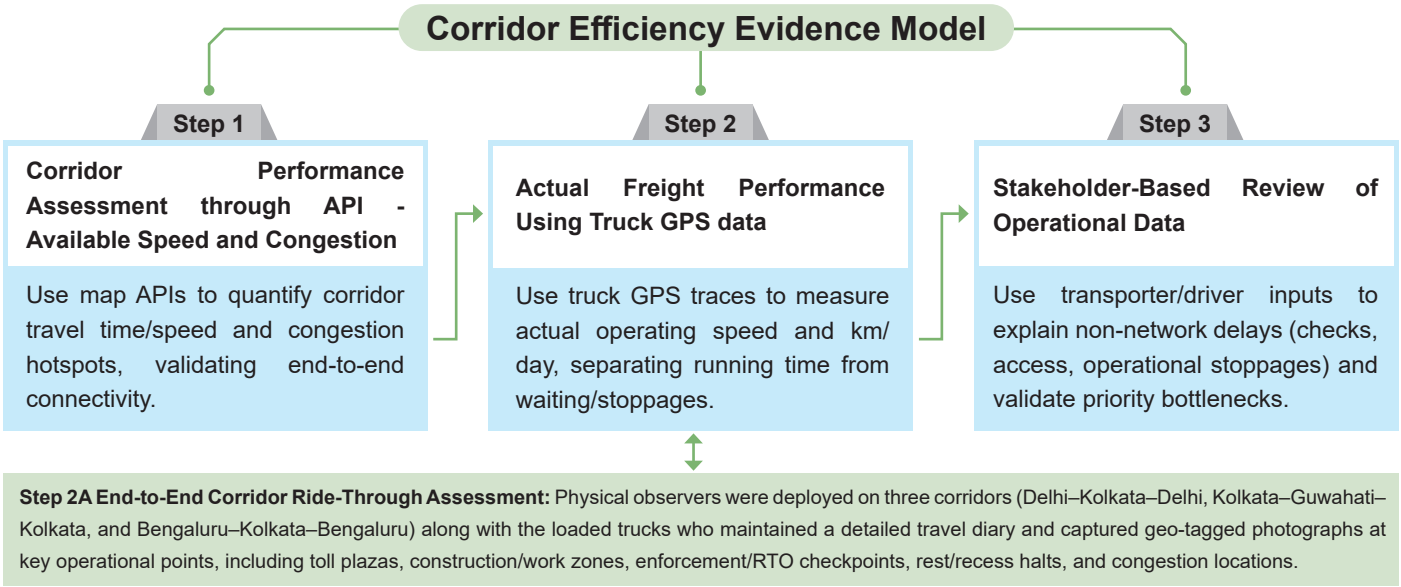


Figure: Logistics Corridor Efficiency Evidence Model

A. Step 1: Corridor Performance Assessment - Available Speed and Congestion Profile Level 1 uses API-derived origin-destination (OD) travel time and distance to assess corridor performance under mixed traffic conditions. The assessment incorporates congestion and urban interface effects by segmenting corridors into uniform stretches. Data was extracted for the period December 2024 to December 2025 to capture travel time variability. Corridor performance is benchmarked against 80 km/h , which reflects the maximum permissible speed for cargo vehicles. The methodology is presented below:

Stage-1	Stage-2	Stage-3	Stage-4
Identification and geo-referencing freight terminal and road infrastructure	Nodes and network synchronizing for complete network connectivity	Travel time identification using excel based programs on map API data	Identification of road network which need to be augmented for better logistics efficiency

B. Step 2: Actual Freight Performance using Truck GPS data: Level 2 uses truck GPS trip data and stakeholder inputs to assess freight performance on the same corridors. While API speeds in Level 1 reflect available speeds under mixed-traffic conditions, GPS trip data capture the actual speeds achieved by freight vehicles, including the effects of compliance checks, operational stoppages, and rest availed. GPS trip summaries were used to derive metrics such as average speed, running time, waiting time, stoppages and distance. This helps quantify operating conditions that are not visible in network/API baselines.

Stage 1	Stage 2	Stage 3
Identification and geo-referencing corridor and identification of GPS enabled trucks	Extracting GPS data such as time stamp, distance travelled, waiting time, and average speeds	Level of service identified based on the MORTH guidelines for freight trucks

[2]Speed limit on National Highways – PIB (https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1539335&reg=3&lang=2)

Reg No : NL01AF4928				From : 28-05-2025				
Vendor : Umbrella				To : 01-06-2025				
Total Distance Travelled : 1333.91 Kms				Total Stop Duration : 2 D 12 H 16 M				
Total number of stops : 13				Travel Time(excluding Stoppage) : 1 D 2 H 3 M				
Average Speed (including stops) : 13.45 Kmph				Average Speed (excluding stops) : 51.18 Kmph				
	START TIME	END TIME	DURATION	KMS	Start Location	End Location	Start Location Coordinates	End Location Coordinates	Status
	2025-05-31 12:13	2025-05-31 12:48	35 M	0	Shahzadpur Agra Delhi Road, Shehzadpur Pauri, Mathura, Mathura District, Uttar Pradesh. 256 m from Hanuman Mandir pin-281122 (India)	Shahzadpur Agra Delhi Road, Shehzadpur Pauri, Mathura, Mathura District, Uttar Pradesh. 256 m from Hanuman Mandir pin-281122 (India)	27.2842998504638	27.2842998504638	stopped
	2025-05-31 12:48	2025-05-31 14:01	1 H 12 M	57.25	Shahzadpur Agra Delhi Road, Shehzadpur Pauri, Mathura, Mathura District, Uttar Pradesh. 256 m from Hanuman Mandir pin-281122 (India)	Chhata Minor Agra Delhi Road, Ranwari, Chhata, Mathura District, Uttar Pradesh. 573 m from Sugar Mill pin-281401 (India)	27.2842998504638	27.7039996582031	running
	2025-05-31 14:01	2025-05-31 14:07	6 M	0	Chhata Minor Agra Delhi Road, Ranwari, Chhata, Mathura District, Uttar Pradesh. 573 m from Sugar Mill pin-281401 (India)	Chhata Minor Agra Delhi Road, Ranwari, Chhata, Mathura District, Uttar Pradesh. 573 m from Sugar Mill pin-281401 (India)	27.7039996582031	27.7039996582031	stopped
	2025-05-31 14:07	2025-05-31 14:09	1 M	1.88	Chhata Minor Agra Delhi Road, Ranwari, Chhata, Mathura District, Uttar Pradesh. 573 m from Sugar Mill pin-281401 (India)	Chandar Kund Agra Delhi Road, Chhata, Uttar Pradesh. 121 m from Indian Oil Petrol Pump pin-281401 (India)	27.7039996582031	27.7168006896972	running
	2025-05-31 14:09	2025-05-31 18:00	3 H 51 M	0	Chandar Kund Agra Delhi Road, Chhata, Uttar Pradesh. 121 m from Indian Oil Petrol Pump pin-281401 (India)	Chandar Kund Agra Delhi Road, Chhata, Uttar Pradesh. 121 m from Indian Oil Petrol Pump pin-281401 (India)	27.7168006896972	28.0058994293212	stopped
	2025-05-31 18:00	2025-05-31 19:13	1 H 13 M	99.76	HVDC Ballia-Bhiwadi - Aurangabad Electrode AH 1, Tumaora, Hodal, Palwal District, Haryana. 79 m from Puncture Shop pin-121105 (India)	Panchgaon Toll Plaza, Fazalwas, Manesar, Gurgaon District, Haryana. 501 m from Lal Chand Transport Service pin-123413 (India)	28.0058994293212	28.3113[illegible]	running
	2025-05-31 19:13	2025-05-31 22:59	3 H 45 M	0	Panchgaon Toll Plaza, Fazalwas, Manesar, Gurgaon District, Haryana. 501 m from Lal Chand Transport Service pin-123413 (India)	Panchgaon Toll Plaza, Fazalwas, Manesar, Gurgaon District, Haryana. 501 m from Lal Chand Transport Service pin-123413 (India)	28.[illegible]	[illegible]	stopped
	2025-05-31 22:59	2025-05-31 23:38	39 M	79.78	Asauda Railroad Station Toll Plaza, Bahadurgarh, Jhajjar District, Haryana. 778 m from Police Chowki pin-124505 (India)	Kirtinagar F-39, Block F, Kirti Nagar, New Delhi, Delhi 110015 [illegible]	[illegible]	[illegible]88525	running
	2025-05-31 23:38	2025-06-01 06:52	7 H 13 M	0	Kirtinagar F-39, Block F, Kirti Nagar, New Delhi, Delhi 110015, India	Kirtinagar F-39, Block F, Kirti Nagar, New Delhi, Delhi [illegible]	[illegible]	28.6303005218505	stopped
	2025-06-01 06:52	2025-06-01 06:58	5 M	7.35	The Mughal Heritage 106/4, Sialkot Shop, Ring Road, Block C, Naraina Industrial Area Phase 1, New Delhi, Delhi. 98 m from Lachman Dass & Corporation pin-110028 (India)	Vishesh Continental 10, Satguru Ram Singh Marg, Block [illegible] Industrial Area, New Delhi, Delhi. 7 m from Nav Bharat [illegible] pin-110015 (India)	28.6303005218505	28.6527996063232	running
	2025-06-01 06:58	2025-06-01 11:31	4 H 33 M	0	Vishesh Continental 10, Satguru Ram Singh Marg, Block 3, Kirti Nagar Industrial Area, New Delhi, Delhi. 7 m from Nav Bharat Timber Traders pin-	Vishesh Continental 10, Satguru Ram Singh Marg, Block 3, Kirti Nagar Industrial Area, New Delhi, Delhi. 7 m from Nav Bharat Timber Traders pin-	28.6527996063232	28.6527996063232	stopped

ILLUSTRATIVE

Figure: Part of truck GPS datasets utilized for freight performance analysis

C. Step 2A - End-to-End Corridor Ride-Through Assessment: Physical observers were deployed on three corridors (Delhi–Kolkata–Delhi, Kolkata–Guwahati–Kolkata, and Bengaluru–Kolkata–Bengaluru) along with the loaded trucks, with observers maintaining a detailed travel diary and captured geo-tagged photographs at key operational points, including toll plazas, construction/work zones, enforcement/RTO checkpoints, rest/recess halts, and congestion locations.

D. Step 3 Stakeholder-Based Review of Operational Data: Stakeholder inputs were gathered to provide operating context and validate observations related to bottlenecks, terminal dwell, enforcement-linked stoppages, and other issues. These inputs help highlight operational factors - particularly waiting time - that are not captured in network/API baselines but influence freight productivity.

Stage 1	Stage 2	Stage 3
Capture existing operating practices from transporters and drivers	Identify causes of waiting time, which is not visible in API map-based data	Highlight key bottlenecks, checks, and access delays, and understand operational issues affecting freight productivity

2.3 Key Assumptions, Data sources

The table below summarises the datasets used for the corridor efficiency assessment and their respective sources. The analysis draws on a combination of network-level API data, truck GPS trip records, and stakeholder consultations to capture both available corridor performance and realised freight speeds:

Table: Secondary Data Sources

Analysis	Data Used	Source	
Step 1: Corridor Performance Assessment	API-based travel time and speed data	Open-source corridor speed/routing outputs were compiled using the QGIS ORS Tool built on Open Street Map (OSM) and developed by the Heidelberg Institute for Geoinformation Technology (HeiGIT), covering December 2024 to December 2025.	
Step 2: Freight Performance Using Truck GPS data	Truck GPS trip data across multiple corridors (GPS-enabled trucks)	Multiple Sources including AITWA (All India Transporters Welfare Association), its members and various trucking companies across India for period November 2025-February 2026.	
Step 2A: End-to-End Corridor Ride-Through Assessment	Field Observations	Multiple Sources including VRL trucking company, SMCS trucking company and OCS Logistics	
Step 3: Stakeholder-Based Review of Operational Data	Stakeholder consultations and operational inputs	**Logistics and Transport Industry Associations** • All India Transporters Welfare Association (AITWA) • Bombay Goods Transport Association • All India Motor Transport Congress (AIMTC) • Rourkela Chamber of Commerce & Industry • Federation of Karnataka Lorry Owners Association • South India Motor Transport Association • National Association of Container Freight Stations (NACFS) • Custom Broker Association, Hyderabad • Federation of Indian Chambers of Commerce & Industry • Confederation of Indian Industry (CII) • Industrial Entrepreneurs Association	• Federation of Karnataka Reuners Association • Export Promotion Council for Handicrafts • Federation of Association of Cottage & Small Industries (FACSI) • Tripura Industrial Entrepreneurs Association • Industries Association of Uttarakhand • Container Carrier Owners Association • Himalayan Chamber of Commerce & Industries • Custom Broker Association, Hyderabad **Private Logistics Service Providers (LSPs)** • Polkart Logitics • Multiple Truck drivers contacted during on field visits to study corridors • S.J. Logistics • Max Shipping & Forwarding Pvt. Ltd. • SATTVA Logistics Group • Mussaddilal Projects Pvt Ltd • RPD Technologies Ltd

2.4 Limitations

Assessment outputs should be interpreted in light of the following assumptions and data limitations.

A. Level 1 - Corridor Performance Assessment (Available Speed and Congestion Profile) represents mixed traffic conditions and provides a standardized network wide reference for speed and congestion patterns.

B. Level 2 - Findings reflect corridor- and trip-specific operating patterns captured from a 29-truck sample across the assessed corridors; results may vary by sample coverage, reporting period, and trip characteristics.

It is pertinent to highlight that corridor boundaries and route alignments were consistently defined to maintain comparability across all evaluated routes subject to following limitations:

1. **API speeds reflect general traffic, not truck-only operations:** Mixed traffic speed outputs capture overall corridor movement patterns but may not fully represent freight-specific influences such as loading and unloading delays, operational stoppages, or compliance checks applicable primarily to goods vehicles.
2. **GPS sample coverage varies by corridor:** Truck GPS data availability differs across corridors in terms of trip volumes, vehicle types, and time periods. In several cases, GPS observations are based on selected months rather than continuous year-round data, which may limit representation of seasonal or event related variations.
3. **Corridor alignment is standardised:** Corridor geometry, origin-destination definitions, and length were kept consistent to enable cross-corridor comparison. Minor deviations may occur due to temporary diversions, access to logistics facilities, or routing choices by drivers.
4. **Operational conditions may change over time:** Speed and reliability outcomes are influenced by evolving factors such as enforcement practices, toll operations, construction activity, weather conditions, and traffic management measures, which may vary across the assessment period.
5. **Stakeholder inputs reflect prevailing operational experience:** Qualitative inputs from industry stakeholders provide valuable context on corridor performance but reflect conditions and perceptions during the consultation period, which may change with policy or infrastructure interventions.

The assessment provides a comparative and indicative view of corridor performance based on the best available data sources at the time of analysis. The findings are intended to support network-level understanding and policy discussion, and should be interpreted alongside corridor-specific studies and updated datasets where available.

3 Step 1 - Corridor Performance Assessment - Available Speed and Congestion Profile

API-derived average speeds were analysed for six long-distance freight corridors. Corridor conditions were interpreted using a Level of Service (LOS) framework, as defined under IRC:106-1990, IRC:64-1990 and PIB Note dated 19th July 2018 defining speed limits on highways, which are used here to classify operating quality based on speed efficiency and congestion exposure.

For this assessment, LOS categories were assigned by comparing the observed API speeds against the 80 km/h benchmark, which reflects the maximum permissible speed for cargo vehicles.

Table: LOS based on speed- IRC 106:1990 and IRC: 64-1990

Particular	Speed in Km/h	LOS Threshold
LOS A	> 72	90%
LOS B	56-71	70%
LOS C	42-55	50%
LOS D	32-41	40%
LOS E	26-31	33%
LOS F	< 26	25%

Corridors were segmented into uniform stretches, and level of service categories were applied segment-wise to support cross-corridor comparison. Corridor stability was assessed using the share of constrained segments (LOS E-F), which represent moderate-to-severe restrictions. Segments repeatedly showing LOS E/F were identified as potential bottlenecks, reflecting persistent congestion and reduced operating speeds.

3.1 Cross-Corridor Speed Summary

This section presents a comparison of operating speeds across freight corridors using API-derived travel time and distance. The objective is to establish a common corridor-level benchmark under mixed traffic conditions, capturing the combined influence of route continuity, congestion exposure, and urban interface effects.

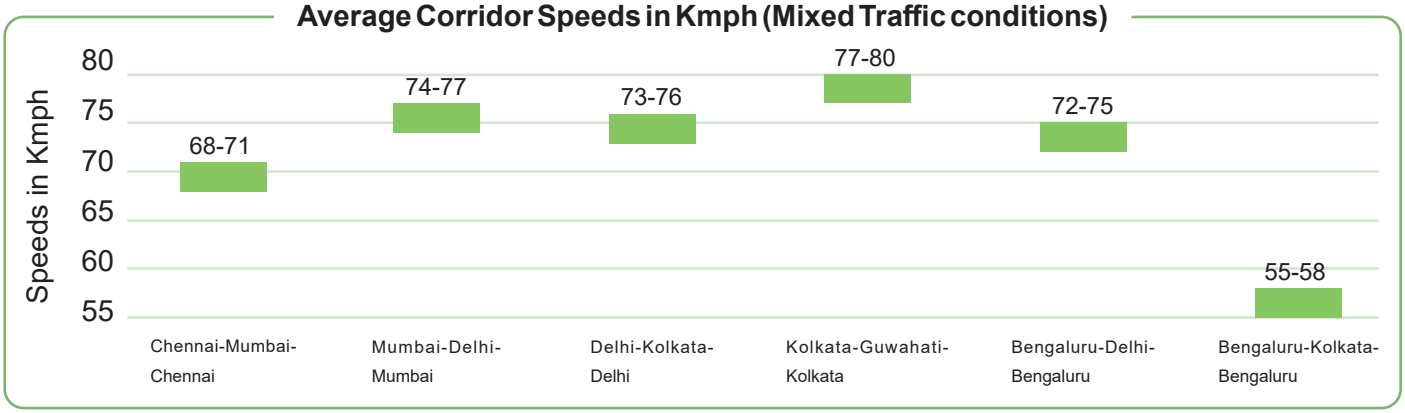


Figure: Corridor wise average running speeds

Average corridor speeds range from 55 to 80 km/h, indicating variation in movement conditions across corridors. (1) Kolkata-Guwahati-Kolkata records average speeds in the 77-80 km/h range, followed by (2) Mumbai-Delhi-Mumbai (74-77 km/h) and (3) Delhi-Kolkata-Delhi (73-76 km/h). (4) Bengaluru-Delhi-Bengaluru (72-75 km/h) and (5) Chennai-Mumbai-Chennai (68-71 km/h) operate at comparatively lower corridor averages, while (6) Bengaluru-Kolkata-Bengaluru shows the lowest corridor-scale average speed range (55-58 km/h).

3.2 Traffic Congestion Profiling

This section presents LOS pattern as emerged from analysis of various corridors.

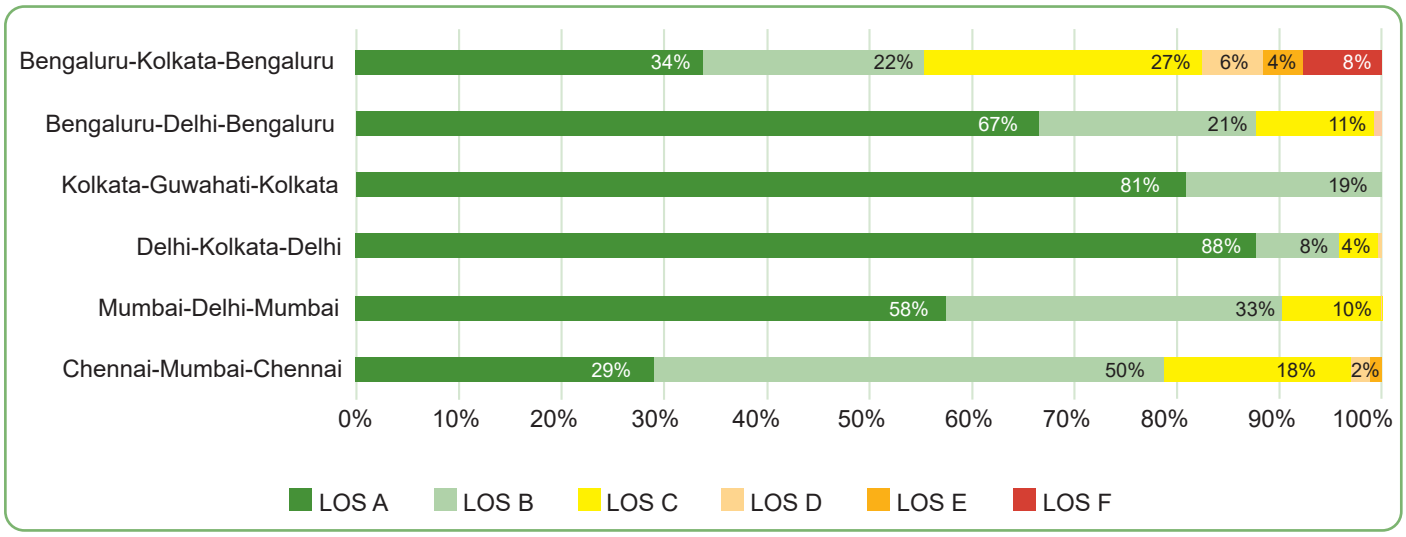


Figure: LOS-wise Share of Corridor Length across Assessed Corridors

The LOS distribution helps explain differences in average speeds across corridors. Higher shares of LOS A-C indicate stable movement, while higher shares of LOS D-F indicate recurring slowdowns and constraints. Key findings are summarised below:

1. **Bengaluru-Kolkata-Bengaluru** shows the highest share of constrained segments, with ~ 18% of the corridor in LOS D-F, including ~8% in LOS F. This reflects extended stretches operating under moderate constraints, consistent with lower average speeds.
2. **Bengaluru-Delhi-Bengaluru** LOS D is limited to ~1% of the corridor, indicating only minor, localized flow deterioration; overall operations remain largely stable across the route.
3. **Kolkata-Guwahati-Kolkata** operates entirely within LOS A-B (81% in LOS A and 19% in LOS B), indicating stable movement, with no LOS C-F segments observed.
4. **Delhi-Kolkata-Delhi** remains predominantly within LOS A-B (96%), with around 4% in LOS C, suggesting that speed moderation is limited to a small number of stretches.
5. **Mumbai-Delhi-Mumbai** shows mixed operating conditions, with around 10% of the corridor in LOS C, primarily near interface zones, rather than along extended sections.
6. **Chennai-Mumbai-Chennai** shows LOS D–E covers ~3% of the corridor, indicating limited, localised speed deterioration; overall corridor flow remains largely stable.

Table: LOS-wise Corridor Length Distribution (km)

Sr No.	Corridor (Length in km)	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
1	Chennai - Mumbai - Chennai	388	665	243	25	16	-
2	Mumbai - Delhi - Mumbai	885	503	147	2	-	2
3	Delhi - Kolkata - Delhi	1,430	134	61	7	-	-
4	Kolkata - Guwahati - Kolkata	740	175	-	-	-	-
5	Bengaluru - Delhi - Bengaluru	1,485	473	255	16	2	-
6	Bengaluru - Kolkata - Bengaluru	811	518	656	140	96	184

3.3 LOS-based stability assessment

The LOS-based stability assessment highlights higher share of LOS D-F reflecting recurring speed reductions across multiple stretches, while near-zero values indicate localized or minimal disruptions with limited impact on end-to-end movement.

Table: Corridor Stability Based on LOS D-F Share

Sr No.	Corridor	LOS D to LOS F Share (% of Length)	Stability interpretation[4]
1	Bengaluru - Kolkata - Bengaluru	15.0 - 17.0%	High Volatality
2	Chennai - Mumbai - Chennai	2.0 - 3.0%	Moderate volatility
3	Bengaluru - Delhi - Bengaluru	0.80 - 1.0%	Very stable
4	Mumbai - Delhi - Mumbai	0.26 - 0.50%	Very stable
5	Delhi - Kolkata - Delhi	0.35 - 0.80%	Very stable
6	Kolkata - Guwahati - Kolkata	0.00%	Very stable

3.4 Corridor-Level Bottleneck Indicators

To identify locations contributing to corridor slowdowns, the API-based segment results were screened to extract corridor-level potential bottleneck indicators.

For this assessment, a bottleneck is defined as a corridor stretch that consistently operates in LOS D, E, or F, indicating recurring speed reduction under mixed-traffic conditions. These stretches typically correspond to high-friction zones such as urban approaches, junction-dense areas, access-intensive sections, where throughput is reduced.

[4]Stability interpretation:
• Very stable: ~0% LOS D–F length, Low volatility: <3%, Moderate volatility: 3–5%, High volatility: >10%

The figure presents the key congested sections along with specific details in table thereafter.

