PM GatiShakti
National Master Plan for Multi-Modal Connectivity

सत्यमेव जयते
Government of India
Ministry of Commerce & Industry
Department for Promotion of Industry and Internal Trade

INDIA LOGISTICS

LEADS 2024

Logistics Ease Across Different States

> To ensure quick last-mile delivery, end transport-related challenges, save time and money of the manufacturers, prevent wastage of the agro-products, concerted efforts were made, and one of the manifestations of those efforts is National Logistics Policy... Policy is just a beginning, policy plus performance is equal to progress

Hon'ble Prime Minister
Shri Narendra Modi

At the launch of the National Logistics Policy, 17th September 2022

पीयूष गोयल
PIYUSH GOYAL

सत्यमेव जयते

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

FOREWORD

India's vision of a "Viksit Bharat," a fully developed nation by 2047, rests firmly on the foundation of modern infrastructure and world-class transportation systems. In this transformative journey, a robust logistics ecosystem will be the driving force propelling our country toward its ambition of becoming a USD 32 trillion economy by 2047-48, while fulfilling the economic aspirations of a billion people.

In recent years, India's logistics sector has witnessed transformative reforms aimed at reducing inefficiencies and building world-class infrastructure. Landmark initiatives, including the National Logistics Policy (NLP), 2022 and the PM GatiShakti National Master Plan (NMP), exemplify the Government of India's commitment to multi-modal connectivity, streamlined investments and cost reduction.

Logistics Ease Across Different States (LEADS) is a key reform aimed at promoting cooperative and competitive federalism, while improving logistics efficiency among states and reducing costs relative to GDP. Evolving into a more data-driven report, LEADS now combines objective data and stakeholder perceptions across four pillars: Infrastructure, Services, Operating Environment and Sustainable Logistics. LEADS 2024 marks a significant evolution, incorporating new indicators and innovative methodologies to assess state logistics performance. By leveraging cutting-edge data, it evaluates key freight corridors and provides insights to help states identify bottlenecks and implement targeted improvements to their transport networks.

The success of LEADS is a testament to the spirit of cooperative federalism, a hallmark of our Hon'ble Prime Minister Shri Narendra Modi Ji's governance. It highlights the dedicated efforts of State Governments, Union Territories and logistics stakeholders, whose active participation reinforces India's resolve to become a global logistics leader.

I commend the concerted efforts of all State Governments, UT administrations and stakeholders for their active contributions to improving logistics and supporting the LEADS 2024 study. LEADS continues to be a valuable guide, helping States and UTs build responsive, resilient and future-ready logistics ecosystems. Together, let us move toward a future where India's logistics ecosystem is recognized as one of the finest in the world—reliable, efficient and sustainable.

Piyush Goyal

Ministry of Commerce & Industry, Vanijya Bhawan, Akbar Road, New Delhi-110001
Tel. No. : +91 11 23039110, 23039111, E-mail : cimoffice@nic.in

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 sector is rapidly transforming, driven by strategic reforms like National Logistics Policy 2022 (NLP) aimed at seamless integration of multiple modes of transportation by leveraging technology, processes and skilled manpower.

In 2024, the PM GatiShakti National Master Plan (NMP) continues to serve as a central pillar, fostering infrastructure development through multimodal connectivity. Improving supply chain efficiencies and reducing logistics costs are fundamental to India meeting the well-defined aspiration to become a US $5 trillion economy by 2026. In the year 2024, the size of the Indian logistics market is around US $318 billion. It is estimated that this market would grow to US $484 billion in 2029, at a compound annual growth rate of 8.8 percent.

Logistics Ease Across Different States (LEADS) plays a pivotal role in driving logistics reforms at the state and regional levels. By assessing States and Union Territories (UTs) on parameters such as infrastructure quality, service providers' performance, and regulatory environment, LEADS fosters healthy competition and pushes States to improve their logistics ecosystems. The survey will enable State/UT to gather conclusive insights that will help them address logistical challenges and optimize supply chains.

This year's report introduces new objective indicators to enhance performance tracking. These include measures for expanded access to rail networks, speed of key roads corridors and growth in training institutes and logistics professionals. These additions provide a more thorough view of state performance in infrastructure, services, regulations, and sustainability. I would like to appreciate and acknowledge the efforts of all State and UT administrations for the unwavering commitment that has driven these achievements.

I am confident that with continued collaboration and innovation, we will meet the ambitious targets laid out for India's logistics and infrastructure sectors.

(Jitin Prasada)

Vanijya Bhawan, New Delhi-110001, Tel. : 011-23039174, 23039184, E-mail : mos-ci@gov.in
Electronics Niketan, 6, CGO Complex, Lodhi Road, New Delhi-110003, Tel. : 011-24361756, E-mail : mos-eit@gov.in

अमरदीप सिंह भाटिया, भा.प्र.से.
सचिव
Amardeep S. Bhatia, I.A.S.
SECRETARY

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

The National Logistics Policy, 2022, plays a pivotal role in supporting economic activities and facilitating the efficient movement of goods across the country and internationally. The policy targets reducing the cost of logistics in India, improving India's performance in the World Bank Logistics Performance Index, and creating a data-driven decision-support mechanism for an efficient logistics ecosystem.

States and Union Territories play a crucial role in achieving these targets by contributing to production, manufacturing, agriculture, trade, and the provision of logistics to support these sectors. States and UTs have been actively investing, formulating policies, and implementing various measures to enhance the efficiency of the logistics sector.

The Logistics Ease Across Different States (LEADS) Survey, being executed by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry, has evolved significantly since its inception in 2018. It augments the Department's initiatives, such as the National Logistics Policy, PM GatiShakti National Master Plan (NMP), Business Reforms Action Plan, and Unified Logistics Interface Platform. The primary objective of the LEADS is to assess & rank the States and Union Territories based on the efficiency of their logistics ecosystem, creating a healthy, competitive and collaborative environment for improving logistics performance.

The 6th edition, LEADS 2024, the endeavour has been to make it more objective and recorded new parameters. The new parameter assessing the integration with the PM GatiShakti, status of geo-referencing of land records, extent of use of the PM GatiShakti NMP for planning of infra projects. These additions enhance the depth of assessment digital integration in improving logistics performance.

I express my sincere gratitude to all the stakeholders, States and Union Territories Goverments, Chief Secretaries, Principal Secretaries of Industries, and all stakeholders their unwavering support throughout the LEADS 2024 survey and urge to incorporate the insights from LEADS into their overarching strategies to enhance the efficiency of the logistics sector.

Let us collectively build on this strong foundation and pave the way for a future where India's logistics capabilities reach unparalleled heights.

01/01/2025

(Amardeep S. Bhatia)

Room No. 223, Vanijya Bhawan, Akbar Road, New Delhi-110 001, Tel.: 23038850, 23038851, E-mail : secy-ipp@nic.in

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Executive Summary

Evolution of LEADS: A Comprehensive Approach Balancing Perception and Objectivity

The Logistics Ease Across Different States (LEADS) 2024 report marks the sixth edition of this initiative of the Government of India aimed at providing an in-depth comparative analysis of logistics performance across States and Union Territories (UTs)

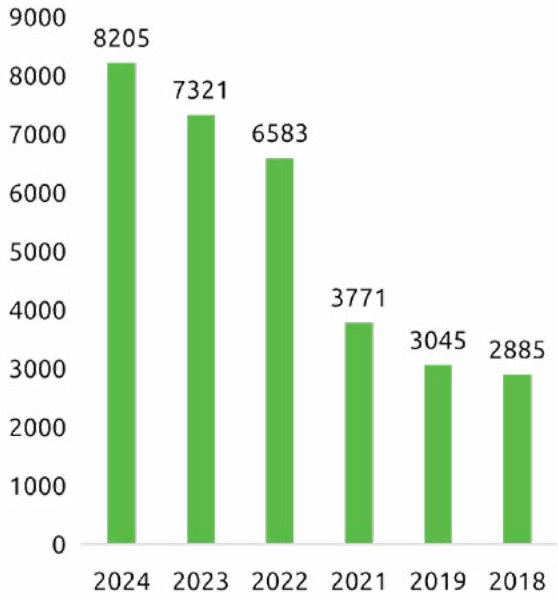
LEADS has evolved from a pioneering perception-based analysis to a balanced framework that integrates objective data alongside stakeholder feedback. This shift reflects its responsiveness to the Logistics sector's growing complexity, its role in driving cooperative and competitive federalism and identifying actionable opportunities for growth. The uniqueness of LEADS lies in its integration of perception with objectivity. Perception plays a critical role as it reflects performance changes with a time lag, based on actual experience with tangible aspects of logistics operation. Importantly, perception in LEADS not only evaluates subjective insights but incorporates objectivity by grounding opinions in tangible experiences. Such perceptions, formed over time, capture performance trends that may not align with policy implementations, providing critical insights for reform.

LEADS's study has improved over the period and underscored by:

1. Progressively enhanced frameworks to accommodate both subjective and objective indicators.
2. Focus on actionable recommendations for States to address logistics gaps.
3. Growing stakeholder engagement, including industry professionals and senior practitioners, ensuring rich, comprehensive insights.

By aligning with the National Logistics Policy (NLP) and PM GatiShakti National Master Plan (PMGS), the LEADS initiative has cemented its utility as an actionable roadmap for the logistics ecosystem nationwide.

Figure 1: Number of responses on perception indicators over the years



This year's LEADS edition introduces several enhancements to its framework:

Enhanced Objectivity and Inclusion of New Indicators: The weightage of objective data has increased from 23% to 32.5%, reflecting a greater emphasis on measurable metrics. New indicators, such as freight corridor speeds, access to terminals, and digital adoption, add more granularity to this year's analysis.

Introduction of Sustainability and Equity Logistics Pillar: Recognizing the growing need for decarbonization and resource efficiency, this year's edition also analyses States/UTs, apart from other indicators, on sustainability, including green logistics initiatives and workforce diversity.

Delta Analysis for Objective Data: By tracking year-on-year improvements, LEADS identifies measurable changes in logistics performance, highlighting progress in infrastructure.

Advanced Analytical Tools: Map API datasets have been leveraged for assessment of corridor speeds and congestion.

Shift towards Greater Objectivity

LEADS analyses the logistics efficiency of each State from two distinct perspectives: (a) perception of logistics industry professionals and practitioners, and (b) measuring and analyzing empirical data across the capacity and quality of various building blocks of the logistics ecosystem. However, LEADS is uniquely tailored to India's diverse logistics landscape through a group-based approach. It considers region-specific challenges while recognizing State-level achievements. As stated above, LEADS 2024 has assigned 32.5% weightage to objective indicators. This is much higher than previous editions of LEADS, which had weightage for objective indicators up to 23%, as well as other global indicators like World Bank LPI. Further, in order to bring in greater objectivity and robustness in perception survey, following initiatives were undertaken:

Diverse sampling: LEADS 2024 covered a much larger sample of respondents covering most industrial zones and urban agglomerations within each State/UT. Further, efforts were made to cover senior management in logistics industry, representing 78% of total respondents, who are expected to have wider, seasoned, and comprehensive perspectives.

Eliminating biases and outliers: Adopting z-score standardization method and others measures such as removing incomplete or duplicate responses, to effectively eliminate outliers and biases from the data.

Quantitative scaling: Further, the perception-based questionnaires comprised of close ended questions with numerical scales and corresponding supportive evidence also collated from respondents.

The overall intent here remains to bring in objectivity, to the extent possible, in all elements and facets of LEADS and ensure that true perception of respondents is accurately captured.

LEADS as a Catalyst for Logistics Reforms

Over the years, LEADS has evolved as a transformative platform, moving beyond benchmarking to catalyzing tangible improvements in India's logistics sector. States and UTs are increasingly leveraging LEADS findings to implement targeted reforms, enhance infrastructure, and streamline regulatory processes. Some of the key outcomes of LEADS over last few years include:

Bridging Infrastructure Deficits: With substantial investments in roads, railways, and multimodal connectivity, the logistics sector has witnessed accelerated progress. LEADS has provided required inputs to States for realigning investment initiatives in order to achieve desired outcomes such as logistics and transportation efficiency.

Actionable Roadmaps: LEADS aims to assess the commitment towards improving the logistics efficiency States are driving initiatives such as adopting advanced digital platforms for real-time cargo tracking, upgrading multimodal logistics hubs to improve supply chain integration, and rolling out targeted skill development programs to address workforce gaps.

Improved Baseline: The cumulative impact of LEADS is evident in enhanced baseline performance across the logistics sector, reducing costs, optimizing transit times, and superior service quality. By promoting a spirit of cooperation and competition, LEADS is strengthening India's logistics backbone, supporting its aspiration to become a developed economy and a global manufacturing leader.

The LEADS 2024 survey covered 8,205 respondents—a 13% increase over 2023. This extensive engagement including stakeholders from across the logistics value chain was complemented by 1,100+ stakeholder consultations aimed at gathering in-depth insights into regional and national logistics challenges.

The survey highlighted key challenges and opportunities in areas such as first and last-mile connectivity, warehousing quality, skilled manpower availability, and regulatory facilitation. These stakeholder perceptions were corroborated with objective data, capturing measurable metrics such as infrastructure development, policy initiatives, and technology adoption.

Following the same categorization as last few editions, LEADS 2024 sub-divided 36 States and UTs, into four geographic groups: Coastal, Landlocked, North-East, and Union Territories —to ensure fair comparisons that consider economic and geographical contexts. Performance is classified into three categories: Achievers, Fast Movers, and Aspirers, providing a clear benchmarking framework to measure progress and competitiveness across States/UTs. The summary outcome of LEADS 2024 are presented below:

Figure 2: Performance Snapshot for LEADS 2024

Final Weightage: Perception – 67.5% and Objective – 32.5%

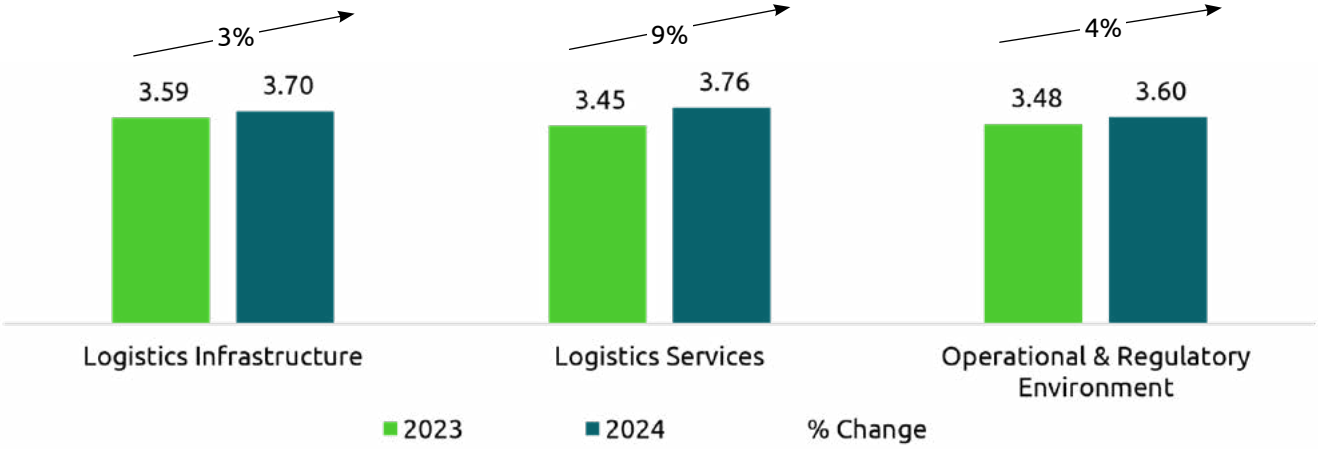
	Coastal Group States	Landlocked Group States	Union Territories Group	North Eastern Group States
Achievers	Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu	Haryana, Telangana, Uttar Pradesh, Uttarakhand	Chandigarh, Delhi	Arunachal Pradesh, Assam
Fast Movers	Andhra Pradesh, Goa	Bihar, Himachal Pradesh,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

Perception Indicators Analysis: Group-Specific Insights

Coastal States: Harnessing Maritime Connectivity

In LEADS 2024 assessment, the Coastal Group, central to India's EXIM trade, achieved the highest growth among the four groups compared to 2023 scores. Robust port networks, multimodal corridors, and advanced warehousing drove this performance, supported by investments in ports, roads, and railways that enhanced cargo transportation and handling efficiency and global trade integration. However, last-mile connectivity and terminal infrastructure, particularly at ICDs and CFS, remain areas for improvement. At the group level, 'Logistics Infrastructure' improved by 3 percent, 'Operational and Regulatory Environment' by 4 percent, and 'Logistics Services' saw the sharpest rise at 9 percent, reinforcing the group's role in advancing India's logistics ecosystem.

Figure 3: Coastal Group – Performance Changes

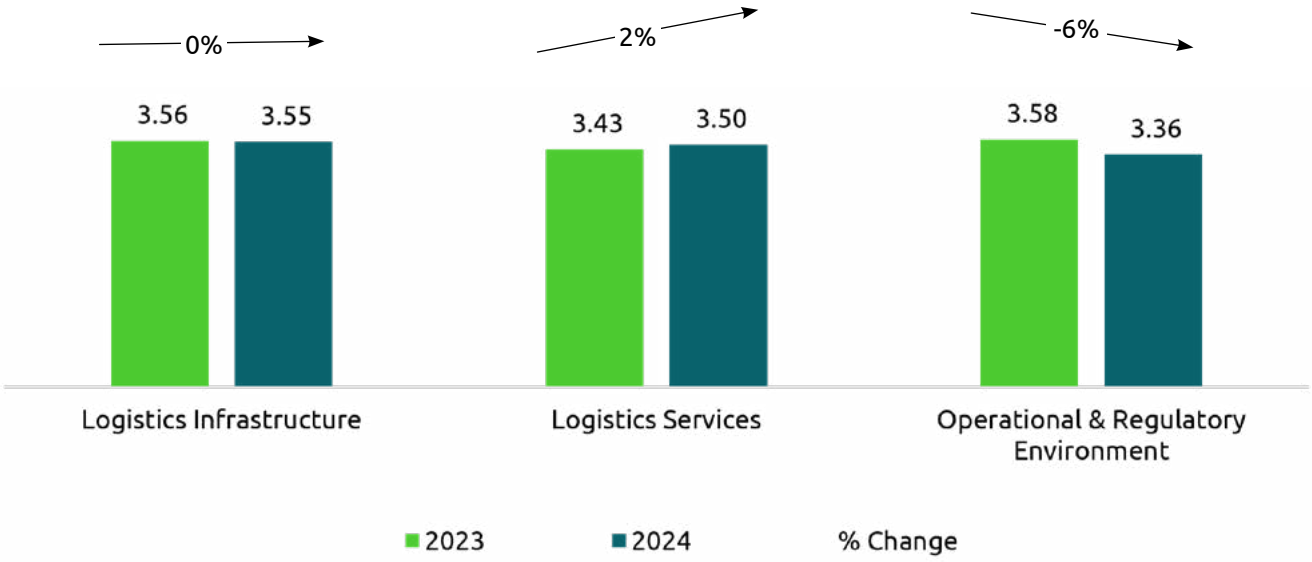


Stakeholders in Coastal States reported higher satisfaction with road and rail infrastructure, but highlighted challenges in optimizing hinterland connectivity to inland regions. Priorities for this group include strengthening cold chain logistics and promoting sustainable practices. States like Gujarat, Andhra Pradesh, and Tamil Nadu have excelled in terminal infrastructure and multimodal transport integration, as highlighted by industry stakeholders during on-ground consultations. Gujarat's intitatives on strengthening the infrastructure and services cold chain development and Andhra Pradesh's efforts in smart warehousing reflect a commitment to enhancing logistics efficiency.

Landlocked States: Unlocking Inland Potential

The Landlocked States Group's performance in LEADS 2024 for 'Logistics Infrastructure' remained consistent with 2023 levels, indicating potential saturation in infrastructure demand. While 'Logistics Services' showed a modest 2 percent increase, reflecting incremental service delivery improvements, 'Operational and Regulatory Environment' score, declined by 6 percent. This highlights challenges in regulatory adaptability and the need for targeted reforms to address emerging demands and operational inefficiencies.

Figure 4: Landlocked Group – Performance Changes

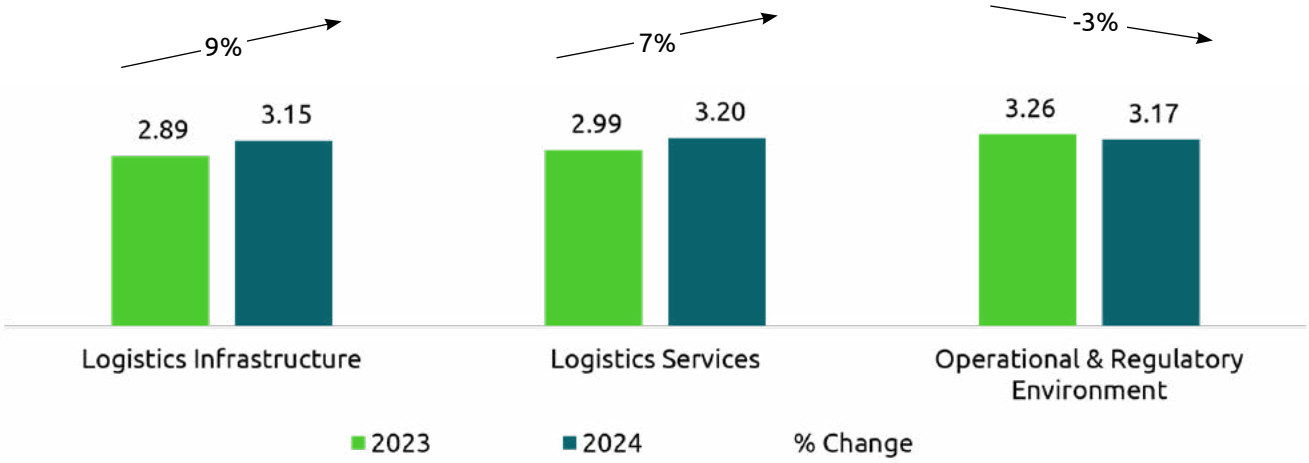


Stakeholder feedback indicates high satisfaction with road infrastructure, reflecting government investments in National and State highways. Landlocked States rely heavily on road and rail connectivity, making investments in these sectors critical. Haryana, Telangana and Uttar Pradesh, emerged as top performers, benefiting from dedicated freight corridors and expressway projects. Initiatives like Telangana's skill development programs and Uttar Pradesh's efforts to streamline regulatory processes underscore positive momentum. Nevertheless, challenges persist in addressing warehousing infrastructure gaps and improving last-mile logistics, which are essential for better integration of logistics hubs with industrial corridors. Additionally, regulatory hurdles, such as delays in clearances and differences in status of policy implementation across States, require streamlined reforms to enhance operational efficiency.

North-East Group: Bridging the Connectivity Gap

LEADS 2024 underscored notable improvements in the logistics performance of States within the North-East Group compared to 2023. 'Logistics Infrastructure' and 'Logistics Services' scores rose by 9 percent and 7 percent, respectively, showcasing the States' proactive measures to address increasing logistics demands. However, a 3 percent decline in the 'Operating and Regulatory Environment' score, affecting 5 out of 8 States, emphasises the need to enhance regulatory frameworks and operational policies to sustain the group's upward trajectory.

Figure 5: North East Group – Performance Changes



Overall, the North-East group has made steady progress, overcoming geographic constraints with initiatives like the cross-border trade enhancements and inland waterway developments in Assam and Tripura. However, the region's logistics potential remains constrained by its challenging topography, inadequate infrastructure, and limited connectivity to major economic hubs.

Stakeholders reported notable improvements in warehousing facilities and first- and last-mile connectivity, reflecting recent investments in aggregation hubs and cold chain infrastructure. Nevertheless, capacity of rail infrastructure including terminals continue to require targeted interventions.

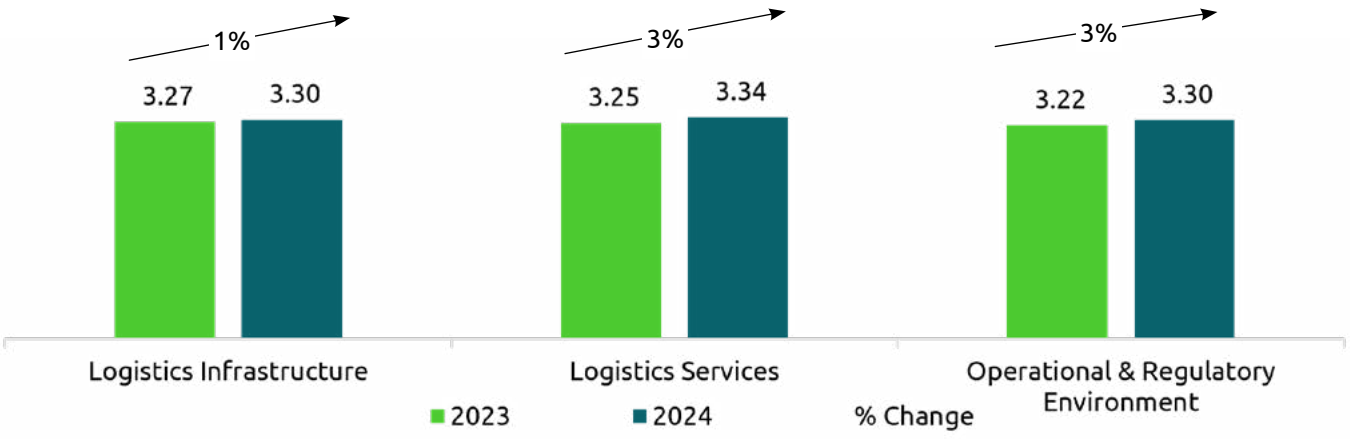
Assam's integration of multimodal logistics serves as a successful model for the group, demonstrating how strategic investments in connectivity and freight corridors can unlock the regions's economic potential. The North-East group's progress underscores the importance of region-specific strategies to enhance logistics efficiency.

Union Territories: Contrasting Dynamics

The Union Territories (UTs) present a diverse logistics landscape, ranging from urbanized hubs such as Delhi and Chandigarh to geographically isolated territories such as Andaman and Nicobar Islands and Lakshadweep. While urban UTs benefit from their proximity to industrial and commercial centers, as seen in Delhi and Chandigarh, remote UTs face significant challenges in connectivity, infrastructure adequacy, and logistics costs.

UTs demonstrated steady progress in the LEADS 2024 assessment, with improvements across all key pillars. 'Logistics Infrastructure' saw a 1 percent increase, reflecting efforts to enhance transport and storage capacities. 'Logistics Services' rose by 3 percent, highlighting advancements in terminal operations and delivery efficiency. Similarly, the 'Operating and Regulatory Environment' improved by 3 percent, driven by streamlined processes and effective grievance mechanisms. These results reflect UTs focused efforts through targeted policies and modern technology to strengthen India's logistics ecosystem.

Figure 6: Union Territories Group – Performance Changes



Delhi and Chandigarh excelled in regulatory facilitation and the availability of skilled manpower, reflecting mature logistics ecosystems. Conversely, isolated UTs are implementing targeted interventions to overcome logistics barriers. Initiatives to strengthen multimodal transport, develop cold storage, and optimize freight costs are critical to reducing regional disparities. The efforts of all UTs collectively contribute to enhancing the overall logistics efficiency of the country.

Objective Indicators' Analysis

The analysis of objective indicators focused on two critical dimensions: Regulatory Measures and Infrastructure and Connectivity Enablers, providing insights into effectiveness of State-level policies and availability, capacity, and utilization of logistics assets.

Regulatory Measures

This dimension assessed ten parameters, including logistics policy formulation, adoption of PM GatiShakti (PMGS) initiatives, human resource development, promoting green logistics, facilitation of Central Government projects, easing of regulatory measures, adoption of Public-Private Partnerships (PPPs) and initiatives towards ULIP.

Digital Transformation: Platforms like ULIP (Unified Logistics Interface Platform) have been adopted by 12 States and 1 UT, reflecting progress in streamlining operations through technology.

Logistics Policy: 22 State and 5 UTs have formulated logistics policies, establishing 14 States and 1 UT have translated these policies into actionable plans, outlining specific goals, timelines, and priority areas frameworks to guide regional development.

Industry Recognition: Logistics sector has been granted industry status in 20 States and 2 UTs, enabling better access to funding, tax incentives, and regulatory support for boosting competitiveness.

PMGS for Infrastructure planning: 16 States and 6 UTs have mapped mandatory layers, with, 15 States and 3 UTs completing geo-referencing land records.

Public-Private Partnerships: 14 States and 2 UTs are actively leveraging PPPs to drive infrastructure development.

Green Logistics: Noticeable green logistics measures were seen in 21 States and 4 UTs, promoting environmentally sustainability practices.

While significant strides have been made, challenges persist in ensuring the widespread adoption of digital solutions and expediting the implementation of sustainable initiatives.

Infrastructure and Connectivity Enablers

This dimension captures the availability and efficiency of logistics assets, including road and rail networks, air cargo terminals, and multimodal facilities through advanced methodologies. Analysis revealed that India's road and rail networks have expanded significantly, reflecting sustained investments in connectivity. While the quality of State highways has also improved, challenges persist in enhancing first- and last-mile connectivity in rural and industrial regions.

Dedicated Freight Corridors (DFCs) have emerged as a game-changer in States such as Rajasthan, Haryana, and Uttar Pradesh, enhancing cargo speeds and reducing transit time. Air freight infrastructure is heavily urban-centered, with tier-2 and rural regions needing investment in air cargo facilities and integrated digital platforms. Progress has been observed for multimodal integration in States/UTs, but disparities remain due to geographic and infrastructure challenges in few States. Addressing these disparities through targeted investments and efficient logistics hubs will be crucial for bridging rural-urban gaps and fostering regional growth.

Logistics Performance and Challenges

As highlighted above, LEADS 2024 leveraged Map API datasets for assessment of corridor speeds and congestion. Some of the summary findings on average speeds and terminal access efficiency are presented below.

Average Speeds: National Highways achieve an average speed of 43.95 km/hr, while State Highways average 42.67 km/hr. Landlocked States outperform Coastal States in terms of average speed, with Rajasthan and Punjab leading performance metrics among Land-locked States, and Assam emerging as a top performer in the North-East group.

Access to Terminals: The National average for the speed of approach roads to terminals stands at 25.21 km/hr. Top performers include Chhattisgarh (53.83 km/hr) and Kerala (39.40 km/hr) , while States like Tripura (8.56 km/hr) require intervention to address bottlenecks.

Role of States and UTs in Driving Logistics Reforms

States and UTs are pivotal in driving logistics reforms, aligning local strategies with the overarching objectives of the National Logistics Policy (NLP), 2022. Launched in 2022, the NLP focuses on three key targets:

1. Reducing logistics costs to global benchmarks
2. Improving India's global LPI ranking - endeavour is to be among the top 25 countries by 2030
3. Fostering a data-driven logistics decision-making framework for an efficient logistics ecosystem.

To support these objectives, NLP is implemented through CLAP which focusses eight critical pillars, including digital systems integration, infrastructure standardization, skill development, and sustainability and equity logistics practices. CLAP provides strategic guidance for enhancing multimodal connectivity, trade competitiveness, and logistics efficiency.

States and UTs are driving reforms at three distinct levels:

I. **Formulating State Logistics Policies** tailored to their economic and geographic profiles, addressing infrastructure gaps, regional connectivity, and regulatory efficiency.

II. **Developing City and Regional Plans** to prioritize urban freight zones, last-mile connectivity, and regional logistics hubs, enhancing hinterland integration.

III. **Implementing Action Plans** with clear timelines, measurable outcomes, and stakeholder accountability for effective execution of initiatives.

Further, States are adopting multiple approaches to achieve these reforms:

A. **Investing** directly in critical logistics infrastructure, such as multi-modal logistics parks, inland container depots, road networks, and warehousing facilities, to lay the foundation for an integrated logistics ecosystem that supports regional and national supply chains.

B. **Incentivizing** through financial and non-financial measures, including capital subsidies, tax benefits, single-window clearance systems, and expedited approvals to attract private investments and streamline operations.

C. **Facilitating Logistics Activities** by simplifying administrative procedures, addressing regulatory bottlenecks, and improving ease of doing business for logistics operators.

D. **Collaborating and Coordinating** with central agencies, private stakeholders, and neighboring States to harmonize infrastructure projects, share best practices, and address cross-border connectivity challenges.

E. **Leveraging PPPs** to mobilize private sector resources and capabilities in optimal manner.

To ensure effective implementation of State logistics policies and action plans, robust governance frameworks, such as State Logistics Committees and empowered task forces, support progress by monitoring key performance indicators (KPIs), including infrastructure readiness, regulatory efficiency and stakeholder satisfaction. Regular feedback loops and review processes ensure that policies remain agile and responsive to emerging challenges and opportunities. States are also adopting outcome-driven approaches that focus on setting clear targets, measurable deliverables, and defined timelines for infrastructure projects and operational reforms.

The participation of States and UTs in shaping logistics policies and action plans has been commendable. The LEADS framework provides States with actionable insights, enabling them to benchmark performance, adopt best practices, and enhance logistics efficiency. This fosters competitive federalism, recognizing the unique contributions of each State/UT.

Way Forward

India's logistics sector is at a transformative juncture. To optimize costs, transit times and service quality, reforms can prioritize the following four pillars:

Infrastructure Development is central to this transition. The PM GatiShakti National Master Plan has enabled States to integrate infrastructure layers and plan multimodal systems. Efforts are directed towards upgrading logistics hubs, strengthening first-mile and last-mile connectivity, and addressing regional bottlenecks. Investments in air cargo terminals, cold storage, and rural-urban integration are essential for building a seamless logistics network.

Logistics Services emphasize digitalization and workforce development. Platforms like ULIP are streamlining logistics through real-time data exchange, while IT-enabled solutions enhance delivery efficiency and promote track and trace of cargo. Skill development programs are bridging workforce gaps, equipping personnel with advanced logistics and supply chain management skills to meet industry demands.