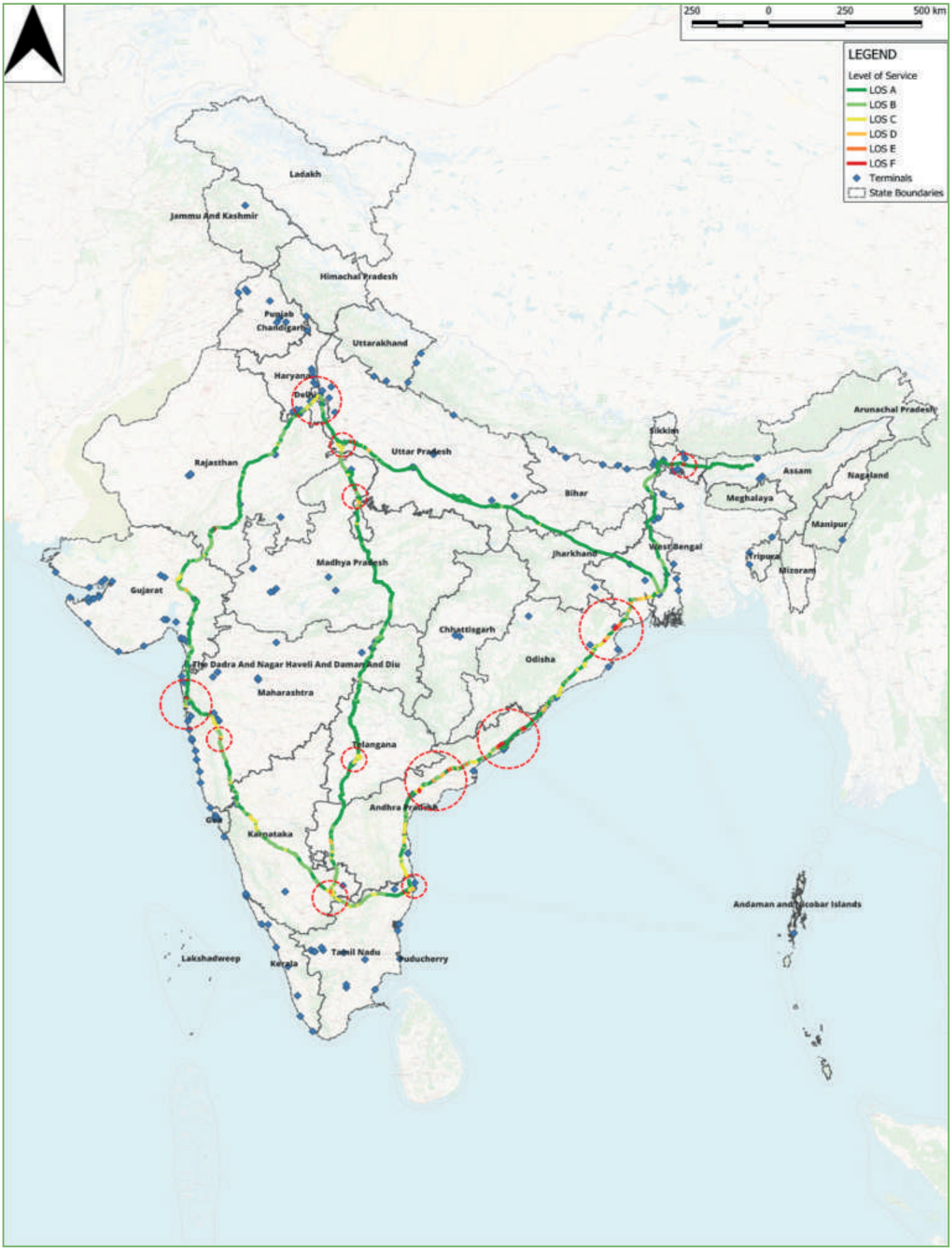


Figure: Spatial Distribution of LOS Performance and Bottleneck Locations across 6 Freight Corridors

Corridor	State	District / Urban Area	Bottleneck Length (Km)	Average Speed (Km/h)	LOS	Geo Coordinates (From - To)	Landmarks (From-To)
Chennai - Mumbai - Chennai	Maharashtra	Satara	8.5	34.7	D	18.04484, 74.015589 to 18.006354, 73.996914	NH4 Highway Juna Toll Naka to Hotel Shiv Kailas Garden, Khandala
	Karnataka	Bangalore	10	36.7	D	12.921159, 77.620249 to 12.994234, 77.585153	6th Cross, Madiwala to Windsor Square
	Karnataka	Bangalore	2.3	35	D	12.994234, 77.585153 to 13.014515, 77.583972	Windsor Square to Armane Nagar
	Karnataka	Bangalore	6	34.6	D	13.028869, 77.540011 to 13.014515, 77.583972	Yeshwanthpur Industrial Area to Armane Nagar
Mumbai - Delhi - Mumbai	NCT of Delhi	West	2.5	29.1	F	28.564972, 77.239653 to 28.572513, 77.258302	Lajpat Nagar to Hari Nagar Ashram
Delhi - Kolkata - Delhi	Uttar Pradesh	Mainpuri	12.5	35.8	D	26.978692, 78.799732 to 26.958858, 78.823193	Kathaphori to Agra Lucknow Expressway
Bengaluru - Delhi - Bengaluru	Telangana	Hyderabad	1.3	31	D	17.376477, 78.475118 to 17.38369, 78.475051	Siddiamber Bazar to Abids
	Telangana	Hyderabad	2.1	34	D	17.407151, 78.467654 to 17.408675, 78.475383	Khairatabad to Himayatnagar
	Uttar Pradesh	Jhansi	6.7	34	D	25.365204, 78.530592 to 25.320256, 78.540973	Dagaria Rund to BHEL Area, Jhansi
Bengaluru - Kolkata - Bengaluru	Odisha	Bhadrak	5.1	12.1	F	21.101218, 86.53067 to 21.137526, 86.56017	Ranj to Charampa
	Odisha	Puri	0.9	17.2	F	19.49747, 85.087842 to 19.505896, 85.086771	Rambha Railway Bridge to Jahami, Madhuruchua
	Odisha	Khordha	2.3	26.8	E	19.932013, 85.3879 to 19.914257, 85.382374	Sam Tutorial, Khurda to Nandapur
	Andhra Pradesh	Srikakulam	9.5	23	F	18.316484, 83.928431 to 18.37504, 83.9909	Lalachervu Rajahmundry to Madapam Bridge
	Andhra Pradesh	Vishakhapatnam	9.5	26.3	E	17.689035, 83.030177 to 17.752112, 83.07526	Batajangalapalem to Anakapalli
	Andhra Pradesh	West Godavari	2.8	16.3	F	16.969587, 81.436948 to 16.978606, 81.460208	Eluru Road Bus Stop to Bus Shelter Ananthapalli
	Andhra Pradesh	West Godavari	7.9	20.3	F	17.053315, 81.565634 to 17.008586, 81.520829	Brundavanapuram to Yernagudem
	Andhra Pradesh	West Godavari/ Krishna	3.2	11.2	F	16.62504, 80.962338 to 16.632056, 80.986797	Hanuman Junction to Tallamudi
	West Bengal	Paschim Medinipur	9.2	29.4	E	22.240816, 87.392079 to 22.323743, 87.397437	Rampura Toll Plaza to Khatranga

4 Step 2 - Actual Freight Performance Using Truck GPS data

This section analyses truck GPS trip data to quantify actual freight operating conditions across the study corridors. The analysis is based on GPS trip data collected from 29 trucks across six freight corridors, providing representative coverage of long-haul freight movements across key industrial, port, and gateway routes. GPS trips were processed to derive trip duration, daily distance covered (km/day), running time, waiting time, and average speed, enabling assessment of operational productivity and stoppage intensity.

Performance was assessed primarily through km/day and trip cycle time. Outputs were consolidated into a corridor-wise KPI scorecard to benchmark performance and identify factors influencing corridor efficiency. Speed- and time-based KPIs were derived from truck GPS data, while operational indicators were supported by stakeholder consultations.

A Delhi–Mundra case study is presented below to document segment-wise truck movement along the route.

Case Study- Delhi to Mundra Port

This case in point tracks a representative Delhi-Mundra truck movement from ICD Tughlakabad (Delhi) to Mundra Port/CFS (Gujarat) which fall under the Delhi-Mumbai-Delhi Corridor, using GPS trip logs segmented by urban roads in NCR, ICD/CFS internal roads, National Highways (primarily NH48 and connecting links), and State Highway access near Mundra. The analysis focuses on average running speeds and waiting time accumulation across these road types, separating line-haul movement on highway sections from time spent at urban/terminal interfaces.

I. Delhi-Mundra freight Movement Profile (ICD Tughlakabad to Mundra Port/CFS)

The Delhi-Mundra freight route spans approximately 1,296 km, of which National Highways (NH 48,25,754A,and 27) account for ~1,114 km (86%), forming the primary line-haul backbone. The remaining distance is distributed across city roads (~124 km; 10%), state highways (~29 km; 2%) (SH 6), and logistics terminal access roads (~29 km; 2%). Although these non-NH segments represent only 14% of route length, they play a critical role in determining end-to-end performance due to urban traffic interaction, access controls, and terminal interface delays.

For assessment, the route is deconstructed into main corridor line-haul, first-mile access, and last-mile access. The analysis is conducted using two lenses: speed-based performance and time-based operating efficiency (running vs waiting) applied across three levels: overall route, road typology-wise performance (NH/SH/urban/terminal), and Corridor Segment Analysis (first-mile/line-haul/last-mile segments).

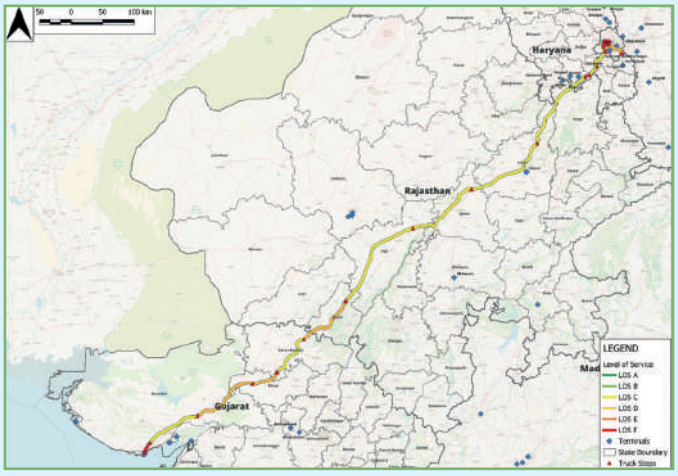


Figure: Map showing corridor- LOS based on truck speeds with key stoppage

II. Time-Based Performance Assessment

Across the full corridor, trucks run for ~37 hours to travel from Delhi to Mundra, but experience a much higher total waiting time of ~159 hours. This clearly indicates that delays and waiting time, rather than driving distance, dominate total travel time.

The corridor segment analysis

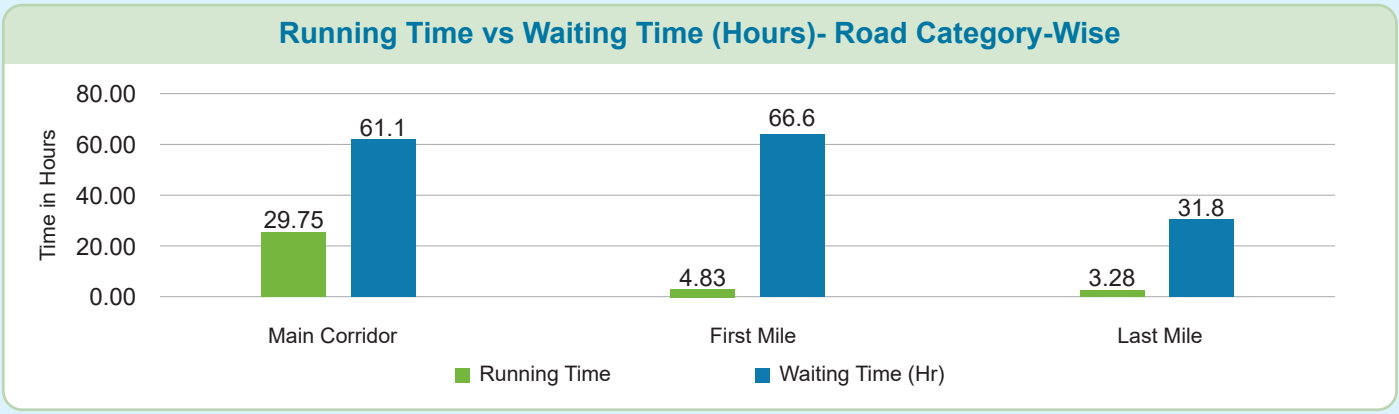


Figure: Comparison of running and waiting time across corridor segments

Corridor segment shows main haul corridor records about ~29 hours of running time and ~61 hours of waiting time. Despite the shorter length, the first-mile stretch experiences ~66 hours of waiting time against only ~4 hours of running time, making it the largest contributor to overall delay. The last-mile shows ~31 hours of waiting time for just ~3 hours of movement, underlining the impact of terminal entry and processing delays. These numbers demonstrate that waiting time is heavily concentrated in first-mile and last-mile segments, while the main corridor contributes more to movement than delays.

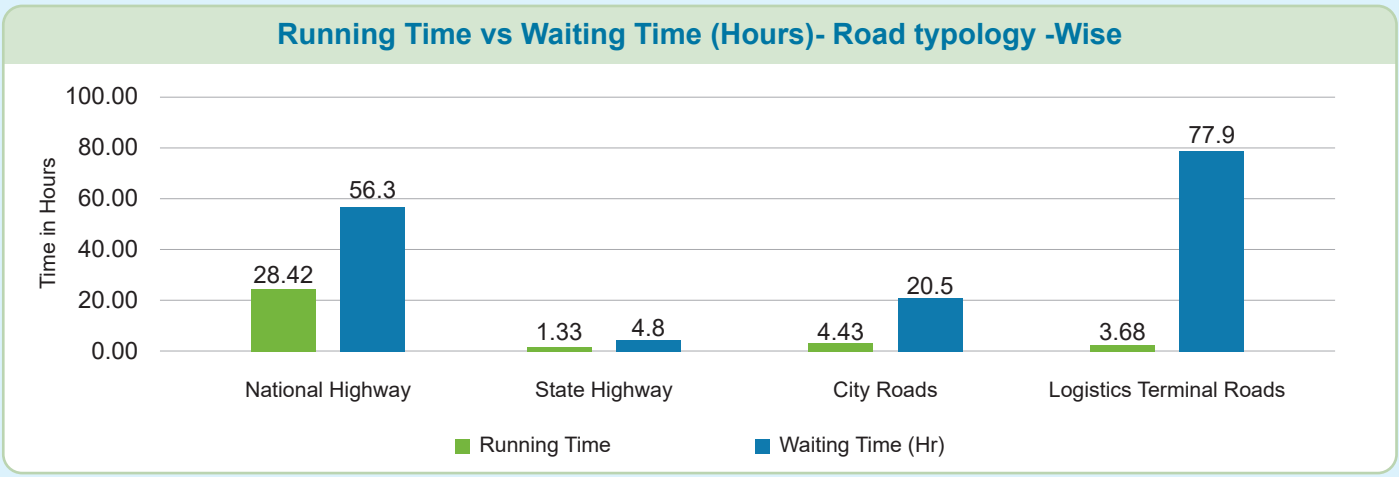


Figure: Distribution of running and waiting time by road type

Based on performance by road category, National Highways account for ~28 hours of running time and ~56 hours of waiting time. Urban roads contribute ~4.4 hours of running time and 20.5 hours of waiting time, reflecting signal delays and traffic interatction. Terminal access roads stand out sharply, with only 3.7 hours of running time but nearly 77.9 hours of waiting time, showing that terminal-related processes dominate delays. State Highways contribute marginally, with around 1.3 hours of running time and 4.8 hours of waiting time.

III. Speed-Based Performance Assessment

The Delhi-Mundra movement covers 1,296 km and delivers an average speed of ~25 km/h, with speeds ranging from ~3 to 47 km/h. The speed outcome is dominated by time loss, with ~37 hours of running time versus ~159 hours of waiting time, indicating that stoppages and access/interface delays are the main drivers of speed loss.

LOS distribution shows that 62% of the route length operates under LOS C and 24% under LOS D, while 14% falls under LOS E-F (including 11% LOS F), highlighting the presence of severely constrained stretches that materially influence overall corridor efficiency and reliability.

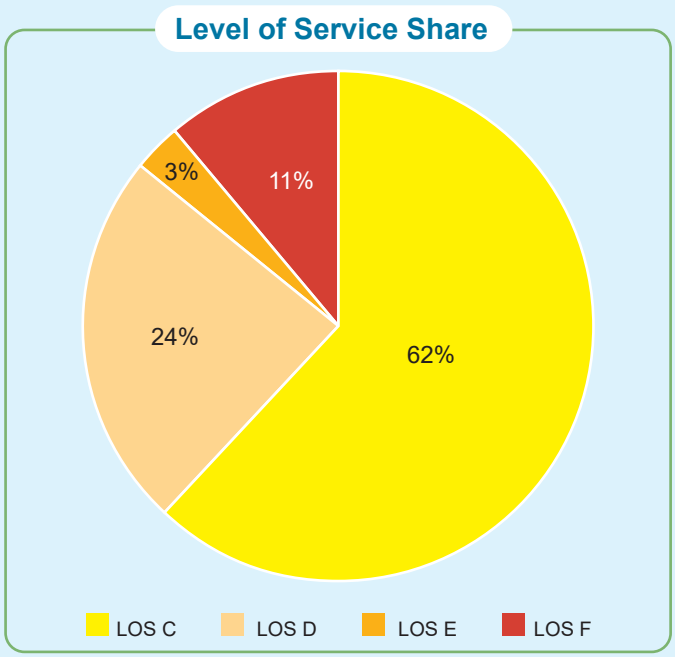


Figure: Delhi – Mundra Corridor LOS Composition

Corridor Segment Analysis

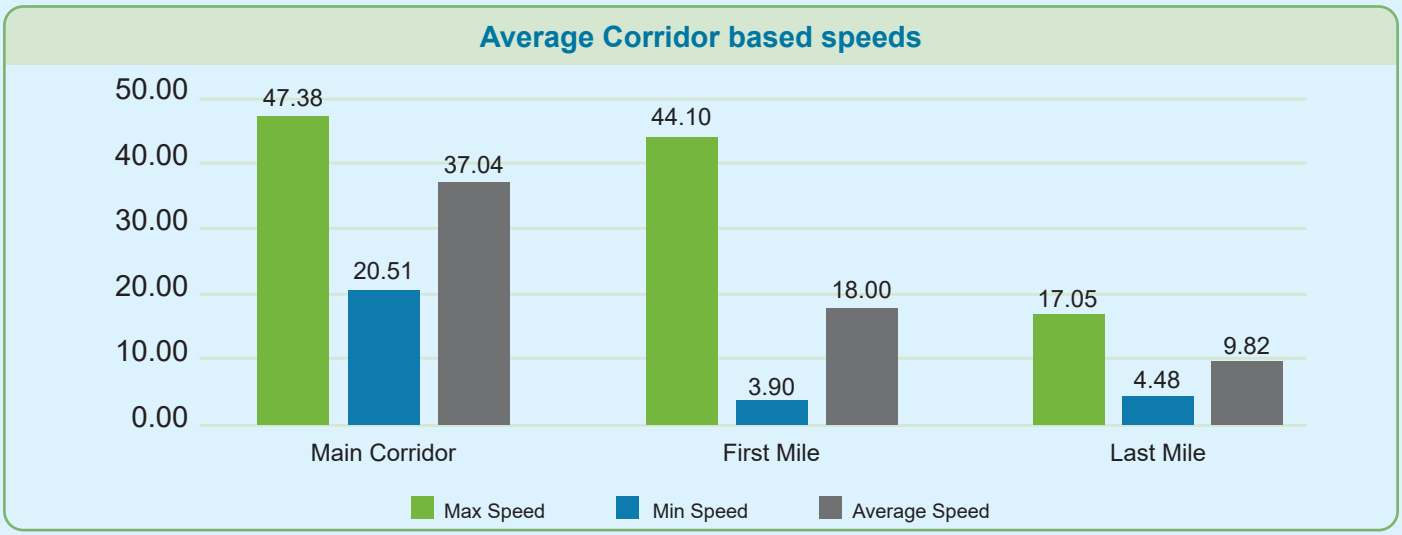


Figure: Truck operating speeds along the corridor

Speed drop at access ends: The main corridor averages ~37 km/h, while the First Mile averages ~18 km/h (≈51% lower than main corridor) and the Last Mile averages ~9 km/h (≈74% lower than main corridor), indicating that end-to-end speeds are influenced mainly by first/last-mile movement.

Higher variability in first-mile speeds: The first mile shows the widest spread (3.90-44.10 km/h) compared to the Main Corridor (~20-47 km/h) and Last Mile (4.48-17.05 km/h), indicating more variation in access segment movement conditions.

Road Category-Wise Performance

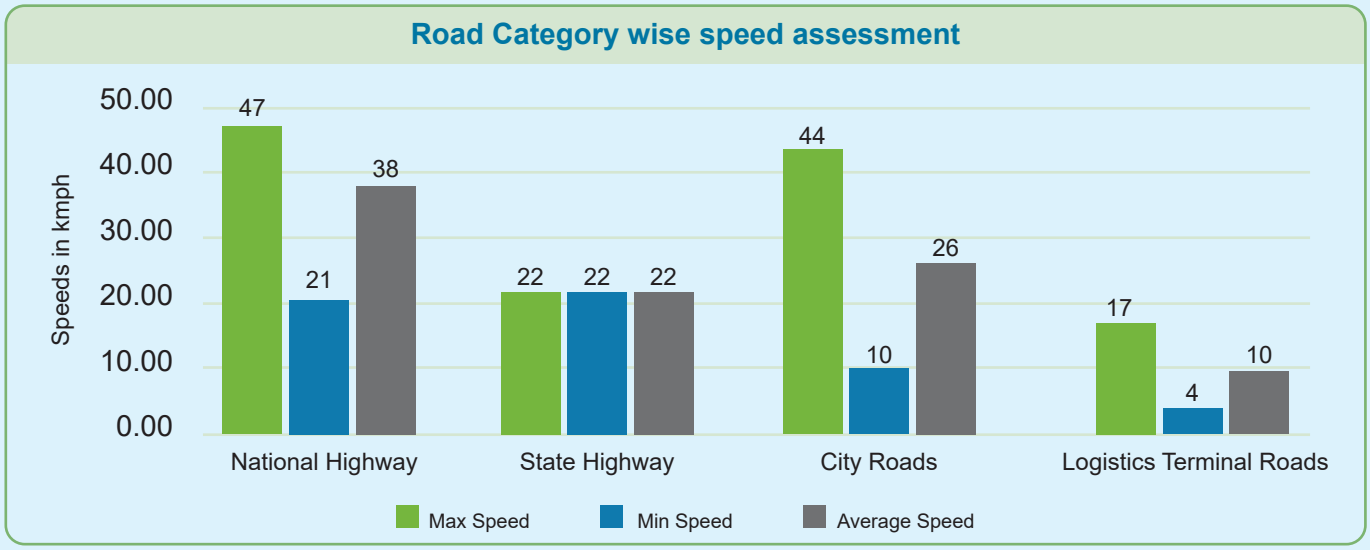


Figure: Comparison of truck speeds across road categories

Average speeds vary by road type: National Highways record the highest average speed (38 km/h; 21-47 km/h), followed by City Roads (26 km/h; 10-44 km/h) and State Highway (22 km/h), while Logistics Terminal Roads operate at lower average speeds (10 km/h; 4-17 km/h).

IV. Summary of Observations

The Delhi–Mundra movement from ICD Tughlakabad to Mundra Port covers 1,296 km with an average operating speed of ~25 km/h (range 4–47 km/h). The observed end-to-end time comprises ~37 hours of running and ~159 hours of waiting, indicating that the overall travel duration includes substantial time at access and interface points in addition to line-haul driving.

Segment-wise, the main corridor accounts for ~29 hours of running and ~61 hours of waiting, while the first mile records ~4.8 hours of running and ~66 hours of waiting, and the last mile records ~3 hours of running and ~31 hours of waiting, showing higher waiting time concentrations near the origin and destination interfaces.

By road category, National Highways contribute ~28 hours of running and ~56 hours of waiting; city roads contribute ~4 hours of running and ~20.5 hours of waiting; logistics terminal roads contribute ~3 hours of running and 77.9 hours of waiting; and State Highways contribute ~1 hour of running and ~4 hours of waiting.

Operating conditions along the alignment show ~62% of route length in LOS C, 24% in LOS D, and 14% in LOS E–F (including 11% in LOS F). Average speeds also vary by segment and road type: the Main Corridor averages ~37 km/h, compared to ~18 km/h on the First Mile and ~9 km/h on the Last Mile; by road type, average speeds are 38 km/h on National Highways, 26 km/h on City Roads, 22 km/h on State Highways, and 10 km/h on Logistics Terminal Roads.

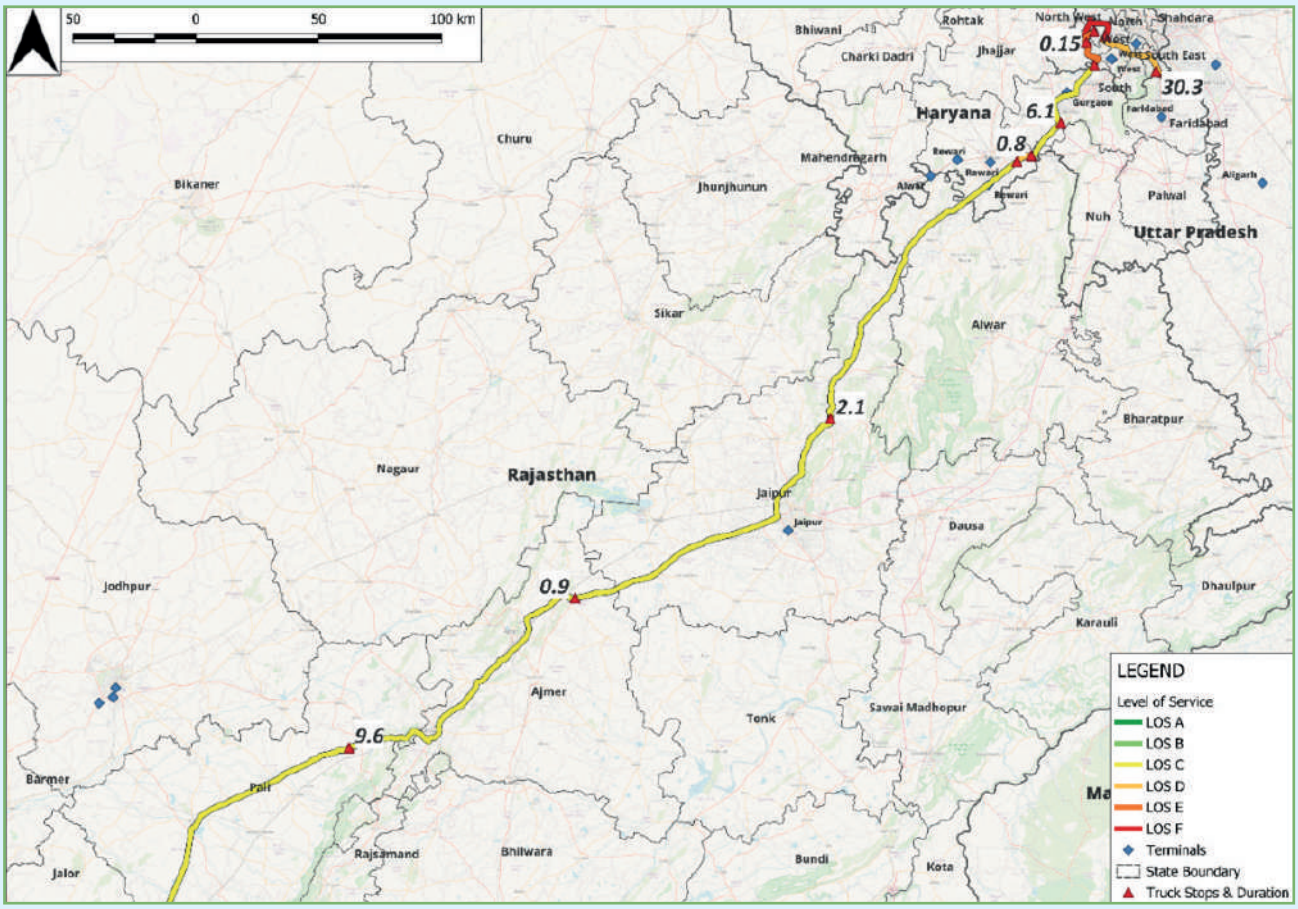


Figure: Part map A of Corridor LOS based on truck speeds with key stoppage locations (1/2) (Duration of Stoppage in Hours)

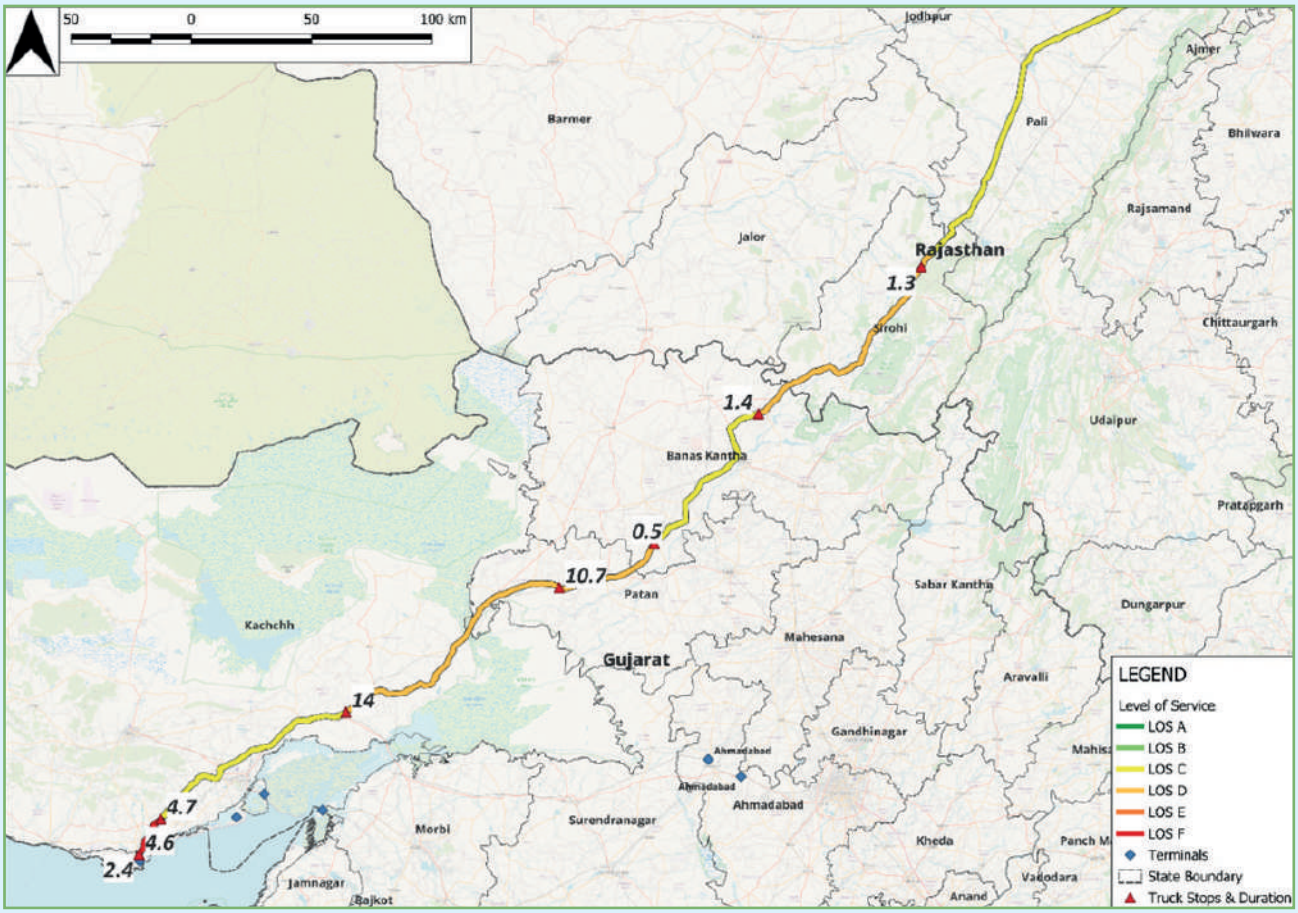


Figure: Part map B of Corridor LOS based on truck speeds with key stoppage locations (2/2)

While the above case study details logistics efficiency indicators across Delhi-Mundra corridor, average indicators for all the study corridors are presented below. This analysis provides a corridor-to-corridor comparison of the key speed and time parameters across study routes:

A. Truck Movement Efficiency across corridors (Speed & Time)

1. **Average daily distance covered by trucks | KPI 1:** GPS-based trip productivity varies across corridors, as measured by the average distance covered per day. Daily truck productivity ranges from ~200 to 550 km/day. (1) Mumbai–Delhi–Mumbai is the highest at 500–550 km/day, (2) Bengaluru–Kolkata–Bengaluru at 350–400 km/day (3) Bengaluru–Delhi–Bengaluru delivers 300–350 km/day, while (4) Chennai-Mumbai-Chennai averages 300–350 km/day. (5) Delhi-Kolkata-Delhi at 250–300 km/day, and (6) Kolkata–Guwahati–Kolkata is the lowest at 200–250 km/day.

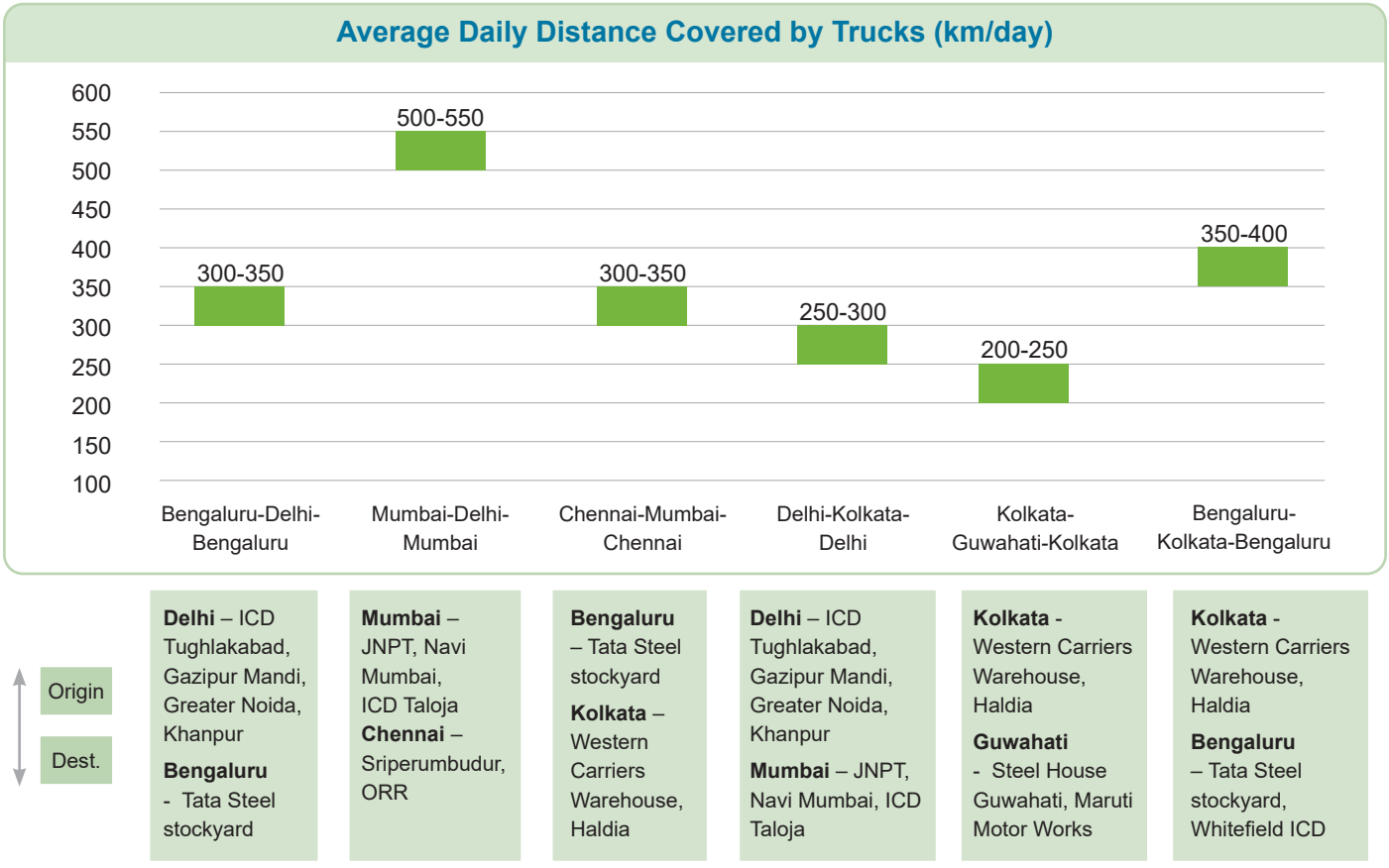


Figure: Corridor wise Average Daily Distance Covered by Trucks (km/day)

2. **Drivers of daily productivity | KPI 2:** Daily productivity is influenced by the balance between running vs waiting time, where waiting time reflects stoppages associated with urban access, compliance checks, and other halts. Mumbai-Delhi-Mumbai and Chennai-Mumbai-Chennai show relatively higher running time (15.3 h/day; 12.6 h/day) and lower waiting (10.2 h/day; 11.4 h/day), supporting higher daily progress. In contrast, Delhi-Kolkata-Delhi and Kolkata-Guwahati-Kolkata show higher waiting time (16.4; 16.0 h/day) and lower running time(7.6; 8.0 h/day), resulting in lower daily progress (300–350 km/day and 200–250 km/day, respectively). Bengaluru-Delhi-Bengaluru also reflect a higher waiting-to-running ratio (14.7 h/day waiting; 9.3 h/day running), consistent with delays around major metropolitan approaches and corridor interface zones. Bengaluru-Delhi-Bengaluru also reflects a higher waiting-to-running ratio (14.7 h/day waiting; 9.3 h/day running), consistent with delays around major metropolitan approaches and corridor interface zones.

Table: truck daily productivity

Sr No.	Corridor	Average daily running time (h/day)	Average daily waiting time (h/day)
1	Mumbai–Delhi–Mumbai	15.3	10.2
2	Chennai–Mumbai–Chennai	12.6	11.4
3	Bengaluru–Delhi–Bengaluru	9.3	14.7
4	Kolkata–Guwahati–Kolkata	8	16
5	Delhi–Kolkata–Delhi	7.6	16.4

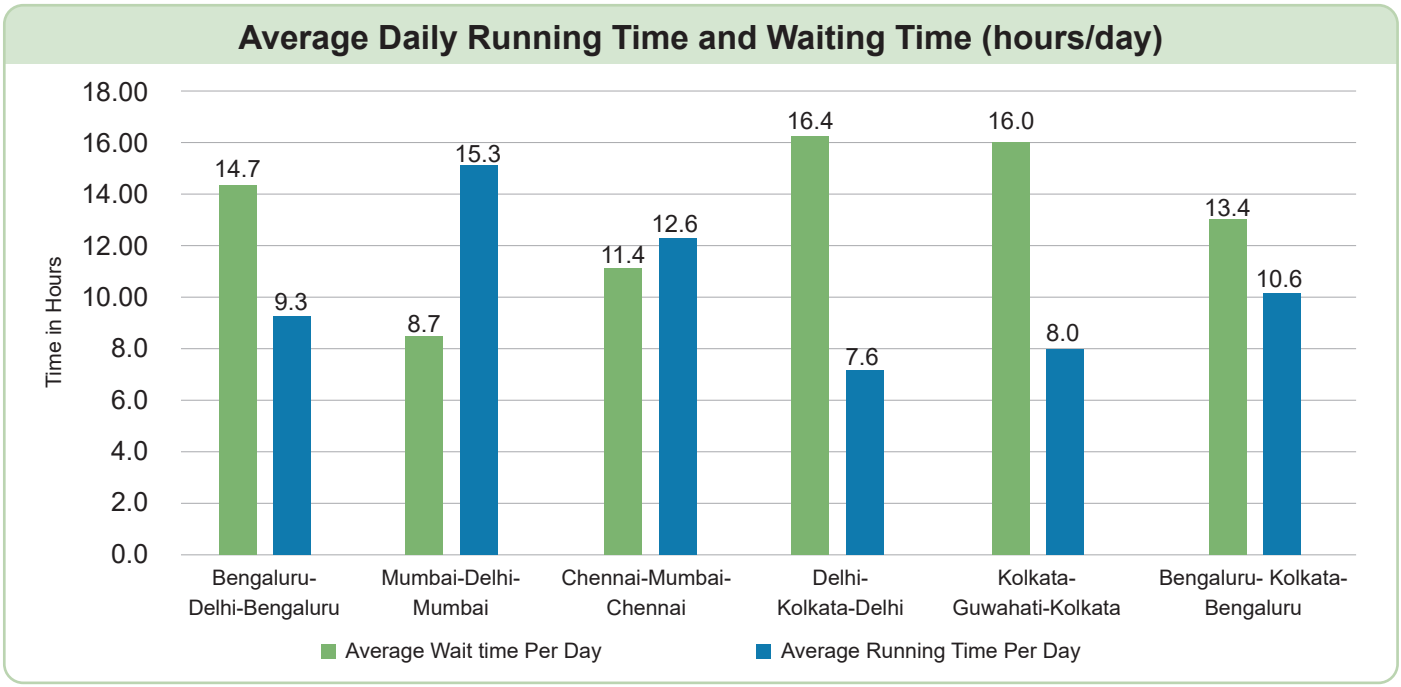


Figure: Corridor wise Average Daily Running Time and Waiting Time (hours/day)

3. **Operating Speeds | KPI 3:** Calculated daily operating speeds range from 30 to 46 km/h, placing most corridors within LOS C to LOS E under freight operating conditions. The highest observed speeds are recorded on (1) Mumbai–Delhi–Mumbai and (2) Bengaluru–Delhi–Bengaluru (44 to 46 km/h; LOS C), while (3) Delhi–Kolkata–Delhi also remains within LOS C (42 to 44 km/h). (4) Bengaluru–Kolkata–Bengaluru and (5) Chennai–Mumbai–Chennai operate in the range of 36 to 38 km/h (LOS D), indicating moderate operating conditions across trips. (6) Kolkata–Guwahati–Kolkata records the lowest speed range (30 to 32 km/h; LOS E), reflecting comparatively lower operating speeds.

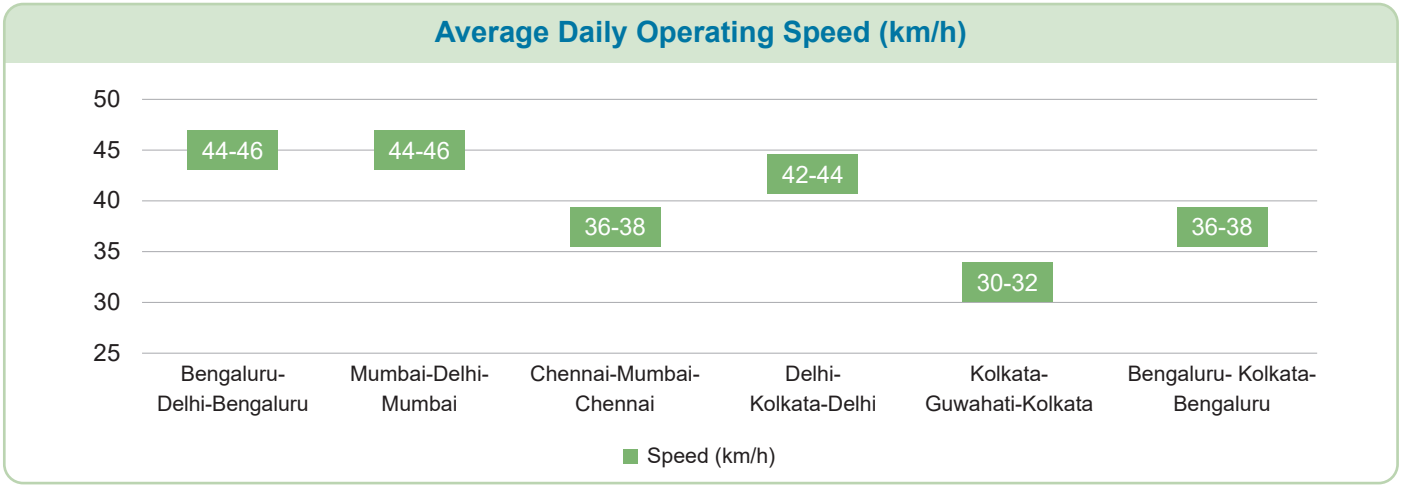


Figure: Corridor wise Average Daily Operating Speed (km/h)

4.2 Freight movement field assessment and delay mapping for selected corridors

4.2.1 Introduction

A field-based corridor ride-through assessment was undertaken to assess long-haul freight operations on three representative routes. Observers travelled in a freight vehicle and recorded real-world movement conditions, stoppages, and operational constraints, covering tolling, enforcement checks, rest/fuel halts, and congestion/work zones along with geo-tagged bottleneck locations. The surveyed corridors were: (i) Bengaluru–Kolkata–Bengaluru (NH 16), (ii) Delhi–Kolkata–Delhi (NH 19), and (iii) Kolkata–Guwahati–Kolkata (NH 27). Collected data (travel/running time, stoppage duration, delay drivers, and bottlenecks) were analysed to estimate segment-wise LOS from observed speeds and to cross-validate the findings against truck GPS movement data.

Table: Ride-through corridor summary: distance, travel time, delays, running time, and average speed (three corridors)

Corridor Details	Bengaluru - Kolkata - Bengaluru	Delhi - Kolkata - Delhi	Kolkata - Guwahati - Kolkata
Total Distance Travelled	2048 kms	1571 kms	1005 kms
Total Travel Time	45 h 37 m	40 h 15 m	37 h 38 m
Total Wait / Delays	6 h 22 m	13 h 42 m	13 h 37 m
Total Running Time	39 h 15 m	26 h 19 m	24 h 41 m
Average Speed (Km/h)	45.6 Km/Hr	37.2 Km/Hr	35.3 Km/Hr

4.2.2 Delay Characteristics Across Corridors

Across the three corridors, total delay is driven mainly by operational stoppages, especially rest halts, with smaller contributions from tolls, fuel, enforcement, and access restrictions; traffic congestion is a secondary driver.

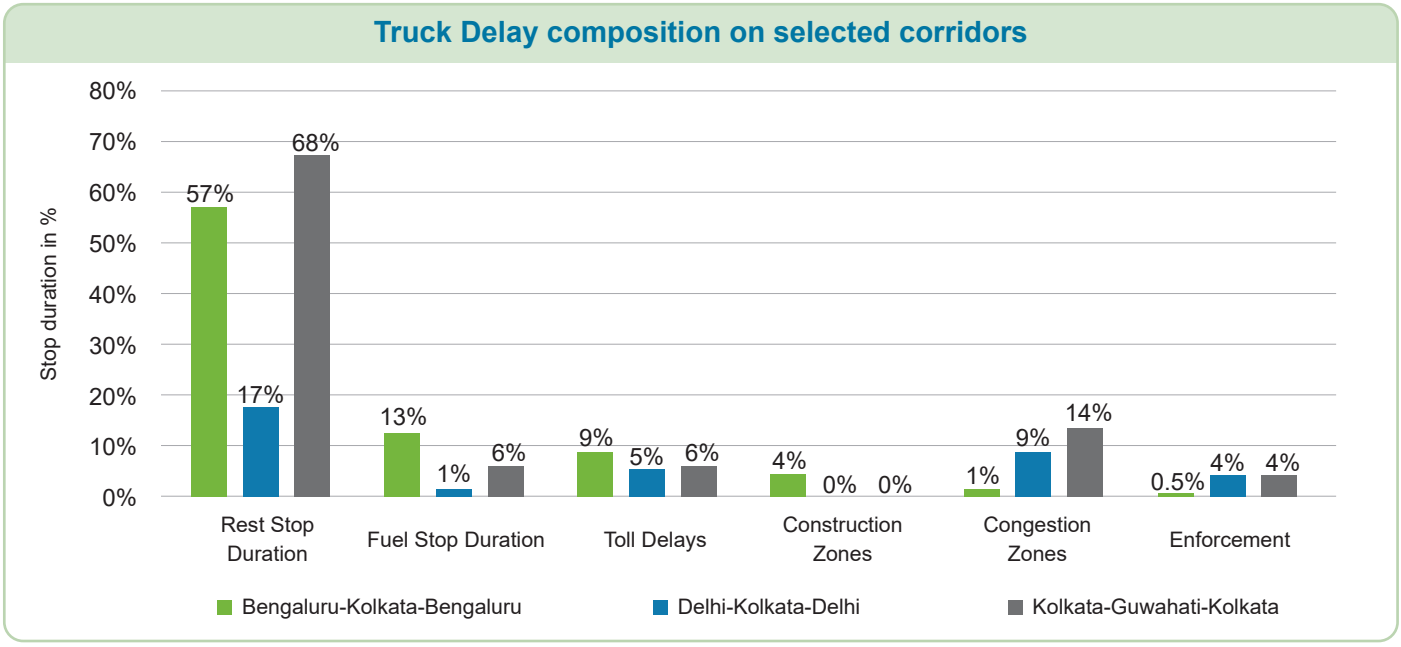


Figure: Truck Delay composition on selected corridors

4.2.3. Bengaluru – Kolkata – Bengaluru Corridor

The tracked movement covered the full Bengaluru–Kolkata–Bengaluru alignment along NH 16 operated by two drivers during the survey, passing through Karnataka, Andhra Pradesh, Odisha, and West Bengal. Key intermediate locations included Nellore, Vijayawada, Kakinada, Srikakulam, Brahmapur, Cuttack, and Kharagpur before reaching Howrah (Kolkata).

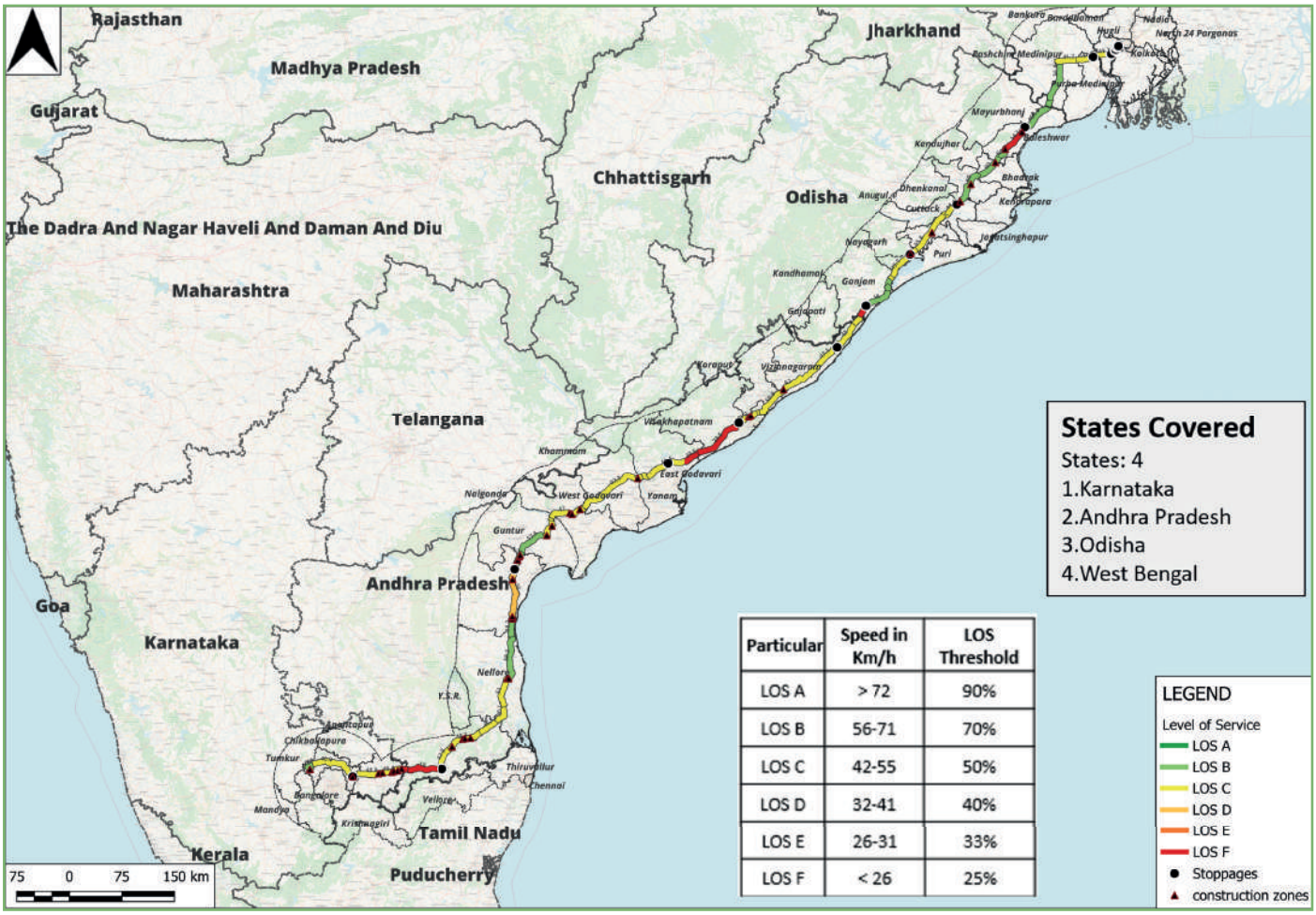


Figure: Bengaluru - Kolkata - Bengaluru Corridor: observed-speed–based LOS map

The trip was divided into two defined phases.

Table: Trip phases and observed duration

Trip Phase	Duration	Description
Pre-Trip delay	1 hours 00 minutes	Truck release time from the facility includes handling goods and documentation
Long-Haul Trip	45 hours 37 minutes	Actual road movement + tolls + fuel + traffic + rest + inspections

The ride-through covered 2,048 km with a total journey time of 45h 37m, comprising 39h 15m of running time and 6h 22m of stoppage time. The observed average speed was 45.6 km/h, compared to 36.7 km/h in Step 2 (single-driver run), indicating a ~19% higher speed in the Step 2A observation dataset.

Table 10 Ride-Through vs GPS Benchmark: Corridor Travel Time and Speed Summary

Corridor Details – Bengaluru – Kolkata – Bengaluru			
Particulars	**Step 2A**	**Step 2**	**Difference (2-2A)**
Total Distance Travelled	2048 kms	1760 Kms	-
Total Travel Time	45 h 37 m	Single Driver Driven	-
Total Wait / Delays	6 h 22 m		-
Total Running Time	39 h 15 m	43 h 21 m	-
Average Speed (Km/h)	45.6 Km/Hr	36.7 Km/Hr	19%

The corridor operates largely under LOS B–C, indicating stable long-haul freight movement, while LOS F pockets are localised around urban approaches, toll/plaza influence zones, and work zones—notably near Chittoor, East Godavari, Visakhapatnam approach, Balasore, and Howrah—where merging and constrictions trigger sharp speed drops.

Detailed assessment of delays on the corridor are presented below, followed by the table.