Operating and Regulatory Reforms are simplifying business processes and enhancing efficiency. States are formulating action-oriented logistics policies, implementing single-window clearance systems, and creating grievance redressal mechanisms to attract investments and enhance cross-border trade. Regional trade corridors and collaborative governance frameworks are strengthening connectivity.

Sustainability and Inclusivity are driving long-term reforms. States are adopting green logistics practices, such as promoting electric vehicles, alternative fuels, and carbon-neutral infrastructure. Initiatives to increase women's participation and promote gender-sensitive workplace policies are fostering inclusivity.

Not all aforementioned initiatives are new, as they have been previously introduced across various platforms and previous editions of LEADS. The critical success factor in enhancing India's logistics efficiency now lies in effective and outcome focused implementation. This necessitates the expedited execution of above initiatives, recalibration of strategies, and targeted focus on priority areas. The future LEADS editions will accordingly place a stronger emphasis on tracking and ensuring the effective implementation of these logistics reforms by States and Union Territories.

Chapter 1

Introduction

Evolving Landscape of Logistics in India

In its endeavor to become the third largest economy by 2030, India's logistics ecosystem is undergoing a paradigm shift. Historically challenged by fragmented infrastructure, complex regulations, and high transaction costs, India's logistics sector is undergoing a systematic overhaul. Strategic government interventions—such as the Goods and Services Tax (GST) and the Bharatmala Pariyojana—have dismantled interState barriers. The launch of the National Logistics Policy (NLP), 2022, marked a historic milestone, targeting to reduce logistics costs in India to be comparable to global benchmarks by 2030; improve Logistics Performance Index ranking – endeavor to be among top 25 countries; and create data driven decision support mechanism for an efficient logistics system.

Several key initiatives have complemented this transformative trajectory, highlighting the comprehensive efforts of the Government of India.

Major initiatives of Government of India influencing logistics sector:

1. **National Logistics Policy (NLP):** Aiming to streamline the logistics ecosystem, the policy focuses on cost reduction, regulatory reform, and enhanced digitization.
2. **PM GatiShakti National Master Plan:** Integrating infrastructure and logistics planning, GatiShakti bridges administrative silos and supports multimodal transport development.
3. **Special Assistance for Capex:** Directing targeted financial support to critical logistics infrastructure, this fund ensures the alignment of this initiative with developmental needs.
4. **Digitization and Innovation:** Initiatives such as Unified Logistics Interface Platform (ULIP) and Logistics Data Bank redefining operational efficiencies and transparency. These digital platforms enable real-time cargo tracking and operational efficiencies, through Digital Public Infrastructure.
5. **Impact of BRAP (Business Reforms Action Plan):** Enhancing ease of doing business, BRAP initiatives have catalyzed logistics efficiency and competitive edge.

Key Trends in Logistics

It is pertinent to highlight select trends and undercurrents that are transforming the Indian Logistics ecosystem:

i. **Modal mix optimization:** Advent of rail freight corridors such as DFCs highlights the shift towards sustainable and cost-effective transport modes, such as rail and coastal shipping.

ii. **Shift to integrated planning:** Initiatives like PM GatiShakti and underlying institutional mechanisms like Network Planning Group brought the much-needed focus back on integrated planning. They are fostering corridor-based, holistic infrastructure planning, bridging gaps between road, rail and waterways.

iii. **Evolution through disruption:** The adoption of AI, IoT, and Machine Learning is evolving traditional logistics. Novel concepts introduced by logistics startups, including drone-based delivery are becoming mainstream.

iv. **Capacity enhancements and efficiency gains:** Scaling up infrastructure investments are being coupled with operational enhancements. For example, with mechanization & digitization at ports and improved trucking efficiencies through better average speeds.

v. **Regulatory push for quality and technology adoption:** Some of the initiatives by various public sector agencies including adopting quality and performance KPIs for logistics under National Logistics Policy 2022; Standardization of vehicle specifications by MoRTH; Expansion of the Electronic Cargo Tracking System (ECTS) by Government of India, and plans for establishing Freight Smart Cities aimed at urban logistics optimization are driving compatibility and performance improvements across logistics systems.

Technology lies at the heart of this transformation, creating efficient and scalable logistics frameworks - from AI-powered route optimization to drone deliveries and shared warehousing models.

India's ambitious infrastructure agenda including initiatives such as Sagarmala Pariyojna, Integrated Logistics Parks (ILPs), and the National Infrastructure Pipeline (NIP), aims to optimize connectivity, reduce logistics cost, and support rapid e-commerce growth, particularly in Tier 2 and Tier 3 cities, which drive 60% of demand and are projected to grow at 30% by 2025.[1]

The COVID-19 pandemic, while disruptive, has accelerated digital adoption and supply chain reconfiguration, positioning India as a manufacturing and logistics hub, further bolstered by Production Linked Incentive (PLI) schemes and alignment with global supply chain trends to achieve national development goals.

With the focus on multimodality, integrated planning, and technological innovation, India's logistics sector is poised to become a cornerstone of its economic ambitions. As the nation accelerates towards its development goals, a robust logistics ecosystem will not only enhance domestic supply chains but also establish India as a global logistics hub. The LEADS initiative plays a pivotal role in driving the evolving landscape of logistics in India by serving as a benchmarking and diagnostic tool for identifying and addressing key inefficiencies in the logistics ecosystem.

LEADS as an enabler to transform logistics competitiveness

LEADS initiated by the DPIIT under the Ministry of Commerce and Industry in 2018, has evolved into a valuable tool in the transformation journey of India's logistics sector. The LEADS study assesses logistics performance across States and UTs, playing a central role in driving logistics reforms through competitive federalism. As a data-driven framework, LEADS not only provides insights for operational improvements but also supports India's broader vision of a Viksit Bharat, ensuring the country is well-equipped to thrive in global trade.

The primary objectives of the LEADS initiative are summarized below:

1. **Benchmarking logistics efficiency:** A primary goal of LEADS is to create a performance benchmark for the logistics sector across India's States and UTs. By comprehensively evaluating logistics ecosystems—including both export-import (EXIM) and domestic logistics—LEADS ranks each region's performance. This analysis relies on both qualitative and quantitative indicators, providing an in-depth look at each region's logistics strengths and areas requiring improvement. The goal is to offer States and UTs a clear understanding of where they stand in terms of logistics efficiency, which is essential for formulating targeted improvement strategies.

2. **Promoting competitive spirit:** LEADS has fostered a culture of 'Competitive Federalism' in the country by offering a comparative view of logistics capabilities across States and UTs. The initiative has encouraged healthy competition among States and UTs through a transparent ranking process which is based on a balanced mix of objective and perception-based survey responses by stakeholders. This transparency promotes positivity, motivating each region to adopt best practices, improve infrastructure, and simplify regulatory processes. Additionally, this comparative framework encourages collaboration, allowing States to learn from each

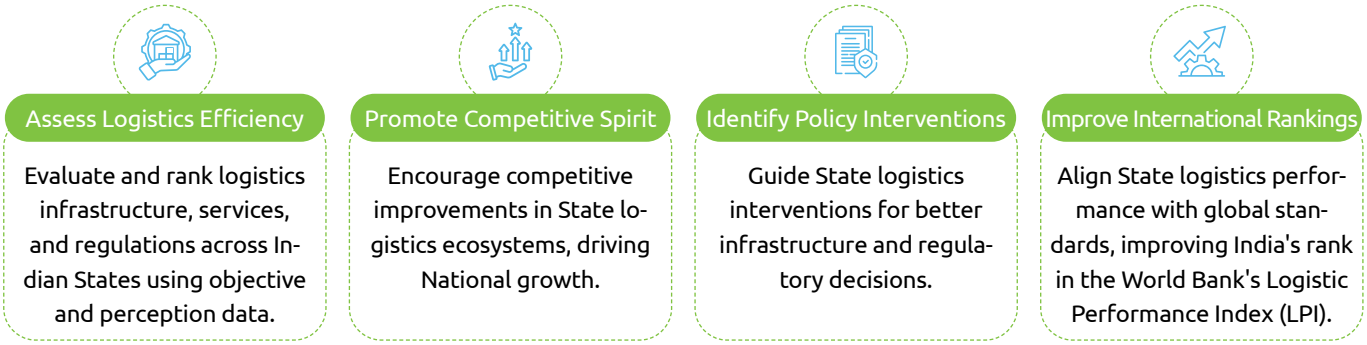
[1] Industry Estimates

other's successes and challenges and thus improve their logistics environment comprehensively.

3. **Identifying policy interventions:** By providing valuable insights into logistics bottlenecks and operational challenges, LEADS serves as a tool for policy formulation and improvement. This data-driven approach guides both Central and State Governments in prioritizing investments for developing warehousing, transportation, and multimodal connectivity. LEADS thus offers actionable inputs for enhancing infrastructure, regulatory processes, and logistics services, ensuring that logistics gaps are effectively addressed to support economic growth.
4. **Improving international rankings:** LEADS is also aligned with India's broader national goals, including its ambition to improve in global rankings such as the World Bank's Logistics Performance Index. Through a granular analysis of logistics performance, LEADS aids central initiatives such as the PM GatiShakti National Master Plan and the National Logistics Policy, both of which aim to build a unified, efficient, and cost-effective logistics ecosystem.

In conclusion, the LEADS initiative is not simply a performance analysis tool; it is a key driver for policy improvements, infrastructure development and regulatory reforms. By encouraging States and UTs to enhance their logistics frameworks, LEADS contributes towards an efficient and competitive logistics environment, aiming to strengthen India's economic and trade capabilities. This annual exercise has become an integral part of India's mission to enhance logistics efficiency and enabled India to improve its global standings such as the World Bank's Logistics Performance Index where India was ranked 38 amongst 139 countries in the 2023 edition of the survey, up from 44 in the previous round conducted in 2018.[2]

Figure 7: Primary objectives of the LEADS initiative



Evolution of LEADS since inception

The LEADS Initiative has evolved significantly since its inception in 2018. A brief snapshot of this evolution is presented below:

1. **LEADS 2018:** The inaugural edition focused on evaluating the export-import (EXIM) logistics ecosystem, relying on perception-based feedback from key logistics stakeholders. It also aimed to establish a baseline for comparing logistics efficiency among States and UTs.
2. **LEADS 2019:** In the second edition, the scope was broadened to include EXIM and domestic logistics ecosystems. The methodology continued to be perception-based, reflecting the views of stakeholders such as transporters, traders, and service providers across the logistics value chain.
3. **LEADS 2021:** After a gap due to the pandemic, the 2021 edition introduced objective data alongside perception-based surveys, representing a major methodological shift. States were assessed based

[2] World Bank Logistics Performance Index and its Indicator Report 2023

on quantifiable logistics parameters collected through structured surveys and secondary data, improving the robustness of the study. Furthermore, the statistical methods were updated for better accuracy in the results.

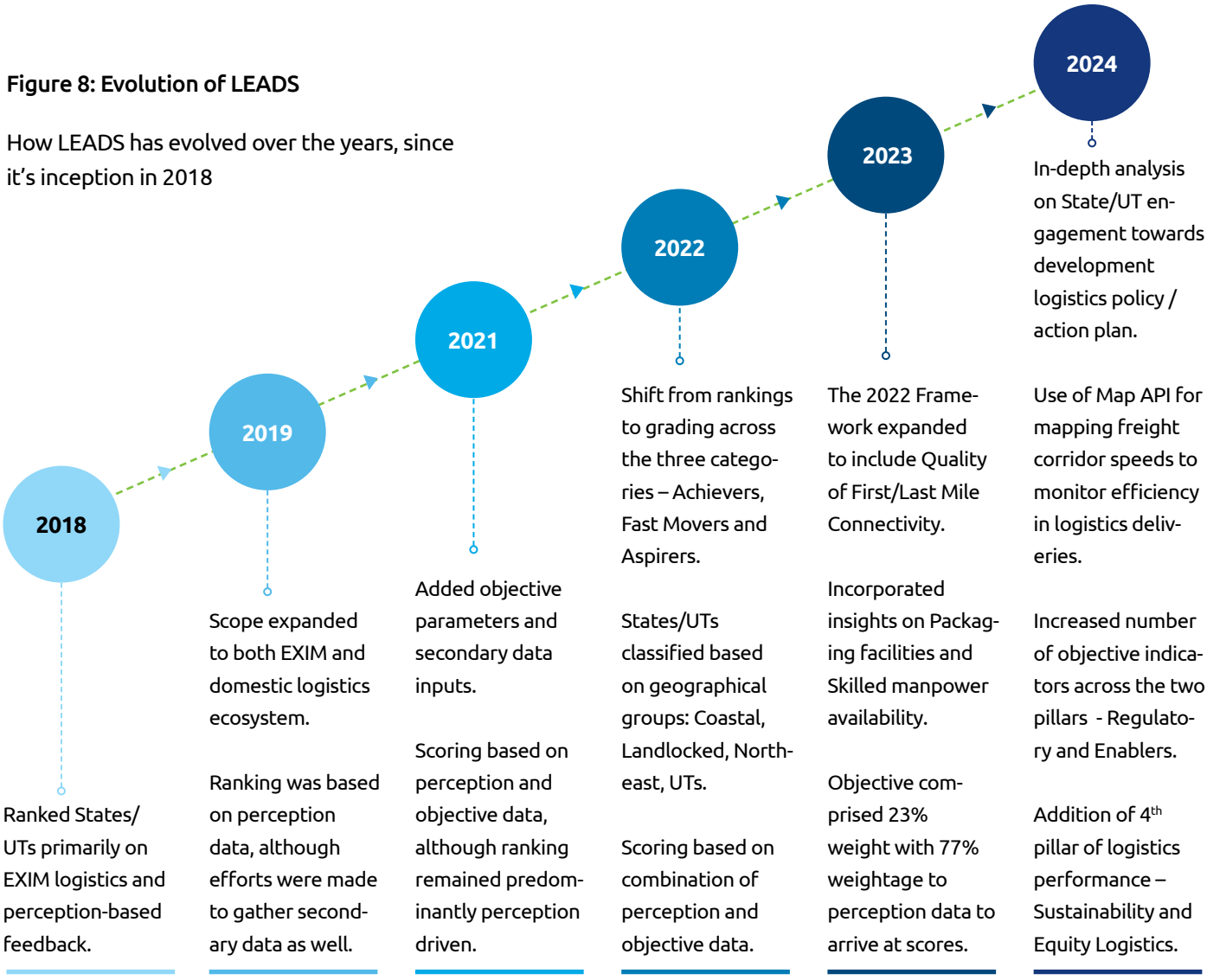
4. **LEADS 2022:** The report grouped States and UTs into four distinct categories—Coastal States, Landlocked States, North-Eastern States and UTs—to provide more nuanced insights. This grouping allowed for more targeted comparisons based on geographic and logistics characteristics.

5. **LEADS 2023:** Building on previous editions, LEADS 2023 incorporated new indicators to assess specific logistics elements such as first-/last-mile connectivity, availability of packaging facilities and skilled manpower. The goal was to capture improvements in logistics performance more accurately and reflect on emerging areas of focus.

6. **LEADS 2024:** This year Sustainability and Equity Logistics is introduced as the fourth pillar of logistics performance that focuses on green logistics as well as women participation on logistics workforce. Further, additional objective indicators are integrated such as freight corridor speeds and accessibility to terminals, and implemented new methodologies using technologies such as Map API for corridor mapping. These advancements enable a more comprehensive analysis of State logistics performance and support targeted interventions, in line with LEADS objectives to assess efficiency, foster competition, inform policy decisions, and improve India's ranking in the World Bank LPI.

Figure 8: Evolution of LEADS

How LEADS has evolved over the years, since it's inception in 2018



The LEADS initiative has steadily transitioned from a pure perception-based assessment to a comprehensive, data-driven tool capturing stakeholder experiences and measurable logistics outcomes. Each iteration has sought to refine the evaluation criteria to better reflect the complexities of logistics management across the country, aligning with national priorities such as the PMGS-NMP and the NLP.

LEADS 2024: Shift to Greater Objectivity and Robustness

Similar to World Bank LPI, LEADS also analyses logistics efficiency of each State from two distinct perspectives viz. a) perception of logistics industry professionals & practitioners and b) the other one measuring and analyzing the empirical data across capacity and quality of various building blocks of logistics ecosystem.

This year, LEADS 2024 has assigned ~32.5% weightage to objective indicators. This is much higher than previous editions of LEADS with weightage for objective indicators up to 23%. Further, to bring in greater objectivity and robustness in perception survey, following initiatives were undertaken:

1. **Diverse sampling:** LEADS 2024 covered a larger geographical sample of respondents covering many industrial groups and urban agglomerations within each State/UT. Further, targeted initiatives were made to cover senior management in logistics industry, representing 78% of total respondents, who are expected to have wider, seasoned, and comprehensive perspectives.
2. **Eliminating biases and outliers:** Adopting z-score standardization method and others measures such as removing incomplete or duplicate responses, to effectively eliminate outliers and biases from the data.
3. **Quantitative scaling:** Further, the perception-based questionnaires comprised of close ended questions with numerical scales and corresponding supportive evidence also collated from respondents.

The overall objective here remains to bring in objectivity, to the extent possible, in all elements and facets of LEADS study and ensure that true perception of respondents is accurately captured.

Chapter 2

LEADS 2024 framework

At its inception in 2018, LEADS was modelled along the framework for the World Bank's Logistic Performance Index (LPI). It is pertinent to highlight that, in its evolution, LEADS has improved upon this framework to deliver a more comprehensive and actionable assessment of logistics performance. While LPI provides a global-level evaluation, LEADS offers a granular review of logistics systems at the State/UT level within India, combining both perception-based and objective indicators. LEADS integrates 17 perception indicators across four key pillars and 23 objective indicators with detailed sub-indicators, enabling a structured and well-rounded evaluation. Notably, the share of objective indicators in the LEADS study has increased to 32.5% this year and is expected to grow further, enhancing its overall objectivity. Additionally, LEADS not only identifies challenges but also focuses on providing actionable recommendations to address state-specific issues and bottlenecks, enabling targeted and effective outcomes.

A key strength of LEADS is its expansive and diverse perception base, which has grown from 3,000+ respondents in 2018 to over 8,200+ in 2024, covering stakeholders across the length and breadth of India. This pan-India approach ensures a more representative and inclusive assessment of logistics performance. The perception survey was complemented by 1,100+ stakeholder consultations aimed at gathering in-depth insights into regional and national logistics challenges. These stakeholder perceptions were corroborated with objective data, capturing measurable metrics like infrastructure development, policy initiatives, and technology adoption.

The survey, undertaken in LEADS 2024, includes objective data and perception-based questions as explained below:

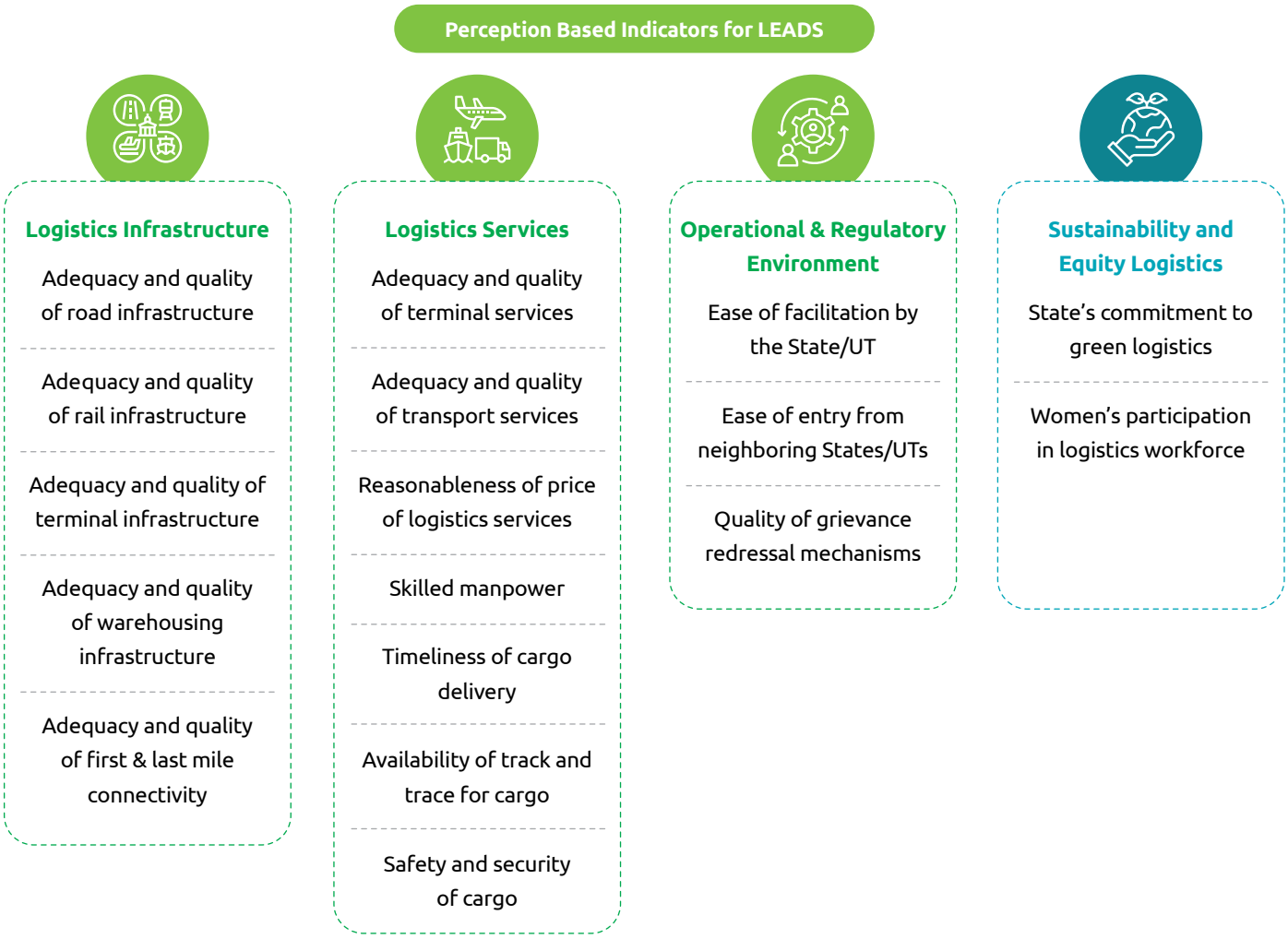
1. **LEADS 2024 Perception Survey:** The LEADS 2024 perception survey aims to capture the perspectives of stakeholders within the logistics sector on the quality, efficiency, and accessibility of logistics infrastructure and services across various States and UTs. By gathering qualitative feedback from logistics sector stakeholders—such as freight forwarders, transport service providers, and logistics operators—and from users of logistics services, including manufacturers, exporters, importers, and other businesses relying on supply chain solutions, the survey delves into topics such as infrastructure adequacy, service quality, regulatory ease, and sustainable practices.
2. **LEADS 2024 Objective Survey:** The LEADS 2024 objective survey focuses on collecting quantitative data on logistics infrastructure, vehicle and driver statistics, human resource capacity, among others. This structured data, provided by States and UTs, allows for an in-depth analysis of key logistics enablers, offering a factual basis to gauge logistics performance

The perception and objective indicators covered in these surveys are further detailed in sections below.

Perception-based Indicators for LEADS 2024

The perception indicators in LEADS 2024 are designed to capture stakeholder perception of logistics performance across the value chain. This feedback is collected from a diverse group of stakeholders, including freight forwarders, logistics service providers, cargo owners including traders and manufacturers, transporters and terminal service providers. These stakeholders provide ratings on various parameters using a scale ranging from 'very poor', 'poor', 'average', 'good' and 'very good'. The feedback is structured around four broad themes to ensure comprehensive coverage—Logistics Infrastructure, Logistics Services, the Operational and Regulatory Environment and Sustainability and Equity Logistics. The perception-based indicators are as follows:

Figure 9: LEADS Perception-Based Indicators



■ New Indicator added for LEADS 2024

1. **Logistics Infrastructure** examines the adequacy and quality of infrastructure, including road and rail services, terminal facilities, warehousing, and first- and last-mile connectivity—vital for the efficient movement of goods.

   a. **Adequacy and Quality of Road Infrastructure:** Focuses on the availability, maintenance, and connectivity of highways, rural roads, and urban roads critical for freight movement.

   b. **Adequacy and Quality of Rail Infrastructure:** Analyses the presence of rail networks, operational rail sidings, and efficient freight-handling facilities.

   c. **Adequacy and Quality of Terminal Infrastructure:** Assesses the capacity and efficiency of cargo terminals, inland container depots, and ports in handling logistics operations.

   d. **Adequacy and Quality of Warehousing Infrastructure:** Considers the availability of storage facilities with modern amenities, capacity to meet demand, and adherence to safety and operational standards.

   e. **Adequacy and Quality of First-&-Last Mile Connectivity:** Explores the effectiveness of connecting feeder roads and local transit to primary transport hubs.

2. **Logistics Services** captures feedback on the quality and pricing of services, skilled manpower availability, timely cargo delivery, tracking capabilities, and cargo safety and security.

    a. **Adequacy and Quality of Terminal Services:** Considers the efficiency, capacity, and service levels of logistics terminals, focusing on operations like cargo handling, loading, and unloading.

    b. **Adequacy and Quality of Transport Services:** Assesses the availability, reliability, and efficiency of road, rail, air, and water transport services for cargo movement.

    c. **Reasonableness of Price of Logistics Services:** Captures the cost competitiveness of logistics services, viz. affordability without compromising quality.

    d. **Availability of Skilled Manpower:** Focuses on the presence of adequately trained personnel in the logistics sector, including drivers, operators, and technical staff.

    e. **Timeliness of Cargo Delivery:** Outlines the consistency and punctuality of cargo reaching its destination within expected timelines.

    f. **Availability of Track and Trace for Cargo:** Assesses the integration of technology in logistics to monitor and track shipments in real-time, enhancing transparency.

    g. **Safety and Security of Cargo:** Focuses on measures to ensure protection of goods during transportation, minimizing losses or damages.

3. **Operational & Regulatory Environment** gauges the ease of logistics facilitation within and between States, as well as the effectiveness of grievance redressal mechanisms.

    a. **Ease of Facilitation by the State/UT:** Measures the proactiveness of State or UT authorities in supporting logistics operations through streamlined approvals, coordination, and policy support.

    b. **Ease of Entry from Neighboring States/UTs:** Assesses the seamless movement of goods across borders between States/UTs, focusing on minimizing delays, border checks, and procedural barriers.

    c. **Quality of Grievance Redressal Mechanisms:** Outlines the availability and effectiveness of systems for resolving logistics-related complaints, ensuring accountability and swift resolution of issues faced by stakeholders.

4. **Sustainability and Equity Logistics** reflects the State's efforts toward green logistics and women's workforce participation in logistics, promoting sustainable and inclusive practices in the sector.

    a. **State's Commitment to Green Logistics:** Assesses the initiatives and policies implemented by the State/UT to promote environmentally sustainable logistics practices, such as adopting clean fuels, encouraging modal shifts to rail and waterways, and supporting carbon-neutral supply chains.

    b. **Women's Participation in Logistics Workforce:** Identifies the level of inclusion and empowerment of women in the logistics sector, including efforts to increase gender diversity through employment opportunities, training programs, and supportive workplace policies.

These pillars collectively provide a comprehensive picture of logistics performance, guiding targeted improvements in infrastructure, services, regulations, and sustainability across regions.

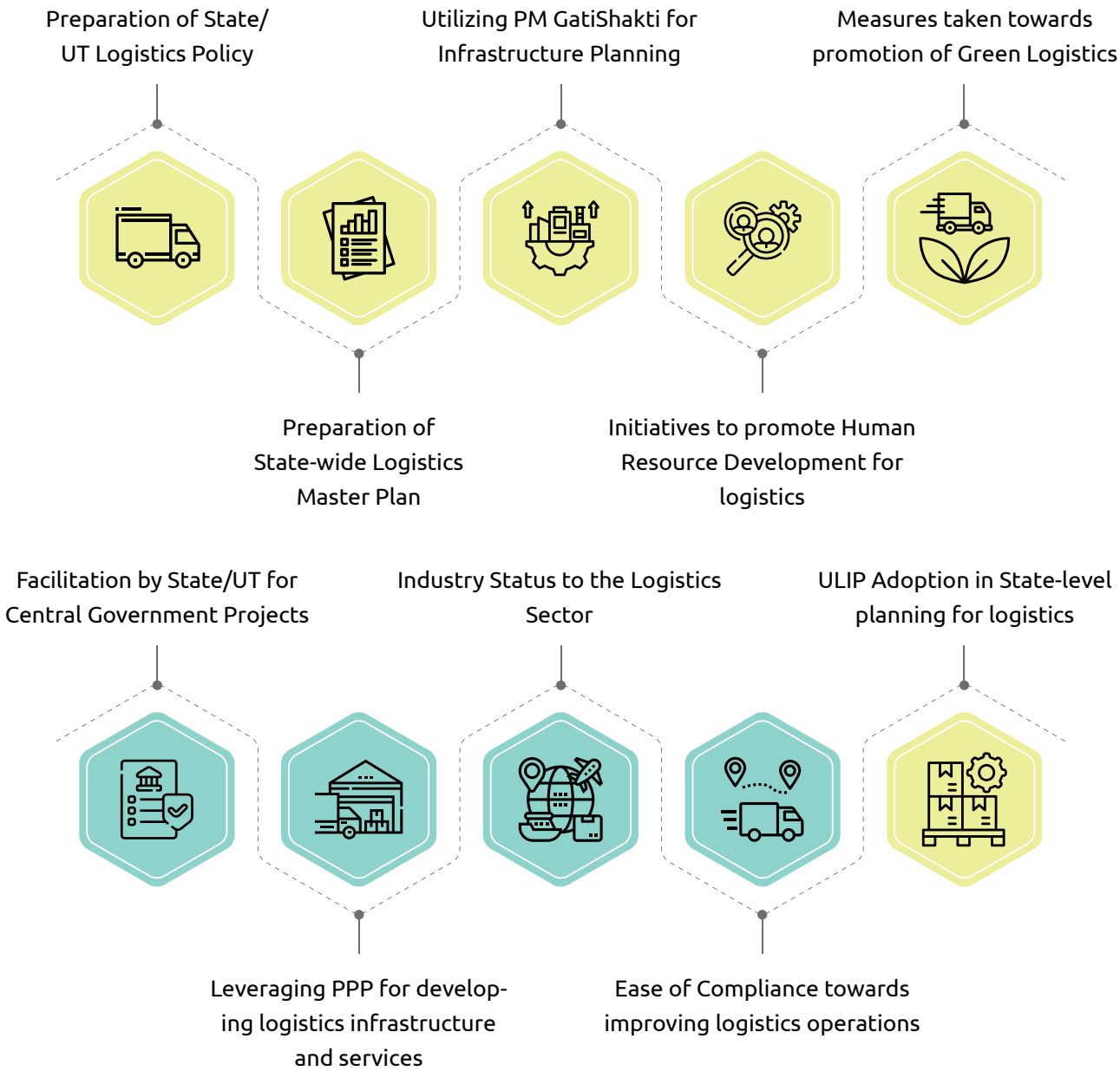
Objective Indicators of LEADS 2024

The objective indicators of LEADS 2024 require States and UTs to support data collation across various parameters reflecting their logistics performance. These indicators have been refined and updated based on feedback received from States and UTs as well as private stakeholders to incorporate emerging trends.

Introduction to objective indicators to measure regulatory and institutional support

These objective indicators, illustrated below, represent State/UT's capacity to provide desired regulatory and institutional support to logistics sector and its stakeholders .