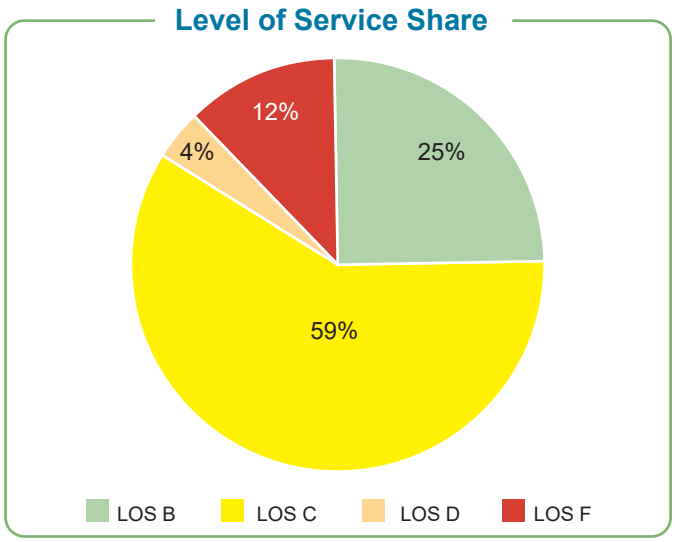
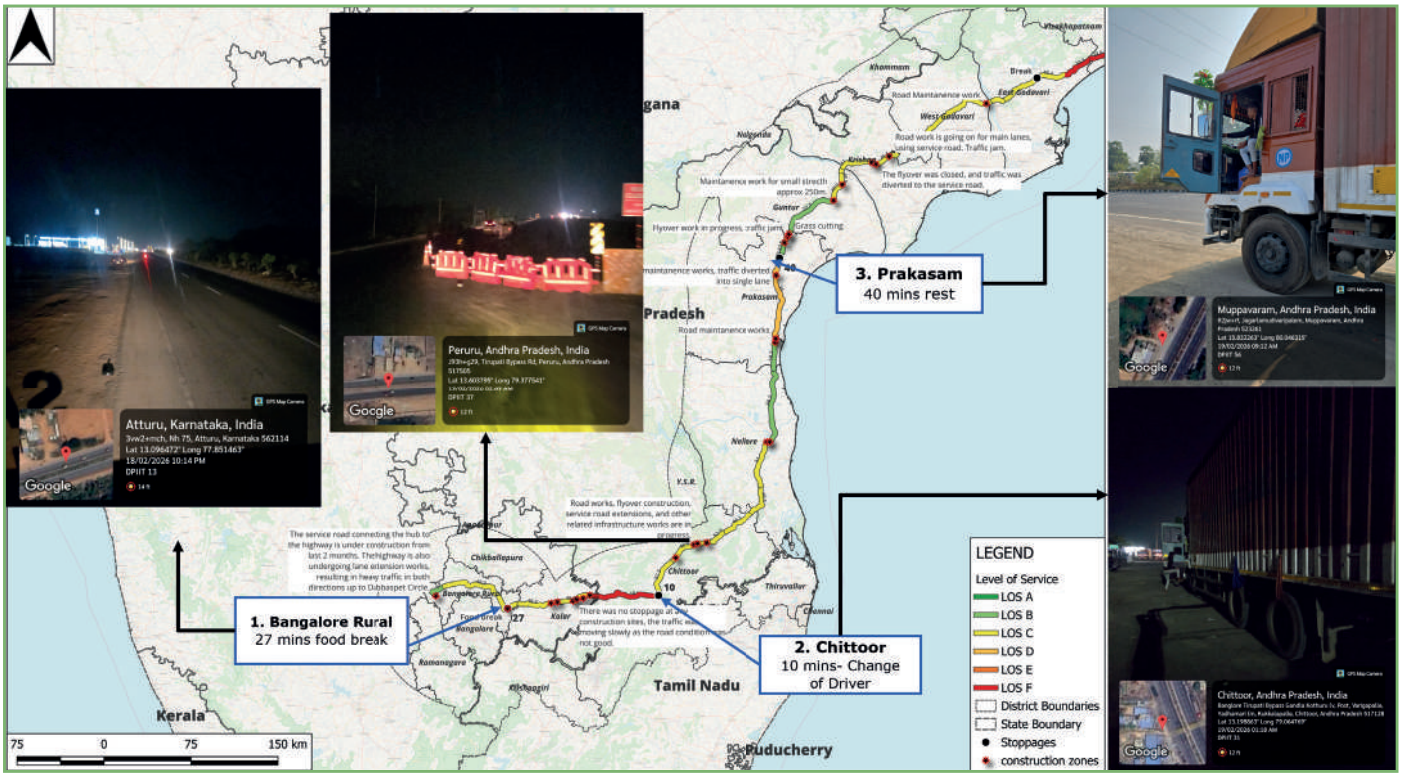
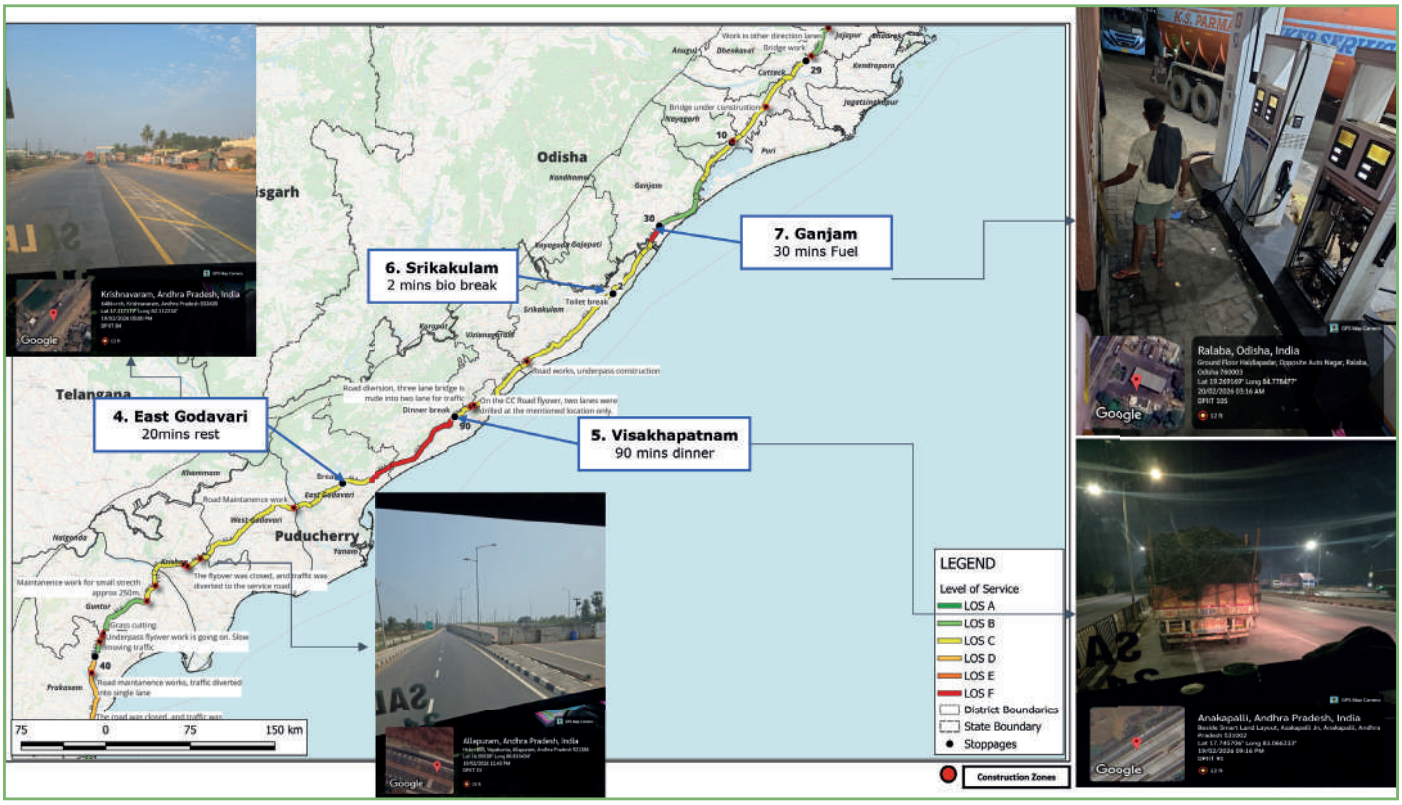


Figure: Share of Level of Service along the Corridor

Bengaluru – Kolkata – Bengaluru Corridor assessment (1/3)



Bengaluru – Kolkata – Bengaluru Corridor assessment (2/3)



Bengaluru – Kolkata – Bengaluru Corridor assessment (3/3)

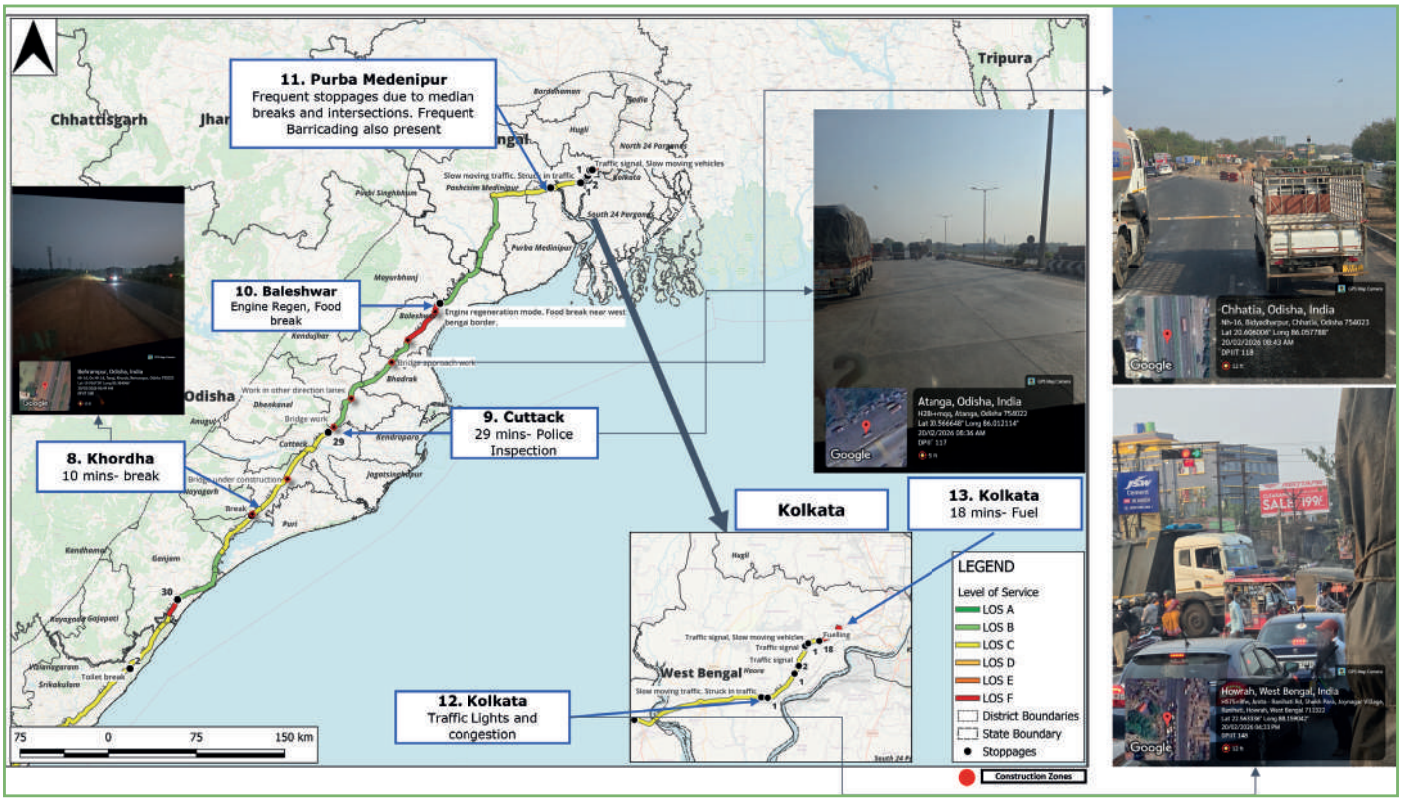


Table: Corridor bottleneck inventory: location-wise low-speed segments (LOS D–F) with length, average speed, and coordinates

Corridor	State	District / Urban Area	Bottleneck Length (Km)	Average Speed (Km/h)	LOS	Geo Coordinates (From - To)	Landmarks (From-To)
Bengaluru – Kolkata – Bengaluru	Karnataka	Kolar	0.66	18.0	F	13°11'39.2"N 78°33'09.9"E - 13°11'37.5"N 78°33'31.8"E	Sri Sanathana Vaidhyam, Bengaluru - Tirupati Hwy, Gandrajupalle, Hindustan Petroleum Corporation Limited, Ground Floor, NH 4, Chennai Bangalore Hwy, Gandrajupalle, Andhra Pradesh 517432
	West Bengal	Haora	5.5	21.2	F	22°34'23.7"N 88°11'05.2"E - 22°35'49.1"N 88°13'10.8"E	IndianOil, Jaladhulagori Toll Plaza, Lock No 539 NH 6, Andul Mouri Rd, Howrah, - VRL Warehouse Howrah
	Odisha	Ganjam	14.16	16.7	F	19°09'37.5"N 84°42'41.1"E - 19°16'09.5"N 84°46'40.7"E	Tea Momnet, Shop NO.6, near Hanuman Status, Girisola, -- HALDIAPADAR OVER BRIDGE, 7Q9H+X6V, Modanamohanpur
	Andhra Pradesh	East Godavari	29.88	23.5	F	17°14'35.0"N 82°20'07.1"E - 17°22'05.9"N 82°33'03.0"E	UVR GENERALS, Shop 2,Main Road,Highway, Kattipudi, Andhra Pradesh -- Sasirekha Agencies, DNo 33-9/1, Main Rd, opp. MRO Office, Payakaraopeta, Andhra Pradesh
	Odisha	Baleshwar	43.37	14.1	F	21°16'14.7"N 86°39'48.1"E - 21°33'02.2"N 86°55'36.9"E	Sai Satyam Coffee Shop, NH 16, Buddha Park, Brahmuni Sahi, Soro, Odisha 756045 --- Jahid Home, HW2H+82J, Balasore, Dharampur, Odisha 756003
	Andhra Pradesh	Chittoor	59.93	18.0	F	13°11'37.5"N 78°33'31.8"E - 13°11'55.6"N 79°03'53.3"E	Hindustan Petroleum Corporation Limited, Ground Floor, NH 4, Chennai Bangalore Hwy, Gandrajupalle, Andhra Pradesh 517432 - Cream& Crispy, Varigapalle, Chittoor, Kukkalapalle, Andhra Pradesh 517128
	Andhra Pradesh	Visakhapatnam	76.47	23.5	F	17°22'05.9"N 82°33'03.0"E -17°42'15.3"N 83°01'30.4"E	Sasirekha Agencies, DNo 33-9/1, Main Rd, opp. MRO Office, Payakaraopeta, Andhra Pradesh 531126 --- VIJAYA CLINICAL LAB, P23G+R5Q, Anakapalli Sabbavaram Rd, Anakapalli, Andhra Pradesh 531002

4.2.4. Delhi – Kolkata – Delhi Corridor

The tracked movement covered the full Delhi–Kolkata–Delhi alignment along NH 19, operated by two drivers during the survey, traversing Delhi, Haryana, Uttar Pradesh, Bihar, Jharkhand, and West Bengal. Key intermediate locations included Bahadurgarh, Mathura, Agra, Kanpur, Varanasi, Aurangabad, Gaya, Dhanbad, Bardhaman, and Hugli, before reaching Kolkata. The trip was divided into two defined phases.



Figure: Delhi – Kolkata – Delhi Corridor: observed-speed–based LOS map

Table: Trip phases and observed duration

Trip Phase	Duration	Description
Pre-Trip delay	0 hours 00 minutes	Truck release time from the facility includes documentation only
Long-Haul Trip	39 hours 75 minutes	Actual road movement + tolls + fuel + traffic + rest + inspections

The ride-through covered 1,571 km with a total journey time of 40h 15m, comprising 26h 19m of running time and 13h 42m of stoppage time. The average running speed was 37.2 km/h, broadly in line with 37.5 km/h observed in Step 2 (single-driver run), i.e., a marginal ~0.8% lower speed in the Step 2A dataset.

Table: Ride-Through vs GPS Benchmark: Corridor Travel Time and Speed Summary

Corridor Details – Delhi-Kolkata-Delhi			
Particulars	**Step 2A**	**Step 2**	**Difference (2-2A)**
Total Distance Travelled	1571 kms	1713 Kms	-
Total Travel Time	39h 75 m	Single Driver Driven	-
Total Wait / Delays	13 h 42 m		-
Total Running Time	26 h 19 m	43 h 21 m	-
Average Running Speed (Km/h)	37.2 Km/Hr	37.5 Km/Hr	-0.80%

The corridor shows mixed performance: LOS B (544 km; ~35%) and LOS C (497 km; ~32%) together cover ~67% of the alignment, indicating mostly stable movement. However, LOS D (216 km; ~14%) and LOS F (295 km; ~19%) together account for ~33%, driven by urban bottlenecks—notably near Aurangabad (Bihar) and the Kolkata–Howrah belt, including Hooghly and North 24 Parganas—where access controls and congestion trigger sharp speed drops.

Detailed assessment of delays on the corridor are presented below, followed by the table.

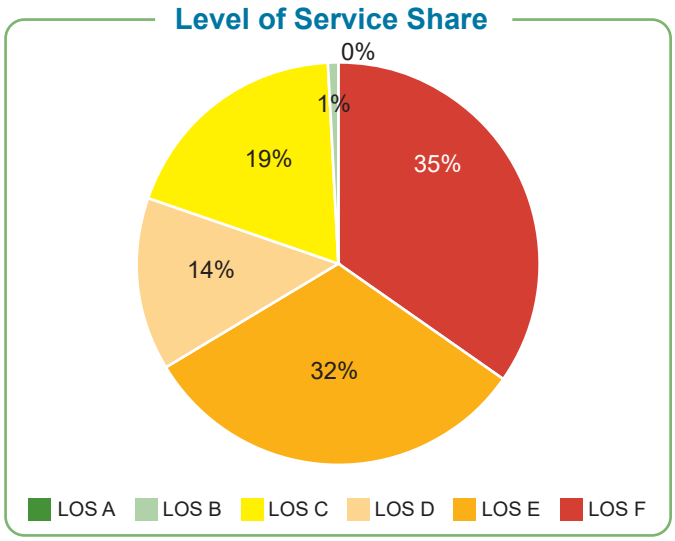


Figure: Share of Level of Service along the Corridor

Delhi – Kolkata – Delhi Corridor assessment (1/2)

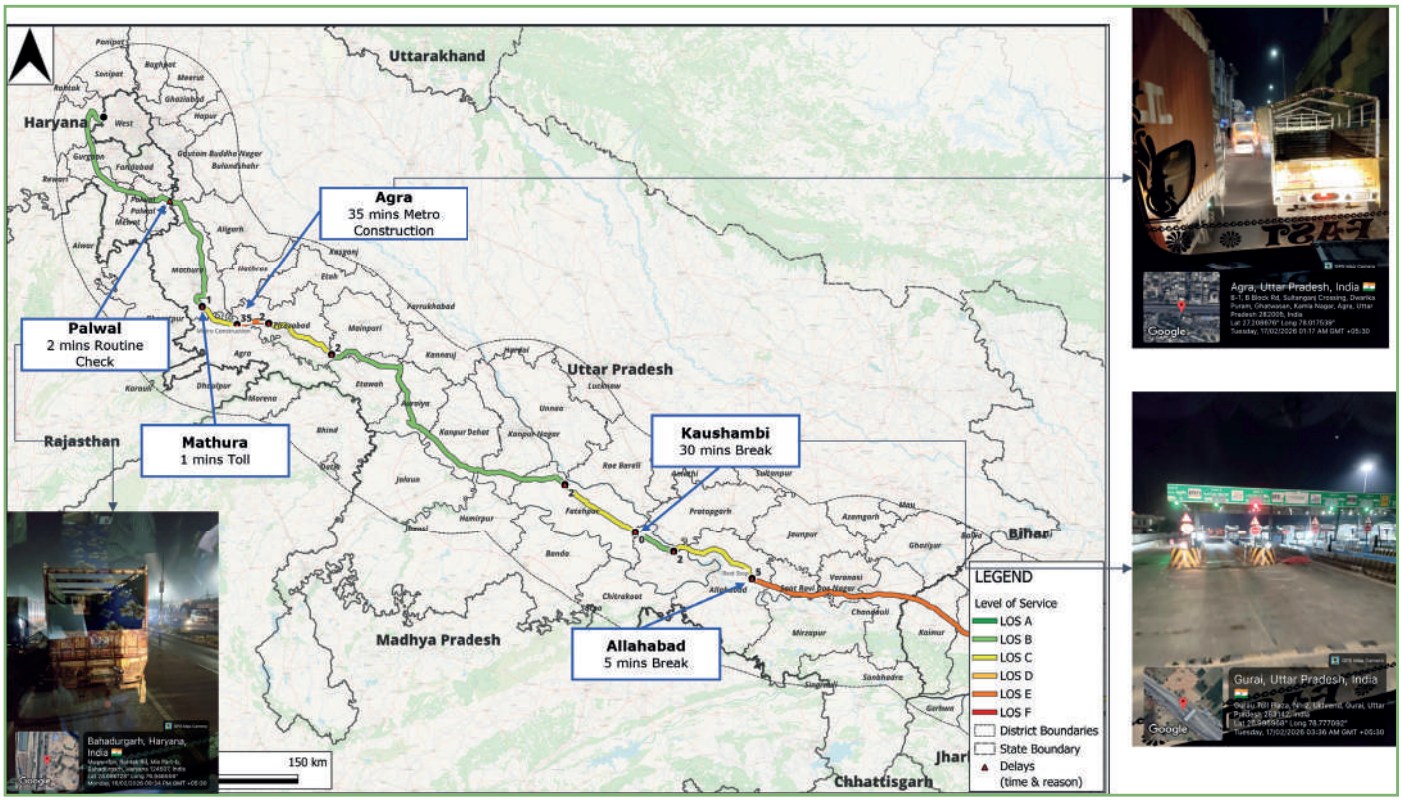


Figure: Kolkata–Guwahati–Kolkata Corridor: observed-speed–based LOS map

Delhi – Kolkata – Delhi Corridor assessment (2/2)

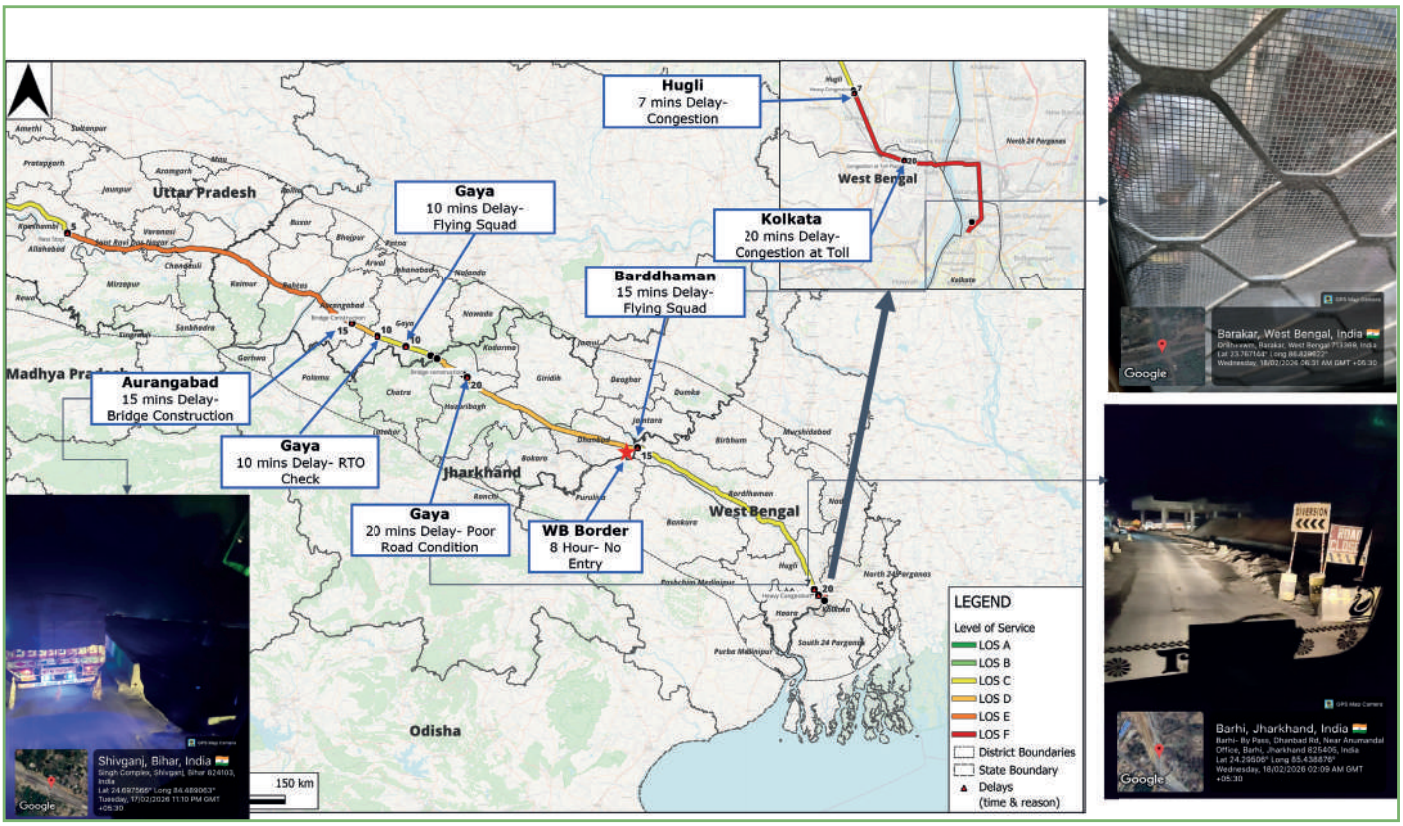


Table: Delhi–Kolkata–Delhi corridor: identified LOS F bottleneck segments

Corridor	State	District / Urban Area	Bottleneck Length (Km)	Average Speed (Km/h)	LOS	Geo Coordinates (From - To)	Landmarks (From-To)
Delhi – Kolkata – Delhi	Bihar	Aurangabad	1.05	4.55	F	24°42'05.9"N 84°28'47.3"E - 24°41'50.5"N 84°29'20.5"E	PF2H+MW3 Maya Bigaha, Bihar - MFWQ+WJR Shivganj, Bihar
	West Bengal	Haora	2.56	6.12	F	22°39'16.7"N 88°19'28.0"E --22°39'07.2"N 88°20'54.7"E	M83F+VQ4 Howrah, West Bengal - M82X+QCV Howrah, West Bengal
	West Bengal	Haora	0.54	6.12	F	22°39'07.2"N 88°20'54.7"E-22°39'09.2"N 88°21'13.5"E	M82X+QCV Howrah, West Bengal - M933+2GC Uttarpara, West Bengal
	West Bengal	Kolkata	3.56	6.12	F	22°37'40.6"N 88°22'43.4"E – 22°36'52.2"N 88°22'20.8"E	J9HH+5FH Sinthee, Kolkata, West Bengal -J97C+RX4 Kolkata, West Bengal
	West Bengal	North 24 Parganas	5.16	6.12	F	22°39'09.2"N 88°21'13.5"E – 22°37'40.6"N 88°22'43.4"E	M933+2GC Uttarpara, West Bengal - J9HH+5FH Sinthee, Kolkata, West Bengal
	West Bengal	Haora	1.63	18.37	F	22°39'32.9"N 88°18'33.6"E – 22°39'16.7"N 88°19'28.0"E	M855+MP4 Howrah, West Bengal - M83F+VQ4 Howrah, West Bengal
	West Bengal	Hugli	5.16	18.37	F	22°42'02.6"N 88°17'17.1"E – 22°39'32.9"N 88°18'33.6"E	P72Q+76W Mollaber Village, Mollarber, West Bengal -M855+MP4 Howrah, West Bengal

4.2.5. Kolkata – Guwahati – Kolkata Corridor (NH 27)

The tracked movement covered the full Kolkata-Guwahati-Kolkata alignment along NH 27, operated by one driver during the survey, traversing West Bengal and Assam. Key intermediate locations included Hugli, Nadia, Murshidabad, Maldah, Jalpaiguri, Koch Bihar, Kokrajhar, Barapeta and Kamrup, before reaching Guwahati. The trip was analyzed as one Long-Haul movement.

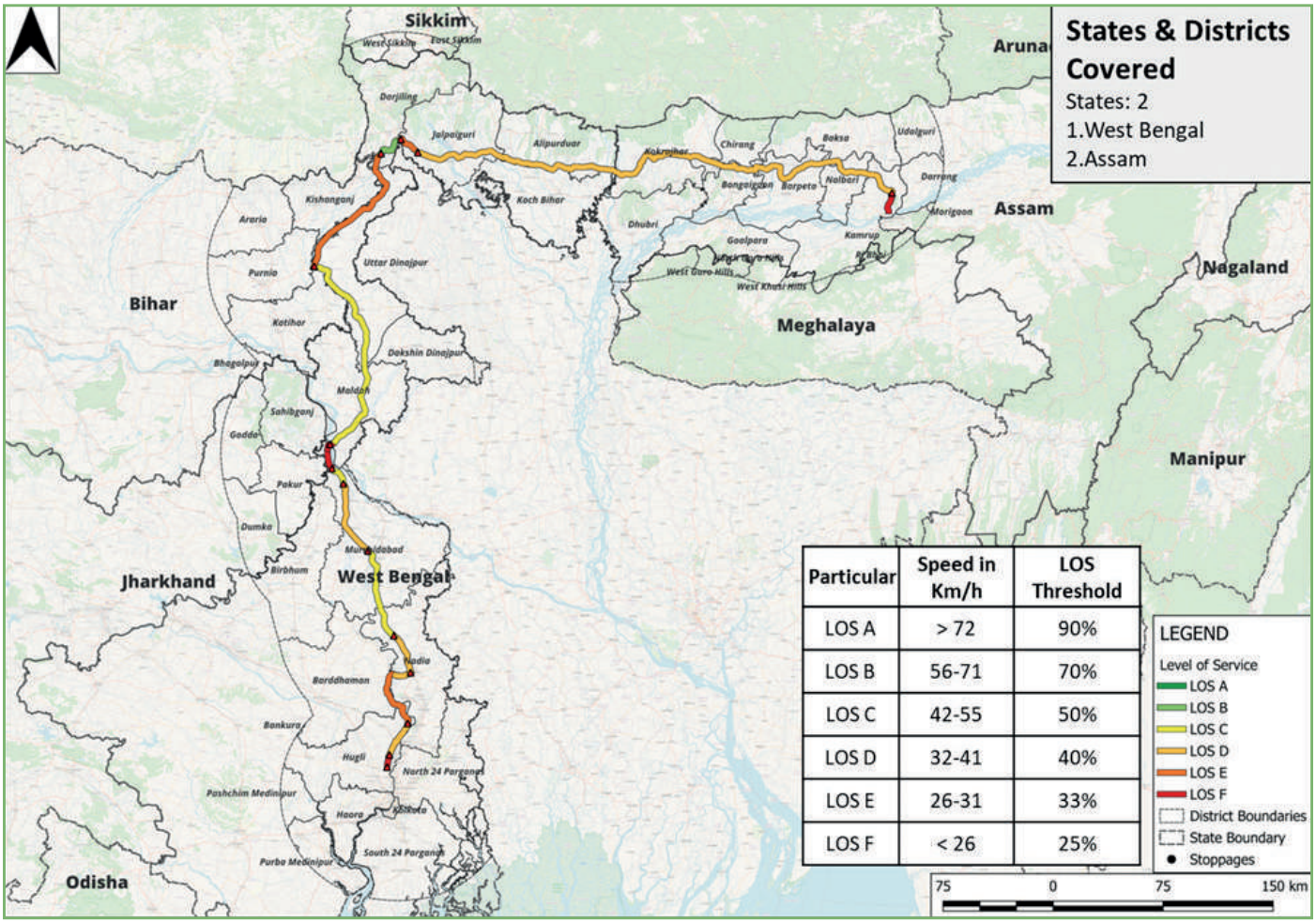


Figure: Kolkata–Guwahati–Kolkata Corridor: observed-speed–based LOS map

Table: Trip phases and observed duration

Trip Phase	Duration	Description
Long-Haul Trip	37 hours 38 minutes	Actual road movement + tolls + fuel + traffic + rest + inspections

The ride-through covered 1,005 km with a total journey time of 37h 38m, comprising 24h 41m of running time and 13h 42m of stoppage time. The average running speed was 37.2 km/h, broadly in line with 37.5 km/h observed in Step 2 (single-driver run), i.e., a marginal ~0.8% lower speed in the Step 2A dataset.

The corridor shows mixed performance: LOS B (544 km; ~35%) and LOS C (497 km; ~32%) together cover ~67% of the alignment, indicating mostly stable movement. However, LOS D (216 km; ~14%) and LOS F (295 km; ~19%) together account for ~33%, driven by urban bottlenecks—notably near Aurangabad (Bihar) and the Kolkata–Howrah belt, including Hooghly and North 24 Parganas—where access controls and congestion trigger sharp speed drops.

Table: Ride-Through vs GPS Benchmark: Corridor Travel Time and Speed Summary

Corridor Details			
Particulars	**Step 2A**	**Step 2**	**Difference (2-2A)**
Total Distance Travelled	1005 kms	900 Kms	-
Total Travel Time	37 h 38 m	Single Driver Driven	-
Total Wait / Delays	12 h 97 m		-
Total Running Time	24 h 41 m	15 h 31 m	-
Average Running Speed (Km/h)	35.3 Km/Hr	30.6 Km/Hr	13%

The Kolkata-Guwahati-Kolkata corridor exhibits the most constrained operational performance amonth the three corridors studied. LOS distribution indicates that LOS D conditions dominate, accounting for more than half of the corridor length. LOS E and F segments also occur across several stretches. Only a limited share of the corridor operates under LOS B or LOS C. This reflects capacity limitations, geometric constraints, and congestion along the corridor, particularly near urban centres and river crossing points. The key constrained segments were observed near Murshidabad and Maldah regions, Siliguiri corridor approaches and Nalbari-Guwahati stretech. These areas exhibit lower speeds and operational constraints due to mixed traffic conditions and infrastructure limitations.

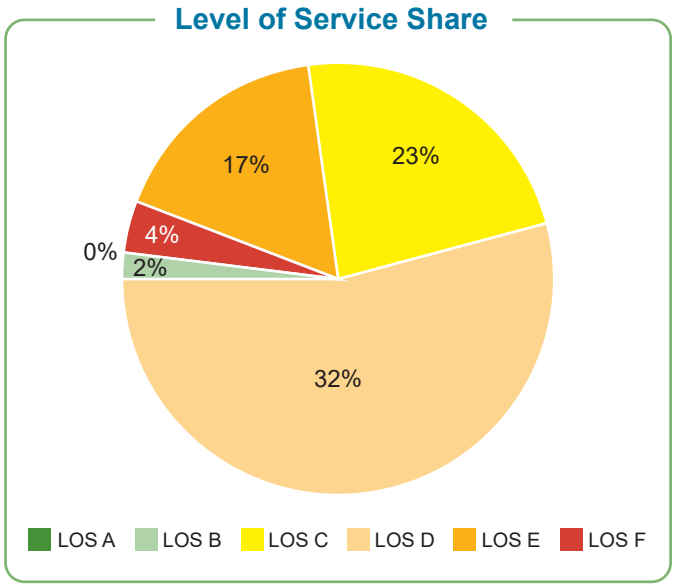
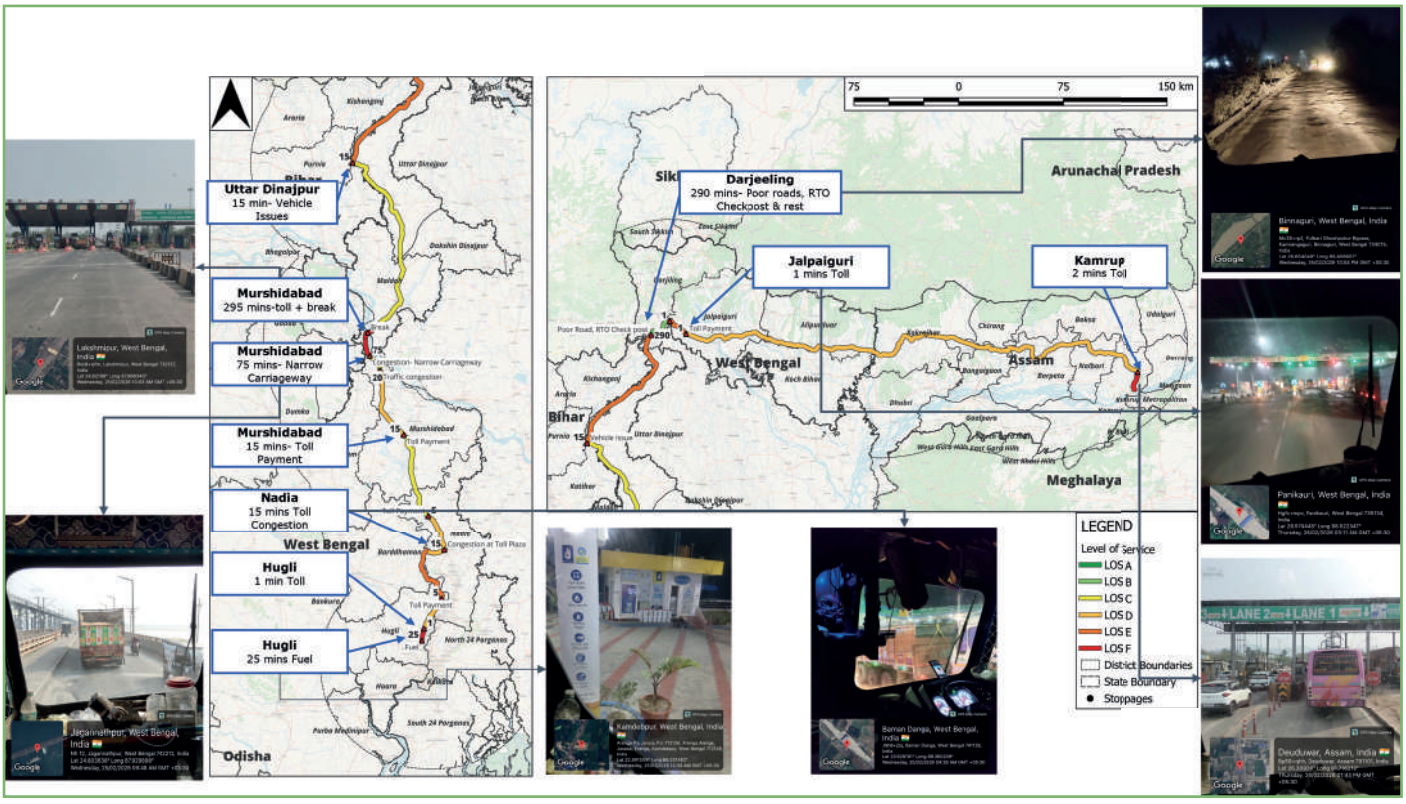


Figure: Share of Level of Service along the Corridor

Kolkata - Guwahati - Kolkata Corridor (1/1)

Detailed assessment of delays on the corridor are presented below.



5 Stakeholder-Based Review of Operational Data

This section presents fi ndings from stakeholder consultations to capture freight operating conditions across the study corridors. A total of 25 consultations were conducted across India, including transport associations, logistics service providers, container carrier associations, customs broker associations, chambers of commerce, and industry bodies such as All India Motor Transport Congress (AIMTC), All India Transporters Welfare Association (AITWA), National Association of Container Freight Stations (NACFS), Confederation of Indian Industry (CII), and Container Carrier Owners Association.

The consultations were used to develop direction-wise freight profi les covering fi rst-, mid-, and last-mile movement patterns, terminal time, freight rates, empty returns, and recurring bottlenecks. Stakeholder inputs also indicated that corridor performance can be assessed using distance covered daily (km/day), trip cycle time, and speed. These inputs were consolidated into a corridor-wise KPI scorecard to support benchmarking and identifi cation of factors aff ecting corridor performance.

B Terminal & Trip Operations (Node Performance)

4. Terminal dwell | KPI 4: Terminal dwell observed across the study corridors ranges from 2 to 4.5 hours, indicating corridor-wise variation in terminal-related time within the overall freight movement cycle. Mumbai-Delhi-Mumbai and Chennai-Mumbai-Chennai record relatively lower terminal dwell of approximately 2-3 hours. Bengaluru-Delhi-Bengaluru also falls within a similar 2-3 hour range. In contrast, Delhi-Kolkata-Delhi and Bengaluru-Kolkata-Bengaluru show higher terminal dwell of around 3-4 hours, while Kolkata-Guwahati-Kolkata records the highest terminal dwell at approximately 3.5-4.5 hours. The variation in terminal dwell is associated with diff erences in terminal handling processes, documentation procedures, and vehicle queueing. Higher terminal dwell increases total trip cycle time and aff ects vehicle utilization. Addressing these delays may require measures such as improved terminal gate management, streamlined documentation processes, and improved access connectivity to reduce entry and exit delays.

Terminal & Trip Operations (Node Performance) – Average dwell time at terminals

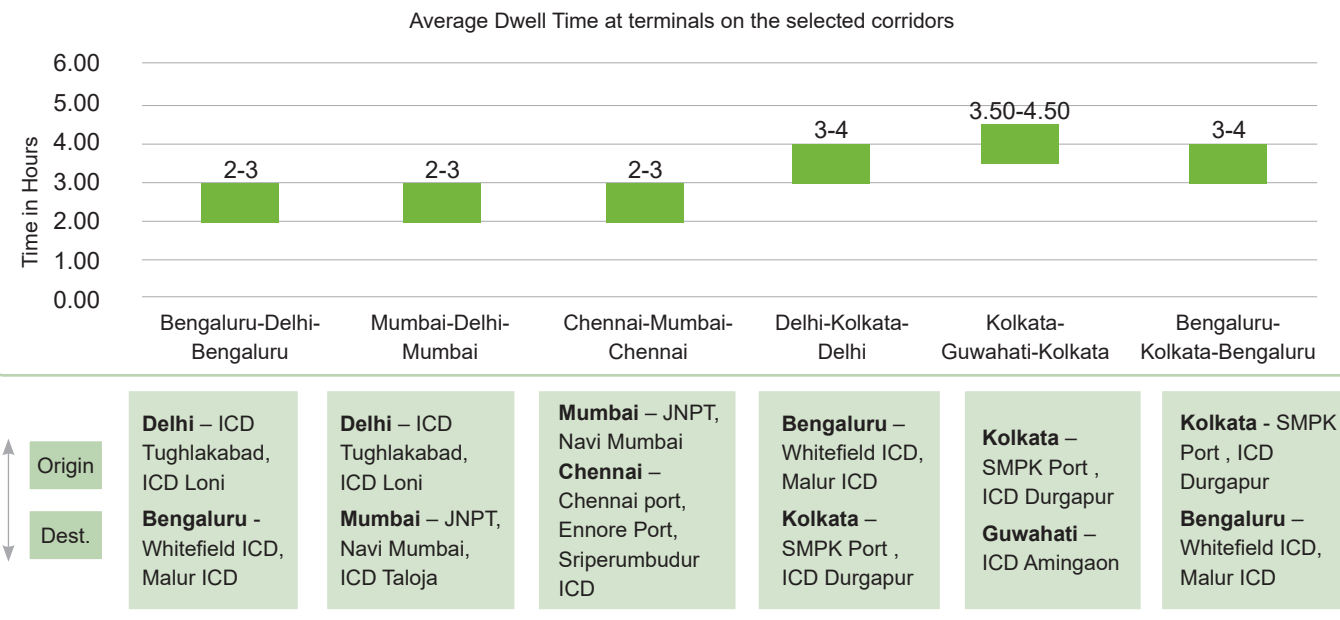


Figure: Average Dwell Time at terminals on the selected corridors

5. First- and last-mile penalty |KPI 5: This captures access and terminal approach time as a share of total trip duration. This penalty is highest on Kolkata–Guwahati–Kolkata at approximately 40–45%, indicating higher access and terminal interface time relative to total trip duration. Bengaluru–Kolkata–Bengaluru records a penalty of 35–40%, followed by Delhi–Kolkata–Delhi at 30–35%, reflecting comparatively higher access-related time at terminal locations along these corridors.

In contrast, Bengaluru–Delhi–Bengaluru, Mumbai–Delhi–Mumbai, and Chennai–Mumbai–Chennai show lower penalties of approximately 25–30%, indicating relatively lower access and terminal approach time as a proportion of overall trip duration.

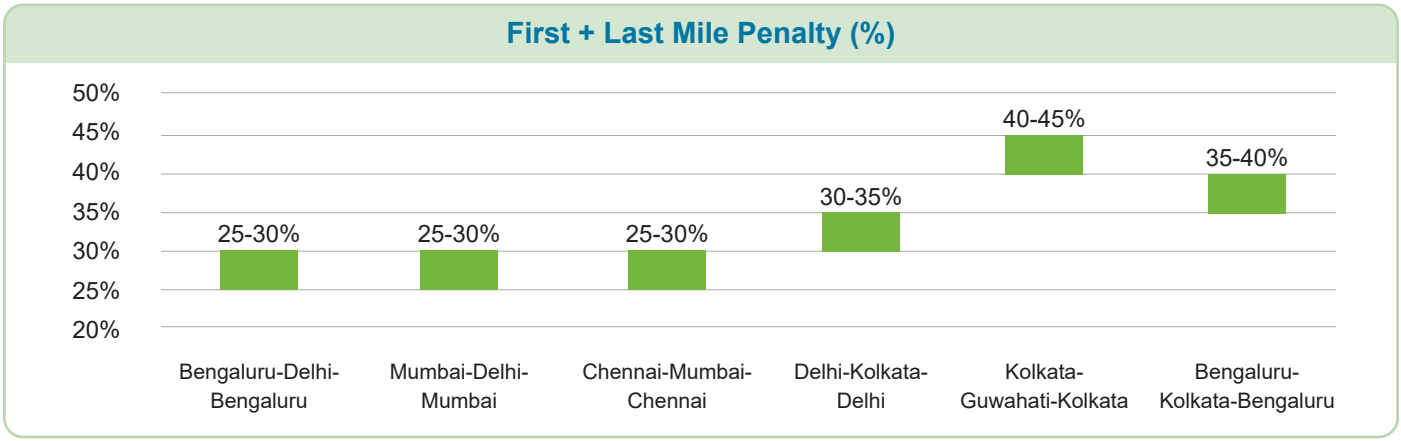


Figure: First and Last-Mile Speed Penalty (%)

6. Actual freight performance using truck GPS data | KPI 6: First/last-mile speeds are lower than corridor running speeds across all corridors—largest gap on Mumbai–Delhi–Mumbai (~19 vs ~38 km/h; ~50%), followed by Chennai–Mumbai–Chennai (~26 vs ~43 km/h; ~38%).

The speed gaps varies: ~31% in Kolkata–Guwahati–Kolkata, ~28% in Delhi–Kolkata–Delhi, and is minimal on Bengaluru–Delhi–Bengaluru (~7%).

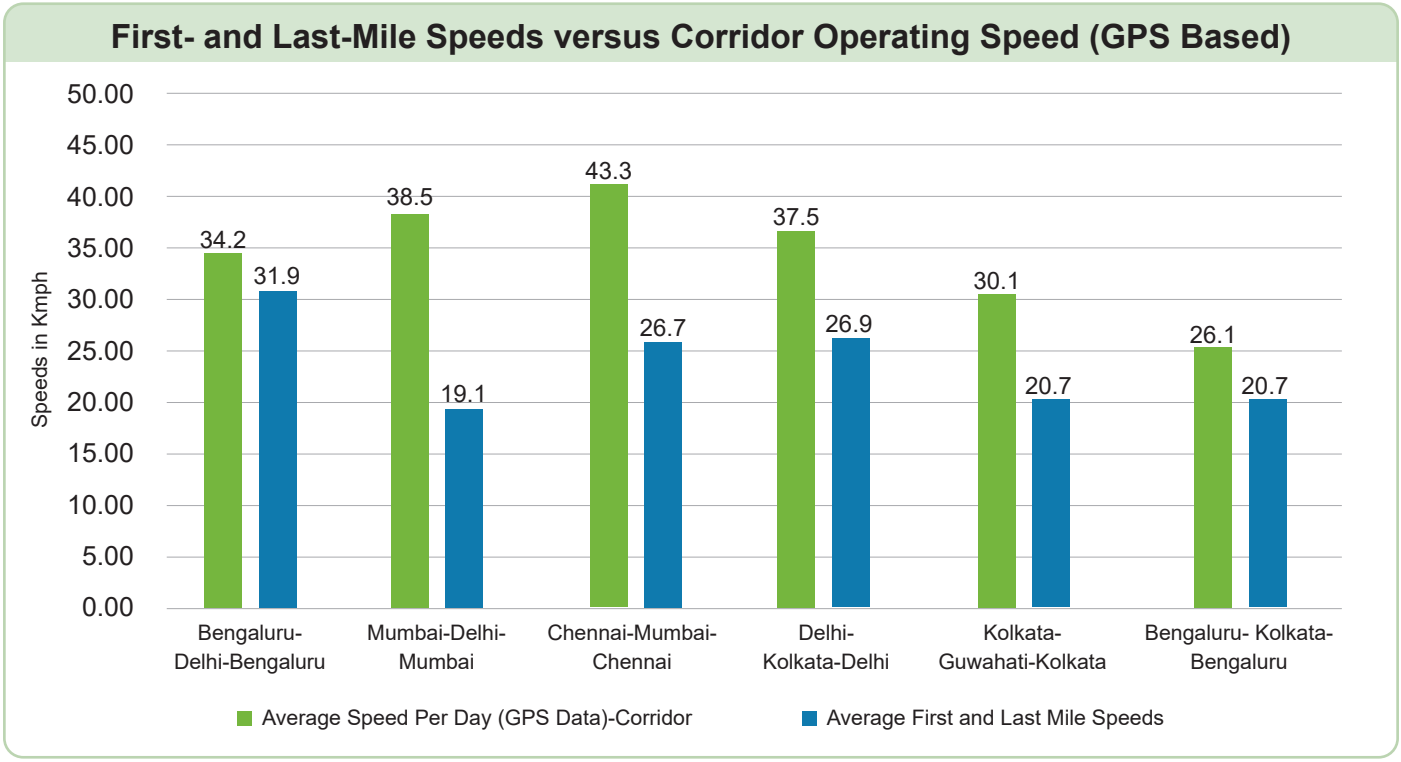


Figure: Actual freight performance using truck GPS data

C Handling Charges and Freight Cost per ton-km

7. Freight Cost per ton-km (Rs./ton-km) | KPI 7: Commercial indicators show corridor-wise and directional variation in observed freight unit costs. On the Bengaluru–Delhi corridor, observed costs range between INR 3.20–3.40 per ton-km, while the return direction (Delhi–Bengaluru) records lower costs of INR 2.20– 2.40 per ton-km. Similarly, Chennai–Mumbai records costs of INR 2.80–3.00 per ton-km, whereas the reverse direction (Mumbai–Chennai) shows higher costs of INR 3.60–3.80 per ton-km.

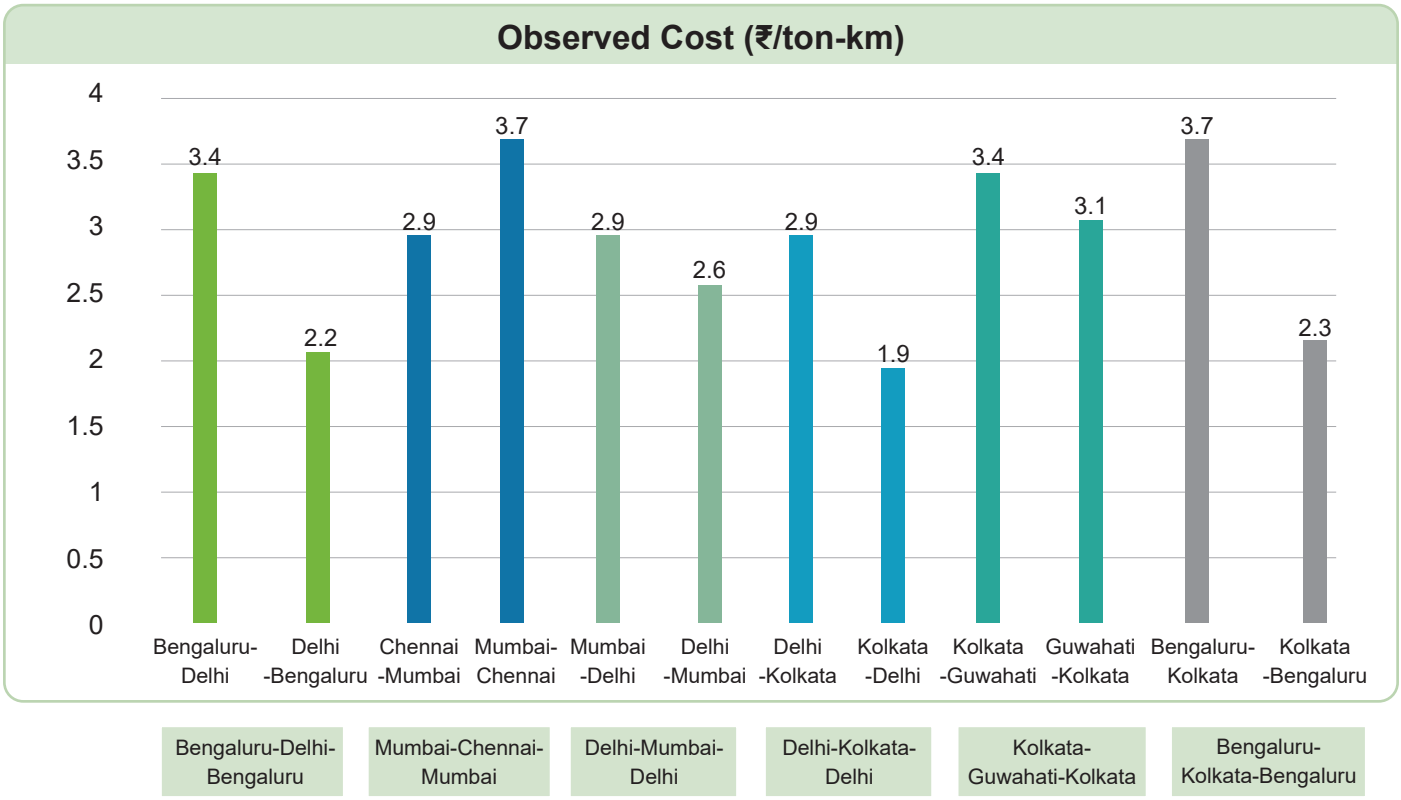


Figure: Corridor wise Freight Charges in Ton/km (INR)

The Mumbai–Delhi corridor records observed costs of INR 2.80–3.00 per ton-km, while Delhi–Mumbai shows slightly lower costs of INR 2.60–2.80 per ton-km. Delhi–Kolkata records comparatively lower costs in the range of INR 1.90–2.10 per ton-km, with the return direction (Kolkata–Delhi) recording observed values from INR 1.90 per ton-km onwards. Kolkata–Guwahati records costs in the range of INR 3.20–3.40 per ton-km, while Guwahati–Kolkata shows observed costs from INR 3.10 per ton-km onwards. Bengaluru–Kolkata records the highest observed cost range among the study corridors at INR 3.70–3.90 per ton-km. These variations reflect corridor-specific operating conditions, directional demand balance, and freight flow characteristics..

Handling charges | KPI 8: Handling charges reported through stakeholder inputs also fall within a relatively narrow range, indicating limited corridor-wise variation. Bengaluru-Delhi-Bengaluru reflects the highest handling charges at approximately INR 180-190 per ton, followed by Chennai-Mumbai-Chennai and Mumbai-Delhi-Mumbai at around INR 170-180 per ton. Bengaluru-Kolkata-Bengaluru reports handling charges in the range of INR 150-175 per ton, while Delhi-Kolkata-Delhi and Kolkata-Guwahati-Kolkata record lower ranges of approximately INR 145-155 per ton. These variations show that differences in freight costs are driven mainly by directional demand and corridor operating conditions, rather than by relatively uniform handling charges.

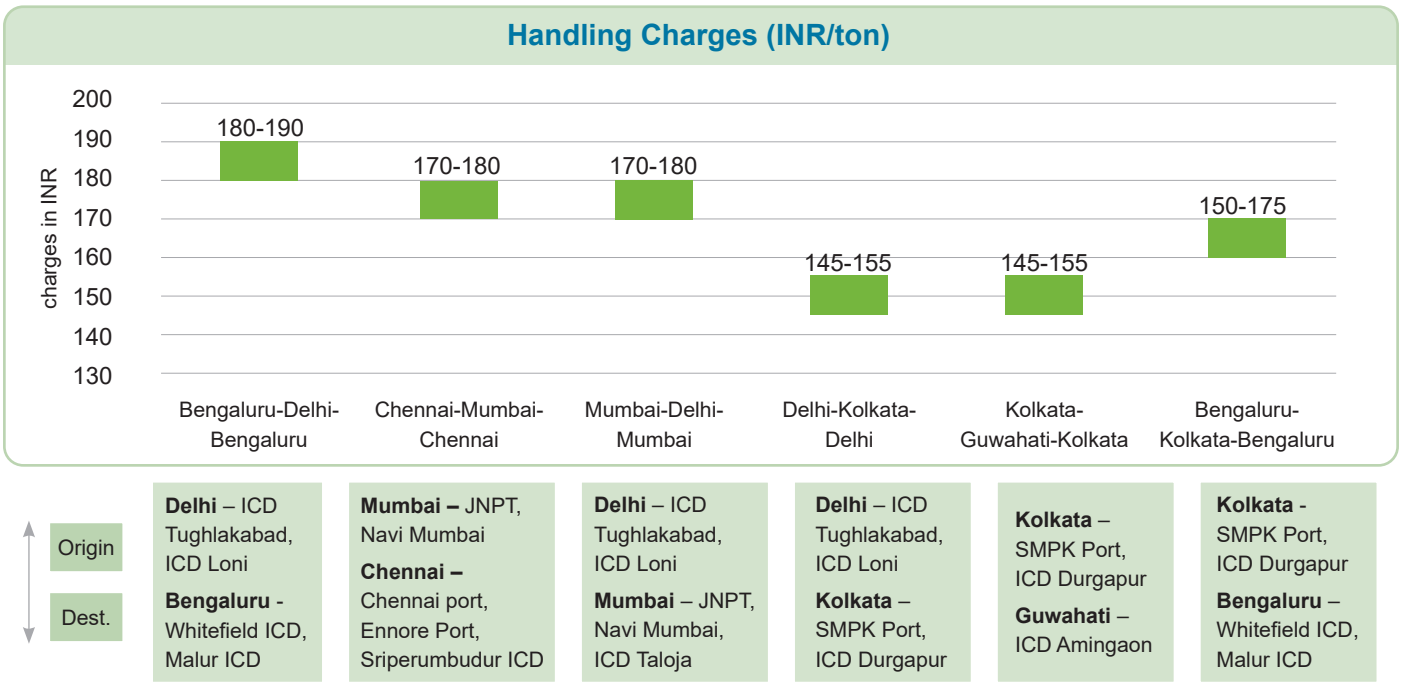


Figure: Corridor wise Handling Charges (₹/ton)

Stakeholder inputs indicate that freight efficiency is strongly affected by corridor-level operational factors such as terminal access, waiting times, in addition to highway travel time and speed. Delays during first- and last-mile movements, particularly near major cities and gateway locations, account for a significant share of total trip time, while freight rates and handling charges remain relatively consistent across corridors.