Figure 10: Objective Indicators for LEADS 2024



These indicators are further explained below along with incremental improvement undertaken in LEADS 2024 edition:

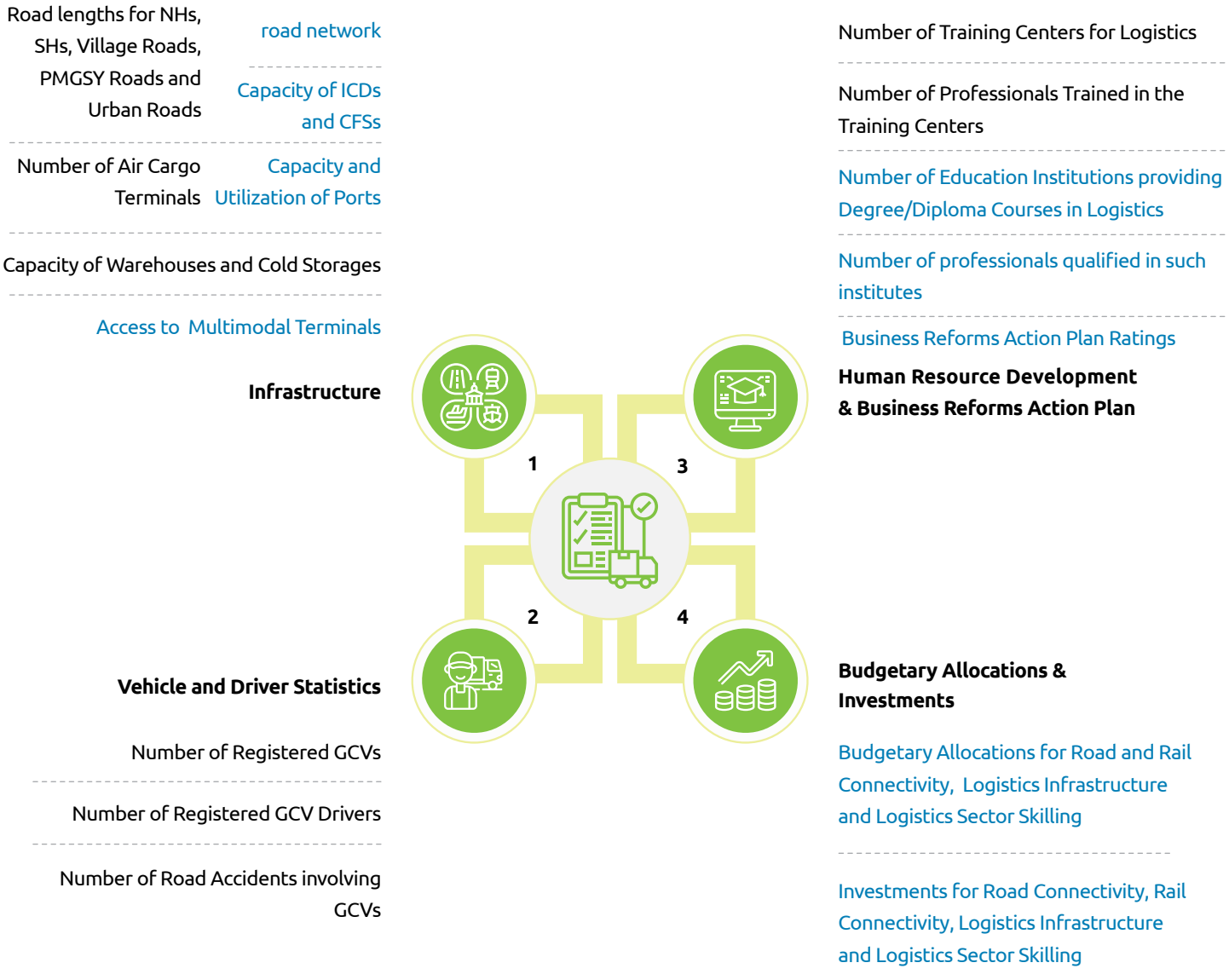
1. **Preparation of State/UT Logistics Policy:** Explores the development and implementation of a comprehensive logistics policy at the State/UT level, aimed at improving efficiency, reducing costs, and facilitating seamless movement of goods.
2. **Preparation of State-wide Logistics Master Plan:** Assesses the creation of a logistics master plan to identify infrastructure gaps, inefficiencies in supply chains, and opportunities for improving the logistics ecosystem.
3. **Utilizing PM GatiShakti for Infrastructure Planning:** Measures the extent to which States/UTs leverage the PM GatiShakti National Master Plan for integrated infrastructure planning and optimizing multimodal connectivity.
4. **Initiatives for Human Resource Development in Logistics:** Reviews steps taken by the State/UT to build logistics-specific skills through training programs, industry collaborations, and educational initiatives.
5. **Measures taken towards Promoting Sustainable Logistics:** Profiles actions to encourage sustainable practices, such as reducing emissions, promoting clean energy solutions, and adopting green logistics technologies.
6. **Facilitation for Central Government Projects:** Assesses the support provided by States/UTs in facilitating and expediting the implementation of logistics-related projects initiated by the Central Government.
7. **Leveraging PPP for Developing Logistics Infrastructure:** Analyses efforts to involve the private sector through Public-Private Partnerships (PPP) for creating and managing logistics infrastructure and services.
8. **Industry Status to Logistics Sector:** Captures the recognition of logistics as an Industry within the States/UTs industrial policy framework, with specific incentives or support measures.
9. **Ease of Compliance for Logistics Operations:** This new indicator in LEADS 2024 identifies whether the State/UT has streamlined regulatory processes to enhance the efficiency of logistics operations and if it has specifically streamlined regulatory processes for the development of logistics infrastructure.
10. **ULIP Adoption for State-Level Planning:** Reviews the integration of the Unified Logistics Interface Platform (ULIP) by States/UTs to enhance data-driven decision-making and improve logistics infrastructure planning.

Objective indicators to measure the readiness of logistics enablers

The next set of objective indicators is designed to measure the readiness of logistics enablers across States and UTs. These indicators assess critical factors influencing logistics efficiency, such as infrastructure, digital integration and policy frameworks, providing a comprehensive evaluation of logistics readiness.

The objective survey in LEADS 2024 is structured around four key pillars that capture various logistics aspects to evaluate the current logistics landscape in each State and UT.

Figure 11: Objective Indicators to measure the maturity of Logistics Enablers



ICD: Inland Container Depots, CFS: Container Freight Stations, GCVs : Goods Carrying Vehicles

1. **Infrastructure:** This pillar analyses the physical logistics infrastructure, which includes lengths and types of road networks (like National Highways, State Highways, Rural Roads under PMGSY, and Urban Roads), number of air cargo terminals, and capacity of warehousing facilities & ICDs, rail connectivity, among others.
    a. **Road lengths for National Highways (NHs), State Highways (SHs), Village Roads, PMGSY Roads, and Urban Roads:** Considers the extent and connectivity of road networks across the State/UT, crucial for logistics efficiency.
    b. **Speed for Key Network:** Outlines the average speed of freight movement on major transport corridors, reflecting the efficiency of road and rail networks.
    c. **Capacity of ICDs and CFSs:** Assesses the capacity of key logistics hubs for storing and handling goods before further transport, impacting logistics throughput.
    d. **Number of Air Cargo Terminals:** Counts the availability of facilities for air freight handling, influencing the State's logistics connectivity.
    e. **Capacity and Utilization of Ports:** Considers the storage and handling capacity of major ports, crucial for efficient sea transport and global trade.
    f. **Capacity of Warehouses and Cold Storages:** Indicates the total storage capacity, including cold storage for perishable goods, critical for inventory management.
    g. **Access to Multimodal Terminals:** Assesses the availability and integration of terminals for different transport modes, enhancing logistics efficiency.
2. **Vehicle and Driver Statistics:** This pillar focuses on transportation safety and capacity by counting the number of registered GCVs and the licensed drivers qualified to operate them. Additionally, it takes into account the frequency of road accidents involving GCVs, which can help States address safety challenges in freight transportation and improve vehicle regulation and driver training programs.
    a. **Number of Registered GCVs:** Counts total number of vehicles registered for commercial use in transporting goods. It reflects the need for logistics capacity and the scale of goods movement within the State/UT.
    b. **Number of Registered GCV Drivers:** Measures total number of licensed drivers specifically for operating commercial vehicles. This provides insight into the availability of workforce needed for efficient freight transport operations.
    c. **Number of Road Accidents involving GCVs:** Tracks incidents of road accidents involving goods commercial vehicles. This metric is critical for assessing road safety and the effectiveness of regulatory measures as well as infrastructure quality in the State/UT.
3. **Human Resource Development & Business Reforms Action Plan (BRAP):** This pillar observes the capacity-building efforts within logistics, emphasizing the development of skilled professionals. It takes into account the number of logistics training centers, the count of trained logistics professionals, and the educational institutions offering specialized logistics programs. BRAP ratings are also included, providing insight into each State's policy reforms and ease of doing business, which can impact logistics efficiency and attract investment in the sector.
    a. **Number of training centers for logistics:** Indicates the count of specialized centers offering training programs for logistics professionals, reflecting State/UT efforts to develop workforce capabilities in the logistics sector.
    b. **Number of professionals trained in the training centers:** Counts individuals trained in logistics-specific skills through these centers, indicating workforce capacity in the logistics industry.

c. **Number of education institutions providing degree/diploma courses in logistics:** Represents institutions offering formal logistics education, highlighting the States/UTs commitment to logistics education.

d. **Number of professionals qualified in above institutes:** Measures the number of graduates from logistics courses, indicating the inflow of qualified logistics professionals.

e. **Business Reforms Action Plan Ratings:** assesses the State's or UT's implementation of reforms aimed at improving the logistics business environment, with ratings reflecting reform effectiveness.

4. **Budgetary Allocations & Investments:** This pillar assesses the financial resources allocated by each State for improving road and rail connectivity, logistics infrastructure, and workforce development. These indicators are vital for understanding the financial priorities and efforts dedicated to logistics improvement and capacity expansion.

a. **Budgetary Allocations for Road and Rail Connectivity, Logistics Infrastructure, and Logistics Sector Skilling:** Indicates the financial resources allocated for enhancing road and rail connectivity, improving logistics infrastructure, and supporting skill development initiatives in the logistics sector.

b. **Investments for Road Connectivity, Rail Connectivity, Logistics Infrastructure, and Logistics Sector Skilling:** Reflects the total investments aimed at expanding road and rail networks, enhancing logistics infrastructure, and advancing sector-specific skill development.

Key Improvements made in LEADS 2024

LEADS 2024 edition has introduced several key improvements in its evaluation framework. New indicators have been added to capture more granular details, such as the adequacy and quality of terminal services and sustainability and equity logistics practices such as green logistics and gender inclusion in the workforce. The report also leverages technology, using tools like Application Programming Interface (API) to track and analyze logistics infrastructure efficiency and identifying areas of congestion and delays. Additionally, the report also includes a detailed analysis on the role of States/UTs in deriving logistics reforms through State level logistics policies and action plans.

Figure 12: Key improvements in LEADS 2024

Additions to Perception-based indicators

Addition of new 'Sustainability and Equity Logistics' pillar

1. 'State's Commitment to Green Logistics', to assess environment-friendly practices.
2. 'Women's Participation in Logistics Workforce', to measure gender inclusion in the sector.

Additions to Objective-based indicators : Integration of Big data and Analytics based assessment of Objective indicators

Additions to Regulatory and Institutional Support pillar:

1. **Public-Private Partnerships (PPP):** Boosting collaboration for infrastructure.
2. **Ease of Compliance:** Simplifying logistics operations.
3. **Industry Status to Logistics Sector**.
4. **State Facilitation:** State/UT facilitating Central Government projects.

Additions to Logistics Enablers pillar:

1. **Speed of Key Networks:** Transportation efficiency.
2. **Access to Multimodal Terminals:** Assessing congestion on approach roads.

Additions to highlight the role of State governments in developing logistics policies and action plans

1. **Policy Evaluation:** Reviews logistics policies of all States/UTs against a predefined best-practices template.
2. **Action Plans:** Highlights States/UTs with action plans and identifies essential pillars for implementation.

These key improvements are further detailed below:

1. **Additions to Perception-based Indicators:** The LEADS 2024 report introduces several key improvements aimed at enhancing logistics performance across India. The Logistics Services pillar has been expanded to include a new indicator, Adequacy and Quality of Terminal Services. Additionally, a new Sustainability and Equity Logistics pillar has been established, featuring indicators like 'State's Commitment to Green Logistics' and 'Women's Participation in Logistics Workforce', highlighting the emphasis on sustainability and gender inclusivity in the sector.

    a. **Adequacy and Quality of Terminal Services:** This new indicator explores the quality, efficiency, and availability of terminal infrastructure across the logistics network, ensuring smoother freight handling and better logistics operations.

    b. **State's Commitment to Green Logistics:** This indicator measures the State's efforts and initiatives towards adopting environmentally friendly practices in logistics operations, including policies for reducing carbon emissions and promoting green logistics solutions.

    c. **Women's Participation in Logistics Workforce:** It considers the inclusion of women in the logistics workforce, aiming to promote gender diversity and support policies that encourage women's employment and leadership within the logistics sector.

2. **Additions to Objective-based Indicators:** The LEADS 2024 report enhances the objective-based indicators to provide a more comprehensive review of logistics performance across States and UTs. The Regulatory and Institutional Support pillar now includes key metrics such as 'Leveraging PPP' for public-private partnerships, 'Ease of Compliance' for logistics operations, and 'ULIP Adoption' for state-level digital logistics planning. Additionally, the Logistics Enablers pillar has been expanded to include indicators that focus on operational efficiency and infrastructure capacity, such as 'Speed of Key Networks', 'Capacity of ICDs and CFSs', 'Capacity and Utilization of Ports', 'Access to Rail Network', and 'Access to Multimodal Terminals', which are critical for optimizing logistics flows and enhancing connectivity.

    a. **Leveraging PPPs:** Emphasises the importance of public-private partnerships in developing logistics infrastructure and services, facilitating better resource allocation and efficiency improvements.

    b. **Ease of Compliance:** Focuses on reducing regulatory barriers and simplifying logistics operations to enhance operational effectiveness and business environment for logistics stakeholders.

    c. **ULIP Adoption:** Encourages States to utilize Unified Logistics Interface Platforms (ULIPs) for better digital logistics planning and real-time data management, aiming to improve logistics efficiency across various regions.

    d. **Speed of Key Networks:** Measures the efficiency of major road transportation corridors indicating the speed at which goods move through these key logistics routes and identifying congestion areas at connectivity points to terminals.

    e. **Capacity of ICDs and CFSs:** Assesses the infrastructure of Inland Container Depots (ICDs) and Container Freight Stations (CFSs), which play a crucial role in handling cargo efficiently.

    f. **Capacity and Utilization of Ports:** Looks at the infrastructure and operational performance of ports, which are vital for international trade and domestic logistics.

    g. **Access to Rail Network:** Considers the connectivity and availability of rail transport as an essential mode for bulk and long-haul logistics.

h. **Access to Multimodal Terminals:** Identifies the integration of different transport modes and their accessibility, aiming for a seamless transfer of cargo across different modes of transport.

3. **Integration of Big data and Analytics based assessment of Objective indicators:** The LEADS 2024 report assesses logistics performance across India's States and UTs by analyzing average road speeds and congestion points on major road corridors. Leveraging Map API to map over 55,000 nodes, the study delves into granular data on road conditions, traffic delays, and infrastructure challenges, identifying bottlenecks and disruptions that hinder freight mobility. The analysis follows a structured three-stage framework:

   a. Identification of Terminal Nodes and Road Networks using data from the the Ministry of Road Transport and Highways and Bharatmala Pariyojana 2024.

   b. Node and Network Synchronization with shortest path analysis through GIS algorithms.

   c. Travel Time Assessment conducted through VBA coding integrated with Geo MAP API (node-to-node coordinates), benchmarked against the standards set by the Indo-Highway Capacity Manual 2017.

   Another key focus of this study is the connectivity of logistics terminals, a critical indicator for mobility efficiency. Well-connected terminals ensure seamless first-and-last-mile freight movement, reducing delays and improving supply chain reliability. This analysis helped identify sections with average speeds below benchmarks and identifies areas needing capacity enhancements, traffic management improvements, or infrastructure upgrades.

   By addressing connectivity gaps and operational inefficiencies, these insights enable policy-makers and planners to take targeted actions. This not only strengthens transport networks but also enhances mobility efficiency across critical logistics corridors, fostering a more robust and competitive logistics ecosystem.

4. **Inclusion of role of States/UTs in deriving logistics reforms through logistics policies:** The LEADS 2024 report adopts a holistic review approach to evaluate the logistics policies of all 36 States and UTs in India. It uses a comprehensive template aligned with best practices to assess the policies' comprehensiveness and effectiveness. The report also identifies States and UTs that have published accompanying action plans to guide policy implementation. Additionally, it outlines key pillars required for effective policy execution, such as stakeholder engagement, infrastructure development, and performance monitoring.

In this way, LEADS 2024 is able to build a detailed profile of each State's and UT's logistics performances, spanning critical parameters like infrastructure quality, regulatory efficiency, and human resource development. By analyzing these aspects, LEADS empowers States to understand their strengths and areas needing improvement, while setting a clear pathway for reforms. This aligns with the four key objectives of LEADS: assessing logistics efficiency, promoting a healthy competitive spirit among States, identifying targeted policy interventions, and improving India's ranking on WB LPI.

Chapter 3

LEADS 2024 Outcomes

This chapter presents the outcomes of LEADS 2024, based on perception data collected through surveys and objective data gathered from State Governments and UT Administrations and ensuing analysis.

Perception and Objective Survey Administration

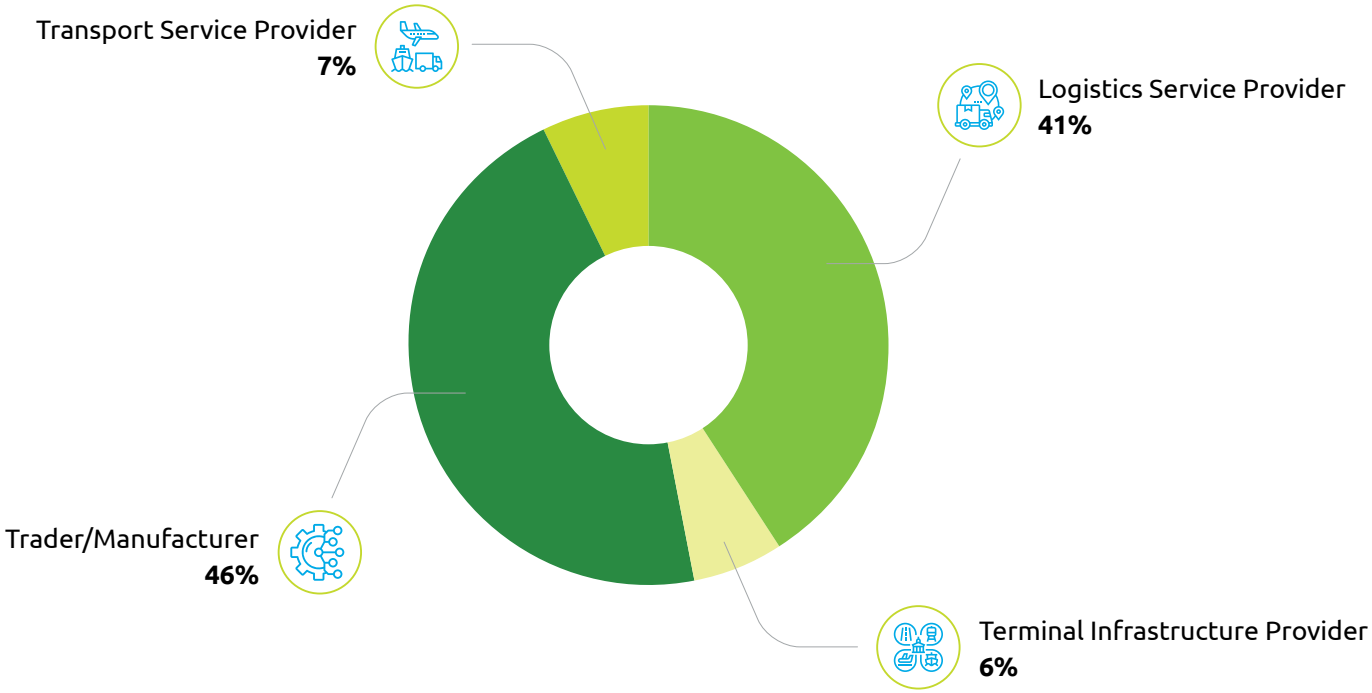
The data collection was carried out across all States and UTs using a combination of field visits and online surveys, ensuring wide coverage and active engagement of diverse stakeholders. The survey targeted key groups from various segments of the logistics value chain, including the following:

1. **Logistics Service Providers,** covering a wide range of operators, such as Customs Brokers, Air Cargo Agents, Freight Forwarders, Third-Party Logistics Service Providers (3PL), Fourth-Party Logistics Service Providers (4PL), Non-Vessel Operating Common Carriers (NVOCC), Aggregators, Consolidators, and Digital Service Providers.
2. **Terminal Infrastructure Service Providers** including operators of Inland Container Depots (ICD), Container Freight Stations (CFS), Private Freight Terminals (PFT), Air Freight Stations (AFS), Air Cargo Terminals, Port Terminals, Warehouses, Cold Stores, and similar facilities.
3. **Transport Service Providers** including Road Haulers, Rail Operators, Shipping Lines, Airlines, and Inland Waterway Operators.
4. **Traders/Manufacturers** representing the end-users of logistics services to understand their perspectives on service quality and infrastructure.

A total of 8,205 responses were initially collected during the data gathering phase. To ensure the dataset's accuracy and reliability, a thorough process of cleaning and outlier removal was undertaken. This refinement resulted in a final sample of 7,198 responses, which underpins the analysis and insights presented in the subsequent chapters.

The following figure depicts the distribution of respondents across the various stakeholder categories in the Perception Survey, showcasing the diverse representation from various segments of the logistics value chain.

Figure 13: Distribution of respondents across the various stakeholders



Similarly, an extensive, objective data collection process was carried out with various State Departments to ensure a thorough and precise dataset for the LEADS 2024 Study. As detailed in the previous chapter, these data covered essential aspects like the policy ecosystem, infrastructure, logistics operations, regulatory frameworks and budgetary allocations. The objective data provided by the States and UTs played a key role in assessing logistics performance, supplementing the findings from the perception survey. Together, these datasets offer an overview of logistics efficiency nationwide

Data Analysis and Performance Summary

Building on the methodology introduced in the 4th edition of the LEADS report (2022), the analysis for LEADS 2024 continues to categorize States and UTs into four groups based on their geographic characteristics. This classification ensures fair comparison by considering the unique logistics challenges and opportunities associated with different geographies. The groups are listed below:

1. **Coastal States:** Representing States with access to coastline and ports. Coastal States serve as India's gateways for maritime trade necessitating comparison on the basis of port infrastructure, coastal shipping and last-mile connectivity.
2. **Landlocked States:** States situated inland, without direct access to ports or coastlines, often face logistics challenges due to their reliance on air, rail and road corridors for connectivity to ports and markets.
3. **North-Eastern States:** Comprising the States in the north region of the country, these States face unique challenges, including difficult terrain, limited connectivity, and sparse infrastructure.
4. **Union Territories:** Administrative divisions with unique governance and economic dynamics, their logistics characteristics vary widely based on their size, location, and economic activities

Figure 14: State Groups

Coastal Group States

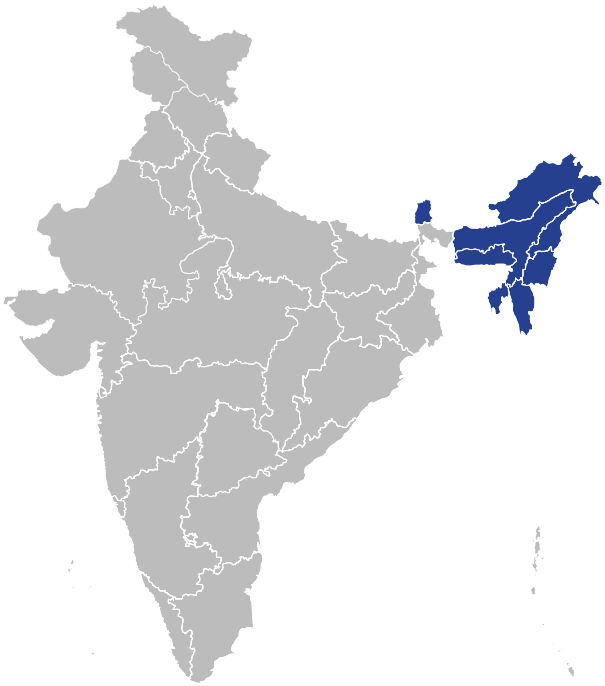
Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, West Bengal

Landlocked Group States

Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttarakhand, Uttar Pradesh

North Eastern Group States

Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura



Union Territories Group

Andaman & Nicobar Islands, Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Delhi, Jammu & Kashmir, Ladakh, Lakshadweep, Puducherry

The LEADS 2024 framework employed a robust methodology to evaluate logistics performance across States and UTs, integrating perception data collected from industry stakeholders with objective indicators from Government Departments in different States/UTs. Advanced statistical techniques, including Structural Equation Modelling (SEM) and Principal Component Analysis (PCA), were utilised to ensure a data-driven assessment.

Perception data, gathered from private stakeholders, was analysed using SEM, which identified key relationships and drivers of satisfaction across the logistics value chain. An iterative modelling process implemented using the Lavaan package in R provided a nuanced interpretation of stakeholder feedback. This approach highlighted the critical role of user experiences in evaluating logistics performance.

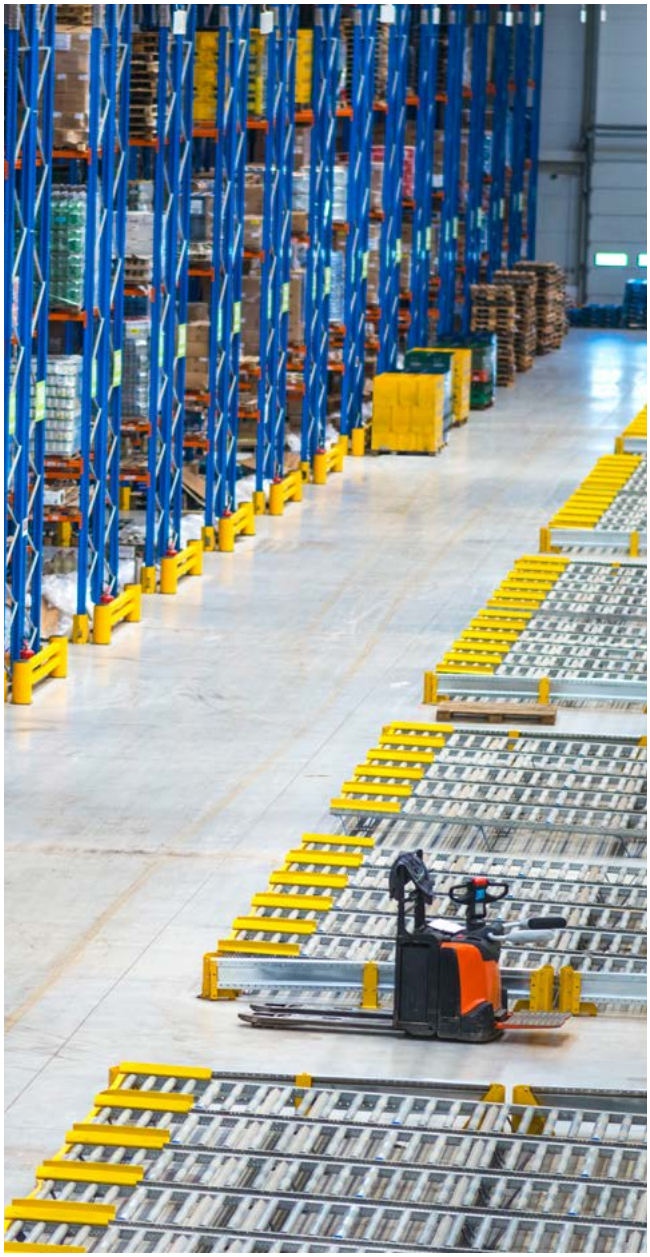
Objective data, encompassing measurable logistics parameters such as infrastructure length, capacity, vehicle availability, skill development and regulatory & institutional support, was analysed using PCA. Following Organization for Economic Co-operation and Development (OECD)-recommended methodologies, PCA ensured that the most significant indicators were emphasized and thus weights for each indicator were analysed.

The final LEADS score was derived by combining perception and objective data, with a weight distribution of 67.5% for perception data and 32.5% for objective data. This balance underscores the importance of stakeholder experiences while grounding the evaluation in measurable outcomes. The integrated analysis offered a holistic perspective on logistics performance across regions, enabling targeted interventions.

Further, the results of the LEADS are categorized into three rating categories: Achievers, Fast Movers, and Aspirers, based on the performance of States and Union Territories across key logistics parameters.

1. **Achievers** represent States/UTs that have consistently demonstrated exceptional logistics performance, leveraging robust infrastructure and efficient processes.
2. **Fast movers** include States/UTs that exhibit progress in improving efficiency, reflecting significant growth and adaptability through strategic interventions and focused development.
3. **Aspirers** are States/UTs showcasing immense potential, actively working towards enhancing their logistics ecosystem through targeted initiatives, signaling a strong commitment to future growth.

These categories help recognize leading performers, highlight emerging players, and identify areas where additional focus and support can drive enhanced logistics efficiency.



The following figure shows the performance outcomes for LEADS 2024:

Figure 15: Performance Snapshot for LEADS 2024

Final Weightage: Perception – 67.5% and Objective – 32.5%

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

Summary of Performance Levels of States/UTs in LEADS 2024 Compared with LEADS 2023

Coastal Group: Gujarat, Karnataka and Tamil Nadu reaffirmed their position as Achievers, showcasing their consistent commitment towards logistics efficiency. Goa has progressed to Fast Mover, reflecting strides in improving logistics efficiency, moving up from Aspirers in 2023. Kerala has shifted to Aspirer, and Andhra Pradesh to Fast Mover, signaling the need for renewed efforts. West Bengal's performance is primarily assessed using perception data due to the unavailability of objective data.

Landlocked Group: Haryana, Telangana and Uttar Pradesh continues to position themselves as Achievers, leveraging strategic investments to improve the logistics ecosystem. Uttarakhand demonstrated significant improvement, advancing from Fast Movers in 2023 to Achievers in 2024. Bihar and Himachal Pradesh, now categorised as Fast Movers, highlighted progress in infrastructure and service quality, moving up from Aspirers. Punjab remains a strong contender within the landlocked group, demonstrating growth in certain dimensions while facing challenges in others, shifted to Fast Mover in 2024.

Union Territories Group: Delhi and Chandigarh continue as top-performing Achievers, leveraging their strategic locations and advanced logistics ecosystems. Jammu and Kashmir and Dadra and Nagar Haveli and Daman and Diu, categorized as Fast Movers, are demonstrating strong progress, signaling their potential to achieve higher performance levels.

North-Eastern Group: Assam has maintained its position as Achievers, reflecting its ability to improve on logistics efficiency despite challenging terrains. Arunachal Pradesh transitioned to Achievers, showcasing improvements in logistics ecosystem. Sikkim and Tripura, moved to Fast Movers, suggesting opportunities for renewed focus to sustain growth.

Please refer to the Annexures for a detailed framework and methodology used to build the LEADS framework.

The following figure provides insights into the LEADS score distribution and variability across different regional groups.

Figure 16: LEADS score distribution and variability across groups

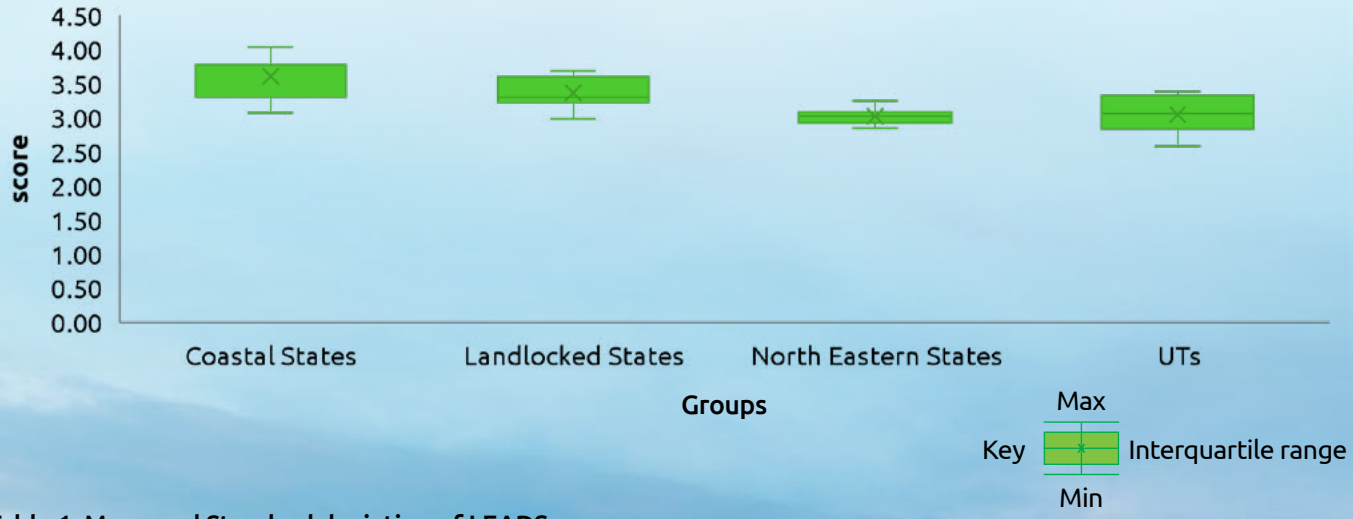


Table 1: Mean and Standard deviation of LEADS score across groups

Category	Mean LEADS score	Standard Deviation of the LEADS score
Coastal Group	3.58	0.28
Landlocked Group	3.38	0.20
North-eastern Group	3.01	0.12
Union Territories Group	3.06	0.28

The group-wise performance analysis reveals that coastal group continues to lead with the highest average score of 3.58, reflecting their logistics efficiency. However, a standard deviation of 0.28 indicates high variability, suggesting that while some Coastal States excel, others may still have room for improvement. Landlocked Group follow with an average score of 3.38 and a lower standard deviation of 0.20, showing consistent performance across the group and highlighting the impact of focused investments in logistics development.

North-Eastern group, with an average score of 3.01 and the lowest standard deviation of 0.12, exhibit uniform performance underscores the need for targeted interventions to address their challenges. Meanwhile, UTs display a mixed performance, with an average score of 3.06 and a high standard deviation of 0.28, reflecting the disparity between well-connected regions such as Delhi and Chandigarh and other, geographically constrained UTs. These insights emphasize the need for tailored strategies to address group-specific challenges and enhance logistics efficiency across all regions.

A detailed performance analysis of all the groups and the States/UTs within each group is presented in the subsequent chapters.

Chapter 4

Performance of States/ UTs Groupwise

Coastal States Group

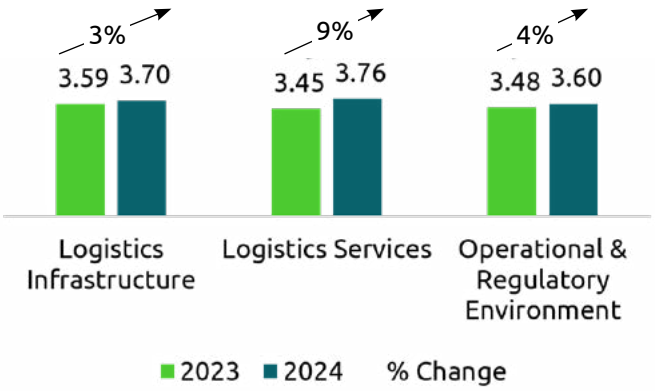
Group Level performance

There are 12 major ports[3] and more than 200 minor ports along India's 7,516 km coastline, shared among 9 States: Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu and West Bengal. In FY2023–24, the coastal States together accounted for 65% of the total exports from India. The top three States in export share were Gujarat (31%)[4], Maharashtra (15%) and Tamil Nadu (10%).