5.1 Gap Analysis: Corridor performance vs Actual truck speed performance

A comparison of API-based mixed-traffic speeds and GPS-based truck speeds indicates a consistent difference in operating speeds for heavy commercial vehicles across all 6 study corridors. API speeds reflect overall corridor movement across vehicle types, while truck speeds represent freight operations and incorporate the effects of stops and operational processes during transit.

Across most corridors, API speeds typically range from about 55 to 80 km/h, whereas truck speeds are generally in the range of 30 to 45 km/h, resulting in speed differentials of roughly 36-63%. These differentials reflect the additional operational processes associated with freight movement, including stoppages, compliance-related halts, tolling activity, and congestion at urban approaches.

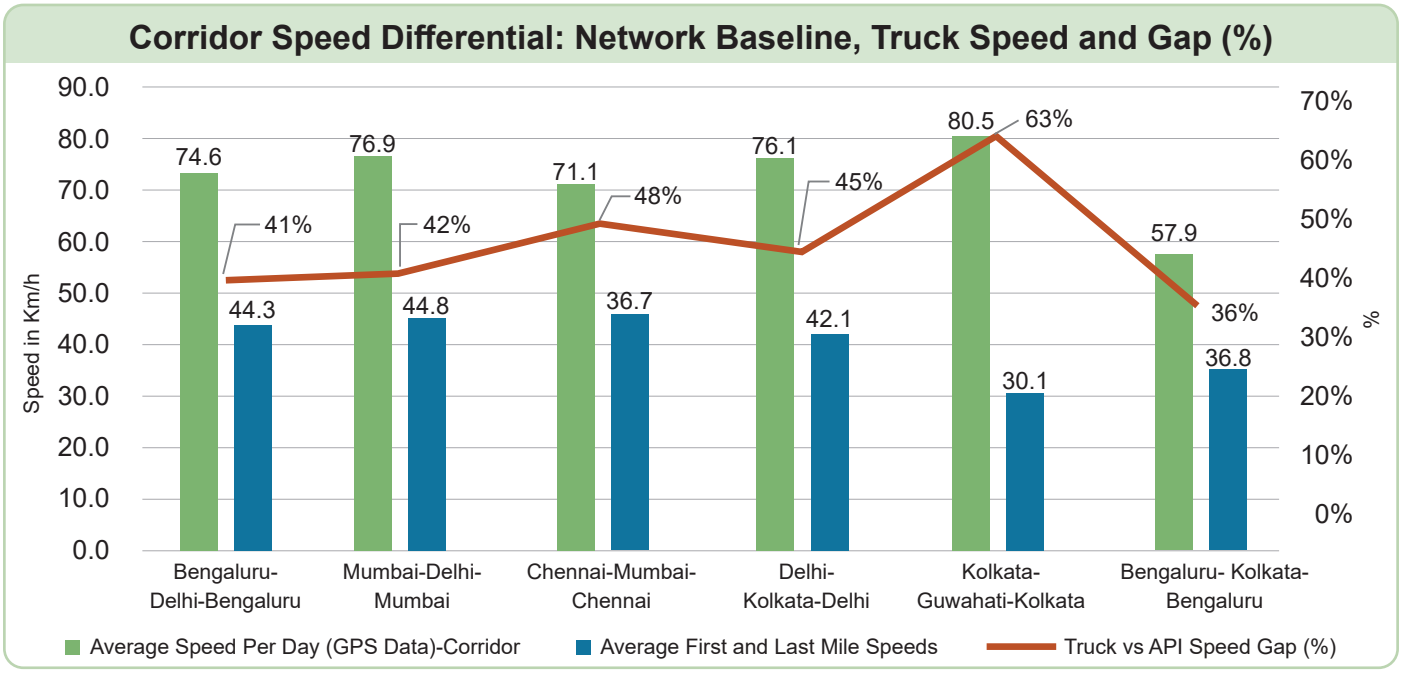


Figure: Corridor Speed Differential: Network Baseline(API) , Truck Speed (GPS) and Gap (%)

Corridor-wise observations indicate consistent differentials between mixed-traffic API speeds and truck operating speeds across all routes:

Chennai–Mumbai–Chennai

- Generally stable corridor, but truck speeds impacted by urban interfaces
- Infrastructure related congestion: Pune, Satara, Tumkur, peri-urban Chennai

Mumbai–Delhi–Mumbai

- Performance variability near urban clusters esp at Delhi, Jaipur, Udaipur
- Delays linked to logistics hubs (ICD Tughlakabad and JNPT) and enforcement locations

Delhi–Kolkata–Delhi

- Sustained speed reduction in dense, mixed-traffic stretches
- Infrastructure related congestion: Urban and district access constraints at Etawah, Firzabad etc

Kolkata–Guwahati–Kolkata

- Gateway-related checks and permit validation slow movement (Shriram Kokrajhar and Buxighat – Dogri District)
- Additional constraints on narrow and hilly sections in Assam

Bengaluru–Delhi–Bengaluru

- Lower speeds near metro city entry/ exit zones
- Major impacts around Bengaluru, Hyderabad, and Delhi

Bengaluru–Kolkata–Bengaluru

- Prolonged congestion across multiple urban interfaces
- Constrained stretches near Nellore and peri-urban (e.g. rural Bengaluru) metro cities

Figure: Operational Frictions and Corridor Constraints

Across corridors, truck speeds are consistently lower than mixed-traffic speeds due to freight-specific frictions: border/compliance checks, toll-plaza queuing, and urban gateway slowdowns (Mumbai–Thane, Delhi NCR, Chennai, Bengaluru, Kolkata). The gap is sharper on North-East corridors, where constrained terrain (including Assam), increasing stoppages and reducing cruising speed. Overall, the differential reflects the combined impact of in-transit processes and corridor geometry, underscoring the need to streamline checks, improve metro access, and upgrade constrained segments.

5.2 Key Operational Issues Affecting Freight Vehicles

Consultations conducted with a wide range of transport stakeholders and logistics service providers nationwide reveal recurring issues that influence freight vehicle operations and corridor-level logistics efficiency. The major issues highlighted:

		Govt/Policy Control	Private Control
Vehicle-related issues	Overloading, fitness checks, and breakdowns cause frequent stoppages; issues arising from Vehicle condition, operations and maintenance	✗	✓
Human Factors	Shortage of trained drivers and long driving hours limit daily truck movement and increase fatigue-related delays.	✗	✓
Infrastructure & Access Issues	Road capacity & construction works; quality, Urban entry/exit congestion, terminal access delays, and lack of parking/rest facilities extend trip cycles.	✓	✗
RTO Checks	Frequent RTO checks, add delays and costs despite availability of digital records	✓	✗
Police Checks	Police checks in Urban Areas	✓	✗
E-way bills	Procedural lapses often lead to truck detention, even without tax evasion intent.	✓	✓

Figure: Key Operational Issues Affecting Freight Vehicles

Regulatory control across freight operations spans public oversight of road infrastructure, private responsibility for vehicle/driver compliance, and RTO-led processes that interface with both.

Table: Regulatory control mechanisms in road freight operations stakeholder ownership and role descriptions

Regulatory Control Mechanism	Stakeholder	Description
Infrastructure	Exclusively Public	Road infrastructure such as highways, bridges, traffic signals, and signage is developed, maintained, and regulated by government to ensure public safety and accessibility.
Vehicle and driver control	Exclusively Private	Vehicle ownership, maintenance, and driver behavior (such as obeying traffic rules, holding a valid license, and maintaining vehicle fitness) are the responsibility of private individuals or companies.
RTO	Both Public and Private	The RTO involves both public and private participation. It is a government official but interacts with private vehicle owners and drivers by issuing licenses, registrations, permits, and enforcing transport regulations.

Section 'Key Findings and Suggestions ' builds on the above overview of key regulatory control mechanisms, clarifying the respective roles of public agencies and private operators in governing road infrastructure, vehicle/driver compliance, and enforcement. Corresponding interventions to address the identified issues across these mechanisms are discussed in this section.

6 Key Insights and Action Areas

The benchmarking results indicate that corridor speed outcomes are influenced by a combination of movement conditions (mixed traffic and network continuity) and operational factors (including stoppages, checks, access delays). To interpret these outcomes into an intervention-relevant narrative, bottlenecks observed across the six corridors were grouped into a standard classification. This classification draws on four complementary evidence streams: (i) the network/API layer, which reflects mixed-traffic movement on the road network, and (ii) truck operating experience informed by stakeholder inputs, (iii) truck GPS data analysis, providing segment-level speed profiles and variability patterns along each corridor, and (iv) trip dairy records collected by travelling inside trucks, capturing time-stamped stoppages, reasons and on-ground operational context, which highlights stoppage-related and reliability considerations that are not visible in map-based travel times.

Across the study corridors, three bottleneck mechanisms appear most relevant for this analysis: urban interface congestion, enforcement/checkpoint stoppages, and discontinuities/work zones (i.e., carriageway reductions, diversions, lane drops, construction/maintenance fronts, and temporary traffic management that compress capacity and introduce stop-go conditions). These categories are visible as consistent speed compression and/or time variability in the network layer, and as stoppage clusters and lost running time in truck operations.

6.1 Urban Interface & Mixed Traffic Congestion

Stakeholders noted that the highway-city interfaces are points where long-haul movement becomes less predictable. Even when the long-haul sections of the corridor perform well, city approaches, peri-urban stretches and bypass zones combine mixed traffic, merging/weaving movements, and intersections, resulting in slower and stop-go conditions. The observed effects include (i) sustained low speeds that reduce corridor averages, and (ii)travel time variability, as performance on these stretches differs by time of day.

This pattern is reflected in several corridor bottleneck observations where short urban-influence segments operate at LOS D/E levels. Examples include:

- Chennai-Mumbai-Chennai Corridor
  - Satara, Maharashtra: 8.5 km stretch operating at ~34.7 km/h (LOS D), indicating sub-urban/town interface conditions.
  - Bengaluru (multiple stretches), Karnataka: 18.3 km operating at ~34-37 km/h (LOS D), indicating major metro approach and bypass influence.
- Mumbai-Delhi-Mumbai
  - West Delhi, NCT: 2.5 km at ~29.1 km/h (LOS E), indicating dense metro/terminal-adjacent congestion and urban traffic interaction.
- Delhi-Kolkata-Delhi
  - Chandauli, Uttar Pradesh: 6.2 km at ~36.6 km/h (LOS D), indicating district-level access and town-influence conditions.
  - Mainpuri, Uttar Pradesh: 12.5 km at ~35.8 km/h (LOS D), indicating an extended town influence condition.
- Bengaluru-Delhi-Bengaluru
  - Hyderabad, Telangana: 3.3 km at ~31-34 km/h (LOS D/E), reflecting a major metro influence.
  - Anantapur, Andhra Pradesh: 0.4 km at ~38.0 km/h (LOS D), reflecting a localised town access influence.
  - Jhansi, Uttar Pradesh: 6.7 km at ~34.0 km/h (LOS D), reflecting regional hub congestion and urban influence.

Stakeholders also highlighted that travel times in these stretches vary with peak-hour conditions and local incidents, affecting estimate time of arrival (ETA) planning. When such variability occurs near delivery windows

or terminal cut-off times, small delays may affect subsequent dwell time at terminals, as late arrivals often lead to longer queues or missed loading/unloading slots.

Stakeholder feedback suggested that urban interfaces require focused traffic management, access planning, and bypass utilization to improve freight movement consistency complementing rather than relying solely on infrastructure capacity enhancements.

The line-haul highway runs fine; the real time loss starts at city edges: signals, mixed traffic, and constant merging.

As major towns are approached, traffic conditions shift to stop-go movement; even minor junction delays added , and travel times on the stretch vary significantly depending on the time of day.

Even bypasses don't always help—too many local access points and ribbon development bring mixed traffic back onto the corridor, so the 'fast route' becomes unpredictable.

Common Triggers

- City entry/exit choke points
- Mixed traffic & uncontrolled access
- Peak-hour volatility
- Ribbon development

6.2 Enforcement

Stakeholders consistently flagged enforcement-related stoppages as a key constraint on truck productivity and trip-cycle reliability. As these views are experience-based and may be partial, they are treated as indicative and read alongside data-led evidence. Operators noted that the issue is not the checks themselves, but how they are executed, including mid-route interceptions, uneven practices across jurisdictions, and time-consuming dispute resolution. They also cited emerging good practices in India and internationally, such as ANPR/e-challan–based enforcement, weigh-in-motion with risk-based selection, and faster single-window dispute closure, which could support more harmonised protocols across States.

For two-driver operations, stakeholders noted that a daily range of ~600 km/day average is generally viewed as desirable; however, they pointed out that achieving such utilization consistently remains challenging in the presence of transit stoppages and discretionary interventions. Some stakeholders estimated that reducing enforcement-linked stoppages could improve daily running by ~30-50 km/day, noting that this is an indicative range, context-dependent, and typically represents modest but meaningful gains.

The narrative can be framed as a system design opportunity: India has built a strong base of digital compliance platforms and registries, and field enforcement is steadily evolving to align more closely with these systems. Stakeholders noted that further integration—through technology-enabled, rules-based enforcement such as ANPR-supported risk targeting, e-permits and pre-clearance, and weigh-in-motion with automated flagging can maintain compliance outcomes while enabling smoother freight movement and more reliable trip cycles.

The impact extends beyond the time lost at individual checkpoints to the resulting uncertainty; unpredictable stops reduce planning reliability and make trip cycles inconsistent.

Most vehicle compliance is already managed through digital systems; however, trucks continue to be intercepted mid-route for routine checks, resulting in time loss due to repeated stoppages.

In-transit e-way bill checks often don't reflect operating reality: breakdowns, congestion near destination, or receiver-side delays in closing bills can still lead to detention and penalties, even when taxes are otherwise compliant.

Common Triggers

- Discretionary mid-route stops
- Digital verification not fully used
- E-way bill / procedural detention risk
- Limited/slow grievance resolution

6.3 Regional Transport Office (RTO)-related interventions

Stakeholders highlighted that RTO checks related to vehicle documentation, condition and loading compliance form an important component of enforcement during long-haul movement. Based on stakeholder observations, such checks may occur at various points along a route, and are perceived to influence trip continuity following the removal of traditional border checkposts. Stakeholders also highlighted that while digital records and compliance systems have expanded, physical verification remains a part of current practice.

Stakeholder inputs grouped the RTO checking into three broad categories: documents, vehicle condition/ fitness (including dimensions and modifications), and loading/weight compliance, each of which has a clear pathway for digitisation and automation.

Table: Freight vehicle Compliance Records VAHAN Enablement and Responsible Issue mapping (Truck Operator Perspective)

S.No	Document / record	Primary system	Vehicle-linked to Vahan Portal	Freight operator uploads on VAHAN (typical services)	Enforcement purpose	Stakeholder Based observations	Proposed Interventions
1	Registration Certificate (RC)	VAHAN	Yes	Transfer, address change, duplicate RC, Hypothecation changes.	Vehicle identity & ownership	Stakeholders indicated that repeated mid-route document checks continue even after removal of border check posts, which can affect trip continuity and create avoidable stoppages.	Enable digital verification of RC/vehicle ownership to minimize repeat en-route document checks during trip initiation.
2	Road tax proof	VAHAN	Yes (status)	NOC requires tax paid/no dues evidence.	Tax compliance	Stakeholders noted that manual validation of tax/ document status can be inconsistent across locations;	A system-driven check is suggested to reduce verification.
3	National Permit authorisation	VAHAN permit ecosystem	Yes	Permit issue/renewal/ payment/print.	Operating authorisation	Stakeholders highlighted that uneven system linkage across states reduces effectiveness of nationally standardised verification;	Full VAHAN linkage is suggested as a prerequisite for consistent enforcement.
4	Insurance (valid)	VAHAN	Yes	Common RC workflows.	Statutory compliance	Stakeholders suggested that where digital records exist.	Roadside verification could be limited to exceptions/violations, reducing routine stoppages.
5	PUCC (valid)	VAHAN	Yes	Common RC workflows and NOC.	Emissions compliance	Similar to insurance, stakeholders suggested a shift from manual checks to	Electronic validity validation to reduce repeated checks.
6	Fitness certificate	VAHAN	Yes	Fitness services via national register services.	Roadworthiness	Stakeholders observed that on-road fitness verification still occurs.	Recommended strengthening digital fitness-status validation and focusing physical checks on scheduled inspection points.
7	State Road Tax	State Portal	No	State road tax	Road tax	State road tax for commercial vehicles is administered through state-specific Motor Vehicle Tax systems, with limited interoperability across jurisdictions. The absence of a fully integrated, real-time national verification platform results in repeated manual checks of tax status during transit	Enable nationwide digital verification and payment of commercial vehicle Motor Vehicle Tax through a unified VAHAN–Parivahan platform to reduce state-wise manual checks and improve corridor efficiency.
8	Dimensions / mechanical alterations (as recorded)	VAHAN	Yes (recorded)	Not typically uploaded separately	Alteration control		Stakeholders proposed technology-based screening (e.g., sensors/ANPR (Automatic Number Plate Recognition)/AI) to reduce reliance on manual on-road inspection for dimensions/ modifications.
9	Overloading / weight compliance	Weighbridge / plaza systems	N/A	Not standard VAHAN vehicle upload	Overloading control		Stakeholders preferred objective, weighbridge-based checks at designated points (e.g., plazas) over mid-route interception to improve predictability.
10	Driving Licence (DL)	Sarathi ecosystem	No	Not standard VAHAN vehicle upload	Licensed driving	DL verification triggered by violations/events, backed by clear driver identification protocols.	Driver License (DL) verification should be triggered by violations/events and supported by clear driver identification protocols to reduce ambiguity.
11	E-Challan	e-Challan (Parivahan)	No	Used for challan status search/online payment	Penalty settlement		Need for clear SOPs for e-challans, online settlement, and a transparent appeal/grievance mechanism to address erroneous challans.

Constraints and Interventions

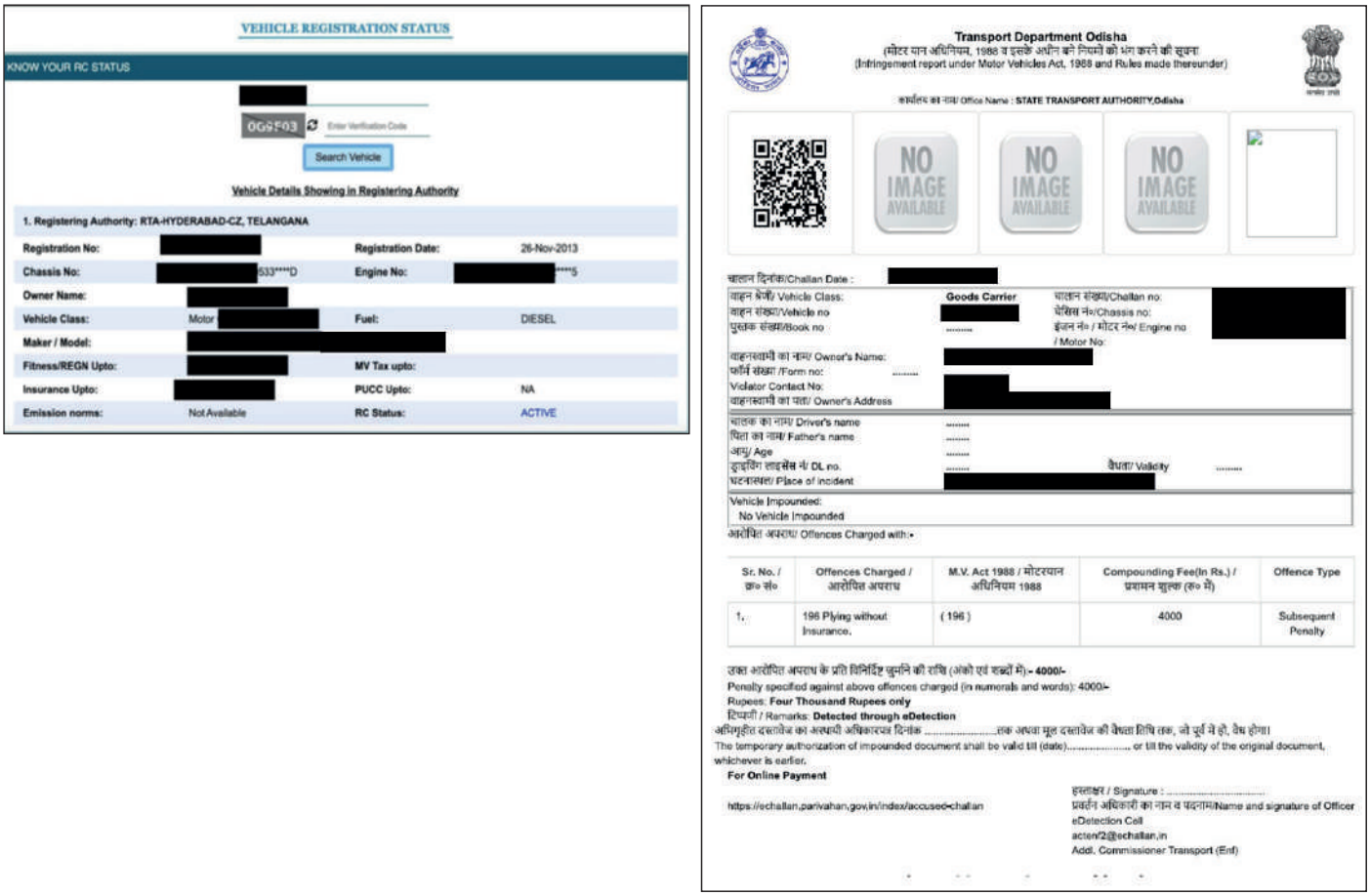


Figure: Snippet from VAHAN and e-challan Parivahan portal which records all key details* of the motor vehicle

*Key Details: Vehicle registration details, engine and chassis numbers, owner information, permit validity, insurance status, PUCC status, fitness certificate validity, tax/payment records, and active e-challans.

Enforcement process design affects corridor performance

Stakeholders described multiple mechanisms through which enforcement practices translate into corridor inefficiency:

Table: Key Stakeholder Issues: In-Transit Checks and Dispute Resolution Workflows

Issues	Description
Unpredictable Mid-Route Stops	Reported to disrupt rest/driving cycles and cause Estimated Time of Arrival variability.
Time Cost of Contesting Errors	Appeal/grievance workflows were described as time-consuming when digital records are not fully linked to enforcement systems; stakeholders suggested that integrating e-challens, VAHAN records, and state-level transport systems through a unified backend. Similar to practices used in states with end-to-end digital challan disposal would help streamline and standardize the appeal process.

Stakeholders repeatedly returned to process principles that reduce discretion while preserving compliance outcomes: online-only challans/point systems, no physical transactions, Automatic Number Plate Recognition and automated validation, clear standard operating procedures for e-challans, and online appeal mechanisms linked to VAHAN such that erroneous challans can be invalidated quickly where digital evidence establishes compliance.

6.4 Interoperability and State-level consistency

Stakeholders suggested that for digital enforcement systems to function at corridor scale, VAHAN linkage and adherence must be uniform across states. In their view, state-level variations in the use of digital registries and protocols can contribute to differences in enforcement practices along multi-State routes. Stakeholders, therefore, pointed to the potential benefits of uniform digital adoption and reduced procedural variation across jurisdictions for facilitating smoother corridor movement.

6.4.1 E-way bill checks

Stakeholders noted that introduction of the e-way bill system was viewed positively compared to earlier transit-pass arrangements. However, some stakeholders flagged current issues around in-transit stopping "anywhere". Stakeholders recommended clear, standardised SOPs for in-transit checks, with stronger digital linkage to the origin and destination states to improve transparency and coordination. A specific operational scenario highlighted was enforcement suspicion around e-way bill "reuse" when the recipient does not close the e-way bill in time. Stakeholders suggested a system requirement for the recipient to close the e-way bill within an 8-12 hour window; otherwise, a transporter picking up a new load with a new e-way bill may display "two active e-way bills," triggering challans despite limited transporter control over recipient-side closure.

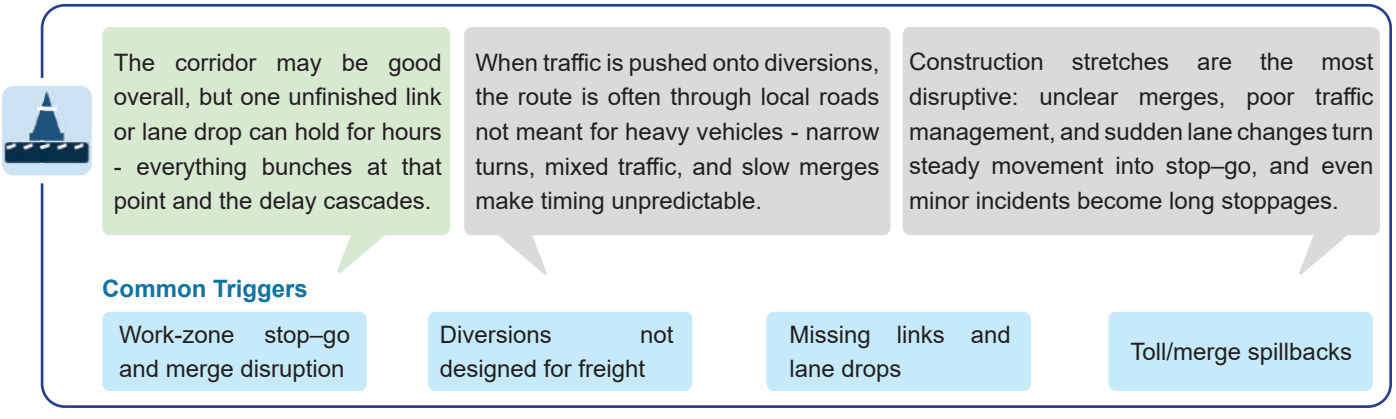
Overall, stakeholders highlighted that stronger integration of field checks with digital records, supported by clear procedures, can improve movement consistency and enhance operational certainty for freight operators. This helps explain why some corridors show strong mixed-traffic performance at the network/API level, while truck GPS data captures additional time linked to compliance and documentation workflows.

6.5 Network Continuity and Impact of Diversions and Construction Zones

Stakeholders described discontinuities as "delay multipliers", constraints that may be localised in length but disproportionately disruptive because they introduce uncertainty and can trigger cascading delays. This category includes lane drops, abrupt merges, junction constraints, diversions through freight-unfriendly local roads, and construction zones where traffic management is weak. In such stretches, the operational signature is stop-go movement, Queuing at merge points and increased incident sensitivity, as constrained sections have limited capacity to absorb and recover from disruptions.

The corridor bottleneck examples below illustrate how localised discontinuities and merge/junction effects reduce corridor speeds. For instance:

- Bengaluru-Kolkata-Bengaluru: Multiple stretches near Nellore (7.9 km; ~32-38 km/h; LOS D), where a continuous cluster of constraints creates repeated speed suppression.



Stakeholders emphasised that the impact of these discontinuities relates not only to average speed but also to reliability, as diversions and construction zones may contribute to variation in travel time across trips. Stakeholder feedback suggested that improved traffic management at work zones, freight-supportive diversions, could support more predictable freight operations without requiring large-scale corridor expansion.