In the LEADS 2024 assessment, the coastal group achieved the highest growth among the four groups.

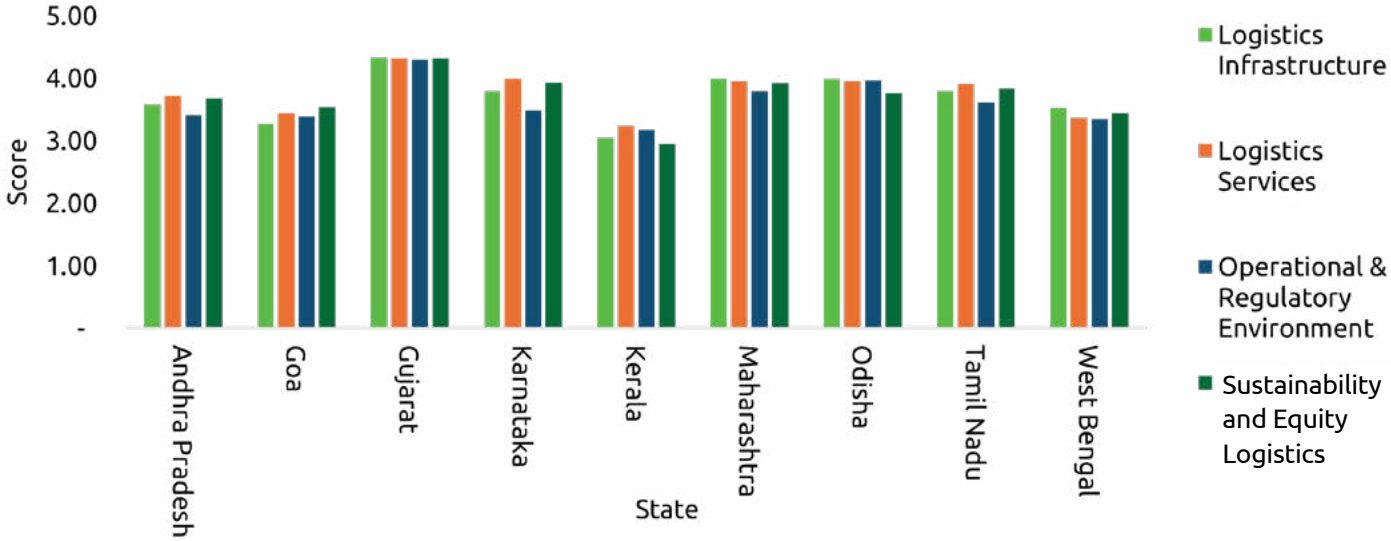
1. **Logistics Infrastructure** improved 3% driven by investments in terminal infrastructure and quality enhancements.
2. **Logistics Services** posted a remarkable 9% increase, attributed to improving demand-supply alignment and adaptive industry measures.
3. **Operational and Regulatory Environment** saw a 4% increase, underpinned by effective governance reforms and facilitation efforts.

Figure 17: Coastal Group - Performance Changes



A State/UT level comparison of average pillar scores reinforces stakeholder confidence in States such as Gujarat, Maharashtra, and Odisha for delivering and ensuring all-round development of logistics ecosystem. The analysis also highlights key areas for improvement in States such as Kerala and West Bengal, which have faced challenges across most logistics indicators.

Figure 18: Summary of Coastal Group's Performance



[3] Ports Wing Division, Ministry of Ports, Shipping and Waterways, Government of India, 2024
[4] Dashboard, Department of Commerce, Ministry of Commerce & Industry, Government of India, 2024

Review of performance on Logistics Infrastructure

Leading States such as Gujarat, Maharashtra and Odisha excel in logistics infrastructure development, with Gujarat and Maharashtra surpassing group averages across indicators. Odisha's terminal infrastructure shows potential for enhancement. However, States such as Andhra Pradesh and Tamil Nadu need to invest in rail and terminal infrastructure, while Kerala and West Bengal should focus on road and warehousing adequacy. First-and-last-mile connectivity is a common area of improvement across most States.

Figure 19: Coastal Group- Logistics Infrastructure performance

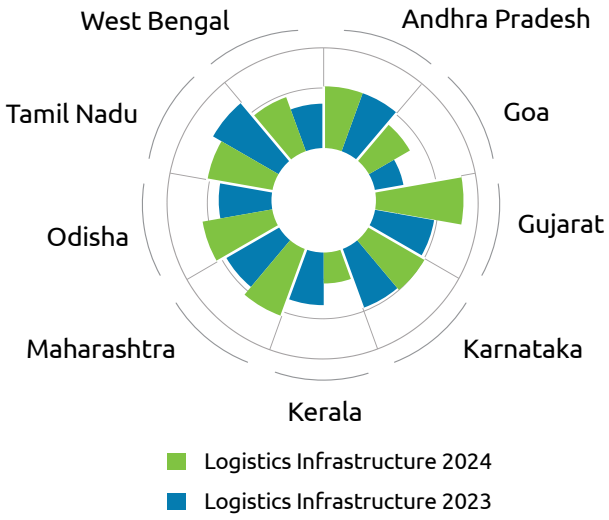


Table 2: Performance of coastal States across indicators of Logistics Infrastructure

State	Logistics Infrastructure				
	Road	Rail	Terminal	Warehousing	First-and-Last Mile Connectivity
Andhra Pradesh	●	●	●	●	●
Goa	●	●	●	●	●
Gujarat	●	●	●	●	●
Karnataka	●	●	●	●	●
Kerala	●	●	●	●	●
Maharashtra	●	●	●	●	●
Odisha	●	●	●	●	●
Tamil Nadu	●	●	●	●	●
West Bengal	●	●	●	●	●

● Above Group Average ● Below Group Average

Performance on Logistics Services

Industry stakeholders recognize the coastal States' logistics services as exemplary within the group, appreciating efforts to improve terminal services, timeliness, and tracking capabilities. Gujarat's consistent performance across all service indicators reflects robust systems. Maharashtra, Karnataka, and Odisha also showed significant improvements. Nevertheless, gaps in skilled manpower and cargo security persist in several States, requiring dedicated attention.

Figure 20: Coastal Group - Logistics Services performance

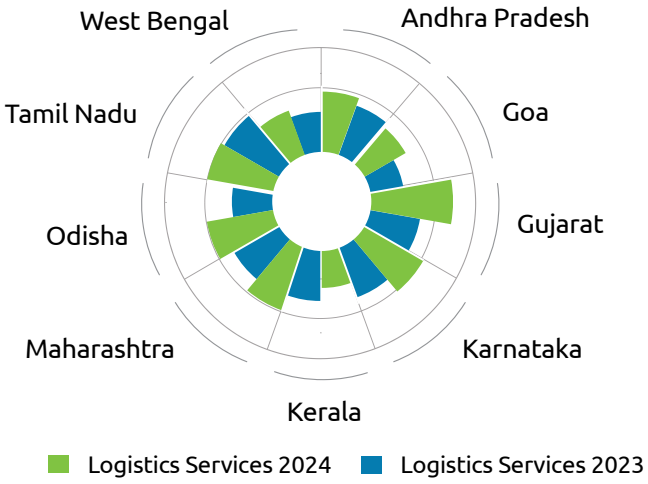


Table 3: Performance of coastal States across indicators of Logistics Services

State	Logistics Services						
	Terminal	Transport	Price	Skilled Manpower	Timeliness	Track & Trace	Safety & Security
Andhra Pradesh	●	●	●	●	●	●	●
Goa	●	●	●	●	●	●	●
Gujarat	●	●	●	●	●	●	●
Karnataka	●	●	●	●	●	●	●
Kerala	●	●	●	●	●	●	●
Maharashtra	●	●	●	●	●	●	●
Odisha	●	●	●	●	●	●	●
Tamil Nadu	●	●	●	●	●	●	●
West Bengal	●	●	●	●	●	●	●

● Above Group Average ● Below Group Average

Note: Price refers to Reasonableness of Shipment Prices, Timeliness refers to on time delivery of cargo.

Review of performance on Operational & Regulatory Environment

Gujarat and Odisha lead in regulatory facilitation, supported by proactive policies and grievance redressal systems. Other States, such as Andhra Pradesh and Tamil Nadu, have also made advancements but require improvements in seamless entry facilitation and regulatory frameworks. Southern and Eastern States have room for growth in policy implementation and dispute resolution.

Figure 21: Coastal Group - Operational and Regulatory Environment performance

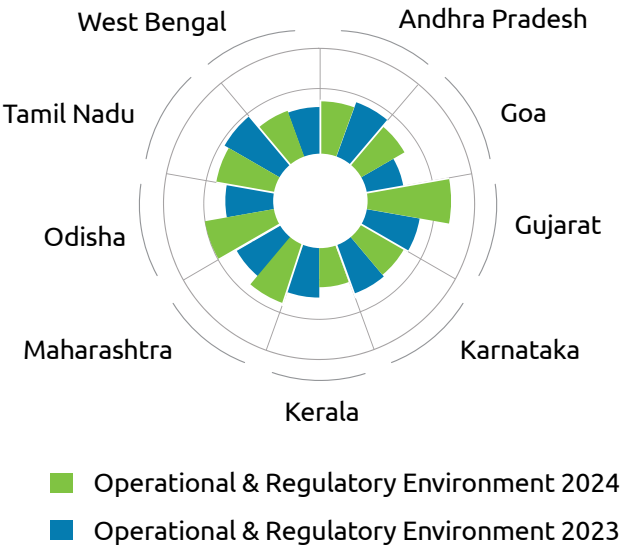


Table 4: Performance of coastal States across indicators of Operating and Regulatory Environment

State	Operational & Regulatory Environment		
	Govt. Facilitation	Ease of Entry	Grievance Redressal
Andhra Pradesh	●	●	●
Goa	●	●	●
Gujarat	●	●	●
Karnataka	●	●	●
Kerala	●	●	●
Maharashtra	●	●	●
Odisha	●	●	●
Tamil Nadu	●	●	●
West Bengal	●	●	●

● Above Group Average ● Below Group Average

The scores also present opportunities which States may consider when they prioritize their interventions such as with facilitating the 'Ease of Entry from neighboring States' and setting up of effective 'Grievance Redressal Mechanisms'.

Review of performance on Sustainability and Equity Logistics

Sustainability is increasingly prioritized, with Gujarat, Karnataka, Maharashtra, and Tamil Nadu incorporating green logistics measures. However, coastal States should further incentivize sustainable practices and encourage women's participation in the logistics workforce.

Table 5: Performance of coastal States across indicators of Sustainability and Equity Logistics

State	Sustainability and Equity Logistics	
	State's Commitment to Green Logistics	Women's participation in Logistics Sector
Andhra Pradesh	🟠	🟠
Goa	🟠	🟠
Gujarat	🟢	🟢
Karnataka	🟢	🟢
Kerala	🟠	🟠
Maharashtra	🟢	🟠
Odisha	🟢	🟠
Tamil Nadu	🟢	🟢
West Bengal	🟢	🟠

🟢 Above Group Average 🟠 Below Group Average

Sub-Group Level Performance

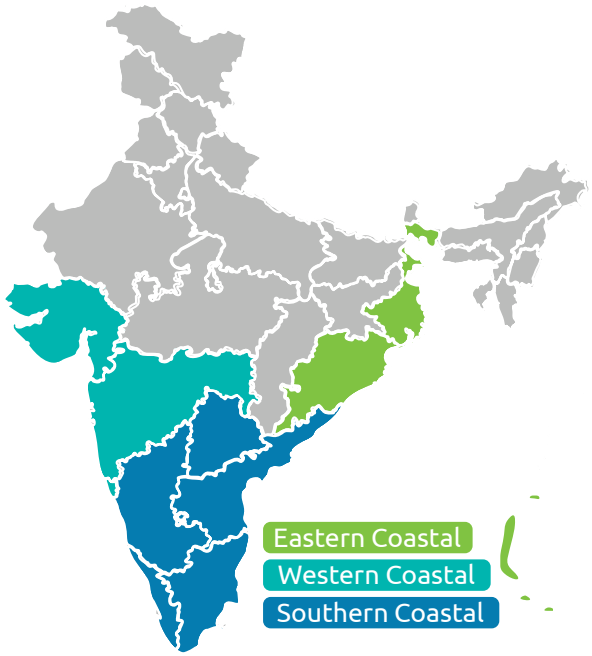
The adjacent States with similar characteristics present valuable opportunities for regional grouping. Such insights provide a more meaningful and practical approach to evaluating logistics performance than relying solely on State boundaries. The coastal group is segmented into Western, Southern and Eastern sub-groups:

Western (Goa, Gujarat, Maharashtra): Top performance across all logistics pillars, reflecting strong infrastructure, service quality, and regulatory support.

Southern (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu): Below group averages; reforms needed in rail infrastructure, grievance mechanisms, and safety.

Eastern (Odisha, West Bengal): Strengths in infrastructure and governance; opportunities lie in enhancing terminal service quality and workforce development.

Figure 22: Map showing the bifurcation of Coastal group into sub-groups



Performance across different coastal sub-groups

Western Coastal States: Consistently outperform in logistics infrastructure and services.

Southern Coastal States: Challenges include stagnant demand and limited response to evolving logistics needs.

Eastern Coastal States: Excels in governance but falls short in skilled workforce availability and safety measures.

Figure 23: Summary of Performance of Coastal sub-Groups

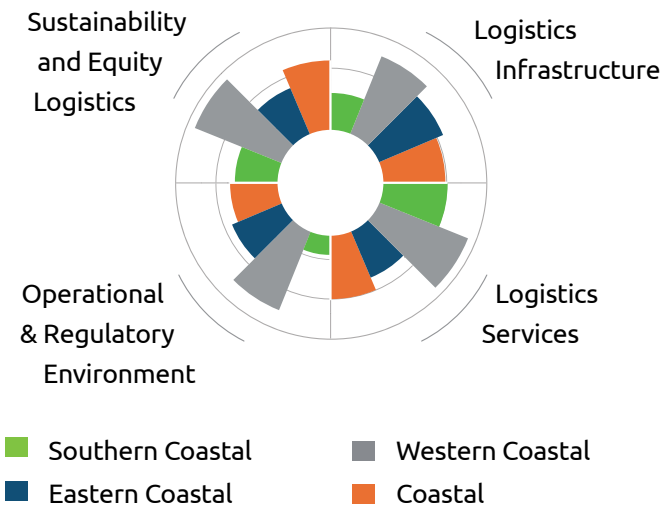


Figure 24: Coastal sub-Groups - Logistics Services

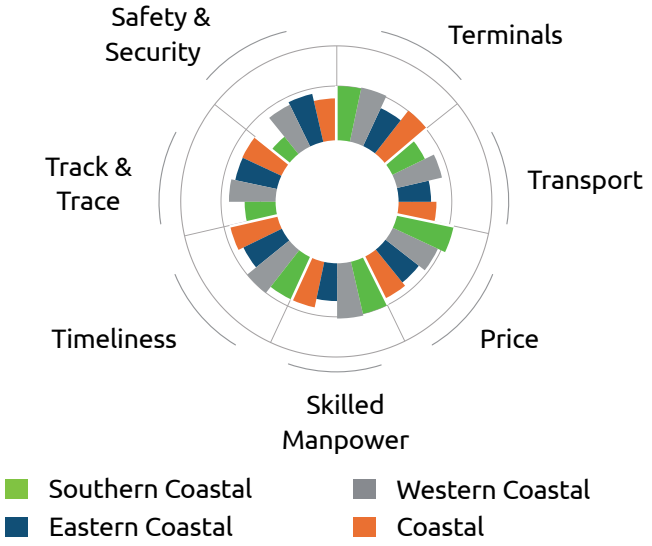


Figure 25: Coastal sub-Groups - Operational & Regulatory Environment

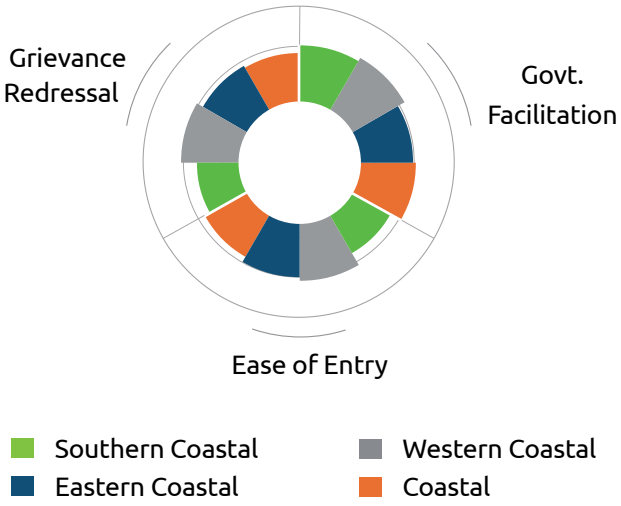


Figure 26: Coastal sub-Groups - Logistics Infrastructure

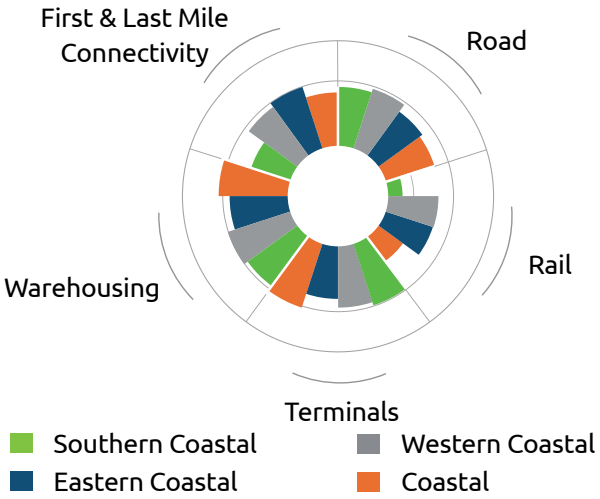
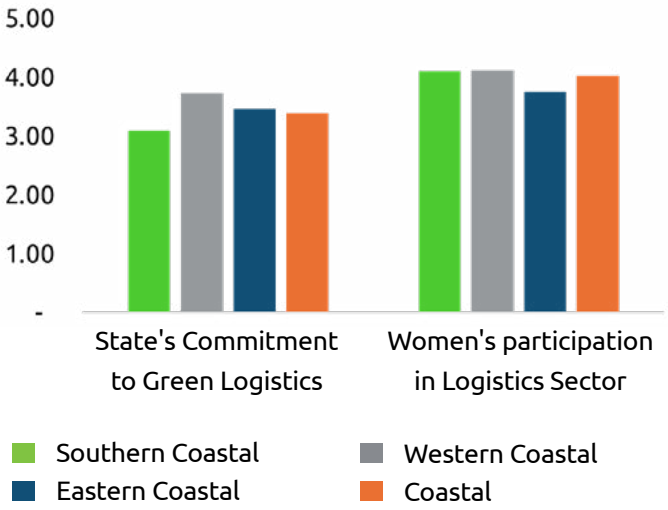


Figure 27: Coastal sub-Groups - Sustainability and Equity Logistics



Coastal groups are critical to India's logistics and trade, with ports handling 95% of EXIM cargo by volume and 68% by value. While Gujarat, Maharashtra, Tamil Nadu, and Odisha reinforce confidence through strong ecosystems, States like Kerala and West Bengal must accelerate their efforts. A unified strategy that addresses gaps while building on strengths is essential for enhancing India's coastal logistics capabilities.

A detailed analysis of the performance of each State in the coastal group across various indicators, along with an overview of initiatives undertaken by different administrations, is provided in the subsequent section.

Andhra Pradesh

State Performance Snapshot

Andhra Pradesh has been categorised as a **"Fast Mover"** within the coastal group, demonstrating the potential for growth and development. While the State's performance currently falls below the group average in certain key indicators, this also highlights opportunities for targeted interventions to drive progress. By focusing on improving critical areas given below, the State can work towards reclaiming its position as an achiever and further strengthen its contribution to the group.

Andhra Pradesh is taking initiatives in the logistics sector through its State logistics policy and action plan, ease-of-doing business initiatives and industry collaboration. The State is focusing on enhancing infrastructure through Multi-Modal Logistics Parks (MMLPs), adopting renewable energy at ports and improving road and rail connectivity. Skill development programs and digital platforms plans to further support workforce readiness and streamlined operations.

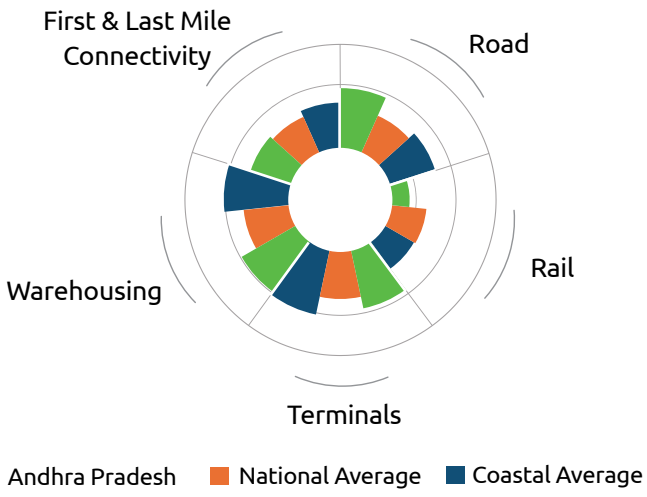
The State may also actively leverage Public-Private Partnerships (PPP) to implement key infrastructure projects.

Logistics Infrastructure

Andhra Pradesh performs above the national average across all logistics infrastructure indicators, except for 'Adequacy and Quality of Rail Infrastructure', where its performance falls below the group average as well.

While the State matches or is below the group average for most indicators, it notably performs better than both the national and coastal averages in 'Adequacy and Quality of Road Infrastructure.

Figure 28: Logistics infrastructure performance for Andhra Pradesh



Andhra Pradesh is improving its logistics and infrastructure landscape. It is pertinent to highlight that in upcoming industrial parks and hubs, 5 percent of the area has been designated for developing logistics facilities to promote seamless connectivity and industrial growth. New MMLPs at Visakhapatnam, Anantapuram, Orvakal and Kopparthy are also under consideration to support efficient cargo movement.

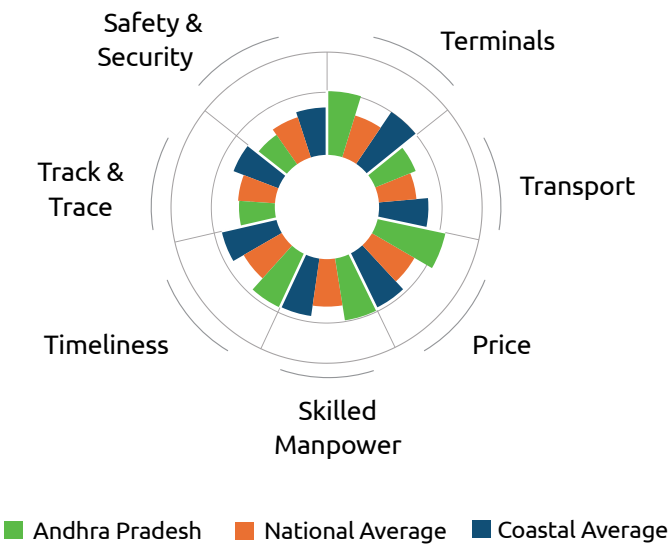
It is also undertaking major port infrastructure projects, including a new greenfield port at Ramayapatnam and new ports at Machilipatnam and Bhavanapadu. The State is also developing an international airport at Bhogapuram to bolster regional and global connectivity. Under the Sagarmala programme, Andhra Pradesh is implementing 15 key projects worth approximately INR 1,400 crores and establishing a private greenfield multi-cargo commercial port north of the Kakinada Port.

A drop in rail infrastructure, placing Andhra Pradesh below its group standards, underscores an area of concern marking a divergence from group's leading performers. This presents an opportunity for the State to address these gaps in coordination with railway authorities, thereby unlocking the full potential of rail in the State's logistics system.

Logistics Services

Andhra Pradesh scored higher than the group and national averages in 'Adequacy and Quality of Terminal Services', 'Reasonableness of Shipment Prices' and 'Skilled Manpower'. The State aligned with national standards in terms of 'Adequacy and Quality of Transport Services', showing stable performance.

Figure 29: Logistics services performance for Andhra Pradesh



However, it falls behind in 'Track & Trace of Cargo' and 'Safety and Security of Cargo', with the group and national averages outperforming those of the State.

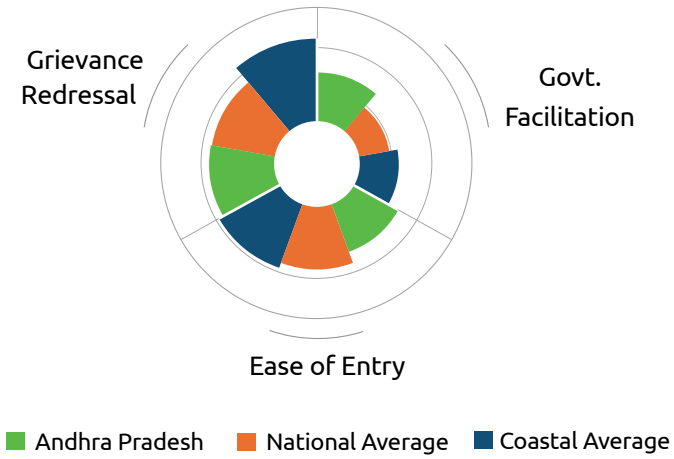
Andhra Pradesh is establishing a Logistics Integrated Command and Control Center (ICCC) and a Logistics Management Unit (LMU), thereby streamlining operations and ensuring infrastructure readiness. The Andhra Pradesh State Skill Development Corporation (APSSDC) and its AP Skill Cascade initiative, with 192 Skill Hubs, 26 Skill Colleges and 54 Skill Spokes, aim to bridge skill gaps and meet industry demands. Additionally, a Heavy Vehicle Driver Training Institute is being promoted in the Krishna District.

A decline in the Track and Trace, and Safety indicators highlights gaps in technological adoption and safety protocols, essential for operational transparency and risk mitigation.

Operating & Regulatory Environment

Andhra Pradesh excels in 'Ease of Government Facilitation', surpassing both the group and national averages. However, the State is behind in terms of 'Ease of Entry from Neighbouring States/UTs', highlighting a need for improved regulatory processes. There is no established 'Grievance Redressal Mechanisms', with both the group and national averages being low, which indicates an area for improvement in the State.

Figure 30: Operating & regulatory environment performance for Andhra Pradesh



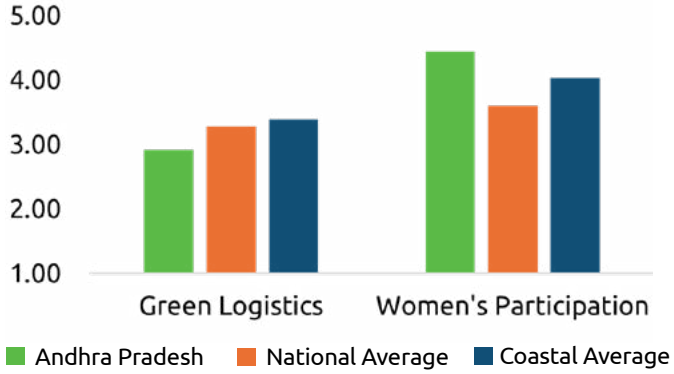
Andhra Pradesh has introduced a State Logistics Policy and Action Plan, granting industry status to the logistics and warehousing sector. The State promotes the ease of doing business with streamlined laws, a single-window clearance system, e-permits and automated approvals to expedite processes. The AP Logistics Portal supports digital logistics services and will lead to improving efficiency across the sector.

Such efforts are expected to drive growth of the sector going forward. Collaboration with industry stakeholders shall further identify and resolve challenges, ensuring a favourable environment for the State's business growth and logistics development. Performance of Andhra Pradesh in Ease of Entry and Grievance Redressel weakened, affecting the perception of the State's overall governance and facilitation of logistics operations. By addressing this gap, Andhra Pradesh has the potential to restore its "Achiever" status.

Sustainability and Equity Logistics

Andhra Pradesh falls behind the group and national averages in 'State's Commitment to Green Logistics'. On the other hand, the State surpasses the group and national averages in 'Women's Participation in the Logistics Workforce'. Improving environmental sustainability in logistics would help the State align with broader goals.

Figure 31: Sustainability and Equity Logistics performance for Andhra Pradesh



Andhra Pradesh is promoting sustainability in its ports through renewable energy initiatives, including solar photovoltaics at Ramayapatnam and wind energy studies at Kakinada. Ports such as Krishnapatnam and Gangavaram are also electrifying equipment and vehicles, controlling pollution and developing greenbelts. These efforts are expected to reinforce the State's commitment to greener and more efficient port operations.

Potential Opportunities in the State

Andhra Pradesh's logistics sector, supported by its extensive coastline, well-established ports and comprehensive transportation infrastructure, serves as a key hub for trade and commerce. Despite these strengths, potential opportunities are identified based on extensive consultations with logistics sector stakeholders and on-ground assessments.

Stakeholders' insights

> Connectivity to Kakinada Port, a 40-kilometer stretch, is severely compromised, with ongoing construction delays persisting for over five years.

> The Yanam bypass faces challenges due to its structural integrity and safety concerns. The bridge over the canal was previously dismantled.

> Cargo bound for Kakinada Port must pass through the city, necessitating the construction of a bypass over the Godavari Creek to ease congestion.

> Lack of adequately trained workforce for logistics operations, including drivers, warehouse operators and port workers.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for upgrading first- and last-mile connectivity to key ports and cargo epicenters. For example, opportunity to further augment sub-optimal first- and last-mile connectivity was reported as a constraint in cargo flow at Kakinada Port.
2. Development opportunities for bypasses at key creeks and urban agglomerations. The need is for time-bound implementation in collaboration with agencies such as NHAI, Indian Railways and State Departments. For example, the need for a bypass over Godavari Creek for cargo movement towards Kakinada Port was highlighted by stakeholders.

Long-term opportunities:

3. Opportunity to address the growing demand for efficient truck inspection processes by implementing faster clearance mechanisms and dedicated lanes at key ports such as Kakinada and Visakhapatnam.
4. Potential to strengthen initiatives to address driver shortage by identifying and implementing programs to train and retain drivers.
5. Unmet demand for industry-aligned curriculum and training programs, presenting opportunities for educational institutions and industry stakeholders to collaborate actively in addressing this need.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Goa

State Performance Snapshot

In 2024, Goa has achieved the **'Fast Mover'** category within the coastal group, marking progress from its previous status. The Government has been implementing multiple targeted interventions to drive overall improvement in the logistics sector. This is evident in the State's improved performance in LEADS 2024, wherein it is on par with or exceeds the national average across most indicators.

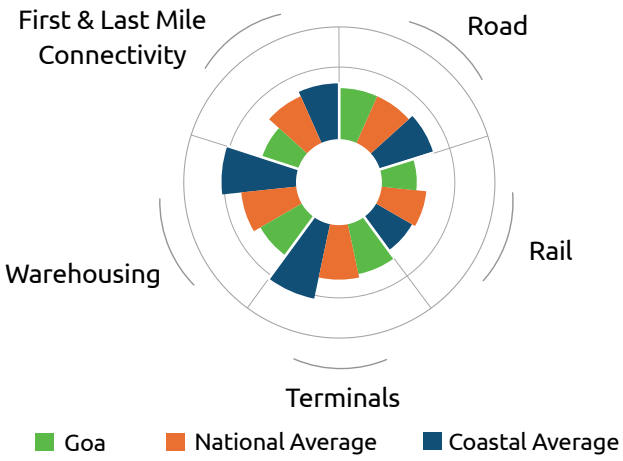
Goa is establishing multi-modal terminals, cold storage facilities and integrated logistics parks to enhance intermodal integration and cargo management. A planned Centre of Excellence (CoE) under the district skill development plan will address skill gaps, while smart enforcement technologies will improve logistics efficiency. Regulatory reforms, including a single-window approval system and fast-tracking PM GatiShakti initiatives, are undertaken to streamline logistics operations.

The State is leveraging its logistics policy and action plans to drive initiatives in the sector. Moving forward, the State should focus on creating a Regional Master Plan or City Logistics Plan to address infrastructure gaps more effectively. Additionally, it should consider leveraging PPPs for facility development and collaborating with Central Government for infrastructure development.

Logistics Infrastructure

Goa's performance pertaining to 'Adequacy and Quality of Road Infrastructure' matches the national average but is below the group average. Further, the State falls behind in 'Adequacy and Quality of Rail Infrastructure', with the group and national averages performing better. Goa also falls behind both group and national averages in 'Adequacy and Quality of Terminal and Warehousing Infrastructure' and 'First- and Last-Mile Connectivity', highlighting the need for targeted improvements in these areas.

Figure 32: Logistics infrastructure performance for Goa



While the State's logistics infrastructure remains below national and group averages, it has shown improvement across all indicators compared to its LEADS 2023 performance, except for First- and Last-Mile Connectivity and Transport Services.