6.6 Proposed Truck Journey: Predictable Enforcement Framework

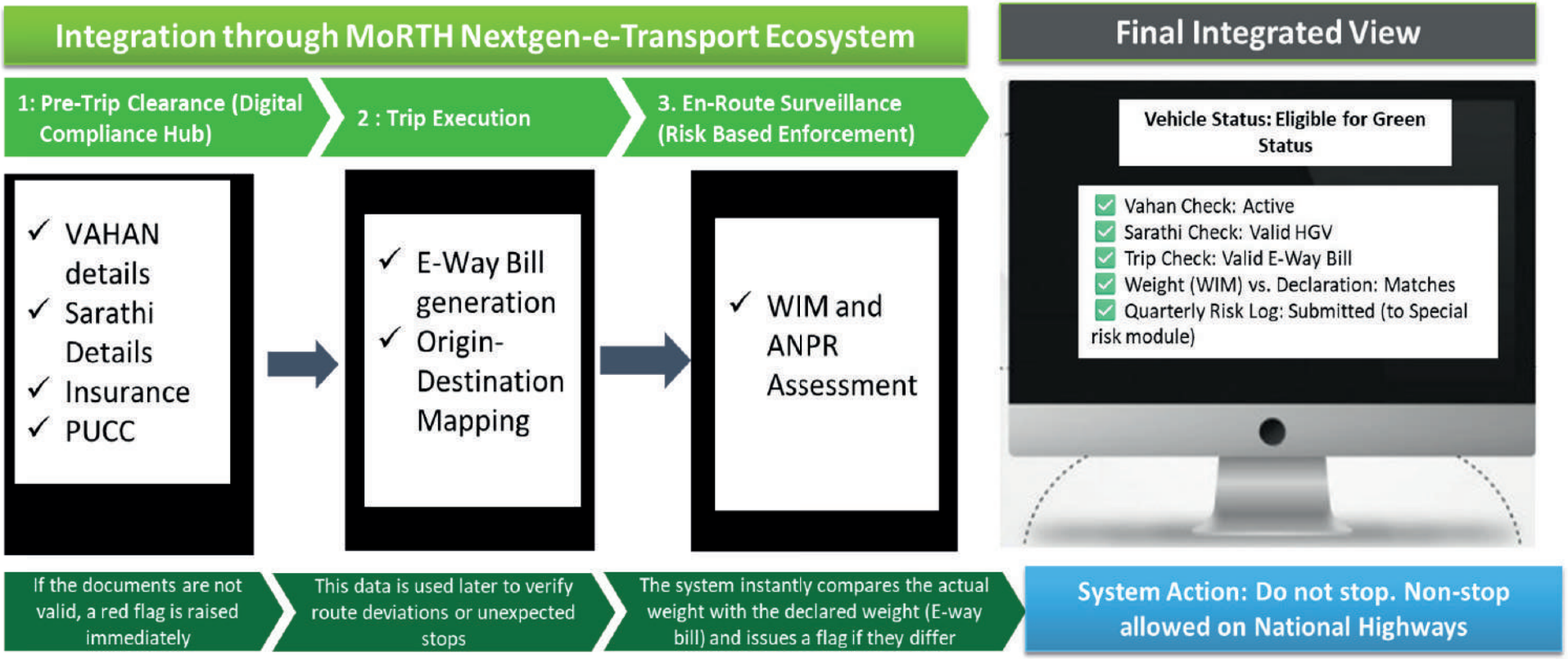
A system-driven enforcement approach has been proposed to minimise avoidable in-transit stoppages and improve trip reliability by shifting compliance checks upstream and standardising on-corridor controls. The To-Be truck journey framework is outlined step-by-step below:

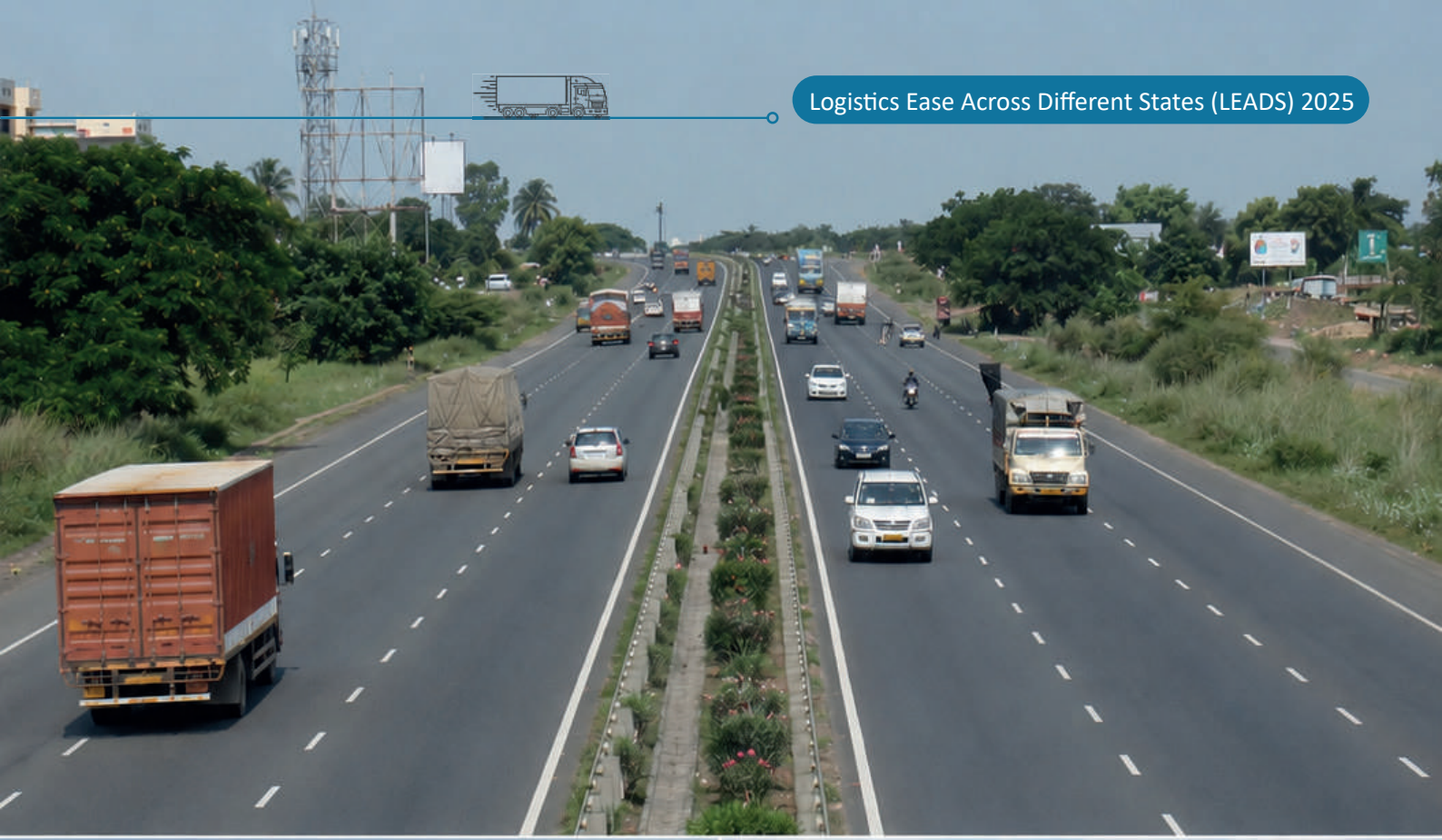
1. **Pre-departure digital validation:** Before dispatch, the vehicle and trip are digitally validated for core compliance items, vehicle registration, permits, taxes, insurance, fitness, and driver credentials, using national platforms (e.g., VAHAN/SARATHI) and integrated state systems.
2. **Digital trip authorisation:** Where applicable, an e-permit / e-waybill linkage and trip pre-clearance are completed to reduce documentation checks during movement.
3. **Rules-based risk screening:** Trips are screened through risk-based targeting (history of violations, route sensitivity, overload risk, etc.) so compliant vehicles can move with minimal interruption while attention is focused on exceptions.
4. **Designated corridor control points:** Checks are routed to clearly defined enforcement/control locations (rather than ad-hoc stops), equipped with ANPR, handheld validation tools, and back-end digital access to records.
5. **Non-intrusive weight compliance:** Weigh-in-motion and automated flagging are used to identify potential overloading, with physical inspection triggered only for flagged cases.
6. **Exception-based interception:** Stops occur only for exceptions (non-compliance, violations, alerts), improving predictability for compliant operators while preserving enforcement effectiveness.
7. **Digital enforcement and closure:** Violations are recorded through e-challan and resolved through a streamlined digital process, enabling faster resolution and reducing repeat stoppages for the same issue.
8. **Continuous monitoring and feedback loop:** Trip data and enforcement outcomes are used to refine risk rules, improve SOPs, and strengthen coordination across jurisdictions.

Overall, the framework preserves compliance outcomes while enabling smoother, more predictable corridor movement, through tighter integration of digital records, standardised checkpoints, and exception-led enforcement.

Single Integrated View for Enforcement Agencies and Risk based enforcement

It is critical that the current multiple systems be integrated into one single view for enforcement agencies through MoRTH proposed Nextgen e-Transport project











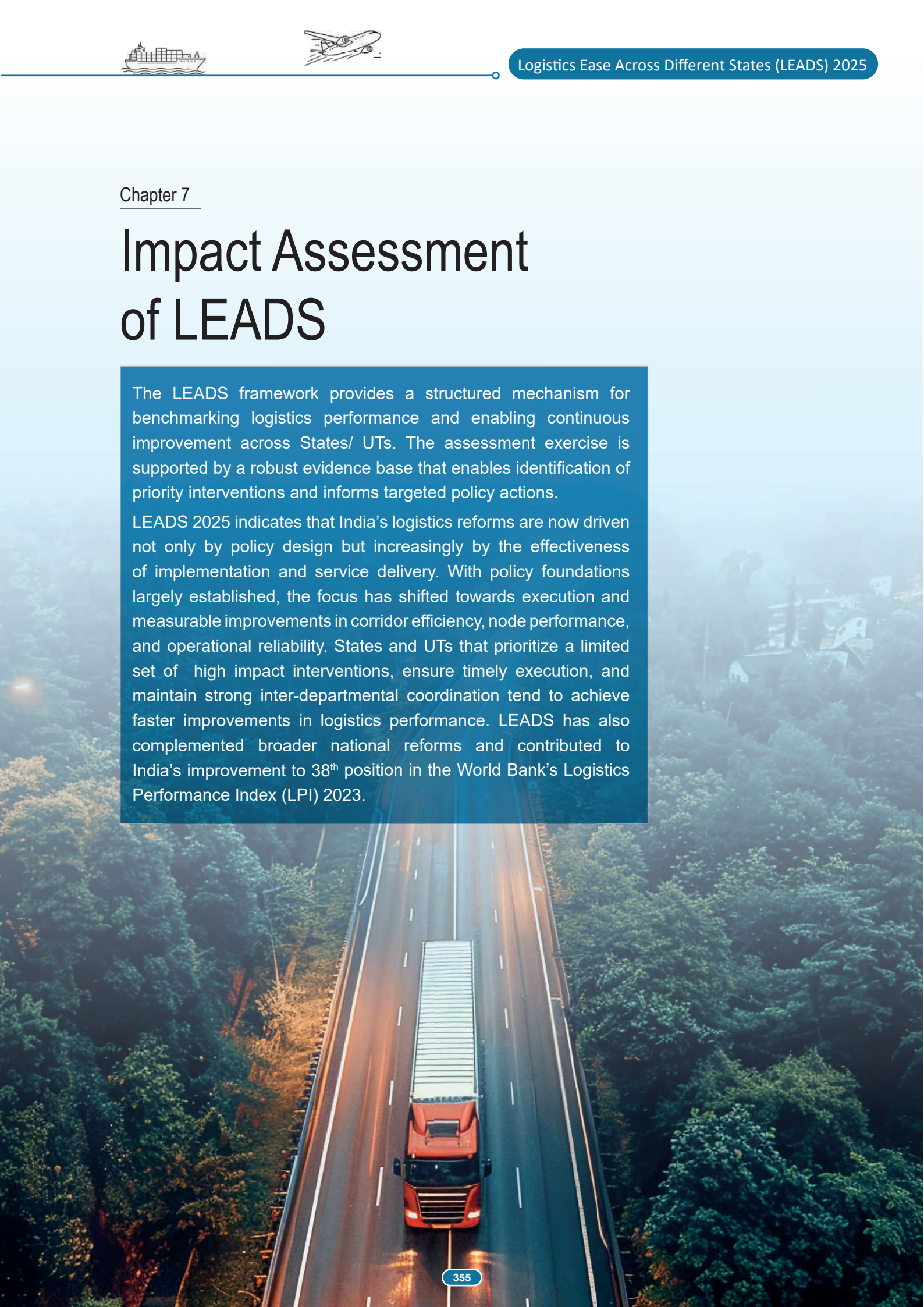


Chapter 7

Impact Assessment of LEADS

The LEADS framework provides a structured mechanism for benchmarking logistics performance and enabling continuous improvement across States/ UTs. The assessment exercise is supported by a robust evidence base that enables identification of priority interventions and informs targeted policy actions.

LEADS 2025 indicates that India's logistics reforms are now driven not only by policy design but increasingly by the effectiveness of implementation and service delivery. With policy foundations largely established, the focus has shifted towards execution and measurable improvements in corridor efficiency, node performance, and operational reliability. States and UTs that prioritize a limited set of high impact interventions, ensure timely execution, and maintain strong inter-departmental coordination tend to achieve faster improvements in logistics performance. LEADS has also complemented broader national reforms and contributed to India's improvement to 38th position in the World Bank's Logistics Performance Index (LPI) 2023.



The LEADS assessment framework highlights five key levers through which high-performing States/ UTs improve their logistics outcomes.

1. Establishment of Logistics Cells/divisions for inter-departmental coordination and facilitation of Central Government logistics-related projects.
2. Developing a pipeline of corridor- and node-focused infrastructure improvements, supported by project readiness and finance planning.
3. Introducing operational reforms that improve transparency and predictability in approvals, inspection, and regulatory enforcement.
4. Enhancing workforce safety systems, promoting women's participation in logistics and strengthening workforce capability.
5. Establishing periodic performance monitoring through key indicators such as project allocation, budget utilization, and implementation progress.

LEADS 2025 underscores that strengthening execution capacity is now critical. For States/UTs, this requires disciplined prioritization of projects, development of financially viable pipelines, reduction of operational bottlenecks, and institutionalization of rigorous outcome monitoring to ensure a predictable and reliable logistics ecosystem.

A key outcome of LEADS 2025 is documentation of on-ground reforms initiated by States/UTs in response to opportunities and recommendations identified through LEADS 2024.

The assessment strengthens logistics benchmarking by focusing on tracking initiatives through metrics that capture on-ground user experience. This is reflected in targeted questionnaires for Users (Shippers and Traders) and Service Providers (Logistics Service Providers, Transporters, and Terminal Operators). The approach further minimized respondent fatigue and improved the overall response quality.

Progress Achieved across four assessment pillars

LEADS 2024 recognised 13 States and UTs as 'Achievers', reflecting their strong logistics performance across the four assessment pillars namely, Logistics Infrastructure, Logistics Services, Operating and Regulatory Environment, and Sustainability and Equity.

This section summarizes the implementation progress made by States/UTs in response to the opportunities and recommendations identified through the LEADS assessment. For the remaining States and UTs, the respective State chapters in this report may be referred to for further detail.

Table: Implementation progress made by States/UTs in response to LEADS

Assessment Pillar	Identified Opportunity in LEADS 2024	Action Taken by States/UTs as identified under LEADS 2025
Arunachal Pradesh		
Infrastructure	Strengthen storage and handling infrastructure to support urban and agri-logistics needs	State is undertaking development of a modern warehousing facility at Chimpu near Itanagar Capital Complex
	Develop organised truck terminal infrastructure across districts	Proposed development of district-level truck terminals at strategic locations under State Logistics Action Plan 2025
Services	Improve visibility and monitoring of cargo movement	Implementation of GPS-based vehicle tracking system is proposed under State Logistics Action Plan 2025

Assessment Pillar	Identified Opportunity in LEADS 2024	Action Taken by States/UTs as identified under LEADS 2025
Assam		
Infrastructure	Improve road and rail infrastructure	Assam has implemented Chaygaon – Ukium road widening project and the Bhuragaon – Kaupati bridge, along with the development of new railway lines
	Operationalize cargo movement on National Waterway-2	State has operationalized cargo movement on NW-2 supported through terminals at Pandu, Jogighopa, and Dhubri
	Prioritize construction of Truck terminals and Multi Modal Logistics Parks	Assam has initiated measures for construction of truck terminals and MMLPs under the State Logistics Action Plan
Operating and Regulatory Environment	Fastrack the notification of State Logistics Policy and Logistics Action Plan	Assam Logistics Warehousing Policy 2025 is notified, and State Logistics Action Plan is submitted for State Government approval
Chandigarh		
Infrastructure	Upgrade last-mile and interior road infrastructure in industrial areas	UT is implementing road repairs, traffic circulation improvements, and internal mobility enhancements within Industrial Areas Phase I and II
Services	Initiate steps to strengthen last-mile logistics	UT has undertaken sector-wise traffic management measures and time-window–based goods movement regulations to improve efficiency of intra-city freight operations
	Enhance the Skill development initiatives in logistics and supply chain	UT is building workforce capacity through the Chandigarh Skill Development Mission (CSDM) in collaboration with private educational institutions such as GGDSD College, and supported through the PMKVY scheme for logistics and related courses.
Operating and Regulatory Environment	Enhance the scope and delivery of digital services and simplify the approval process for logistics projects	UT has expanded the scope of online approvals to include digital permits and e-licensing
Sustainability and Equity Logistics	Increase the adoption of EVs in logistics services	Promoting use of electric two- and three-wheelers for urban deliveries under the Chandigarh EV Policy, 2022
Delhi		
Infrastructure	Strengthening first- and last-mile connectivity in the State	Deployment of electric buses and electric feeder services to Metro and RRTS stations is being pursued
Services	Addressing Multi-modal connectivity challenges at logistics nodes	Multimodal integration at metro stations is being strengthened to improve interchange efficiency
	Streamlining cargo movement and last-mile delivery	DMRC's Metro-Cargo pilot (2025), in partnership with BlueDart, has been introduced for parcel movement during non-peak / off-peak hours to reduce road dependence and waiting time at urban distribution centres

Assessment Pillar	Identified Opportunity in LEADS 2024	Action Taken by States/UTs as identified under LEADS 2025
Haryana		
Infrastructure	Enhancing first- and last-mile connectivity	Identified 1500+ projects including approach roads linking key economic zones such as Karnal and Panipat and last-mile roads linking agriculture production centres to mandis, warehouses and cold storage
Operating and Regulatory Environment	Streamline the land acquisition and approval process	Revamped the Single Roof Clearance System (SRCS) portal to streamline land acquisition and reduce delays in allotment.
Gujarat		
Infrastructure	Development of additional logistics facilities for diversified cargo	Initiated development of Transport Nagar at Ankleshwar with dedicated rail and road connectivity at Bharuch for container-based diversified cargo.
	Expansion of last-mile connectivity to GIDC industrial parks	State has made dedicated budgetary provisions in FY2025-26 for strengthening last-mile road connectivity to GIDC Industrial Parks and major industrial clusters.
	Addressing congestion and road quality at key freight corridors	Identified corridors such as Mithi-Roha-Mandvi Coastal corridor under Gujarat State Highway Project (GSHP-II) are being addressed through NHAI-led interventions.
	Strengthening connectivity between Pipavav Port and ICD Ahmedabad	In addition to the existing rail link, the State has announced Namo Shakti Expressway greenfield corridor connecting north Gujarat with Pipavav Port
	Resolving cargo evacuation challenges at Kandla and Mundra ports	• Gujarat State Highway Project (GSHP-II) is improving access to Mundra and Mandvi ports • Strengthening port connectivity through Coastal Corridor Project
Maharashtra		
Infrastructure	Improving corridor speed and reducing delays on critical freight routes	Mumbai–Nagpur Samruddhi Expressway has been operationalized improving freight movement between western and eastern Maharashtra
	Enhance terminal accessibility and last-mile linkages	A Dry Port and MMLP has been commissioned at Jalna enhancing container services access to the hinterland industries.
Operating and Regulatory Environment	Simplify regulations and approvals through digital integration	MAITRI Single Window System has been strengthened facilitating investment exceeding Rs. 5,000 Cr.
Sustainability and Equity Logistics	Promoting green and sustainable logistics	Maharashtra Logistics Policy 2024 incentivises green logistics parks, EV adoption, renewable energy use, and multi-storey warehousing

Assessment Pillar	Identified Opportunity in LEADS 2024	Action Taken by States/UTs as identified under LEADS 2025
Mizoram		
Infrastructure	Improving Urban freight infrastructure	State is setting up truck terminals, regional bus terminals, and maxi-cab terminals under Aizawl Sustainable Urban Transport Project to improve cargo circulation and ease congestion within Aizawl city
Operating and Regulatory Environment	Initiate steps for integration of logistics planning and strengthen institutional support measures	Logistics initiatives are coordinated through SIT Mizoram and its PIME Unit, to support data-driven planning, inter-departmental convergence, and structured implementation
Odisha		
Infrastructure	Improving road connectivity to the Kalinganagar Industrial Complex	4-laning of NH-53 is near completion, improving connectivity
	Improve Vehicle and truck parking management measures near Paradip port	RFID-based access control system is implemented at Paradip port
	Development of Dry Ports and ICDs	ICD is currently under development in Kendrapara district
Operating and Regulatory Environment	Strengthening the Grievance redressal mechanisms	Resolution of investor grievances is implemented through the State Level Facilitation Cell and the e-Abhijoga portal enables lodging and tracking of grievances
Tamil Nadu		
Infrastructure	Fasttrack the construction and operation of MMLPs	• Chennai MMLP (under construction); Coimbatore MMLP (advanced land acquisition) • Dry ports planned in Trichy, Madurai, and Hosur
	Improving road access to Ports and Logistics hubs	• 4-laning of Southern Port Access Road • Maduravoyal Elevated Corridor is under implementation
	Fast-tracking Industrial Corridor development	Development of Chennai – Tuticorin (via Trichy) greenfield corridor by NHAI
Services	Reducing the cost of Logistics services	Development of minor ports by TN Maritime Board under the State Port policy aims to reduce logistics cost
Operating and Regulatory Environment	Development of Cold chain infrastructure near airports	Draft Warehousing policy incentivises cold chain infrastructure
Telangana		
Infrastructure	Strengthening logistics infrastructure provision in and around Hyderabad	State is implementing modern logistics parks at Mangalpally and Batasingaram to expand warehousing and truck parking capacity around Hyderabad
Services	Improving skilling infrastructure and workforce capacity	State has set up Centre of Logistics Training for Excellence (COLTE), Hyderabad, in partnership with the Logistics Sector Skill Council

Assessment Pillar	Identified Opportunity in LEADS 2024	Action Taken by States/UTs as identified under LEADS 2025
Operating and Regulatory Environment	Increasing digitization and scope of logistics processes	The single-window clearance system (TS-iPASS) is upgraded to enable smoother issuance of approvals, enhancing Ease of Doing Business
Uttar Pradesh		
Infrastructure	Development of modern Transport Nagar at Varanasi	Phase-I development of Transport Nagar is underway on 16.8 ha land in Varanasi
	Road widening and junction improvements on key corridors	Road widening works are underway at critical junction bottlenecks in Varanasi and Meerut
	Dedicated freight corridor for improved cargo transit	A freight corridor is under implementation in Meerut with dedicated facilities for truck loading/ unloading areas
	Development of MMLP and dedicated freight terminals	A MMLP and dedicated freight terminal is under construction at Meerut near New Meerut Cantt Station.
Sustainability and Equity Logistics	Increasing adoption of e-freight vehicles	Uttar Pradesh has deployed 700+ EV buses across 14 cities and under the State EV Policy, incentivises the usage of 2- and 3-wheelers for last-mile cargo delivery.
Uttarakhand		
Infrastructure	Development of Multi Modal Logistics Hubs	Development of MMLHs at Haridwar, Dehradun, Udham Singh Nagar and Nainital under Uttarakhand Logistics Policy 2023
Services	Launch of Skill Development programs in Logistics	Under implementation in coordination with Uttarakhand Skill Development Mission, educational institutions, and industry participation
Sustainability and Equity Logistics	Increasing the adoption of green energy-based transport solutions	Draft Logistics Action Plan prioritizes adoption of green transport solutions by targeting reduction in logistics-related carbon emissions by 40% and adoption of renewable energy to power 50% of logistics facilities in 5 years

Figure: Implementation of LEADS 2024 recontaminations by States/UTs

Progress Achieved in Regulatory and Institutional Framework

In addition to improvements across the core pillars, several States/UTs have taken steps to strengthen the regulatory and institutional foundations of the logistics sector. This reflects growing recognition that logistics performance depends on both: physical assets and effective governance, coordination, and planning.

Following the launch of LEADS, States and UTs have undertaken a range of measures in this direction, including the formulation of logistics policies, creation of dedicated institutional mechanisms, integration with PM GatiShakti, and preparation of city logistics plans to address urban freight issues. These measures are intended to improve coordination across departments, support more structured planning, and strengthen the overall framework for logistics development.

The following table summarises the progress made by States/ UTs in strengthening regulatory and institutional frameworks for logistics.

Table: Progress summary made by States/UTs in response to LEADS

Initiatives by States:	Examples	LEADS Impact
Assessment Pillar: Logistics Policy and Action Plan		
States/UTs have introduced dedicated logistics policies and set up nodal agencies/ Logistics Cell to strengthen governance, coordination, and implementation.	• Uttar Pradesh introduced the Logistics and Warehousing Policy (2022) with a focus on logistics parks, warehousing clusters, and multimodal connectivity. • Madhya Pradesh Logistics Policy 2025 aims to establish the state as a top-tier logistics hub by reducing costs, boosting infrastructure (MMLPs, ICDs), and improving supply chain efficiency. • The Government of Andhra Pradesh has approved the creation of AP Logistics Infrastructure Corporation (AP-LInC) as the nodal agency responsible for planning, coordinating, developing, and monitoring logistics infrastructure across the state.	As of December 2025, 28 States/ UTs have notified State Logistics Policy and 17 States/UTs have developed Action Plans for implementation of the Logistics Policy,19 States/UTs have a full-fledged logistics cell within the State Government. Additionally, 5 other States/UTs have constituted an inter-departmental task force on logistics.
Assessment Pillar: Logistics Policy and Action Plan		
In line with the growing focus on urban freight efficiency under the LEADS framework, several States/ UTs have initiated efforts to incorporate City Logistics Planning into their urban development and transport strategies.	• In Gujarat, City Logistics Plans for Gandhinagar, Ahmedabad, Vadodara, Surat, Junagadh and Jamnagar have been approved by the respective City Logistics Co-ordination Committees as well as the Steering Committee constituted for review and approval of these plans. • In Telangana, Master Plan for MDP-2031 and Economic Development Plan for Hyderabad Metropolitan Area, which include logistics components, acts as the City Logistics Plan. Additionally, Master Plan with Logistics Parks, Master Plan with Truck Parking Terminals, Master Plan of HMDA and Master Plan of Zaheerabad are in place.	As of December 2025, City Logistics Plans are in place in 6 States/UTs. An additional 7 States/UTs have City Logistics Plans at the draft stage.
Assessment Pillar: PM GatiShakti National/State Master Plan		
Following the launch of PMGS, states have increasingly aligned logistics and infrastructure planning with the integrated and data driven approach enabled by the platform. Many have initiated steps to plan and map infrastructure projects through the PMGS portal.	• In Andhra Pradesh, more than 90 projects, such as External Connectivity to Naidupeta Industrial Cluster (8.50 km), connectivity to Routhusurmala Industrial Cluster Road (9.20 km), connectivity to Nakkapalli Industrial Cluster Road (4.50 km), Widening of the Anakapalli-Atchutapuram road to 4-lane (13.80 km), 2 to 4 laning of road connecting Kakinada port to NH 16 at Rajanagaram in Godavari District (30.00km) are planned through PM GatiShakti framework. • In Gujarat, more than 1700 projects are being planned using the PMGS framework.	All 36 States/UTs have onboarded on to the PMGS platform and are using the PM GatiShakti State Master Plan portal for planning and mapping infrastructure projects. Institutional mechanism such as NPG, TSU and EGoS have been established in majority of the State/UTs with representation from concerned departments. Regular NPGs are being conducted at State level to evaluate the application and usage of PM GatiShakti principles in project planning.