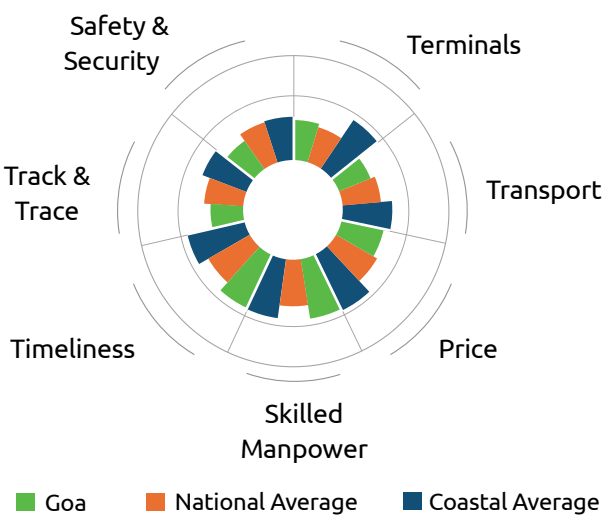
Goa is enhancing its logistics infrastructure through several key initiatives designed to improve connectivity and operational efficiency. These include the development of multi-modal transportation terminals at strategic locations, designed to link economic groups across the State. Multipurpose cold storage facilities are being established at key points, facilitating agroproduct, fishery and pharmaceutical storage.

Additionally, testing laboratories by Agricultural and Processed Food Products Export Development Authority (APEDA) and Marine Products Exports Development Authority (MPEDA) are planned to be established in collaboration with the Directorate of Agriculture and Fisheries to ensure quality standards. The State further plans to create Integrated Agro-Processing Centres to support agricultural value chains. Underutilised multi-storey parking complexes are being repurposed into consolidation centres, while an Integrated Logistics Park (ILP) near Manohar International Airport (MIA) is being developed to streamline cargo management. Furthermore, the road infrastructure connecting MMLPs, ILPs, ICDs, CFS, ports and industrial eStates is being up graded, and a Free Trade Warehousing Zone (FTWZ) near MIA is being established to enhance logistics efficiency.

Logistics Services

Goa's performance in 'Adequacy and Quality of Terminal Services' and 'Reasonableness of Shipment Prices' falls below the group and national averages, highlighting a need for improvement in terminal configuration and service quality. However, the State outperforms the national average and is on par with the group average in 'Skilled Manpower' and 'Timeliness of Cargo Delivery'. At the same time, it performs below average in 'Track and Trace of Cargo' and 'Safety and Security of Cargo', which require attention to enhance service quality.

Figure 33: Logistics services performance for Goa

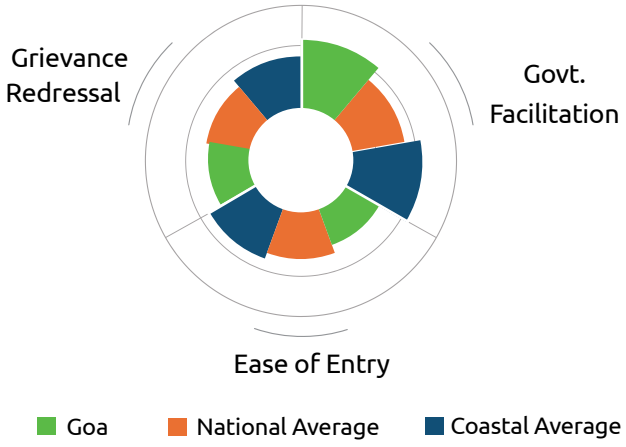


Goa is enhancing its logistics services by establishing programmatic skill development initiatives and adopting advanced technologies. The State plans to establish a CoE under the District Skill Development Plan (DSDP) to address the sector's training needs, alongside creating institutional tie-ups to develop relevant courses. These initiatives will cover supply chain management, transportation, hydrography, water navigation, shipping and operational optimisation. Additionally, implementing smart enforcement applications for cargo carriers and GPS-enabled Intelligent Transport Management Systems (ITMS) will improve logistics efficiency. In collaboration with professional institutes and Industrial Training Institutes (ITIs), particularly those belonging to the private sector, the directorate of skill development and entrepreneurship will conduct a study to identify skill gaps and develop appropriate courses.

Operating & Regulatory Environment

Goa excels in 'Ease of Facilitation by State/UT', surpassing the group and national averages and demonstrating a supportive regulatory environment. However, the State's underperformance in 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' indicates that improvements are needed to streamline operations and improve grievance management.

Figure 34: Operating & regulatory environment performance for Goa

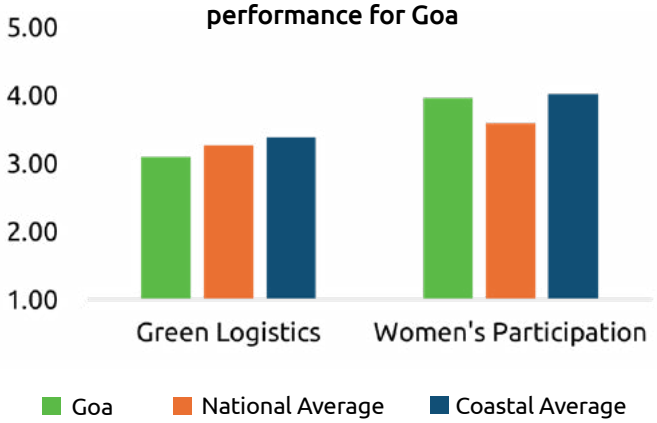


Goa is simplifying approvals for logistics and warehousing facilities through a single-window system and establishing standards for grading services. Under the PM GatiShakti programme, the State is earmarking 20 percent of industrial eStates for logistics businesses and fast-tracking Central Government initiatives.

Sustainability and Equity Logistics

Goa falls behind the group and national averages in 'State's Commitment to Green Logistics'. The State exceeds the national average and catches up with the group average in 'Women's Participation in the Logistics Workforce'. Improving environmental sustainability in logistics would help the State align with the broader goals of national logistics policy.

Figure 35: Sustainability and Equity Logistics performance for Goa



Goa is promoting sustainable logistics by using electric buses for commercial cargo and implementing City Logistics Plans focusing on sustainability. The State encourages green logistics and decarbonisation in transportation and aims to adopt electric cargo vehicles for last-mile delivery.

Potential Opportunities in the State

Despite its locational advantages, the State still requires targeted initiatives to further optimise logistics operations. Through extensive consultations and on-ground assessment, potential opportunities for Goa are identified which can enable effective and sustainable improvement in logistics ecosystem.

Stakeholders Insights

> The closure of the DGFT office in Goa in 2018 has disrupted exports and foreign trade, forcing Goan businesses to travel to Mumbai for basic formalities.

> Goa lacks truck terminals, parking spaces for trucks and trailers, cold storage and temperature-controlled warehouses.

> Closure of Goa–Belagavi road via Anmod Ghat significantly impacts exports and hinders movement through Mormugao Port.

> Mormugao Port faces challenges due to the unavailability of proper handling equipment.

Potential Opportunities in the State

Short-term opportunities:

1. Potential opportunity to develop truck terminals at the approach roads to industrial zones and ports, ensuring sufficient parking spaces for trucks and trailers by allocating land and associated utilities. For example, opportunity to develop truck terminals at the Industrial eStates of Kundaim, Usgao, Bethora, Marcaim, among others, is highlighted by industry stakeholders.
2. Requirement for implementing a grievance redressal cell to address logistics-related concerns effectively and provide timely resolutions.
3. Opportunities exist to undertake feasibility studies to improve quality and capacity of various terminals across the State. For example: opportunities for developing better cold chain facilities at Goa airport, better connectivity and infrastructure to support coastal shipping at non-major ports of Chapora, Betul, among others are highlighted by industry stakeholders.

Long-term opportunities:

4. Requirement to streamline EXIM-related processes by providing a single-window mechanism for expedited clearances.
5. Unmet demand for developing warehousing, cold storage and CFS/AFS. State to augment its efforts in EXIM promotion with demand assessments for such facilities

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Gujarat

State Performance Snapshot

In 2024, Gujarat has retained its position as **'Achiever'** within the coastal group, reflecting the effectiveness of its efforts to improve the State's logistics ecosystem. The State has been making the required investments in the development of logistics infrastructure and has undertaken various steps to streamline logistics services and regulatory mechanisms.

The State outperforms the national and group averages across all indicators.

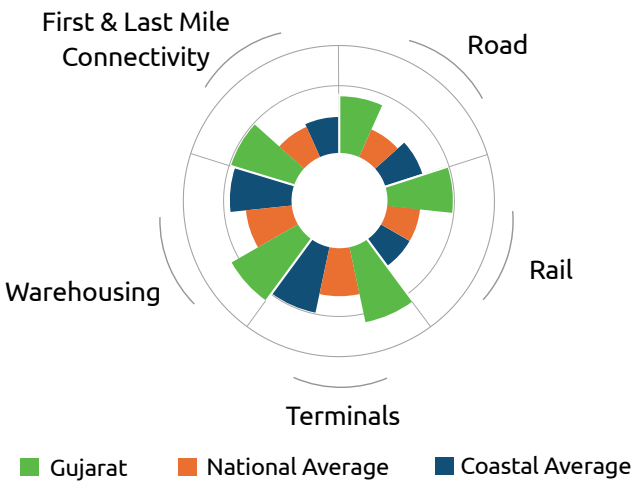
Gujarat is improving its logistics sector through focused infrastructure development endeavours, including the G-RIDE (Gujarat Rail Infrastructure Development Corporation) initiative for enhanced rail connectivity, unlocking the potential of dedicated freight corridors and developing a network of multi-modal transport hubs. The State focuses on skill development through specialised logistics and industry partnership courses, supported by initiatives such as the think tank for data-driven decision-making. Gujarat has streamlined logistics operations by removing checkposts, implementing digital platforms for tax and permit services and improving port efficiency. Sustainability is also a priority, with policies in place to promote electric vehicles, green hydrogen and ecofriendly transportation options to reduce emissions and enhance sustainability of the State's logistics ecosystem.

Logistics Infrastructure

Gujarat outperforms both the group and national averages in all the infrastructure indicators, with lead in 'Adequacy and Quality of Rail Infrastructure' and 'First- and Last-Mile Connectivity'.

The State's robust infrastructure supports efficient logistics operations, ensuring connectivity and capacity across various logistics components.

Figure 36: Logistics infrastructure performance for Gujarat



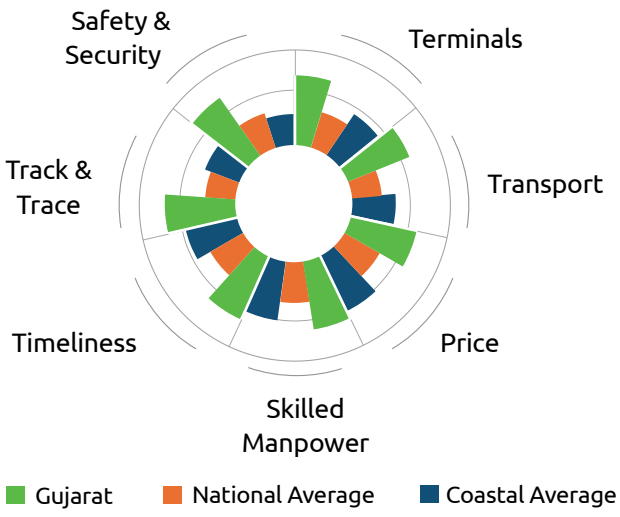
Gujarat is implementing several strategic initiatives to notably strengthen its logistics infrastructure. The Gujarat Rail Infrastructure Development Corporation (G-RIDE) facilitates critical rail projects, including last-mile connectivity to ports and industrial hubs, boosting rail transport efficiency. Constructing a new greenfield airport in Rajkot would streamline logistics for industries, such as ceramics in Morbi and Jamnagar. Dedicated freight corridors are being developed to improve rail capacity and reduce logistics costs, while the Jamnagar–Amritsar Expressway will enhance connectivity across key industrial areas. Additionally, a greenfield project connecting Gothangam to Hazira Port and the development of 11 jetties will further strengthen Gujarat's logistics network. The Delhi–Mumbai industrial corridor (DMIC) and the Western Dedicated Freight Corridor after corridor ass (WDFC) boost rail-based logistics across the State.

Logistics Services

Gujarat exceeds the group and national averages in all aspects of logistics services as well, notably leading in 'Safety and Security of Cargo', 'Track and Trace of Cargo' and 'Adequacy and Quality of Transport Services', respectively.

The State's performance reflects superior logistics service delivery, efficient transport operations, cost-effectiveness and robust workforce capabilities.

Figure 37: Logistics services performance for Gujarat



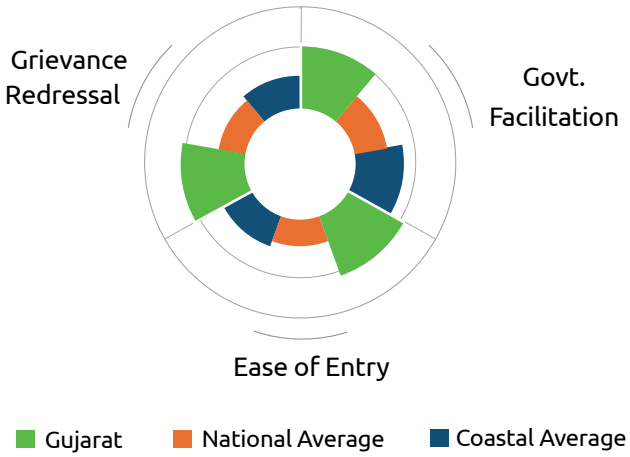
Gujarat promotes logistics skill development through educational initiatives at institutions such as GatiShakti Vishwavidyalaya, Gujarat Maritime University and Kaushalya-The Skill University. The Directorate of Employment and Training is introducing skill-based programs across industries, including logistics, with new courses planned. The State has signed MoUs with private industries and educational institutions to boost training, and a proposed think tank will guide infrastructure development and sector performance with data-driven decisions.

Operating & Regulatory Environment

Gujarat exceeds the group and national averages in 'Ease of Facilitation by State/UT', 'Ease of Entry from Neighbouring States/UTs' and 'Grievance Redressal Mechanisms'.

The State's proactive governance and effective regulatory framework have created a conducive environment for logistics operations, ensuring smooth entry processes and prompt grievance resolution.

Figure 38: Operating & regulatory environment performance for Gujarat

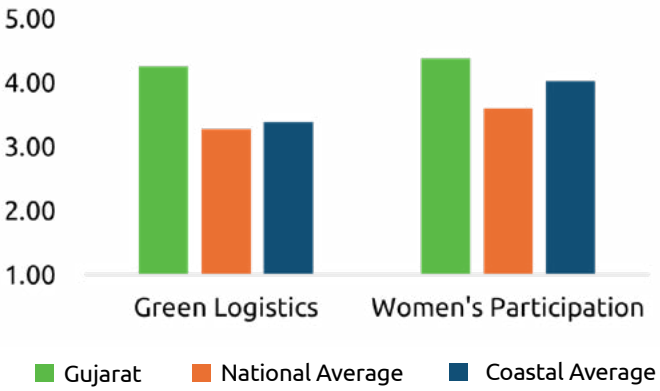


Gujarat has streamlined logistics by removing check-posts, reducing road stoppages and using the Parivahan Sewa Portal for tax filing and services. Motor Vehicle Act violations are processed through the eChallan portal, enabling online payment. The Investor Facilitation Portal (IFP) allows online approval applications, and the Gujarat Maritime Board's GPO-FMS portal manages port operations and financial services. The State is also improving cargo turnaround, establishing local testing and quarantine facilities and expediting infrastructure support for logistics.

Sustainability and Equity Logistics

Gujarat leads the group and national averages in 'State Commitment to Green Logistics' and 'Women's Participation in the Logistics Workforce', demonstrating its commitment to sustainability and inclusivity in the logistics sector.

Figure 39: Sustainability and Equity Logistics performance for Gujarat



Gujarat's sustainable logistics initiatives include the Gujarat State Electric Vehicle Policy-2021, promoting Electric Vehicle (EV) adoption and infrastructure. The State launched 50 electric buses, with plans for double-decker buses in 2024. It also supports green hydrogen production and has developed a green hydrogen policy. The State promotes EV use in logistics, develops charging infrastructure for critical corridors and explores greener transport—such as slurry pipelines—to reduce emissions.

Potential Opportunities in the State

Gujarat's vast logistics landscape, characterised by its extensive transportation networks, major ports and well-developed infrastructure, still requires certain initiatives for further improvement. Through extensive consultations and on-ground assessments, potential opportunities in the sector are identified and presented below.

Stakeholders Insights

> Limited last-mile connectivity to GIDC Industrial Parks and significant congestion along the Baroda–Surat–Dahej corridor impede smooth industrial operations.

> Insufficient rail frequency to Pipavav hinders efficient container train transportation to ICD-Ahmedabad.

> Severe congestion on routes leading to Ankleshwar results in low average transportation speeds, hampering logistics efficiency.

> Issues with connectivity to Kandla Port due to rain damage disrupts movement. Further, the road conditions are poor between Ankleshwar and Baroda.

Potential Opportunities in the State

Short-term opportunities:

1. Opportunities to develop additional logistics facilities to handle diversified cargo across the State. For example, Dahej requires a facility for handling non-POL cargo and Ankleshwar requires a cargo-handling facility particularly for textiles.
2. Demand for expansion of last-mile connectivity, especially to the GIDC Industrial Parks.
3. Potential for addressing congestion at choke points and improve quality of roads across key corridors such as Baroda–Surat–Dahej and Ankleshwar–Baroda.

Long-term opportunities:

4. Requirement to coordinate with CTOs, port terminal operators and ICD operators to optimise rail frequency between Pipavav port and ICD Ahmedabad.
5. Unmet demand for resolving the cargo evacuation challenges at Kandla and Mundra ports by upgrading road infrastructure, including the Samakhiali–Palanpur and Samakhiali–Maliya routes, with lane expansions and quality improvements.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Karnataka

State Performance Snapshot

Karnataka has retained its position as **'Achiever'** within the coastal group in LEADS 2024. The performance of the State is above the group and national average for most of the indicators. The State has been actively working towards advancing its logistics ecosystem through targeted interventions.

Karnataka has undertaken steps to reform its logistics ecosystem by adopting the State Logistics Action Plan 2022. Key efforts include providing Industry Status to the warehousing and logistics sectors to enhance trade competitiveness, developing MMLPs and Inland Waterways and strengthening the State's single-window system to enable digitalisation of end-to-end application and approval process. Additionally, several sustainable practices are being promoted, such as promoting green logistics and EV adoption. Lastly, Karnataka's alignment with the Sustainable Development Goals (SDGs) reflects its forward-looking approach to logistics development.

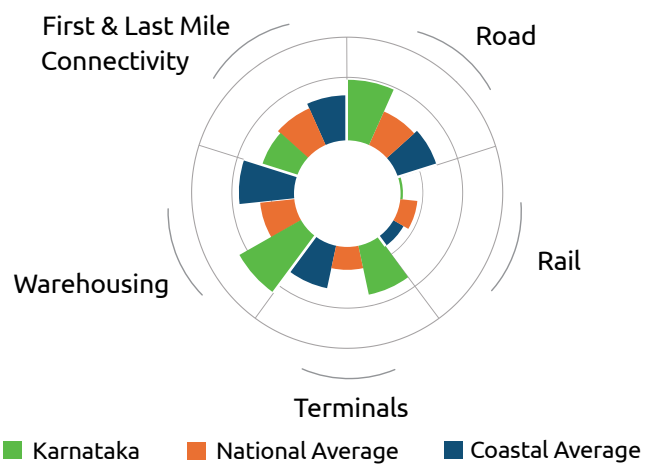
While the State has also a logistics action plan and city logistics plan, adopting the GatiShakti platform for coordinated planning across State Departments and Central Ministries could further enhance the logistics ecosystem.

Logistics Infrastructure

The State outperforms the national and coastal group averages pertaining to 'Adequacy and Quality of Warehousing Infrastructure', 'Terminal Infrastructure' and 'Road Infrastructure'. The State has witnessed significant improvement in these two areas, when compared to LEADS 2023 performance as well.

It mirrors the national and coastal group averages in ensuring 'Adequacy and Quality of First- and Last-Mile Connectivity'. However, there is potential for improvement in 'Adequacy and Quality of Rail Infrastructure' in the State.

Figure 40: Logistics infrastructure performance for Karnataka

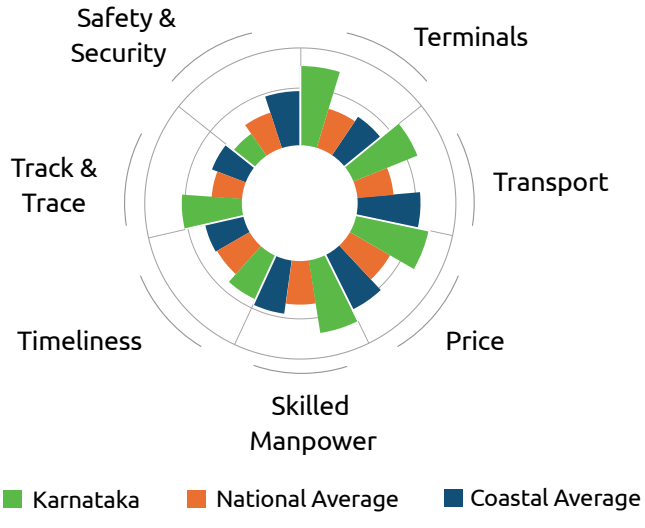


Karnataka has undertaken initiatives to strengthen its logistics infrastructure and enhance connectivity. Select initiatives include the development of inland waterways and four new non-major ports, improving capacity by 31 MTPA. The State Government has initiated the development of an MMLP at Obalapura aimed at enhancing the logistics infrastructure. Further, the State Government has prioritised the development of the Peripheral Ring Road around Bengaluru to improve the city's logistics efficiency and alleviate congestion on the existing Outer Ring Road. The Bengaluru Suburban Rail Project (BSRP), an approved commuter rail network with 64 stations covering 149.348 km, is expected to be completed by 2026.

Logistics Services

Karnataka's logistics performance is rated better than both the national and coastal group averages across key indicators, including Adequacy and Quality of 'Terminal Services' and 'Transport Services', 'Reasonableness of Price of Logistics Services', 'Skilled Manpower' and 'Track and Trace of Cargo'. However, there is potential for improvement in key areas such as 'Safety and Security of Cargo'.

Figure 41: Logistics services performance for Karnataka

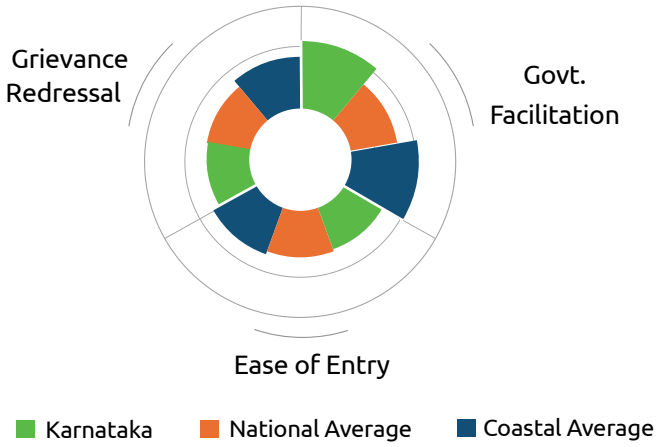


Karnataka is focusing on skill development to grow its logistics services. Some key initiatives include establishing a CoE in logistics in Dharwad, Bengaluru and Dakshina Kannada districts to address the issue of skill gaps in logistics sector. The State is considering including logistics sector under the Kalike Jote Kaushalya initiative of the State Government, through which skills training is imparted to students across 16 vocational domains to enhance sector-specific employability. Further, the State aims to prepare skill development plans at the district level in coordination with stakeholders in the future. The State will also develop a comprehensive plan for driver empowerment and employability to address critical issues such as road safety.

Operating & Regulatory Environment

Karnataka outperforms the national average and is in line with the coastal group average in 'Ease of Government Facilitation', showcasing the State's supportive logistics environment. The State's performance in 'Ease of Entry from Neighbouring States/UTs' is aligned with the national and coastal group averages. However, the State lacks in 'Grievance Redressal Mechanisms' in terms of quality, highlighting the potential for further improvement.

Figure 42: Operating & regulatory environment performance for Karnataka

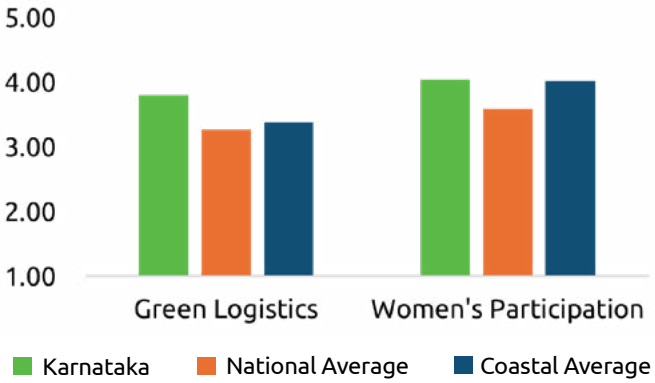


Karnataka has streamlined its operating and regulatory environment by implementing a single-window facilitation system, allowing end-to-end digitisation and online application and approval processes for logistics projects. Additionally, the State has integrated an e-permit system within the State Transport Department's online portal, enhancing transparency and efficiency in permit management for the transportation of notified agricultural produce outside the market area. These measures have simplified regulatory processes, reduced administrative bottlenecks and created a more investor-friendly ecosystem for logistics development.

Sustainability and Equity Logistics

Karnataka outperforms the national and coastal group averages in 'State's Commitment to Green Logistics'. The State also exceeds the national average in promoting 'Women's Participation in the Logistics Workforce', while being on par with the coastal average.

Figure 43: Sustainability and Equity Logistics performance for Karnataka



Karnataka is promoting EV adoption for freight movement and carbon-neutral warehousing to decarbonise the sector and ensure compliance with global standards. For this purpose, it is expediting the establishment of EV charging stations every 20–25 km on the Bengaluru–Mysuru and Bengaluru–Tumakuru highways and other identified highways in the State.

Potential Opportunities in the State

Karnataka may incentivise development of warehouses and CFS terminals, port connectivity and trucking infrastructure to maximise trade efficiency in the State. Potential opportunities are highlighted to address the same, ensuring focused interventions for effective and sustainable logistics reform.

Stakeholders Insights

> There is a limited availability of FTWZs in Karnataka.

> ICD Whitefield suffers from frequent equipment handling issues.

> Karwar Port has insufficient first- and last-mile connectivity.

> There is a lack of warehousing space in Mangalore; however, terminal service providers claim it is unviable to create additional infrastructure due to the seasonality of demand for such service.

> There is no grievance cell to address unnecessary interference from some of the stakeholder departments.

Potential Opportunities in the State

Short-term opportunities:

1. Unfulfilled demand exist for improving quality and capacity of ICD Whitefield and rail terminals in Mangalore region.
2. Requirement for reduction in regulatory compliances for warehouses to help streamline operations and reduce unnecessary inspections, which further present opportunities for investment in warehouses in the State.

Long-term opportunities:

3. Opportunity to enhance connectivity to the Mangalore Port.
4. Demand for development of a Transport Nagar facility in Mangalore as a hub for logistics activities.
5. Requirement for development and decongestion of access roads at key ICDs, especially ICD Whitefield.
6. Opportunities to enhance the road connectivity infrastructure to various ports, especially Karwar Port.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Kerala

State Performance Snapshot

Kerala has been ranked as **'Aspirer'** within the coastal group. The State is performing below the group and national averages for most of the indicators. While the State exhibited a commendable gain in Terminal Infrastructure, widespread declines across other metrics highlight the need for strategic intervention and systemic reforms.

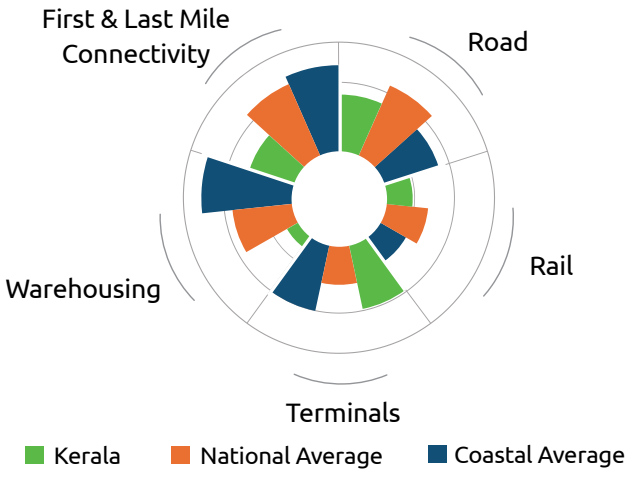
Kerala has introduced measures to improve the efficiency of the logistics sector, such as granting Industry Status to the logistics sector and designating logistics parks as industrial areas. The State has been implementing an Inland Water Navigation Programme linking north and south Kerala, developing new and existing ports and adopting an online single-window clearance mechanism—K-SWIFT—to facilitate approvals. Additionally, sustainable practices, such as promoting green logistics and launching specialised logistics skilling programmes, reflect Kerala's progressive approach to logistics development.

For holistic progress, completing mandatory layers on the GatiShakti platform will also be crucial to enable integrated logistics planning and infrastructure development. The shift to "Aspirer" category reflects challenges in sustaining growth across key indicators.

Logistics Infrastructure

The State has outperformed the national average in 'Adequacy and Quality of Terminal Infrastructure'. However, there is potential for improvement in all other parameters, such as ensuring Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity'.

Figure 44: Logistics infrastructure performance for Kerala



Kerala is undertaking initiatives to strengthen its logistics infrastructure including the development of inland waterways, the completion of five out of nine projects aimed at developing new or existing ports in the State, facilitating last-mile rail connectivity to the Vizhinjam International Sea Port and constructing a 629-km-long coastal highway connecting Thiruvananthapuram with Kasaragod, Additionally, the State has facilitated last-mile connectivity and support infrastructure for the KINFRA Petrochemical Park at Kochi and the Bio 360 Life Sciences Park at Thiruvananthapuram. An additional 708 km of road projects sanctioned under the Bharatmala Pariyojana are being executed.

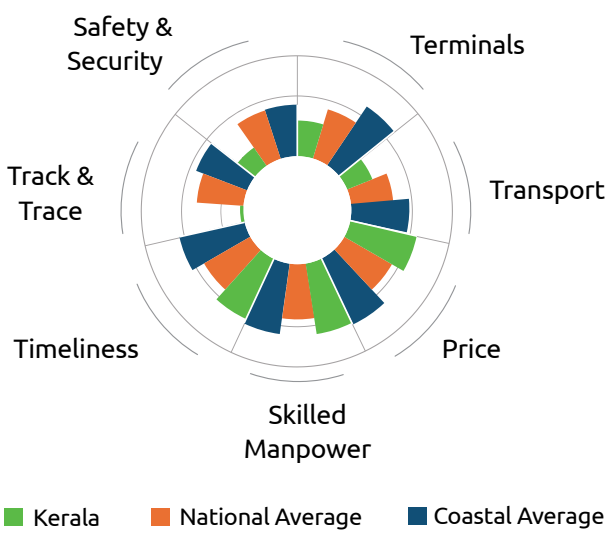
Kerala's progress in the area of terminal infrastructure reflects effective investments in enhancing its ports and inland waterway infrastructure through several initiatives. Leveraging this success requires integrating terminal efficiency with other aspects of logistics performance for holistic growth.

Logistics Services

Kerala outperforms the national average and is aligned with the coastal group average for 'Reasonableness of Price of Logistics Services', 'Skilled Manpower' and 'Timeliness of Cargo Delivery'.

On the other hand, the 'Adequacy and Quality of Terminal Services and Transport Services', as well as 'Safety and Security of Cargo', along with the limited adoption of technology initiatives such as 'Track and Trace of Cargo', underscore key areas that require improvements to enhance logistics services in Kerala.

Figure 45: Logistics services performance for Kerala



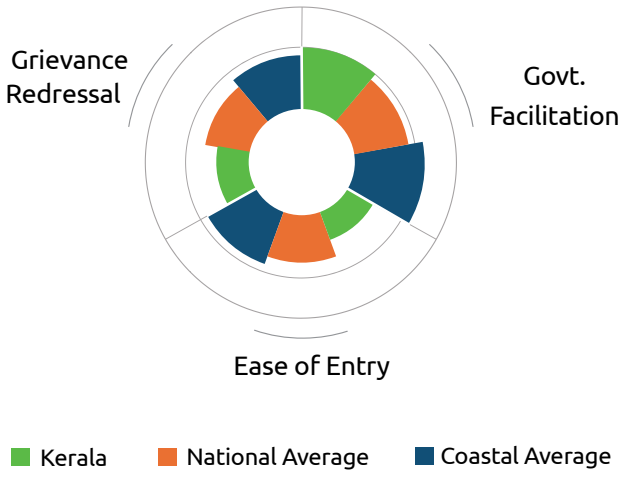
According to the State Logistics Plan 2021, Kerala is implementing various skill development initiatives to help foster an industry-ready workforce for the logistics sector. This includes launching specialised logistics programmes in higher education institutions, such as IIT Palakkad, NIT Calicut and CUSAT, as well as focusing on logistics related to specialised cargo relevant to Kerala, such as spices, processed foods, e-commerce logistics and consumer durables. Additionally, a strategic skill-upgradation plan for blue-collar logistics workers will be developed, addressing specialised needs in areas such as warehousing and cargo handling.

Decline in the areas of terminal services, safety and track and trace signal inefficiencies in operational practices and technology adoption. Lack of transport service reliability and monitoring systems can undermine the competitiveness of Kerala's logistics network.

Operating & Regulatory Environment

Kerala performs better than the national average and aligns with the coastal group average in 'Ease of Government Facilitation', indicating the State's positive approach. However, the State faces challenges in enhancing 'Grievance Redressal Mechanisms' and improving 'Ease of Entry from Neighbouring States/UTs', where it falls below both the national and coastal group benchmarks.

Figure 46: Operating & regulatory environment performance for Kerala



Kerala has granted Industry Status to the logistics sector under its State Industrial Policy. It will designate all logistics or mini-logistics parks developed under this policy as 'Industrial Areas' under the 'Kerala Industrial Single Window Clearance Boards and Industrial Township Area Development Act-1999'. The State has streamlined its operating and regulatory environment by implementing a single-window facilitation system, K-SWIFT.

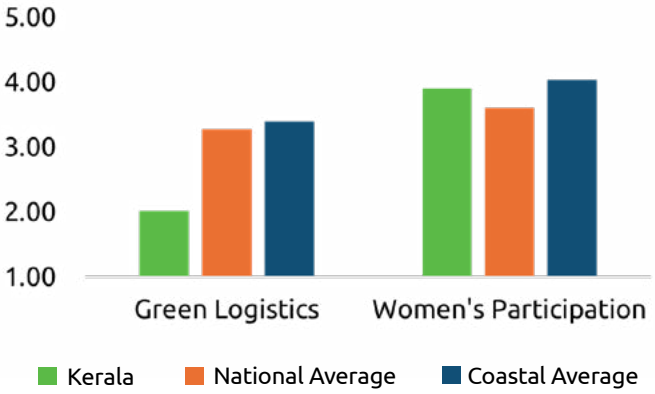
While these measures will simplify regulatory processes, opportunities remain to enhance administrative procedures and strengthen stakeholder engagement to further support businesses.

Sustainability and Equity Logistics

The State performs below both the national and coastal group averages in 'State's Commitment to Green Logistics'. However, while its performance in 'Women's Participation in the Logistics Workforce' is lower than the coastal group average, it exceeds the national average.

Improvements are required, especially regarding the adoption of green logistics measures in the State.

Figure 47: Sustainability and Equity Logistics performance for Kerala



Kerala is promoting sustainable logistics practices in its logistics parks, such as adopting EV vehicles for last-mile delivery, reducing packaging waste with increased recycling, adhering to green building certifications and using renewable energy sources, in addition to nudging the adoption of carbon-neutral shipping methods.

Potential Opportunities in the State

Kerala's logistics and industrial sector plays a crucial role in the State's economic development and industrial growth. Based on on-ground stakeholder consultations, potential opportunities have been highlighted for the State where interventions are required.

Stakeholders Insights

> The road network in Kerala poses a challenge for the logistics industry in terms of ensuring timely effective cargo delivery.

> Kerala needs to improve in terms of Grade A warehousing infrastructure.

> NATPAC rates are not viable and labour costs are prohibitive and impede growth of the logistics sector in Kerala.

> There is a general lack of facilities at non-major ports such as night-time navigational aids, insufficient draft, bad connectivity by road and labour.

Potential Opportunities in the State

Short-term opportunities:

1. Immediate demand for maintenance of critical road segments to improve connectivity alongside long-term highway construction. For example, Kollam to Theni stretches prone to wear and tear, Aluva to Perumbavoor via Muvattupuzha needs widening and consistent maintenance.
2. Opportunities exist for the development of warehouses in the state, where the government can promote warehousing by offering incentives for private investments in warehouse development.
3. Demand exists to facilitate the availability of land parcels at subsidised rates to develop logistics facilities.
4. Need to coordinate with National Transportation Planning and Research Centre (NATPAC) to implement a feedback loop to review and address rate structures as per industry standards.

Long-term opportunities:

5. Demand for augmenting road connectivity and equipment at non-major ports of Beypore, Kollam and Azhikkal.
6. Requirement to facilitate negotiations with labour unions to standardise pre-agreed competitive wage structures for logistics services.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Maharashtra

State Performance Snapshot

2024
Achiever

2023
Fast Mover

Maharashtra is in **'Achiever'** category within the coastal group, marking a progress from its previous status as a "Fast Mover". The State is performing above or on par with the national and coastal averages across most of its indicators. Additionally, the government is actively undertaking initiatives to further enhance the performance of its logistics sector.

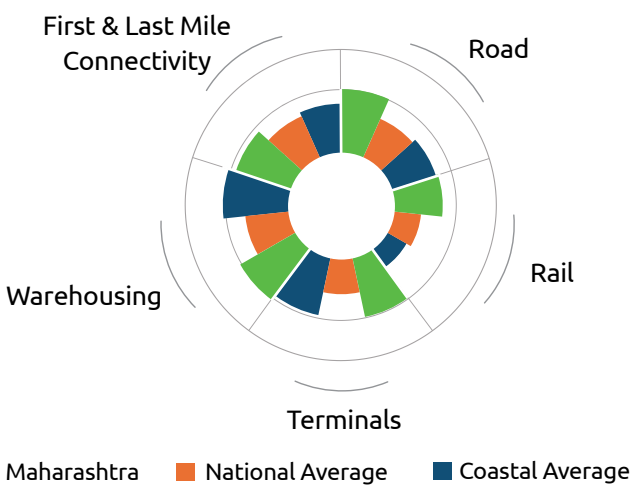
Maharashtra has made strides in logistics through adopting the State Logistics Policy and Integrated Logistics Masterplan. Key efforts include providing Industry and Infrastructure Status to the logistics sector to enhance trade competitiveness; developing logistics parks, including national, State and district hubs; and strengthening the State's single-window clearance system for project approvals. Additionally, sustainable practices, such as developing the Mumbai Metro Rapid Transit Rail System and promoting green logistics, aligned with the SDGs reflect the State's forward-looking approach in logistics development. The State may also focus on adopting the PM GatiShakti platform for integrated infrastructure planning to ensure comprehensive progress.

Logistics Infrastructure

Maharashtra surpasses both the national and the coastal group averages across all key indicators, especially in ensuring the 'Adequacy and Quality of Road Infrastructure', 'Rail Infrastructure', 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity', suggesting a highly conducive logistics environment due to the progressive approach of the State.

Compared to LEADS 2023, it has shown remarkable improvement across all indicators.

Figure 48: Logistics infrastructure performance for Maharashtra



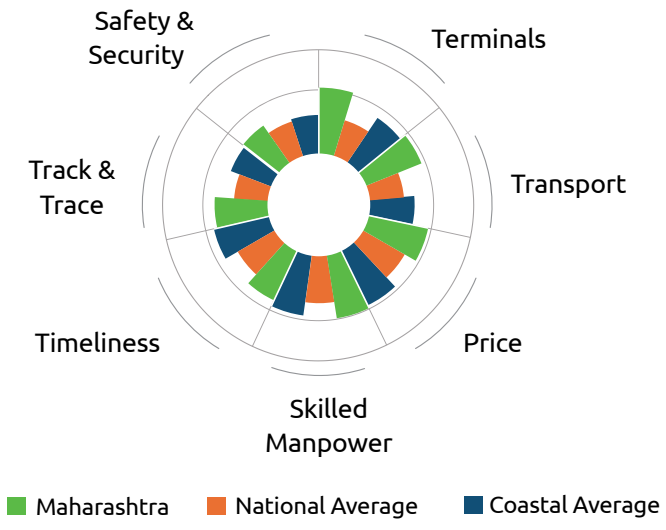
Maharashtra has adopted targeted initiatives to strengthen its logistics infrastructure and enhance connectivity. Significant efforts include the development of the Navi Mumbai International Airport, proposed extensions to the Samruddhi Expressway, and the Rewas Redi Coastal Highway Project, which is aimed at enhancing the logistics capabilities of Maharashtra. The State Government is developing 37 logistics parks, including 1 international logistics megahub, 1 national logistics megahub, 5 State logistics hubs and 25 district logistics hubs, significantly improving the State's logistics infrastructure. The State Government has prioritised the development of the 170-km Pune Ring Road project to improve the city and region's logistics efficiency.

Logistics Services

Maharashtra's logistics performance exceeds both the national and coastal group averages in critical logistics service parameters, including 'Adequacy and Quality of Terminal Services and Transport Services', 'Skilled Manpower', 'Track and Trace of Cargo' and 'Safety and Security of Cargo'. In terms of 'Reasonableness of Price of Logistics Services' and 'Timeliness of Cargo Delivery', The State is on par with the average for the coastal group.

Compared to LEADS 2023, it has shown improvement across all indicators, particularly in 'Reasonableness of Shipment Prices'.

Figure 49: Logistics services performance for Maharashtra

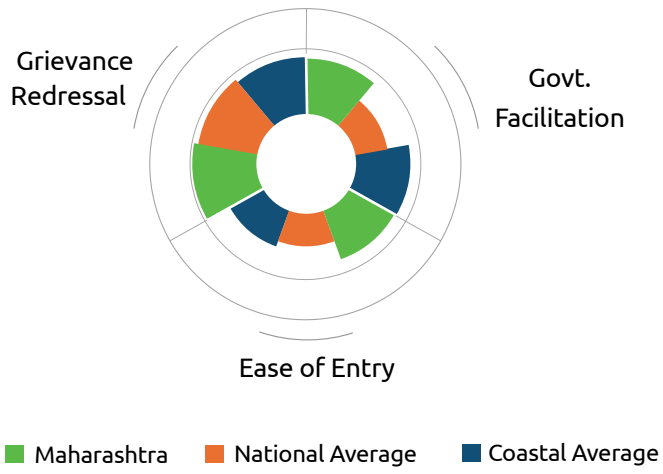


Maharashtra is focusing on skill development to drive the growth of logistics services. The government will jointly map skill gaps and design logistics-specific courses with the Maharashtra Skill Development Corporation (MSDC) and entrepreneurship-promoting institutions. Some key initiatives include working with the Maharashtra Skill Development Society to design a Logistics Sector Skill Action Plan to identify and address skill gaps and enhance employability in the logistics sector. The State Government is implementing an Intelligent Logistics Management System (ILMS) for up-to-date data and information sharing between State departments. This step includes integration with Unified Logistics Interface Platform (ULIP, to increase logistics ecosystem transparency, streamline the value chain and more effectively manage the State's logistics transport network.

Operating & Regulatory Environment

Maharashtra outperforms both the national and coastal group averages in 'Ease of Government Facilitation', 'Ease of Entry from Neighbouring States/UTs' and 'Grievance Redressal Mechanisms'. This highlights the effectiveness of regulatory interventions in ensuring higher operational performance in the logistics industry.

Figure 50: Operating & regulatory environment performance for Maharashtra

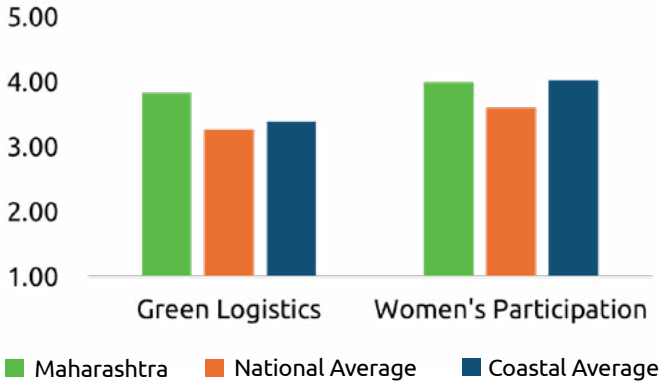


Maharashtra has granted 'Industry and Infrastructure Sector' status to further empower the State's logistics industry. The State has streamlined its operating and regulatory environment by implementing a single-window investment facilitation cell, 'MAITRI', allowing online approvals, permits and non-exemption certificates for enterprises in the logistics sector. Additionally, the State has permitted 24×7 operations for logistics entities. These measures have simplified regulatory processes, reduced administrative bottlenecks and created a more investor-friendly ecosystem for logistics development.

Sustainability and Equity Logistics

Maharashtra outperforms the national and the coastal averages in ensuring 'State's Commitment to Green Logistics'. Although the State's 'Women's Participation in the Logistics Workforce' is in line with the coastal group average, it exceeds the national average. This highlights the State's strong commitment towards fostering sustainable logistics practices and inclusivity.

Figure 51: Sustainability and Equity Logistics performance for Maharashtra



Maharashtra is promoting and incentivising EV adoption for last-mile connectivity and freight movement with the goal of decarbonising the sector and ensuring compliance with global standards. The State prioritises captive jetties and multi-modal cargo terminals to support shifting to more environmentally-friendly rail and coastal shipping.

Potential Opportunities in the State

Maharashtra's logistics sector, with its advanced infrastructure, major ports, and well-connected transportation networks, plays a pivotal role in driving State's economic growth and facilitating trade. However, potential opportunities in the sector are highlighted based on extensive consultations and on-ground assessments.

It has been identified that Maharashtra may prioritise augmentation of critical road connectivity between Mumbai and Surat and enhance availability of temperature-controlled warehouses and cold storage facilities. Further interventions may involve resolving outstanding wage disputes with Mathadi workers and streamlining cross-border tariff structures.

Stakeholders Insights

> The condition of the road from Mumbai to Surat is very bad.

> Warehousing infrastructure, including temperature-controlled storage facilities, needs to be expanded and improved.

> Lack of a City Logistics Plan is causing congestion on city roads, leading to delays and resultant increase in transportation cost.

> Many MIDCs in Maharashtra do not have essential infrastructure such as sewage lines and wide roads, hampering logistics operations.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for augmenting road connectivity to industrial areas around the Ahmednagar road.
2. Opportunities for developing cold-chain storage facilities and temperature-controlled warehouses at locations such as Aurangabad.
3. Need for development of city logistics plan for key cities in Maharashtra with emphasis on establishing loading and unloading areas, aggregation facilities and widening of critical roads, which further presents opportunities for investments in the sector.
4. Demand to address and resolve wage disputes with Mathadi workers in the State.

Long-term opportunities:

6. Need to coordinate with NHAI for augmentation of road capacity between Mumbai and Surat.
7. Opportunities for development of dedicated logistics groups for high-growth industries in the state. For example, Pimpri-Chinchwad (Aurangabad) for pharmaceuticals and Auto / Auto Components at Nashik, were reported as two such locations.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Odisha

State Performance Snapshot

In LEADS 2024, Odisha has been categorised as a **'Achiever'** within the coastal group – advancing significantly from 'Aspirer" in 2023. The State's performance exceeds national averages across all indicators and is either above or on par with coastal averages. This reflects the government's targeted initiatives to enhance logistics efficiency in the sector.

Odisha has introduced significant measures to improve logistics efficiency and attract investments, including developing MMLPs, dry ports and integrated logistics parks, with land earmarked for logistics infrastructure in industrial eStates and special economic zones. The State's single-window system simplifies project approvals, while focusing on first- and last-mile connectivity to ensure smoother cargo movement. Additionally, sustainable practices, such as promoting green trucking and aligning with the SDGs, reflect Odisha's forward-looking approach in logistics development.

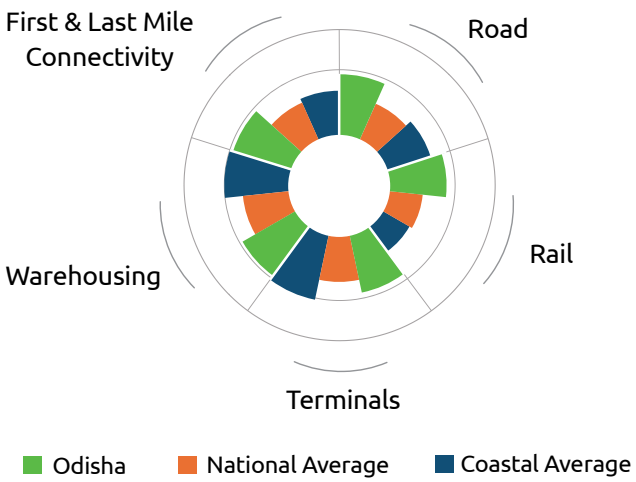
These efforts have positively influenced stakeholder perceptions, with performance in these areas improving over the previous year.

Logistics Infrastructure

Odisha's logistics performance is strong across key infrastructure indicators. The State surpasses both national and coastal averages in 'Adequacy and Quality of Road Infrastructure', 'Adequacy and Quality of Rail Infrastructure' and 'First- and Last-Mile Connectivity'. For other parameters, Odisha is on par with the coastal group average.

The State's performance has improved across all the indicators of Logistics Infrastructure when compared to LEADS 2023 outcomes.

Figure 52: Logistics infrastructure performance for Odisha



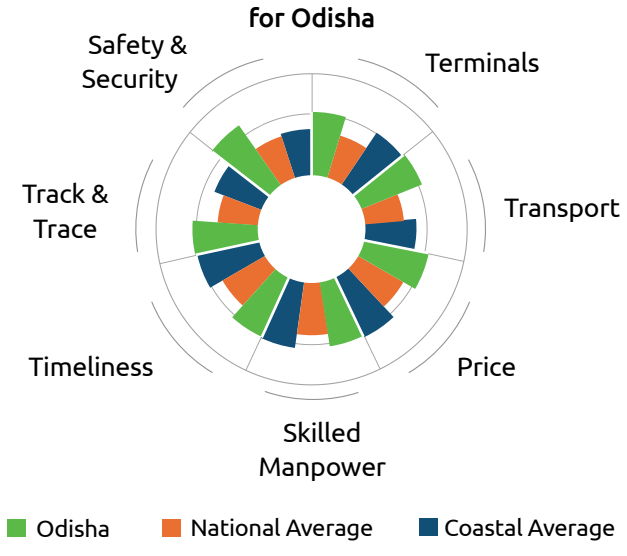
Odisha is implementing targeted initiatives to strengthen its logistics infrastructure and connectivity. The State is planning the Odisha Economic Corridor to extend the Vishakhapatnam–Chennai Industrial Corridor (VKIC) for enhancing regional integration. Significant efforts include new rail lines, strengthening existing lines to connect hinterland mining areas to ports and dedicated rail tracks from mining heads to nearby railheads. The State currently operates one major port in Paradip and two non-major ports in Dhamra and Gopalpur, with two additional ports at Subarnarekha and Astaranga under development and 14 more sites identified for future port development. Connectivity issues and nearby logistics facilities are being assessed to maximise existing port and jetty utility. Furthermore, Odisha is promoting the development of MMLPs, integrated logistics parks and large-scale storage infrastructure through private and private–public partnership models, with strategic land earmarked for logistics hubs within industrial eStates and micro, small and medium enterprise parks.

Logistics Services

The State's performance highlights its strong logistics services, with 'Adequacy and Quality of Transport Services' and 'Availability of Track and Trace for Cargo' scoring above both national and coastal averages. The State's 'Safety and Security of Cargo' stands out, reflecting a strong emphasis on secure operations. Meanwhile, in other service parameters, Odisha performs on par with coastal averages.

The State has shown improved performance compared to previous years across all logistics service indicators, particularly in 'Reasonableness of Shipment Prices'.

Figure 53: Logistics infrastructure performance for Odisha



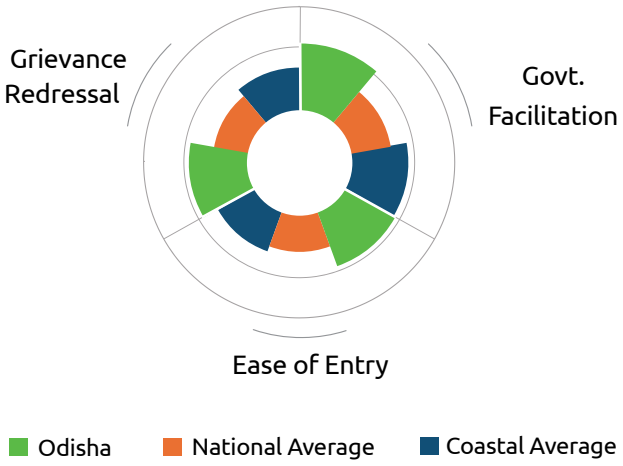
Odisha aims to enhance logistics services by improving port and jetty connectivity to ensure seamless cargo movement between the coast and hinterlands. By attracting investments from 3PL/4PL/5PL service providers, the State aims to adopt advanced technologies and match international standards in supply chain efficiency. It also promotes technology-driven solutions for monitoring time- and quality-sensitive cargo, such as perishables and pharmaceuticals. It is also establishing a CoE in collaboration with industry leaders to address skill gaps, alongside dedicated ITI training facilities to provide technical and non-technical skill development for the logistics sector.

Operating & Regulatory Environment

Odisha outperforms both national and coastal averages in 'Ease of Entry from Neighbouring States' and the 'Quality of Grievance Redressal Mechanisms'. Similarly, 'Ease of Government Facilitation' scores above the national average, showcasing the State's proactive efforts to streamline logistics operations and address stakeholder concerns effectively.

The State has demonstrated improvement over the previous year in 'Ease of Government Facilitation'.

Figure 54: Operating & regulatory environment performance for Odisha

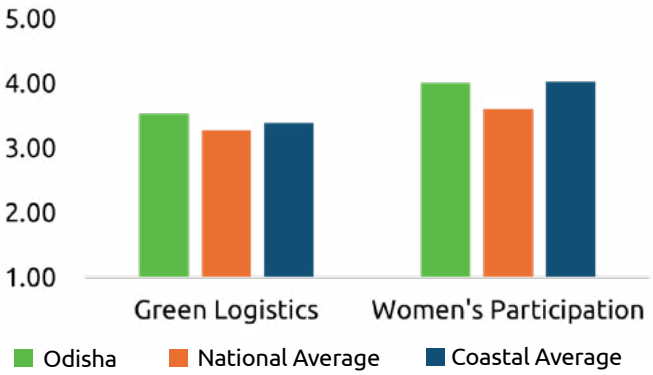


Odisha has streamlined its operating and regulatory environment by implementing a single-window facilitation system, allowing logistics project proposals to be directly submitted via the GO-SWIFT portal. Additionally, the State has integrated an e-permit system within State Transport Department's online portal, enhancing transparency and efficiency in permit management. These measures have simplified regulatory processes, reduced administrative bottlenecks and created a more investor-friendly ecosystem for logistics development.

Sustainability and Equity Logistics

Odisha demonstrates a strong commitment to green logistics, outperforming both national and coastal averages in this area. Additionally, the State surpasses the national average and is on par with the coastal average in 'Women's Participation in the Logistics Workforce', reflecting steady progress in inclusivity.

Figure 55: Sustainability and Equity Logistics performance for Odisha



Odisha is committed to sustainable logistics. It aligns its infrastructure and operations with the SDGs. The State promotes green trucking, adopts green fuels and implements other practices to decarbonise the sector while ensuring compliance with international standards.

Potential Opportunities in the State

Odisha's diverse logistics needs, which are shaped by its industrial and geographic profile, require targeted interventions to enhance its capabilities. Through extensive on-ground consultations, potential opportunities in the State are identified for effective and sustainable logistics reform.

Key priorities include strengthening rail and road connectivity for bulk transport and expanding port infrastructure to support maritime trade and industrial growth.

Stakeholders Insights

> The Common Corridor Road in the Kalinganagar Industrial Complex and the Chandikhol–Duburi road require urgent expansion and completion to accommodate rising manufacturing capacities and reduce congestion.

> The need for more shipping lines for containerised exports at Paradip Port and the absence of a container terminal at Gopalpur Port are limiting export potential and efficiency.

> Rail connectivity in the Barbil area is insufficient to handle the increasing volume of mining activities.

> A dedicated grievance redressal forum for addressing transporters' issues and measures to prevent en route pilferage are also lacking, impacting overall logistics reliability.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for expediting the completion of Chandikhol–Duburi road under construction to improve connectivity in the Kalinganagar Industrial Complex.
2. Opportunity to establish a parking management system leveraging IT integration to address on-street truck parking issues, caused by the lack of designated parking facilities along the corridor leading to Paradip Port and limited evacuation capacity at the port entry. Further, need would be to coordinate with the Paradip Development Authority, Paradip Municipality, Paradip Port Authority and the Police Commissionerate for such initiative.
3. Need for establishing an easily accessible grievance redressal forum to enhance stakeholder confidence.

Long-term opportunities:

4. Unmet demand for developing Inland Container Depots (ICDs) at strategically accessible locations, such as Balasore, as well as other industrially active regions like Jaichandrapur in Kendrapara or Balipari in Jagatsinghpur.
5. Demand for capacity enhancement of the Haridaspur–Paradip Port Authority rail line from single to triple line, thereby increasing capacity. State to coordinate with Railway Authorities.
6. Opportunity to scale up the LNG fueling network statewide and build comprehensive EV truck charging infrastructure to support green trucking solutions.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Tamil Nadu

State Performance Snapshot

2024	2023
Achiever	Achiever

In 2024, Tamil Nadu has maintained its position as **'Achiever'** within the coastal group. The State outperforms the national average across all indicators, and when compared with coastal averages, its performance is either better or on par across the board.

The State's performance is reinforced by its targeted interventions and the active implementation of logistics sector projects.

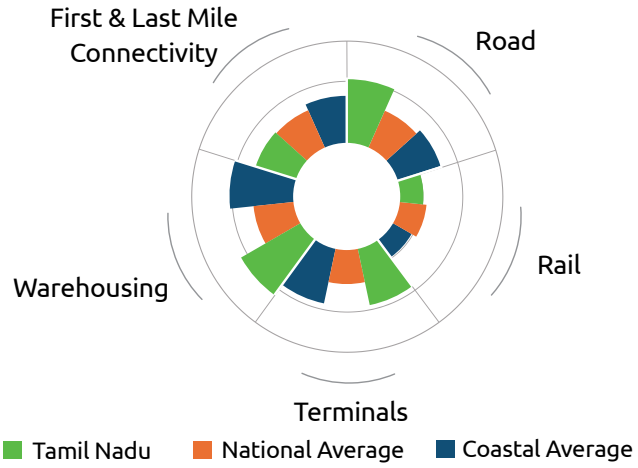
Tamil Nadu has demonstrated notable strides in logistics through the Tamil Nadu Logistics Policy and Integrated Logistics Plan 2023. Critical efforts include establishing MMLPs in Chennai and Coimbatore, seamless single-window clearance for logistics operations and promoting sustainable practices such as e-vehicles and modal shifts to rail and coastal shipping. The State is also advancing on technology adoption through Unified Logistics Interface Platform (ULIP)-based tracking systems, skill development programmes for the logistics workforce and greenfield infrastructure projects such as Cuddalore Port and Parandur greenfield airport.

With a well-structured logistics policy, action plan, and regional master plan in place, the State is advancing its logistics infrastructure. PM Gati Shakti platform for integrated infrastructure planning is a key initiative that will drive comprehensive progress.

Logistics Infrastructure

Tamil Nadu's logistics infrastructure performs strongly overall, surpassing national and coastal averages in most areas. However, 'Adequacy and Quality of Rail Infrastructure' falls slightly below both averages, while 'First- and Last-Mile Connectivity' and 'Adequacy and Quality of Terminal Infrastructure' match with national and coastal average scores respectively, showing consistent performance with scope for improvement.

Figure 56: Logistics infrastructure performance for Tamil Nadu

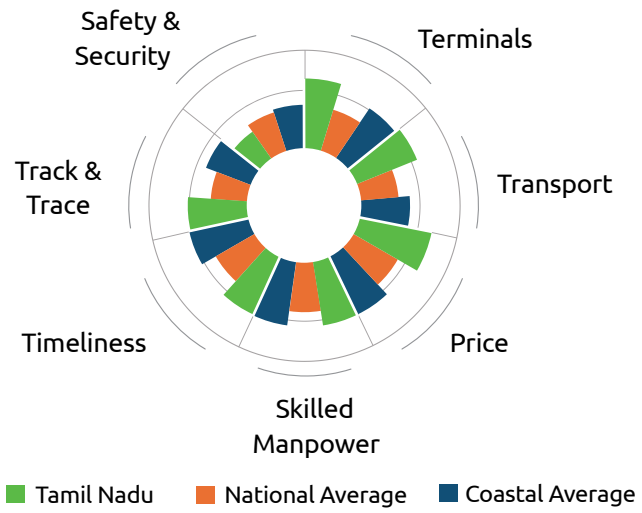


Tamil Nadu is spearheading significant logistics infrastructure initiatives to enhance connectivity and operational efficiency. The State is developing MMLPs in Chennai (Mappedu) and Coimbatore, with the Mappedu MMLP being India's first, an INR 1,500-crore project in collaboration with Reliance Industries under a DBFOT model. Greenfield developments, such as Cuddalore Port, Parandur greenfield airport, and the Hosur greenfield airport, are strengthening the logistics network. Tamil Nadu is also repurposing unused factory sheds in industrial parks for logistics activities, earmarking over 50-acre land parcels for logistics parks, and promoting private participation in developing truck terminals and common logistics facilities. The State is integrating logistics infrastructure through the State Master Plan Portal, mapping 34 significant projects and ensuring seamless coordination across departments. It is modernising evacuation infrastructure at airports and seaports to reduce turnaround times and enhance efficiency. Furthermore, Tamil Nadu is facilitating last-mile road and rail connectivity to upcoming logistics hubs, supporting expanded ICDs, CFSs and FTWZs.

Logistics Services

In the perception assessment, Tamil Nadu scored above the coastal average, with notable strengths in 'Adequacy and Quality of Transport Services' and 'Track and Trace for Cargo'. It maintained the level of national and coastal average scores for other logistics service parameters. However, 'Safety and Security of Cargo' remains a challenge, highlighting the need for targeted improvements.

Figure 57: Logistics services performance for Tamil Nadu



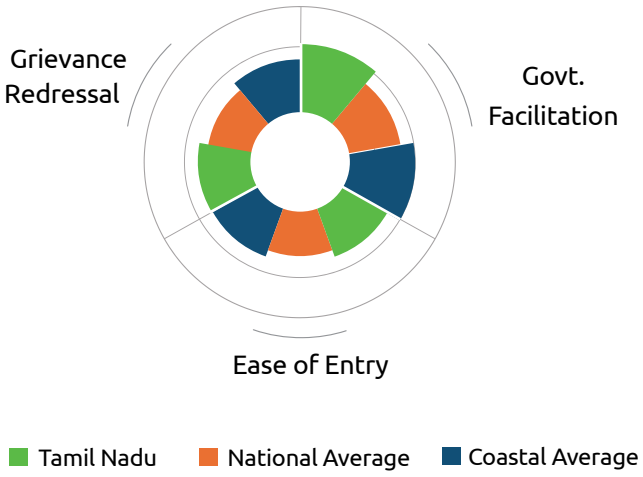
Notably, it has shown significant improvement in "Reasonableness of Shipment Prices" compared to LEADS 2023, reflecting a strong commitment to enhancing logistics efficiency.

Tamil Nadu is advancing its logistics services through targeted initiatives by the Tamil Nadu Skill Development Corporation (TNSDC), focusing on identifying skill gaps, introducing training programmes and preparing a Logistics Sector Skill Plan. The State is formalising the workforce through Recognition of Prior Learning Programmes, developing driver training institutes under the IDTR scheme and encouraging private sector participation. It also offers affordable medical insurance for heavy vehicle drivers and promotes automation in warehousing. The State also identifies coastal shipping routes to boost intermodal transport and creates a Logistics Labour Market Information System to track and accredit workforce skills.

Operating & Regulatory Environment

Tamil Nadu is perceived positively in 'Ease of Government Facilitation', performing better than the national average. Its performance in 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' meets both national and coastal averages, indicating consistent performance with room for further differentiation.

Figure 58: Operating & regulatory environment performance for Tamil Nadu

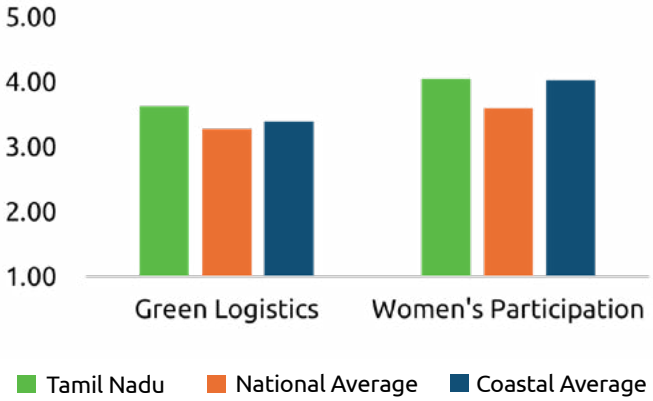


Tamil Nadu is enhancing the ease of doing business in the logistics sector by extending its single-window clearance system under Guidance Tamil Nadu and FaMe TN, simplifying approvals for logistics operations and over-dimensional cargo movement. The State has implemented Biz Buddy, a grievance redressal platform. Notable incentives include waiving sub-leasing charges in government industrial parks for logistics projects and obtaining permits for 24×7 operations for logistics and warehousing facilities to improve efficiency and competitiveness.

Sustainability and Equity Logistics

Tamil Nadu demonstrates strong performance in 'State's Commitment to Green Logistics', surpassing both the national and coastal averages. In 'Women's Participation in the Logistics Workforce', it performs better than the national average but aligns with the coastal average, reflecting progress with scope for further improvement.

Figure 59: Sustainability and Equity Logistics performance for Tamil Nadu



Tamil Nadu is advancing sustainable logistics by promoting EVs, green fuel technologies and modal shifts to rail and coastal shipping, supported by GatiShakti Cargo Terminals. It also encourages LEED- and GRIHA-certified infrastructure and the exploration of e-highway corridors along crucial freight routes.

Potential Opportunities in the State

Tamil Nadu's logistics landscape, which is shaped by its industrial prominence and coastal location, reflects the need for a comprehensive approach to address its diverse demands. The State's role as a major industrial and trade hub highlights the importance of a balanced and efficient logistics ecosystem to support economic activity. Through extensive consultations and on-ground assessments, potential opportunities in the sector are identified which shall be required for effective and sustainable logistics reform.

Stakeholders Insights

> Urban congestion in Coimbatore and Chennai hampers last-mile deliveries, increasing delays and operational costs'. 'Port congestion at Chennai and Kamarajar adds to inefficiencies in loading and unloading.

> Insufficient cold chain facilities, limited rail connectivity to industrial hubs and ports and the absence of a freight corridor between Chennai–Hosur/Coimbatore increase reliance on costly road transport.

> The airport's location within the city adds to logistics challenges, highlighting the need for an Air Freight Station (AFS) outside the city.

> Delays in implementing announced projects such as the Furniture Park at Tuticorin, Tuticorin–Coimbatore connectivity.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for developing logistics facilities in Trichy and Madurai to support the trade potential in these regions.
2. Requirement to coordinate with departments for approach road development at industrial hubs and ports such as Chennai and Kamarajar.
3. Opportunity for establishing cold chain facilities near airports in the State; the Government can offer incentives to private players.