Initiatives by States:	Examples	LEADS Impact
Assessment Pillar: Industry Status to Logistics and Warehousing Sector		
Recognizing the critical role of logistics in enabling efficient supply chains and supporting industrial growth, several states have granted industry status to the logistics sector. This policy measure has improved the investment climate for logistics infrastructure such as warehousing, logistics parks, cold chains, and freight terminals	States such as Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, and Madhya Pradesh are extending policy benefits to logistics-sector projects including land allotment in industrial areas, concessional power tariff, stamp duty exemption, SGST reimbursement, etc. following the grant of industry status.	As of December 2025, 30 States/ UTs have granted industry status to logistics sector. In States such as Bihar, Goa, Gujarat, Jammu & Kashmir, Telangana, etc. companies have begun availing benefits under these provisions.

Figure: Progress achieved in Regulatory and Institutional frameworks for

Conclusion

In conclusion, this assessment, it is evident that strategic interventions identified in previous LEADS editions have yielded measurable improvements in logistics efficiency. Each State/UT has reported specific reforms made in identified priority areas such as improving logistics infrastructure, strengthening service delivery, enhancing sustainability practices, and establishing supportive regulatory and institutional frameworks.

The progress documented here serves as clear evidence of a maturing logistics ecosystem. However, it is pertinent to highlight that the scale and pace of various reforms by States/UTs must be accelerated to sustain and scale up the operational efficiency and capacity of the logistics landscape in line with the nation's rapid economic and industrial growth in future.

Chapter 8

Way Forward

India's logistics reform agenda is entering a new phase. Over the last few years, most State/UTs have put in place the core policy and institutional mechanisms as well as governance structures. The next phase of improvement in logistics performance will depend on the ability of States and Union Territories to translate intent into execution through a prioritised and funded pipeline of interventions, along with institutional ownership and measurable outcomes that reflect user experience on the ground.

The differentiator is therefore shifting from notification to delivery, and from reform adoption to performance on the ground. LEADS 2025 is positioned to reinforce this shift by looking more closely at the full continuum - from policy to action planning, to a funded pipeline, to implementation, and finally to outcomes. The way forward for States/UTs, therefore, is best treated as an action framework: building delivery capacity, reducing everyday operating friction, improving reliability and service quality, and institutionalising performance tracking as part of day-to-day governance.

Findings from LEADS 2025 indicate that while most States and Union Territories have established policy frameworks and institutional mechanisms, performance gaps persist at the level of execution – particularly (i) delays and stoppages that reduce end-to-end corridor efficiency, (ii) weak first-/last-mile links to key industrial and consumption nodes, (iii) inconsistent service quality across warehousing and transport operations, and (iv) uneven implementation of operating and enforcement practices across jurisdictions.



7.1 Reframing the next phase of logistics reform: from adoption to delivery maturity

As logistics volumes grow, overall performance is increasingly shaped by a familiar set of constraints: gate and corridor congestion, uneven service reliability, multiple regulatory touchpoints, and last-mile operating issues. These constraints are not resolved through broad policy statements alone. They improve when States/UTs take up a focused set of actions and deliver them within defined timelines. LEADS 2025 shows that States making visible gains are those that have focused on a narrow set of high-impact issues – often at specific corridors, terminals, or urban nodes identified through integrated planning (including PM GatiShakti State Master Plan). These findings suggest three practical shifts in how States/UTs design and drive logistics improvements:

- From breadth to depth: fewer initiatives, chosen carefully and implemented fully.
- Capacity expansion with system performance: pursuing capacity addition alongside efforts to ensure predictable movement across nodes and corridors.
- Institutionalise continuous monitoring: regular review cadence, performance dashboards, and time-bound issue closure can help sustain improvements.

A "delivery-focused" approach recognises that logistics is shaped as much by day-to-day operating conditions as by projects, and therefore requires sustained attention to operating practices, service reliability, and compliance processes.

7.2 Guiding principles for the way forward

The next phase of logistics improvement will require prioritisation and consistent delivery of high-impact interventions by States/UTs. To keep the agenda practical and outcome-oriented, the way forward is anchored in a small set of guiding principles described below. These principles are also intended to help States/UTs align delivery choices with NLP outcomes, particularly logistics cost efficiency, service quality, and data-driven governance.

1. **Focus on on-ground performance:** A small set of metrics can be used to determine competitiveness: transit reliability, turnaround time at key nodes, approval timelines, and consistency of enforcement . These outcomes directly influence cost, inventory decisions, and location choices for businesses.
2. **Prioritise the binding constraints on key freight flows:** A high-performing logistics strategy begins with identifying where delays and costs are concentrated and then prioritising targeted interventions to unlock flow. This prevents effort from getting spread thin and allows improvements to be visible within realistic timelines.
3. **Develop an implementation-ready pipeline:** Action plans are most effective when translated into a project pipeline with ownership, financing arrangements, procurement and implementation readiness, and measurable milestones. This helps bridge the gap between planning and delivery and aligns with CLAP's emphasis on time-bound execution.
4. **Strengthen operating and compliance processes:** Permits, enforcement, local-body interfaces, and urban freight rules shape real performance. Streamlining these processes through end-to-end online workflows, standardised documentation, transparent service timelines,

and better inter-department data sharing can reduce delays and variability while improving transparency and ease of doing business. This directly supports NLP's focus on process simplification and data-driven governance.

5. **Strengthen institutional coordination through a State Logistics Cell:** States/UTs may consider setting up a dedicated State/UT Logistics Cell to serve as a single coordination anchor for PM GatiShakti and NLP implementation. The Cell can help align line departments on a regular basis, keep PM GatiShakti data layers updated, and use the State/District Master Plan approach to identify and prioritise key corridors, nodes, and last-mile interventions. It can also monitor progress on relevant CLAP action points, resolve inter-department bottlenecks, and provide a single point of contact for logistics-related matters in the State/UT. The Cell may be housed in an appropriate department and supported through representation from Planning, Industries, Transport, Urban Development and other infrastructure departments as required.
6. **Adopt green logistics measures:** States/UTs may consider promoting green logistics through practical actions: reducing avoidable stoppages, improving vehicle utilisation and load factors, supporting adoption of cleaner fuels and vehicles, and improving node layouts to minimise idling and re-handling. Such measures can lower emissions while also improving operating efficiency and service quality.
7. **Clear Vision and action plan supported by robust monitoring:** States/UTs may consider articulating a long-term logistics vision aligned to their specific constraints and growth priorities, supported by a time-bound action plan and a small set of measurable milestones. Regular monitoring and periodic review of progress against this vision can help sustain focus, course-correct where required, and ensure that initiatives translate into outcomes over time.

7.3 A State/UT Logistics Delivery Playbook aligned to LEADS 2025

The suggested way forward can be distilled into a simple delivery playbook for States/UTs. The emphasis is not on adding more initiatives, but on executing a limited number of high-impact actions well – particularly on the corridors and nodes that carry the bulk of freight, and on the operating processes that shape day-to-day predictability. The playbook is intended to be implemented using existing institutional and planning mechanisms, including PM GatiShakti State and District Master Plans for prioritisation, and to support action areas under the National Logistics Policy.

The playbook below brings together five levers that strengthen delivery capacity: clear ownership and coordination, focused pipelines, smoother operating conditions, stronger services and workforce readiness, and regular performance tracking.

Lever	Strategic Rationale	Key Actions	Indicators of Strong Performance
Governance and accountability	Small, empowered "anchor" within the State/UT is needed to drive coordination, decisions, and follow-through	• Set up/strengthen a Logistics Cell/Delivery Unit (corridors/nodes, coordination, stakeholder interface, monitoring). • Run a monthly review cadence chaired at senior level (milestones, escalations, decisions) • Bring industry/LSPs in as partners for issue identification and validation • Track closure with owners + timelines + outputs	Clear pipeline + working escalation + faster inter-department resolution
Corridor- and node-first pipeline	Logistics outcomes improve fastest when interventions are built around the main freight corridors, gateways, and clusters.	• Prioritise top corridors + gateways (ports/airports/ICDs/railheads, clusters, agri belts) using State/District master planning inputs • Prepare a bottleneck map (infra gaps + operating issues + process frictions) • Package a corridor improvement programme (decongestion, last-mile, parking/holding, process fixes, monitoring) • Ensure readiness first (land, approvals, procurement, funding)	Few high-impact programmes with measurable gains in time + reliability + key cost drivers
Operating reforms & predictability	Most delays come from process and enforcement variability: reducing this unpredictability directly improves reliability.	• Simplify/digitise approvals; standardise requirements across agencies • Move to risk-based enforcement leveraging digital tools to reduce discretionary stoppages • Set service standards (time-bound approvals and grievance closure) • Put in place urban freight measures (time windows, loading zones, micro-hubs where relevant, aligned local rules) • For major corridor projects, include NPG provisions upfront: last-mile link upgrades to key economic/social nodes, wayside amenities, and network coverage along the alignment.	Lower transit-time variation + fewer avoidable stoppages + reduced compliance delays

Service quality, safety & workforce	Infrastructure works best when services, safety practices, and workforce capability keep pace.	• Improve warehouse/logistics park quality (standards + safety + certification where feasible) • Close workforce gaps (drivers, operators, supervisors, safety, digital roles) with demand-linked training • Strengthen parking/rest/amenities on dense freight corridors • Push operational practices: better load factors, fewer empty runs, faster turnaround	Fewer disruptions + safer cargo movement + better asset utilisation + improved node performance
Delivery focus	What gets measured regularly gets fixed - credible data systems are essential to sustain improvement.	• Use a small KPI set linked to NLP outcomes (cost, service quality, and governance): node turnaround, corridor reliability, approval timelines, grievance closure • Triangulate admin data + stakeholder feedback + objective measures • Run a simple loop: baseline → intervention → measurement → course correction • Set data governance: definitions, frequency, validation, owners	Credible measurement used for day-to-day decisions, not only reporting

Figure:Logistics Delivery Playbook aligned to LEADS 2025

Logistics Delivery Playbook

The five levers are designed to work as a package. States/UTs that embed this playbook into routine governance - through clear priorities, named owners, defined timelines, and a steady review cadence, will be better placed to convert intent into visible outcomes – including lower friction, improved reliability, and a more predictable logistics experience for users.

7.4 Time-horizon roadmap for implementation

Implementation requires clear sequencing. Some improvements, especially around approvals, enforcement variability, and node-level operating practices, can be delivered within months and will show up quickly in stakeholder experience. Others require sustained capacity-building and investment. The roadmap below sets out a practical time horizon short to long term to help States/UTs phase actions, align budgets, and track progress against measurable milestones.

Quick wins that visibly reduce friction	Build delivery capacity and scale corridor programs	Structural shifts for competitiveness and sustainability
Short Term	**Short to Medium Term**	**Medium to Long Term**
• Streamline key approvals and compliance touchpoints; publish service standards. • Launch corridor/node diagnostics and begin targeted decongestion at major gateways. • Establish delivery cadence, stakeholder forums, and issue-closure systems. • Start workforce programs tied to immediate gaps and placements	• Execute corridor improvement packages and node upgrades with measurable milestones. • Expand warehousing and aggregation infrastructure where demand is validated. • Strengthen digital monitoring and embed data systems into routine departmental processes.	• Enable modal efficiency through integrated planning and intermodal connectivity. • Develop mature logistics clusters around key industrial and trade gateways. • Scale decarbonisation through cleaner fleets, better node design, and efficiency-led emissions reduction.

Table : Time-horizon roadmap for implementation

7.5 Strengthening LEADS as a delivery accountability instrument

As States/UTs mature, the assessment approach must increasingly reward outcomes and credible execution capacity. LEADS can deepen this through three design directions:

1. **Greater weightage to execution evidence:** Future iterations of the assessment could progressively place greater emphasis on proof of implementation: milestone completion, budget linkage, project readiness, and operational performance shifts, so that higher scores/rankings increasingly reflect demonstrated execution.
2. **Maturity banding and differentiated pathways:** Going forward, LEADS can sharpen peer learning through grouping organised around the performance cohorts (Exemplars, High Performers, Accelerators, Growth Seekers). This shall support greater peer learning across all States/UTs by highlighting practices that can be adapted and replicated across contexts.
3. **Stronger triangulation between perception and objective evidence:** As data organisation strengthens, LEADS can sharpen how perception and objective indicators validate each other (e.g., when objective progress is visible, but user experience hasn't improved, or vice versa) – through more granular indicator definitions, greater evidence collection, and structured handling of divergences.

This evolution can make LEADS an instrument that nudges routine delivery discipline across States/UTs, while also supporting peer learning and replication of practices that have demonstrated results. In turn, it strengthens coherence between LEADS report, PM GatiShakti execution discipline, and objectives of NLP.

PM GatiShakti Public, launched via the Unified Geospatial Interface (UGI), provides regulated access to selected non-sensitive datasets from the PM GatiShakti National Master Plan for private entities, consultants, researchers and citizens. It allows users to work with multi-layered geospatial data and run standard analytics such as connectivity mapping, site suitability, alignment planning, and report generation.

States/UTs may consider actively publicising PM GatiShakti Public through industry interactions and state logistics forums so that private players increasingly use it as a planning input while proposing logistics and infrastructure investments.

7.6 Conclusion:

The next phase of logistics reform for States/UTs will depend on delivery discipline: prioritisation of interventions, time-bound implementation, and regular monitoring of outcomes.

A useful starting point is for each State/UT to articulate a long-term logistics vision informed by local constraints and growth priorities, and to translate this into a State Logistics Policy and a State Logistics Action Plan (SLAP) with measurable milestones. Time-bound development and implementation of City Logistics Plans for identified cities can similarly support smoother urban freight movement.

States/UTs may also increase utilisation of PM GatiShakti as a tool for integrated planning and project execution. This includes using PM GatiShakti State and District Master Plans to identify priority corridors, nodes and last-mile interventions, and mandating integrated planning for projects above a prescribed threshold value through appropriate Government Orders. In addition, States/UTs may operationalise a State/UT-level NPG-type mechanism with defined

roles, regular meetings and integration with PM GatiShakti processes, so that project proposals are appraised early, inter-department dependencies are addressed upfront, and execution bottlenecks are resolved in a time-bound manner. States/UTs may also align PM GatiShakti usage with the notified SOPs for data-layer updation and validation, so that planning and monitoring are based on current and standardised portal layers.

A dedicated State/UT Logistics Cell can act as the coordinating anchor for this agenda, serving as a single point of contact for PM GatiShakti and NLP-related matters, ensuring regular updating/validation of relevant PM GatiShakti data layers, and monitoring implementation of CLAP action points under NLP. A State-level coordination mechanism on the lines of System Improvement Group (SIG) prescribed under NLP, can further strengthen cross-department alignment. Such institutional arrangements can also support faster execution of Central Government logistics and infrastructure projects within the State/UT through facilitation of land identification and acquisition, support in project design and last-mile link planning, coordination of clearances, and issue resolution with line departments and central agencies.

A focused push on last-mile connectivity remains important, as corridor and node performance often continues to depend on approach roads, access links to industrial and consumption centres, and supporting facilities such as parking/holding areas and basic amenities. States/UTs may consider a mix of funding measures such as suitable budget provisions, convergence across schemes, leveraging Public Private Partnerships (PPPs), packaging last-mile works with larger corridor/node programmes, and prioritisation through integrated planning.

Alongside infrastructure and operating reforms, States/UTs may strengthen the human resource base of the logistics sector through skilling programmes aligned to demand (drivers, equipment operators, warehouse supervisors, safety and digital operations roles). States/UTs may also encourage relevant officers across departments to complete the Mission Karmayogi iGOT course on PM GatiShakti, enabling more consistent institutional capability for integrated planning and execution. Measures to improve women's participation in logistics, including in supervisory and leadership roles, can be supported through targeted skilling, workplace enablement and visibility of role models.

Early completion of these actions can contribute to stronger coordination, avoidance of duplication, better utilisation of resources, and improved logistics performance across States/UTs. LEADS can support this shift by strengthening the link between on-ground delivery and measured outcomes, and by enabling learning and replication of effective practices across all 36 States/UTs.

Chapter 9

Annexure



Annexure-I

Replicable High-Impact Practices in Logistics Development across States and Union Territories

Across States and Union Territories, several innovative logistics practices have emerged that demonstrate how targeted infrastructure investments, coordinated governance mechanisms, enabling policy frameworks, and industry-linked skilling initiatives can significantly improve logistics efficiency and reliability.

While the logistics ecosystem in each State evolves within its unique geographic, industrial, and trade context, a number of common strategic approaches have proven particularly effective. These include proactive infrastructure augmentation, structured inter-departmental coordination, development of multimodal logistics facilities, targeted policy initiatives and improved air connectivity for regional trade.

The practices highlighted in this annexure illustrate replicable models that other States and Union Territories can adapt to strengthen their logistics ecosystems. These examples demonstrate how focused interventions can reduce logistics bottlenecks, improve supply chain efficiency, and enhance market connectivity.

The practices are presented across the following thematic areas:

1. Strengthening first and last-mile logistics connectivity
2. Institutionalized governance and fast-track coordination mechanisms
3. Development of multimodal logistics infrastructure and ICDs
4. Policy incentives to support logistics ecosystem development
5. Industry-linked logistics skill development initiatives
6. Air connectivity for regional trade enablement
7. Digital and sustainable port logistics

Strengthening First and Last-Mile Logistics Connectivity

Efficient first and last-mile connectivity plays a critical role in ensuring seamless freight movement between production centres, logistics facilities, and gateway ports. Several States have adopted proactive infrastructure expansion strategies to address rising cargo volumes and prevent congestion along critical logistics corridors.

Best Practice: Capacity-Led Port Connectivity Upgrade

State: Tamil Nadu

Category: First and Last-Mile Infrastructure

Challenge: Rising cargo volumes at Kamarajar and Kattupalli ports were placing sustained pressure on existing port access infrastructure.

Intervention: The Southern Port Access Road (Vallur Junction–Kamarajar Port) was upgraded from two lanes to four lanes (FY 2024–25), improving connectivity between ports, industrial clusters, and logistics facilities such as CFSs and ICDs.

Outcome:

- Port throughput increased from 34.50 MTPA (2018–19) to 48.41 MTPA (2024–25)
- Significant reduction in congestion and cargo travel time
- ~150% increase in cargo movement along the corridor

Replication Potential: Aligning port connectivity expansion with cargo growth projections can prevent bottlenecks and sustain port-led industrialization.

Best Practice: Freight Bypass Rail Corridor

State: Haryana

Category: Rail-Based Freight Connectivity

Challenge: Freight congestion in NCR due to shared passenger and freight rail infrastructure.

Intervention: Development of the Haryana Orbital Rail Corridor along the KMP Expressway to enable freight trains to bypass dense urban rail networks.

Outcome:

- Decongestion of urban rail corridors
- Improved freight transit times
- Strengthened multimodal integration across NCR

Replication Potential: Freight bypass corridors are particularly relevant for high-density industrial regions where urban congestion constrains logistics efficiency.

Best Practice: Rural Connectivity in Difficult Terrain

State: Himachal Pradesh

Category: Terrain-Specific Connectivity

Challenge: Limited logistics access in remote and hilly regions affecting market linkages for local produce.

Intervention: Construction of rural roads and bridges under PMGSY-III (over 500 km completed as of 2025).

Outcome (Indicative):

- Improved first-mile connectivity for agriculture and allied sectors
- Enhanced access to markets and logistics nodes

Replication Potential: Targeted rural connectivity programmes in geographically constrained regions can unlock local economic potential and improve supply chain inclusion.

Institutionalized Governance and Fast-Track Coordination Mechanisms

Large logistics infrastructure projects typically require coordination among multiple departments and agencies. Several States have introduced structured governance frameworks to accelerate project implementation and reduce procedural delays.

Best Practice: Two-Tier Logistics Coordination Framework

State: Tamil Nadu

Category: Logistics Governance

Challenge: Fragmented approvals and inter-departmental coordination delays in large logistics projects.

Intervention: Institutionalisation of a two-tier coordination mechanism for projects above ~USD 90 million, involving a nodal agency (TIDCO), Technical Support Unit, and structured reviews through national-level platforms.

Outcome:

- Accelerated project approvals
- Improved monitoring of ~50 strategic logistics interventions
- Stronger inter-agency coordination

Replication Potential: Formalised coordination mechanisms can significantly improve execution efficiency for large-scale infrastructure projects.

Best Practice: Digital Single Window for Logistics Approvals

State: Punjab

Category: Digital Governance

Challenge: Delays and lack of transparency in approval processes for logistics investments.

Intervention: FastTrack Punjab Portal enabling end-to-end digital approvals. Single Window Clearance System facilitating streamlined approvals and clearances.

Outcome:

- 300+ clearances issued in Punjab since 2023
- Reduced approval timelines and improved transparency
- Enhanced investor confidence

Replication Potential: Digitised single-window systems are critical for improving ease of doing business in logistics.

Development of Multimodal Logistics Infrastructure and ICDs

The development of multimodal logistics parks, inland container depots, and integrated logistics hubs is emerging as a key strategy for improving freight efficiency and reducing logistics costs.

Best Practice: Inland Container Depot for Hinterland EXIM

State: Bihar

Category: Multimodal Logistics Infrastructure

Challenge: Exporters and manufacturers in Bihar relied on distant gateway ports for customs clearance, resulting in higher logistics costs and longer cargo transit times.

Intervention: The Inland Container Depot (ICD) at Bihta, completed in October 2024, provides local customs clearance and direct rail connectivity to gateway ports including Kolkata, Haldia, Visakhapatnam, and Mundra.

Outcome:

- 20–25% reduction in cargo dwell time
- 20–25% reduction in logistics costs
- Enhanced export competitiveness

Replication Potential: Strategically located ICDs can significantly enhance export competitiveness by bringing customs clearance closer to production centres.

Best Practice: Integrated Multimodal Logistics Hub

State: Uttar Pradesh

Category: Multimodal Logistics Hub

Challenge: Fragmented freight infrastructure limited efficient cargo movement across different transport modes.

Intervention: Development of a Multimodal Logistics Park in Varanasi integrating road (NH-7), rail (EDFC), and inland waterways (NW-1).

Outcome (Expected):

- Seamless multimodal freight movement
- Reduced logistics costs
- Improved efficiency for domestic and EXIM trade

Replication Potential: Strategically located multimodal hubs can act as regional freight consolidation and distribution centres.

Policy Incentives to support Logistics Ecosystem Development

Several States are using targeted policy incentives to attract private investment into logistics infrastructure such as warehousing, cold chains, and freight terminals.

Best Practice: Logistics-Focused Industrial Policy

State: Bihar

Category: Policy Incentives

Challenge: Limited private investment in logistics infrastructure constrained supply chain efficiency and industrial development.

Intervention: BIIPP 2025 providing incentives for logistics infrastructure including warehouses, cold chains, and logistics parks.

Outcome:

- 965 industrial units benefited
- 130+ logistics-focused enterprises supported

Replication Potential: Targeted policy incentives can catalyse private investment and accelerate the development of logistics ecosystems.

Best Practice: Rail-Linked Logistics Land Policy

State: Uttar Pradesh

Category: Multimodal Policy Innovation

Challenge: High land costs and limited access to rail-linked infrastructure hindered development of logistics hubs.

Intervention: MoU with Indian Railways enabling concessional long-term lease (1.5% of land value) for logistics hubs on railway land.

Outcome (Expected):

- Enables development of rail-linked logistics hubs and dry ports
- Improves modal shift toward rail

Replication Potential: Innovative land-leasing models can unlock strategic logistics infrastructure development at scale.

Best Practice: Logistics Sector Policy with Land Reservation

State: Rajasthan

Category: Logistics Policy

Challenge: Lack of planned allocation for logistics infrastructure within industrial areas limited warehousing capacity.

Intervention: Policy mandating reservation of up to 10% land in industrial areas for logistics use.

Outcome (Expected):

- Targeted increase in warehousing capacity (~20% in 3 years)
- Strong investor response (100+ applications)

Replication Potential: Land reservation policies ensure systematic integration of logistics infrastructure into industrial planning.

Best Practice: Policy-Led Logistics Ecosystem Development

State: Jharkhand

Category: Integrated Logistics Policy

Challenge: Fragmented logistics development and lack of industry recognition limited sector growth.

Intervention: Jharkhand Industrial Park and Logistics Policy (2022) granting industry status and incentives.

Outcome (Indicative):

- Improved warehousing utilisation
- Reduced logistics costs over time
- Enhanced investor participation

Replication Potential: Granting industry status to logistics can unlock financing and institutional support.

Industry-Linked Logistics Skill Development initiatives

As logistics operations become increasingly sophisticated, workforce development has emerged as a key priority for many States.

Best Practice: Dedicated Logistics Skill University Model

State: Telangana

Category: Skill Development

Challenge: The rapid growth of logistics and e-commerce sectors created demand for specialised logistics workforce skills.

Intervention: The Young India Skills University established a School of Logistics and E-Commerce in November 2024, partnering with industry players such as Adani Logistics and O9 Solutions to deliver specialised training programmes.

Outcome:

- 500+ students trained in first year
- Industry-aligned job roles and placement support

Replication Potential: Dedicated institutions with industry linkages can address skilled workforce gaps in logistics.

Air Connectivity for Regional Trade Enablement

Improved air connectivity plays an important role in supporting high-value and time-sensitive cargo movement, particularly for agricultural produce and MSME exports.

Best Practice: Regional Air Cargo Access for Hinterland Markets

State: Bihar

Category: Air Logistics

Challenge: Limited air connectivity restricted market access for agricultural producers and small enterprises in the region.

Intervention: Operationalisation of Purnea Civil Enclave Airport (2025) improving connectivity for multiple districts.

Outcome:

- Enhanced market access for agriculture and MSMEs
- Faster movement of perishable and high-value goods

Replication Potential: Regional airports with cargo handling facilities can significantly improve market connectivity for agricultural and MSME supply chains.

Digital and Sustainable Port Logistics

Ports are critical gateways for India's trade and play a central role in efficiency of national and international supply chains. As cargo volumes continue to grow, several States are adopting digital technologies and sustainable operational practices to improve port efficiency.

Best Practice: Smart and Green Port Ecosystem

State: Andhra Pradesh

Category: Next-Generation Logistics Infrastructure

Challenge: Ports play a critical role in supporting India's trade and logistics networks. Increasing cargo volumes require ports to adopt advanced technologies and sustainable operational practices to improve efficiency, reduce congestion, and minimise environmental impact.

Intervention: The Government of Andhra Pradesh has initiated the deployment of Digital Twins and AI/ML-based berth allocation systems to enhance port efficiency, while promoting a modal shift toward rail and waterways (targeting a modal shift toward rail and waterways exceeding 60% by 2047). These interventions aim to create a technologically advanced and environmentally responsible port logistics ecosystem.

Outcome:

- Improved operational efficiency and port asset utilisation
- Reduction in vessel waiting time and cargo handling delays
- Lower carbon footprint of port operators
- Enhanced competitiveness of port-led logistics corridors

Replication Potential: The adoption of digital and green operational practices in port management offers a scalable model for other coastal States seeking to enhance port efficiency while advancing sustainable logistics development.

Conclusion

The practices highlighted above demonstrate how States and Union Territories are adopting diverse approaches to strengthen logistics ecosystems through infrastructure development, governance reforms, policy incentives, and workforce development. While implementation models vary across regions, these examples illustrate scalable and replicable strategies that can be adapted by other States to address their specific logistics challenges and support more efficient supply chains.



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