Long-term opportunities:

4. Opportunity for development of a greenfield freight corridor between Chennai and Tuticorin via Trichy.
5. Need for reduction in port fees and subsidisation of coastal cargo transshipment.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

West Bengal

State Performance Snapshot

West Bengal has been categorised as an **'Aspirer'** within the coastal group. The performance of the State is witnessed to be lower than the coastal averages for almost all of the indicators. The government may consider taking proactive efforts towards the development of the State's logistics ecosystem.

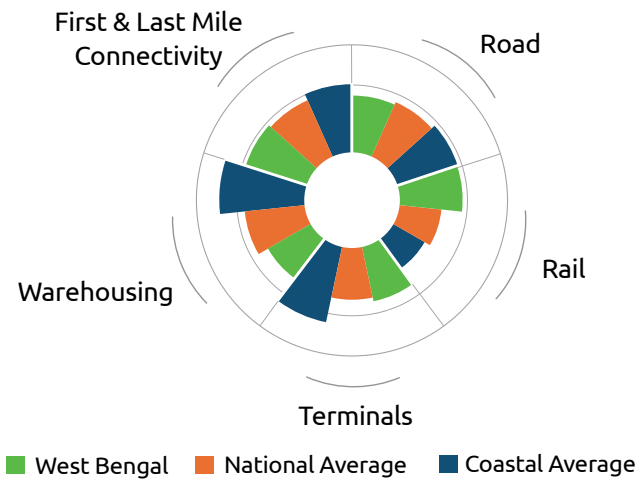
West Bengal's analysis was conducted solely based on perception-based indicators and anecdotal evidence as the State submitted no formal response or supporting documentation in response to the LEADS survey initiated by DPIIT, Ministry of Commerce and Industry, Government of India. This reliance on secondary 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

West Bengal's logistics infrastructure performance is mixed compared with the national and coastal averages. The 'Adequacy and Quality of Road Infrastructure' in the State is rated lower than the national average and notably below the coastal average.

In contrast, the 'Adequacy and Quality of Rail Infrastructure' stands out as a strength, with performance exceeding both national and coastal benchmarks. The 'Adequacy and Quality of Terminal Infrastructure' in West Bengal is on par with the national average but falls behind the coastal average. The 'Adequacy and Quality of Warehousing Infrastructure' aligns with the national average but remains below the coastal average, reflecting a gap in modern storage solutions. The 'Adequacy and Quality of First- and Last-Mile Connectivity' is consistent with national and coastal averages, indicating sufficient performance but not necessarily a competitive advantage.

Figure 60: Logistics infrastructure performance for West Bengal

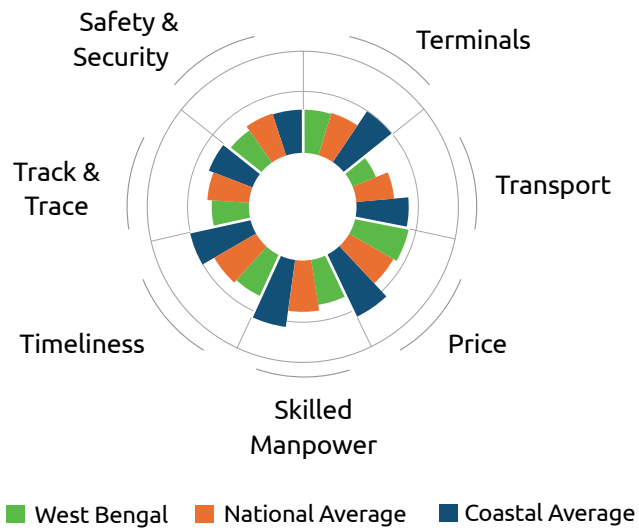


Logistics Services

West Bengal's performance in the 'Adequacy and Quality of Terminal Services' matches the national average score but is significantly lower than the coastal average, highlighting the need for improvements to meet port-focused requirements. The 'Adequacy and Quality of Transport Services' is relatively low, scoring below both the national and coastal averages, which adversely affects logistics efficiency.

The 'Reasonableness of Price of Logistics Services' is comparable to the national average but less competitive than coastal averages, suggesting moderate cost pressures. The availability of 'Skilled Manpower' is a notable weakness, with scores below the national average and even further behind coastal averages, underscoring a critical gap in workforce readiness. The 'Timeliness of Cargo Delivery' aligns with the national average but underperforms against the coastal average, reflecting delays in operations. Similarly, the 'Availability of Track and Trace for Cargo' and 'Safety & Security of Cargo' are in line with the national average scores but fall short of coastal averages, indicating room for improvement.

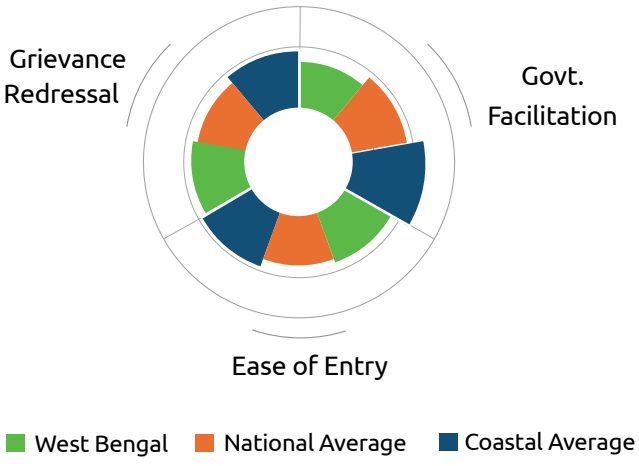
Figure 61: Logistics services performance for West Bengal



Operating & Regulatory Environment

The assessment of West Bengal's Operating and Regulatory Environments shows that the State's performance matches the national average scores across all metrics, with no significant variations. However, the State scores below the coastal average in 'Ease of Government Facilitation'. For 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms', the State's scores are comparable to the coastal average. This evaluation indicates that while West Bengal meets the national average scores, it does not demonstrate a competitive advantage over other coastal States and faces similar challenges in facilitation, entry processes and grievance handling.

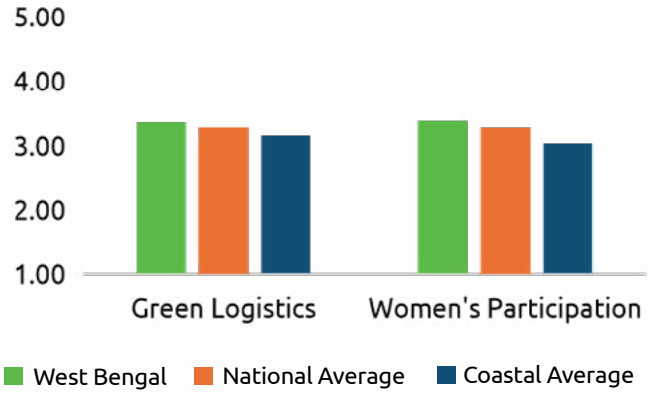
Figure 62: Operating & regulatory environment performance for West Bengal



Sustainability and Equity Logistics

West Bengal demonstrates good performance in 'State's Commitment to Green Logistics', scoring higher than the national average and matching the coastal average. This reflects the State's active efforts towards promoting sustainability in logistics operations. In addition, in terms of 'Women's Participation in the Logistics Workforce', West Bengal scores higher than both the national and coastal averages, highlighting State's initiatives towards fostering inclusivity and increasing women's involvement in the logistics workforce.

Figure 63: Sustainability and Equity Logistics performance for West Bengal



Potential Opportunities in the State

West Bengal's logistics landscape, shaped by its strategic location as a gateway to the Northeast and proximity to international borders, underscores the need for a cohesive approach to meet its unique demands.

Through extensive consultations and on-ground assessments, potential opportunities in the sector are identified which shall be required effective and sustainable logistics reform.

Stakeholders Insights

> Kolkata Port and various cargo-related facilities (e.g. railway goods sheds and road transport hubs) are located within city limits, causing significant restrictions on cargo movement, congestion and higher costs.

> The delays in obtaining permits create an unfavorable business environment and increase operational expenses.

> Cargo handling within the Kolkata Port lacks mechanisation, resulting in inefficiency and increased turnaround time, further raising logistics costs.

> The long and circuitous routes for cargo movement to the northeastern States hinder efficiency and increase costs.

Potential Opportunities in the State

Short-term opportunities:

1. Unmet demand for upgrading cargo handling equipment at ports and terminals across the State.
2. Opportunity to Introduce ro-ro vessels and handling facilities on national waterways to reduce road traffic.
3. Demand to improve access to logistics facilities near the golden quadrilateral connecting roads.
4. Requirement for enforcing stricter monitoring and tracking systems to minimise pilferage during transshipment across State.

Long-term opportunities:

5. Demand for developing large-scale warehousing and rail terminal facilities near the golden quadrilateral under the GCT policy.
6. Opportunity to augment the road between Siliguri and the Sikkim border to support northeastern States logistics.
7. Growing need to establish new logistics hubs outside city limits aligned with cargo movement trends.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Landlocked States Group

Group Level performance

The landlocked group comprises 11 States, including Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttar Pradesh and Uttarakhand. Among these landlocked States, Rajasthan, Telangana and Uttar Pradesh lead in terms of GSDP value[5]. In FY2023–24, the landlocked group States together accounted for 20 percent of the total exports from India. The top three States in terms of export share were Uttar Pradesh (4.7 percent) , Haryana (4 percent) and Telangana (3.2 percent).[6]

The LEADS 2024 assessment highlights mixed results for the landlocked group:

Logistics Infrastructure: Scores remain stable, reflecting the high national average performance but limited year-on-year improvements. Key States, including Uttar Pradesh, Haryana, and Telangana, lead in infrastructure scores.

Logistics Services: Achieved a 2% improvement, with stakeholders praising the affordability and availability of skilled manpower.

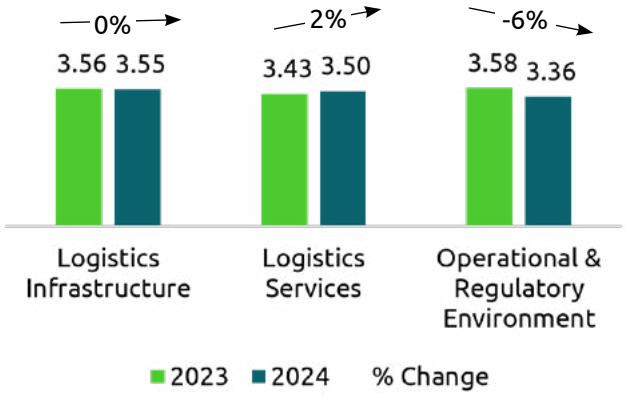
Operational and Regulatory Environment: Declined by 6%, signaling the need for enhanced engagement with industry and targeted reforms.

Several potential factors deserve attention:

1. **Saturation in Perceived Improvement:** The performance of logistics infrastructure might have stabilized because existing infrastructure meets the current demand, and no significant upgrades or transformative projects were completed recently.
2. **Demand Saturation:** Logistics infrastructure in these States being much above the national average could indicate a degree of saturation in demand. States may need to carefully assess whether current capacities adequately address present needs and whether additional investments are justified.
3. **Execution Delays and Policy Gaps:** Planned infrastructure projects might be delayed, or gaps in policies could be hindering noticeable progress.
4. **Geographic and Operational Challenges:** The inherent geographic limitations of landlocked States, coupled with inefficiencies in existing infrastructure utilization, might be curbing visible improvements despite available capacities.
5. **Alignment with Market Needs:** Current infrastructure development may not fully align with evolving market demands, requiring recalibration of strategies to ensure that new initiatives address future requirements and stakeholder expectations.

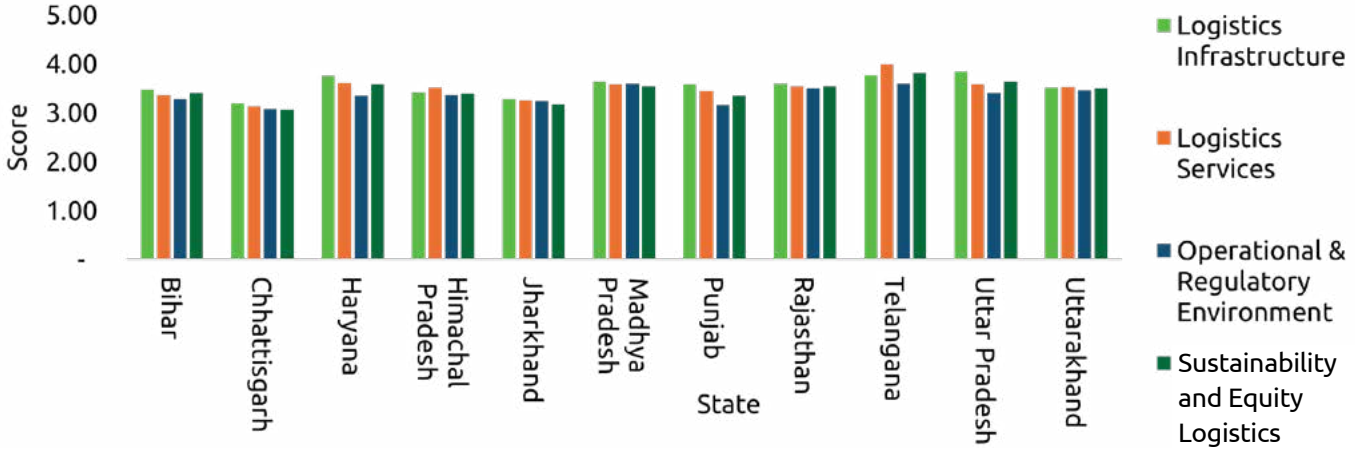
Given these factors, landlocked States must recalibrate their strategies to focus on forward-looking approaches. This involves ensuring that pace of new infrastructure creation stays ahead of projected future demand while also being aligned with market requirements and stakeholder priorities.

Figure 64: Landlocked Group - Performance Changes



[5] Niti Aayog Key Economic Indicators Dashboard, 2024
[6] Dashboard, Department of Commerce, Ministry of Commerce & Industry, Government of India, 2024

Figure 65: Summary of Landlocked Group's Performance



Review of performance on Logistics Infrastructure

Landlocked States excel in warehousing infrastructure, although road, rail, and terminal developments remain unchanged compared to 2023. Leading contributors include:

1. **Uttar Pradesh:** Strength in road, rail, and terminal infrastructure.
2. **Telangana:** Noted improvements in road and warehousing facilities.
3. **Himachal Pradesh:** Moderate improvements in warehousing capacity.

States like Chhattisgarh, Jharkhand, and Bihar need investments to improve their logistics ecosystems, particularly in terminal and first-and-last-mile connectivity.

Figure 66: Landlocked Group- Logistics Infrastructure performance

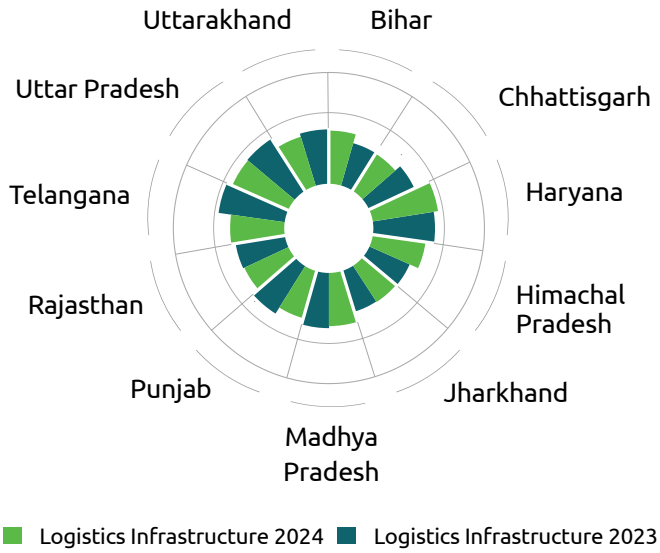


Table 6: Performance of landlocked States across indicators of Logistics Infrastructure

State	Logistics Infrastructure				
	Road	Rail	Landlock States	Warehousing	First-and-Last Mile Connectivity
Bihar	🟠	🟢	🟠	🟠	🟠
Chhattisgarh	🟠	🟠	🟠	🟠	🟠
Haryana	🟢	🟢	🟢	🟢	🟢
Himachal Pradesh	🟠	🟠	🟠	🟢	🟠
Jharkhand	🟠	🟠	🟠	🟠	🟠
Madhya Pradesh	🟢	🟢	🟢	🟢	🟢
Punjab	🟠	🟢	🟢	🟠	🟠
Rajasthan	🟠	🟢	🟢	🟢	🟢
Telangana	🟢	🟠	🟠	🟢	🟢
Uttar Pradesh	🟢	🟢	🟢	🟠	🟢
Uttarakhand	🟠	🟠	🟠	🟢	🟠

🟢 Above Group Average 🟠 Below Group Average

Review of performance on Logistics Services

This pillar ranked second among the four evaluated in the LEADS 2024 framework. Highlights include:

1. **Telangana:** Exceeds all service indicator averages, demonstrating excellence in timeliness, track and trace, and cargo safety.
2. **Haryana and Uttar Pradesh:** Show notable improvements in pricing, manpower availability, and service quality.

Challenges include inadequate terminal services and low cargo safety, particularly in underperforming States like Chhattisgarh and Jharkhand.

Figure 67: Landlocked Group - Logistics Services performance

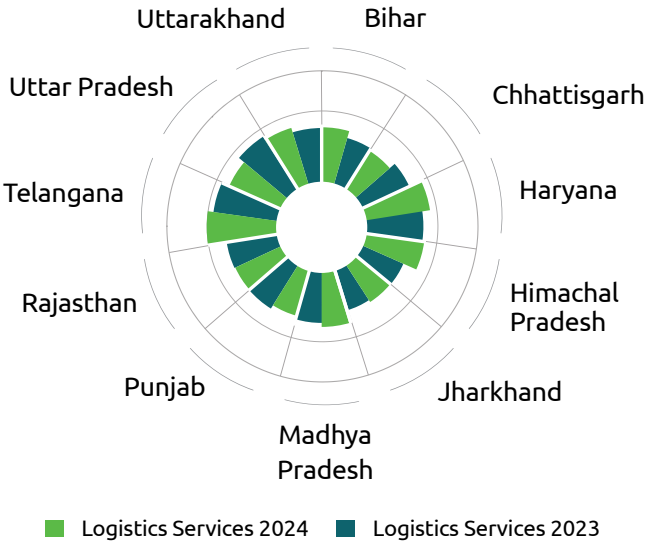


Table 7: Performance of landlocked States across indicators of Logistics Services

State	Logistics Services						
	Terminal	Transport	Price	Skilled Manpower	Timeliness	Track & Trace	Safety of cargo
Bihar	●	●	●	●	●	●	●
Chhattisgarh	●	●	●	●	●	●	●
Haryana	●	●	●	●	●	●	●
Himachal Pradesh	●	●	●	●	●	●	●
Jharkhand	●	●	●	●	●	●	●
Madhya Pradesh	●	●	●	●	●	●	●
Punjab	●	●	●	●	●	●	●
Rajasthan	●	●	●	●	●	●	●
Telangana	●	●	●	●	●	●	●
Uttar Pradesh	●	●	●	●	●	●	●
Uttarakhand	●	●	●	●	●	●	●

● Above Group Average ● Below Group Average

Note: Price refers to Reasonableness of Shipment Prices, Timeliness refers to on time delivery of cargo.

Review of performance on Operational & Regulatory Environment

Madhya Pradesh and Rajasthan emerged as top performers by prioritizing governance reforms and facilitation measures. However, most States experienced declining scores, underscoring gaps in grievance redressal mechanisms and seamless entry policies.

Figure 68: Landlocked Group - Operational and Regulatory Environment performance

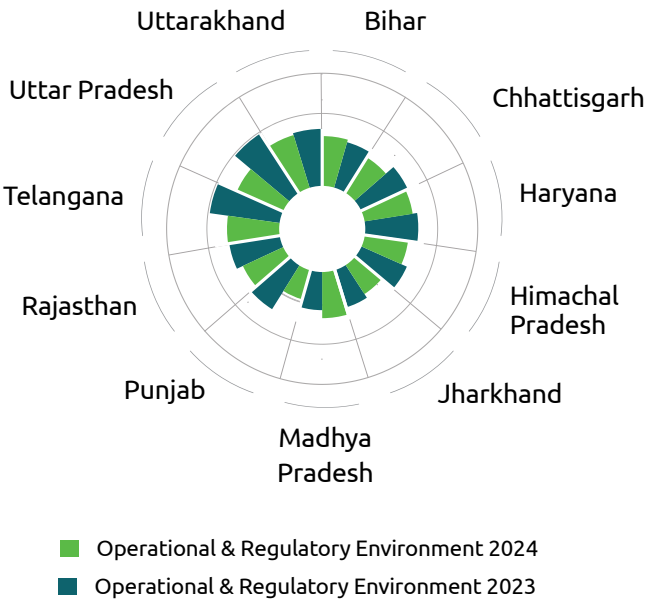


Table 8: Performance of landlocked States across indicators of Operating & Regulatory Environment

State	Operational & Regulatory Environment		
	Govt. Facilitation	Ease of Entry	Grievance Redressal
Bihar	🟠	🟠	🟠
Chhattisgarh	🟠	🟠	🟠
Haryana	🟠	🟢	🟠
Himachal Pradesh	🟢	🟠	🟢
Jharkhand	🟠	🟠	🟠
Madhya Pradesh	🟢	🟢	🟢
Punjab	🟠	🟠	🟠
Rajasthan	🟢	🟢	🟢
Telangana	🟢	🟠	🟢
Uttar Pradesh	🟠	🟢	🟢
Uttarakhand	🟢	🟠	🟢

🟢 Above Group Average 🟠 Below Group Average

Review of performance on Sustainability and Equity Logistics

States like Telangana and Uttar Pradesh lead sustainable logistics initiatives, with focus areas including:

1. Adoption of green practices.
2. Women's workforce participation.

However, East-Central and Hilly North groups need to enhance environmental and workforce inclusivity measures.

Table 9: Performance of landlocked States across indicators of Sustainability and Equity Logistics

State	Sustainability and Equity Logistics	
	State's Commitment to Green Logistics	Women's participation in Logistics Sector
Bihar	🟢	🟠
Chhattisgarh	🟠	🟠
Haryana	🟢	🟢
Himachal Pradesh	🟢	🟠
Jharkhand	🟠	🟠
Madhya Pradesh	🟢	🟢
Punjab	🟠	🟠
Rajasthan	🟢	🟢
Telangana	🟢	🟢
Uttar Pradesh	🟢	🟢
Uttarakhand	🟢	🟠

🟢 Above Group Average 🟠 Below Group Average

Sub-group Level Performance

This section focuses on the sub-group analysis of landlocked States, examining their logistics performance and highlighting key distinctions between geographically diverse regions.

To streamline logistics strategies, the landlocked States are categorized into four sub-groups based on geography and operational traits:

1. **Hilly North Landlocked (Himachal Pradesh, Uttarakhand):** Requires tailored infrastructure upgrades to address geographical challenges.
2. **North Landlocked (Haryana, Punjab, Rajasthan):** Leads in infrastructure and sustainability but needs policy interventions.
3. **Central Landlocked (Chhattisgarh, Madhya Pradesh, Telangana):** Outperforms in services and operational environment but lags in sustainable practices.
4. **East-Central Landlocked (Bihar, Jharkhand, Uttar Pradesh):** Faces challenges in regulatory environment and logistics services.

Figure 69: Map showing the bifurcation of Landlocked group into sub-groups

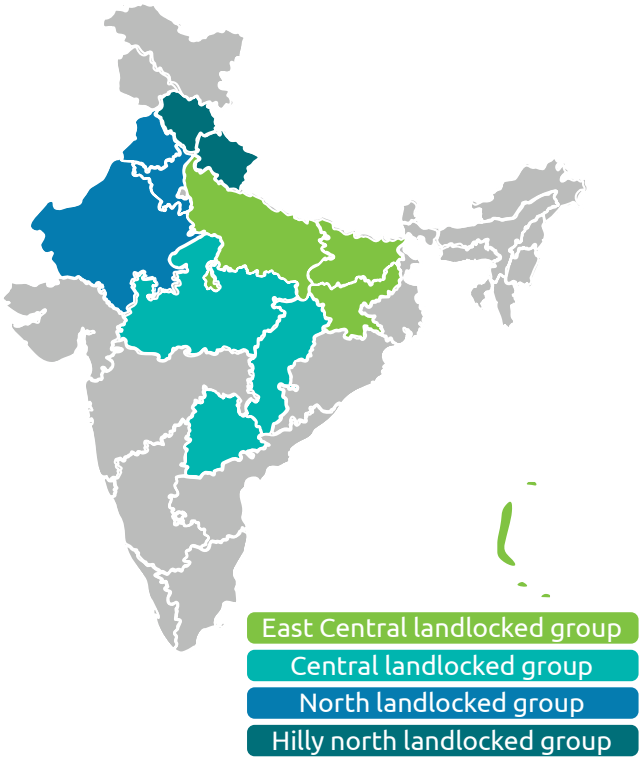


Figure 70: Summary of Performance of Landlocked sub-Groups

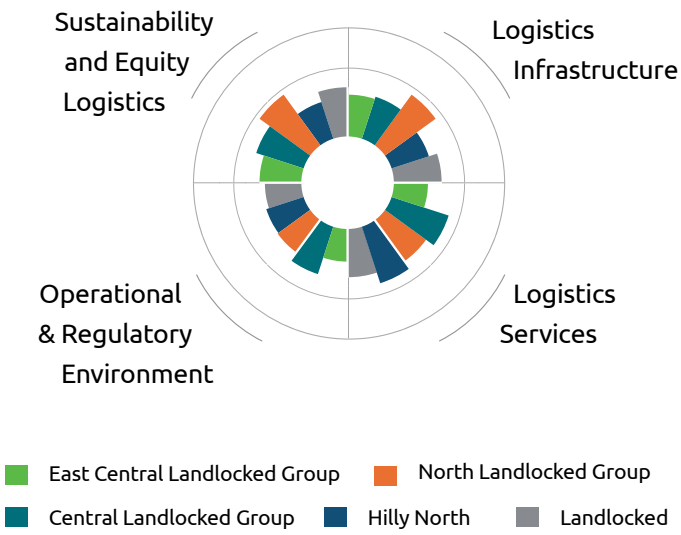


Figure 71: Landlocked sub-Groups - Logistics Infrastructure

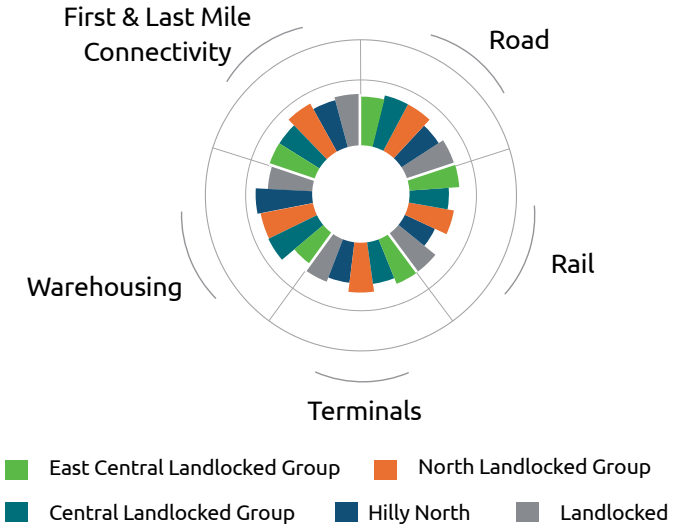


Figure 72: Landlocked sub-Groups - Operational & Regulatory Environment

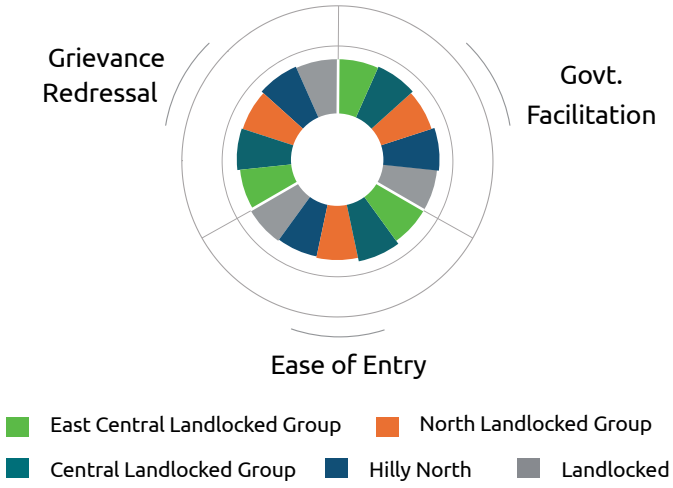


Figure 73: Landlocked sub-Groups - Logistics Services

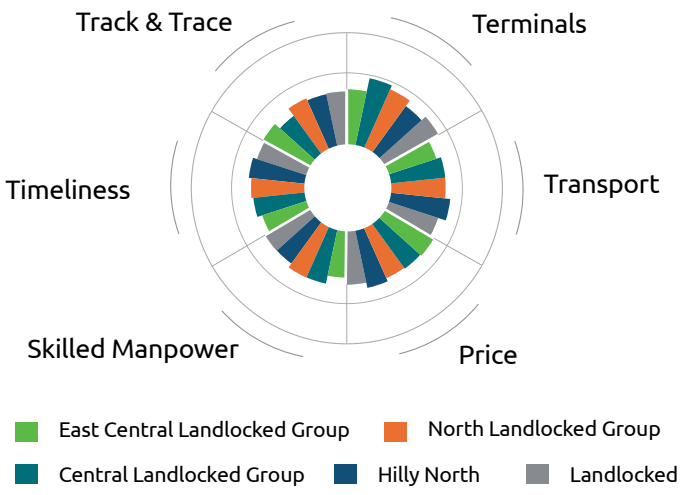
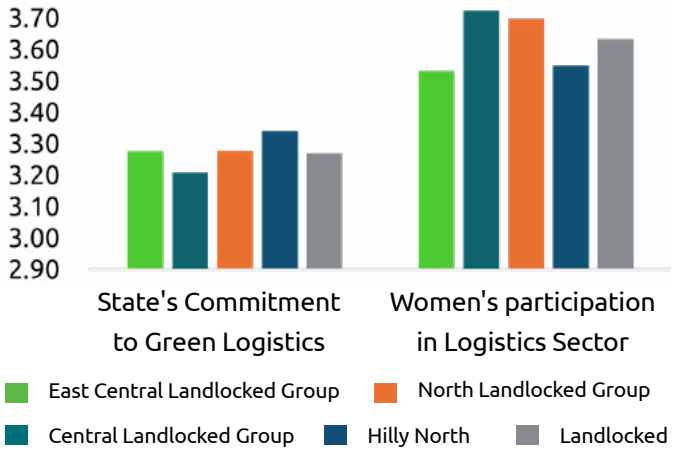


Figure 74: Landlocked sub-Groups - Sustainability and Equity Logistics



Key Recommendations

Infrastructure Upgrades: Focused improvements in terminal and rail capacities across Bihar, Chhattisgarh, and Jharkhand.

Policy Reforms: Strengthen entry and grievance mechanisms.

Sustainable Goals: Expand initiatives to boost green practices and workforce diversity.

Targeted Investments: Balance geographical constraints with strategic infrastructure placement in Hilly North States.

Landlocked States form the backbone of India's domestic logistics landscape. While top performers such as Telangana and Uttar Pradesh reinforce confidence in logistics ecosystems, States such as—Chhattisgarh, Jharkhand, and Bihar—require greater focus on infrastructure and regulatory improvements. Collaborative strategies within sub-groups can help achieve a balanced and efficient logistics system, aligning with India's broader trade and economic goals.

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

Bihar

State Performance Snapshot

Bihar is categorised as a '**Fast Mover**' within the landlocked group. The State has outperformed national and group averages on certain indicators, while there are areas with potential for improvement. The State's transition from "Aspirer" to "Fast Mover" reflects its growing logistics potential, driven primarily by improvements in cost efficiency and infrastructure development.

Bihar has made progress in its logistics sector by implementing a comprehensive logistics policy, initiatives to foster Ease of Doing Business and programs for skill development and digital platforms. Bihar is positioning itself as a logistics hub owing to its prioritisation of infrastructure development, which includes Multi-modal Logistics Parks (for example, at Mouja-Jaitiya near Patna), Transport Zones, Dry ports and Inland Container Depots (for example, in Bihta). Bihar is also focused on using sustainable development practices and is increasingly committed to shifting towards green logistics.

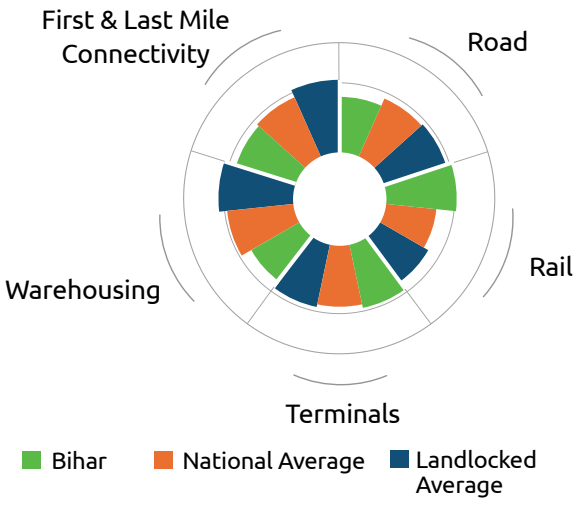
Bihar's move from 'Aspirer" to 'Fast Mover" is a testament to its efforts in improving infrastructure, affordability and policy focus. While its achievements reflect progress, there are challenges highlighting areas needing attention.

Logistics Infrastructure

Bihar has scored higher than the national and landlocked group averages in Adequacy and Quality of 'Rail Services' and 'Terminal Infrastructure'. The State scores lower than the national and landlocked averages in 'Adequacy and Quality of Road Services' and 'Warehousing Infrastructure'.

When compared to LEADS 2023, the State has performed better in all the indicators related to Logistics Infrastructure.

Figure 75: Logistics infrastructure performance for Bihar



Bihar aims to facilitate the adoption of modern technologies by acquiring advanced equipment, such as large, well-equipped trucks and rail wagons with higher load capacities. Additionally, as part its logistics policy, the State plans to promote development of standardised layouts for multi-modal transport and logistics hubs, incorporating essential infrastructure such as containers, pallets, cranes and supporting facilities such as interlinking roads and drive-through weighbridges.

To address the growing demand in the agriculture, food, pharmaceuticals and electronics sectors, Bihar prioritises establishing high-quality storage facilities, particularly in rural areas. The State also focuses on enhancing dry ports and ICDs at strategic locations with access to road, rail and waterway corridors, supported by a robust network of four- and six-lane highways. Bihar plans to create transport zones in major cities, including truck terminals near crucial highways and expressways, equipped with essential amenities such as workshops, rest houses, canteens and lay-byes to support freight vehicle operations.

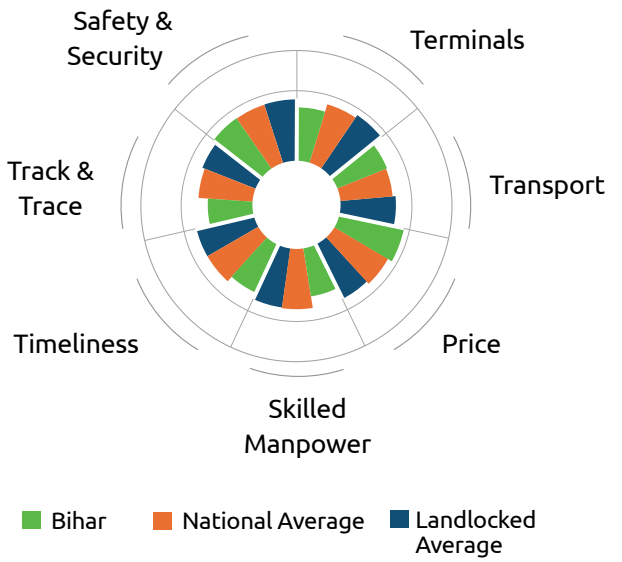
While these efforts shows that the State is prioritizing logistics development, it needs to be scaled for broader impact.

Logistics Services

Bihar has outperformed the national and landlocked group averages in 'Reasonableness of Price of Logistics Services' and 'Safety and Security of Cargo'.

At the same time, areas such as 'Availability and Quality of Terminal Services', 'Skilled Manpower' and 'Track and Trace for Cargo' present opportunities for targeted enhancements, paving the way for continued progress.

Figure 76: Logistics services performance for Bihar



Notably, Bihar matches the national and landlocked group averages in 'Timeliness of Cargo Delivery' and 'Adequacy and Quality of Transport Services', demonstrating its potential for growth and development in transportation.

When compared to LEADS 2023, the State has performed better in almost all the indicators related to Logistics Service particularly in 'Reasonableness of Shipment Prices'.

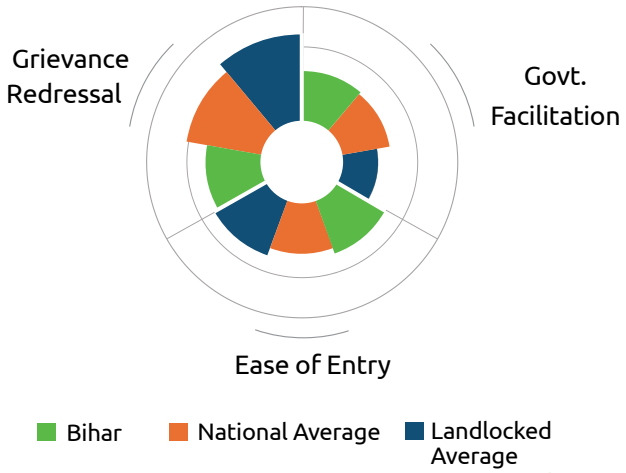
Bihar is addressing the increasing demand for skilled professionals in the logistics sector, including warehouse management, logistics management and precision heavy-vehicle driving. To this end, it plans to introduce sector-specific courses and upgrade the training infrastructure to align with industry needs. The Bihar Skill Development Mission has already incorporated logistics-focused courses into its training programs under various schemes. Additionally, the Department of Industries has partnered with educational institutions to establish incubation centres and start-up cells, fostering innovation and entrepreneurship across the State.

Operating & Regulatory Environment

The State's scores in 'Quality of Grievance Redressal Mechanisms' falls below the national and landlocked group averages, highlighting potential to enhance grievance resolution mechanisms. When compared with LEADS 2023, the State's performance for 'Quality of Grievance Redressal Mechanisms' is lower this year.

However, the State's performance in 'Ease of Entry from Neighbouring States/UTs' is aligned with the national and landlocked group averages, indicating that the State has an efficient system in place for facilitating cross-border movement.

Figure 77: Operating & regulatory environment performance for Bihar



Bihar's Logistics Policy grants Infrastructure Status to MMLPs, logistics parks and facilities such as ICDs, cold chain units and warehousing to develop a robust logistics infrastructure in the State. The policy also prioritises the logistics sector, offering high-priority status to logistics units, parks and multi-modal facilities that align with the conditions established in the policy. The State plans to establish a dedicated logistics division, headed by an officer of Director rank or higher under the Department of Industries, to enable efficient implementation; this division will play a key role in facilitating better coordination among various departments, including civil aviation, transport, power, food and agriculture and other related sectors, accelerating the establishment of logistics infrastructure and ensuring seamless integration across initiatives. The State's commitment position Bihar as a State with improving affordability and policy focus, however, a grievance redressal mechanism is required to ensure timely resolution and foster a business friendly environment.

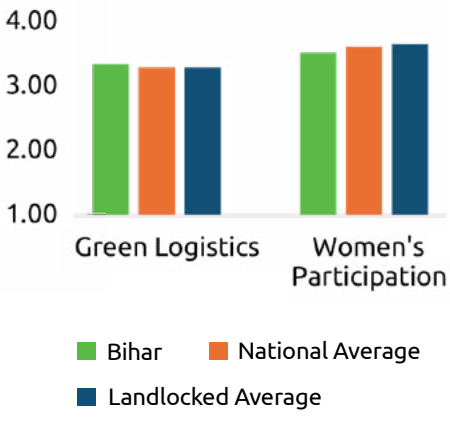
Sustainability and Equity Logistics

Bihar's scores for 'State's Commitment to Green Logistics' outperform national and landlocked group averages, showcasing the State's strong commitment to sustainable logistics practices.

However, 'Women's Participation in the Logistics Workforce' falls below the national and landlocked group averages, underscoring the need for improved policies and initiatives to enhance gender inclusion in the sector.

Bihar is focused on optimising logistics efficiency and promoting sustainability in the sector through the promotion of recycling and adopting renewable energy sources. The State has extended 100% reimbursement of expenditure on account of contribution towards ESI and EPF for female employees under incentives for logistics parks and units.

Figure 78: Sustainability and Equity Logistics performance for Bihar



Potential Opportunities in the State

Bihar's logistics sector, supported by its growing infrastructure and strategic location in eastern India, is crucial to the State's economic development and trade facilitation. However, several opportunities requiring attention have been identified through comprehensive consultations and on-ground assessments.

Stakeholder's Insights

> Bihar has potential for inland waterways, particularly along the Ganges and Kosi rivers, and infrastructure could be developed creating ability to use waterways.

> Many logistics providers such as road transport consolidators and freight forwarders in Bihar operate without advanced digital tools, such as GPS tracking and inventory management, leading to inefficiencies in supply chains.

> The National Highways serving the State are in good condition. However, the condition of State highways and ODR (Other District Roads) could be improved.

> A gap exists between cold storage capacity and demand, highlighting the need for a thorough demand–supply study.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for development of cold storages in the State. The Government to undertake studies to identify the capacity requirements of cold storages and implement policies to facilitate investments in this sector.
2. Requirement to facilitate actions to avoid unnecessary stoppages amid freight traffic for random checks. Some of the areas highlighted by stakeholders are Patna, Muzaffarpur, Siwan and Hajipur.

Long-term opportunities:

3. Need to promote inland waterway transportation for cargo. For instance, stakeholders have emphasized the importance of developing inland waterway routes along the Ganges and Kosi, calling for the State Government to coordinate with IWAI to take initiative in advancing this mode of transportation.
4. Need for enhancing Land Customs Stations (LCP) infrastructure in coordination with LPAI, at designated border points to strengthen trade with Nepal and optimise and reduce current logistics costs.
5. Opportunity for private players to adopt advanced digital tools such as GPS for freight movement; State Government can provide incentives and create an ecosystem conducive to technological advancements.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Chhattisgarh

State Performance Snapshot

Chhattisgarh is categorised as an '**Aspirer**' within the landlocked group. The State has performed relatively lower than the group and national averages for all indicators. Compared to LEADS 2023, the State has underperformed across the majority of indicators. Maintaining the status highlights a logistics ecosystem that is functional but not yet dynamic enough to achieve transformation growth.

Chhattisgarh plans to improve its logistics ecosystem by establishing Multi-Modal Logistics facilities, Dry Ports and Integrated Logistics Parks (ILPs). The State has launched key initiatives to enhance infrastructure and transportation efficiency while boosting skill development by introducing logistics courses and adopting innovative technologies.

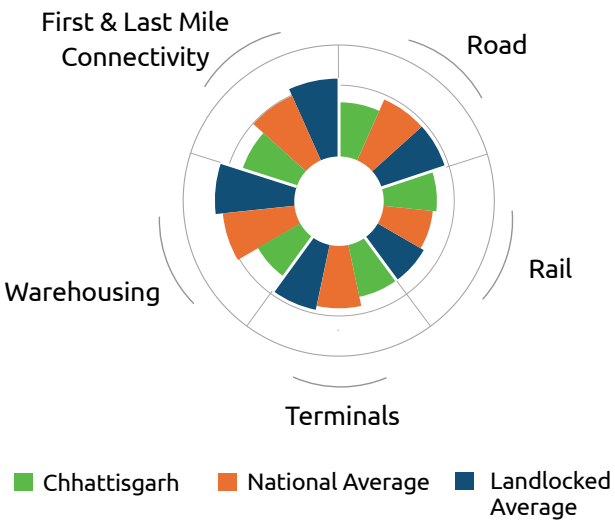
While the State is undertaking initiatives, there is a need for focused efforts to develop an implementation plan for its logistics policy and create regional master plans or city logistics plans to assess infrastructure gaps and address inefficiencies.

Logistics Infrastructure

The State's performance under the logistics infrastructure highlights significant areas for improvement across multiple areas, including the Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure', 'Warehousing Infrastructure', 'Terminal Infrastructure' and 'First- and Last-Mile Connectivity'.

It performs below the national and landlocked group averages in all these indicators, indicating the need for improvements in these critical infrastructure sectors to enhance and upgrade the State's logistics ecosystem.

Figure 79: Logistics infrastructure performance for Chhattisgarh



Chhattisgarh is improving its logistics infrastructure to boost efficiency and connectivity. Key initiatives include establishing MMLPs, Dry Ports and Integrated Logistics Hubs to streamline the movement of goods. In collaboration with public sector undertakings, the State is also developing new rail networks to reach remote rural areas to ensure better access and efficient transportation. Additionally, the State aims to construct silos to improve storage and handling capabilities.

As part of its Industrial Development Policy 2024–29, Chhattisgarh offers an attractive package for the logistics sector, further boosting investment in infrastructure. The first-mile connectivity project by South-eastern Coalfields Limited, utilising mechanised coal-handling plants, is a notable step towards reducing road traffic, diesel consumption and environmental impact while optimising coal transport from mines.

Furthermore, the State government is identifying potential sites for warehousing development to support the growing logistics demand and ensure better supply chain management.

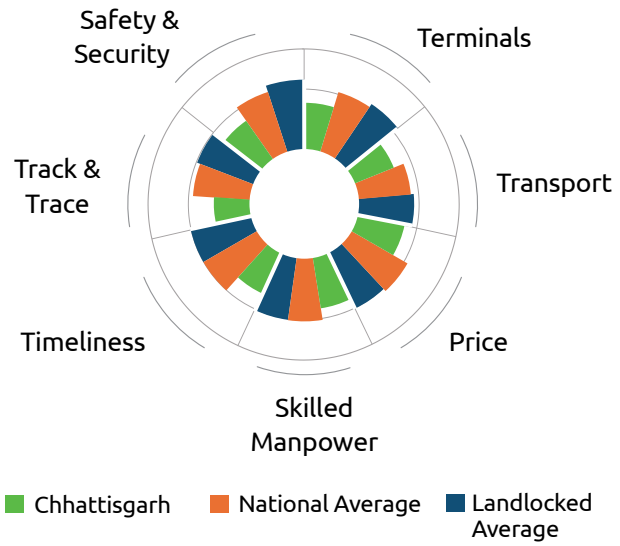
By prioritizing infrastructure development, the State can unlock its potential and progress toward becoming a "Fast Mover" in subsequent years.

Logistics Services

The perception score for all the Logistics Services indicators including 'Adequacy and Quality of Transport and Terminal Services', 'Safety and Security of Cargo' and 'Skilled Manpower' falls behind national and landlocked group averages for Chhattisgarh.

This highlights the potential for improvement across all categories. The State may need to strengthen its existing policies by incorporating measures to enhance performance in these key indicators.

Figure 80: Logistics services performance for Chhattisgarh



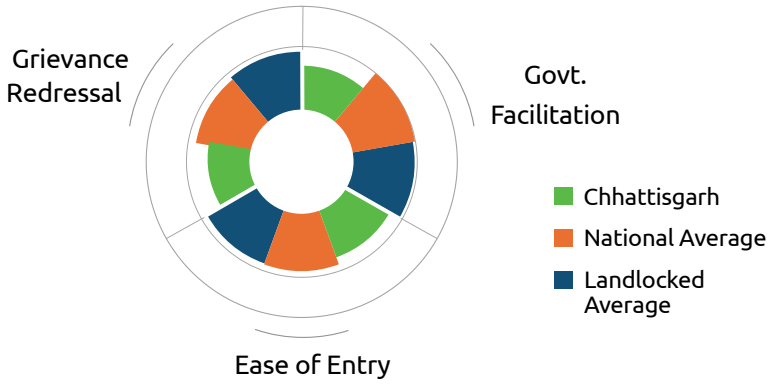
Chhattisgarh is improving its logistics sector by introducing logistics and supply chain courses in collaboration with universities. MoUs are slated to be signed with enterprises to establish R&D and training centres. The State needs to partner with educational institutions and industry bodies to provide skill development courses tailored to the logistics industry, ensuring a skilled local workforce. Additionally, innovative technologies should be promoted in logistics hubs and warehouses to reduce commercial costs and improve efficiency.

Operating & Regulatory Environment

The State's performance in all three indicators measuring the Operating and Regulatory Environment is lower than the national and landlocked group averages, indicating key areas for improvement.

This suggests that gaps in the current regulatory and operational frameworks must be addressed. To foster a more conducive business environment, the State must introduce targeted reforms and improvements in these areas, ensuring smoother operations and better support for businesses in the logistics sector.

Figure 81: Operating & regulatory environment performance for Chhattisgarh



Chhattisgarh is planning to establish a Service Improvement Group, similar to the Network Planning Group, to oversee process, regulation and digital development reforms in the logistics sector under the National Logistics Policy. This group will include representatives from various relevant departments, such as Housing and Environment, Revenue and Transport.

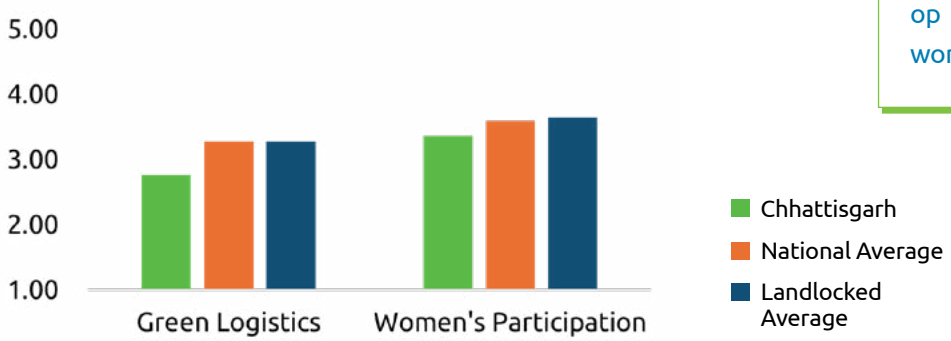
The State has to strengthen grievance redressal mechanisms to improve stakeholder satisfaction and resolve bottlenecks efficiently.

Sustainability and Equity Logistics

Chhattisgarh has started focusing on implementing sustainable practices in the logistics sector. The State currently scores lower than the national and landlocked group averages in 'State's Commitment to Green Logistics' and 'Women's Participation in the Logistics Workforce', highlighting areas for improvement.

By prioritising green logistics initiatives and fostering greater gender inclusion in the workforce, Chhattisgarh can enhance its sustainability efforts and contribute to a more inclusive logistics industry.

Figure 82: Sustainability and Equity Logistics performance for Chhattisgarh



To encourage sustainable development, the Industrial Development Policy 2024–2030 offers energy audit subsidies and promotes environmentally friendly practices within industrial and logistics facilities. The Chhattisgarh EV policy 2022 incentivises Electric Vehicle (EV) adoption in freight transportation. The State should introduce courses to develop women's skills and encourage women participation in logistics.

Potential Opportunities in the State

Chhattisgarh's robust connectivity to key logistics hubs benefits its logistics ecosystem; however, strategic interventions are essential for driving comprehensive reforms in the sector. Extensive consultations and on-ground assessments reveal opportunities within the State, including creating dedicated spaces for MSMEs and improving existing policies to further enhance and optimise the logistics ecosystem.

Stakeholder's Insights

> Small and medium industries in Raipur and Bhilai struggle to expand due to limited cargo movement facilitators by road and rail.

> A shortage of empty shipping containers at Raipur ICD forces cargo to be diverted by road to the nearest port.

> The lack of rail aggregation terminals for steel products in the region is hampering industrial growth and impacting the State's economic development.

> Rice cargo largely relies on road transport due to excellent connectivity, while high rail freight charges prevent its shift to the more ideal rail network.

Potential Opportunities in the State

Short-term opportunities:

1. Requirement for collaboration with the railway authorities to establish competitive pricing models and ensure reliable schedule services facilitating the transition of heavy cargo transportation from road to rail, given the heavy nature of cargo such as food grains and steel that are better suited for rail transport but primarily move by road.
2. Demand for development of new cargo terminal in the state; State Government to coordinate with Railway Authority to promote such development by enhancing awareness of the GCT policy.

Long-term opportunities:

3. Opportunity for development of logistics facilities for aggregation of MSME industries' cargo through private-sector participation.
4. Need for promoting the development of a logistics council including private stakeholders to strengthen regular interactions and address logistics challenges.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Haryana

State Performance Snapshot

Haryana has maintained its position as an '**Achiever**' within the landlocked group. The State has performed above the national and group averages for almost all indicators. The government has taken proactive measures to sustain and enhance its logistics performance.

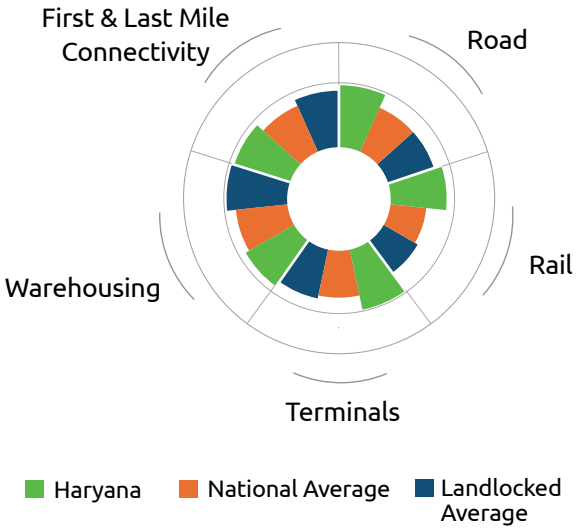
Haryana is advancing its logistics ecosystem by developing logistics parks, improving airport connectivity, establishing a single-window clearance mechanism and creating skill development programmes. The State is streamlining operations with an Integrated Transport Web Application and promoting sustainability through green trucking, fuels and technologies to align with global goals. It also fosters private sector collaboration, enhancing infrastructure and efficiency.

Logistics Infrastructure

Haryana has outperformed the national and group averages in all categories of logistics infrastructure. The State performed better in areas such as 'Adequacy and Quality of Road and Rail Services', 'Terminal and Warehousing Infrastructure' and 'First- and Last-Mile Connectivity', showcasing its strong logistics capabilities and well-developed infrastructure.

When compared with LEADS 2023, the State has performed better than previous year on all the indicators. This indicates that the State has implemented various initiatives to enhance its logistics infrastructure and ecosystem.

Figure 83: Logistics infrastructure performance for Haryana



Haryana boasts a robust transportation network comprising 28 State Highways and 38 National Highways. Plans are underway for a direct rapid railway network between Delhi and Hisar, complementing the State's prominent access to international airports in Delhi and Chandigarh and the upcoming Global Integrated Aviation Hub at Hisar. Furthermore, with private sector participation, developing at least five logistics parks across Haryana is being promoted to enhance the State's logistics infrastructure.

The proposed Faridabad–Palwal Industrial Area (Node No. 3 under DMIC) is strategically located near the Western Dedicated Freight Corridor at Dadri, positioning the Gurugram–Faridabad belt to develop logistics units in the coming years. The planned Delhi–Hisar–Sirsa economic corridor will also connect the KMP Expressway to Mumbai through Haryana, facilitating seamless cross-border movement to Punjab.

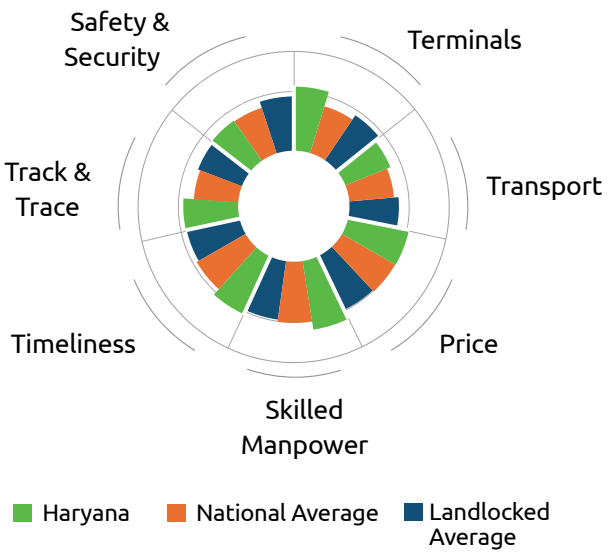
Logistics Services

The State outperforms the national and landlocked group averages in nearly all logistics service indicators, showcasing a well-established logistics service ecosystem.

Haryana excels in nearly all categories, with notable performance in 'Adequacy and Quality of Terminal Services'. Haryana is on par with national and landlocked group averages for 'Reasonableness of Price' and 'Safety and Security of Cargo'.

When compared with LEADS 2023, the State is reported to be performing better particularly in 'Reasonableness of Shipment Prices', in addition to 'Skilled Manpower' and 'Adequacy and Quality of Terminal Services'.

Figure 84: Logistics services performance for Haryana



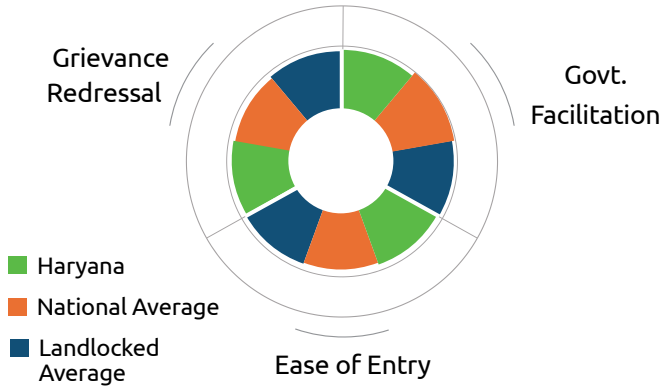
The State is improving its logistics and warehousing sector through initiatives such as Soft Skill Training, Japanese Shop Floor practices and HEV/EV programmes. Three Centres of Excellence (CoEs) will provide training and research to enable a continuous supply of skilled workforce, while a targeted curriculum, developed with industry associations, will be introduced in State Skilling Institutions. The State will collaborate with programmes such as PMKVY, DDU-GKY and sector skill councils to streamline skill development and enable human resources availability across the logistics value chain. Efforts are also underway to coordinate with the Warehousing Association of India to impart the necessary skills to youth. At the same time, retail enterprises are encouraged to train rural youth, fostering employment and sectoral growth.

Operating & Regulatory Environment

The State performs at par with the national and landlocked group averages for all indicators of the operating and Regulatory Environment indicating its regulatory framework and operational processes are well-aligned with the broader trends in the group group and in the country.

While the State is performing well in these areas, there is potential for further refinement and enhancement, ensuring continued growth and competitiveness in the logistics sector.

Figure 85:Operating & regulatory environment performance for Haryana



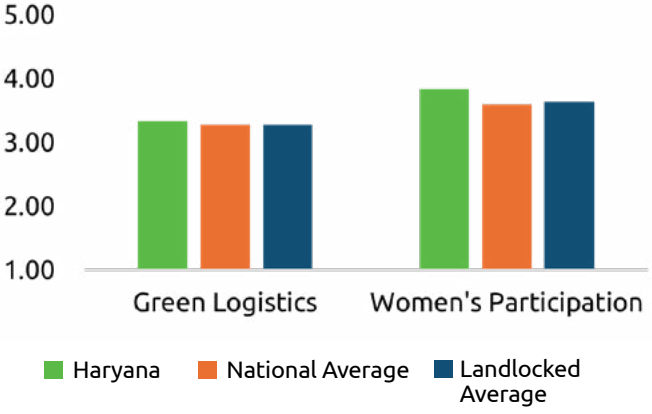
The State is introducing a single-window clearance mechanism through HEPC, allowing streamlined approvals for logistics and warehousing projects via a Common Application Form (CAF) with the assistance of dedicated relationship managers. Logistics and warehousing facilities will operate 24/7, subject to employee shifts and weekly holidays, while ground coverage norms, currently set at 60 percent, will follow updates from the Town and Country Planning Department. A digital dashboard will monitor container dwell times, reducing turnaround times at ICDs, cold chains and related facilities. Existing transport centres will be modernised under the PPP mode to augment infrastructure and adopt a self-sustaining revenue model. The e-Bhoomi portal will be leveraged for land matching, and processes such as land acquisition and the change in land use will be streamlined to facilitate investment in the logistics sector.

Sustainability and Equity Logistics

Haryana outperforms the national and landlocked group averages in 'State's Commitment to Green Logistics' and 'Women's Participation in the Logistics Workforce'. This demonstrates the State's proactive approach towards sustainability and gender inclusion in the logistics sector. These strong scores reflect Haryana's commitment to implementing environment friendly practices and fostering a more inclusive logistics industry workforce.

The government intends to promote green trucking, green fuels and sustainable technologies to decarbonise logistics while aligning with the Sustainable Development Goals. Efforts will focus on building an environment friendly logistics infrastructure that meets international standards and reduces the sector's carbon footprint.

Figure 86: Sustainability and Equity Logistics performance for Haryana



Potential Opportunities in the State

Haryana is a leading hub for logistics infrastructure and ecosystem development. However, consultations and assessments highlight opportunities for targeted interventions to enhance the State's logistics efficiency, such as implementing an effective grievance redressal mechanism and improving last-mile connectivity to rural areas.

These initiatives will improve operational effectiveness and contribute to sustained growth and competitiveness in the logistics sector.

Stakeholder's Insights

> There is a disparity between imports and exports, leading to the operation of empty rakes in one direction, which raises operational costs.

> The process for approvals and land acquisition takes an unusually long time.

> The commissioning of already constructed terminals is delayed due to poor coordination and consensus between entities such as Indian Railways and the Environment Ministry.

Potential Opportunities in the State

Short-term opportunities:

1. Unmet demand for developing approach roads connecting industrial groups, such as Panipat, Faridabad and railway terminals such as Ambala and Rewardi, to national and State highways to facilitate faster first- and last-mile delivery.
2. Need for implementing an efficient grievance redressal system to streamline land acquisition and prevent time delays; which further provides opportunities for increasing private sector participation in logistics sector.

Long-term opportunities:

3. Potential need for strengthening last-mile connectivity to rural and agrarian areas. State Government to facilitate a comprehensive study to assess the requirement for the same.
4. Opportunity for development of charging infrastructure in the State and promoting the adoption of electric vehicles through policy initiatives.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Himachal Pradesh

State Performance Snapshot

Himachal Pradesh is categorised as a '**Fast Mover**' within the landlocked group, marking progress from its previous status. The State's performance exhibits a diverse pattern, with scores aligning with, below or above the national and group averages. When compared with LEADS 2023, the State's performance has improved in majority of the indicators. The State Government has taken several initiatives to promote the growth of its logistics sector.

Himachal Pradesh is developing its logistics sector by improving its infrastructure, services and sustainability. The State is establishing logistics and warehousing hubs in critical regions and promoting private investment in multi-modal infrastructure. The State is also committed to regulatory improvements, including simplified approvals and infrastructure support for logistics facilities. Himachal Pradesh is also progressing towards sustainable logistics through various green logistics initiatives.

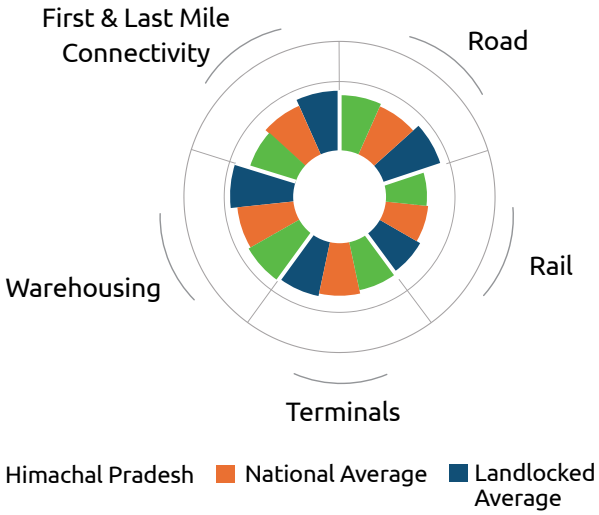
The State may further adopt GatiShakti platform for integrated planning. Additionally, it can leverage Public-Private Partnerships (PPPs) to develop logistics facilities.

Logistics Infrastructure

Himachal Pradesh ranks above the national average but relatively lower than the group average for 'Adequacy and Quality of Road Infrastructure'. For other infrastructure indicators, including Adequacy and Quality of 'Rail Infrastructure', 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity Infrastructure', the State performs below the national and landlocked group averages, indicating overall logistics connectivity and capacity as areas requiring improvement.

However, compared to its LEADS 2023 performance, the State has performed better across all logistics infrastructure indicators.

Figure 87: Logistics infrastructure performance for Himachal Pradesh



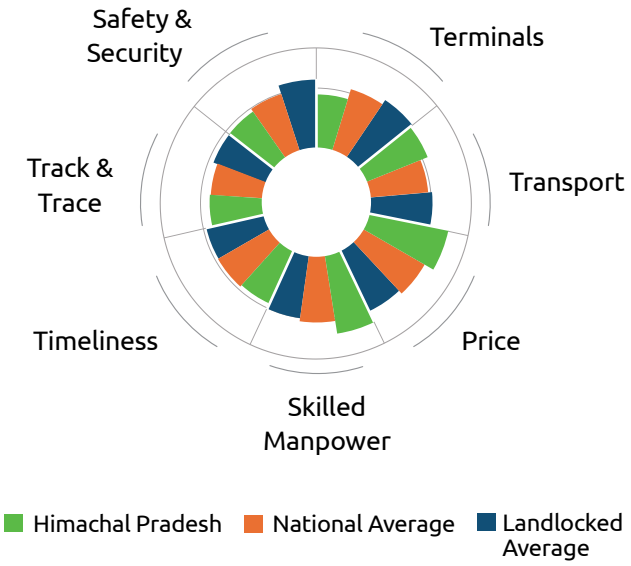
Himachal Pradesh is focused on improving its logistics infrastructure to support industrial growth and enhance connectivity. The State plans to establish Industrial Logistics and Warehousing hubs in the Baddi–Barotiwala–Nalagarh region, which will cater to the existing industrial corridor. Additionally, the Department of Industries plans to identify strategic locations outside urban areas for transportation and warehousing zones, offering affordable land and infrastructure for growth. The State also aims to establish key logistics hubs for handling agricultural and horticultural products from high altitude regions, with Shoghi, Sauli Khad and Pandoga identified as potential sites. These hubs will support first-mile connectivity. The State is also encouraging private sector investment to develop Inland Container Depots (ICDs), Integrated Cold Chains, Logistics Parks, Truck Terminals, Air Cargo facilities and quality testing labs, aiming to create a cost-competitive, multi-modal logistics infrastructure.

Logistics Services

The State's performance in Logistics Services presents a varied picture. While 'Reasonableness of Price of Logistics Services' and 'Skilled Manpower' are better than the national average, the State scores relatively lower than the landlocked group and national averages for indicators such as Adequacy and Quality of 'Terminal Services' and 'Transport Services' and 'Timeliness of Cargo Delivery', 'Availability of Track and Trace for Cargo' and 'Safety and Security of Cargo'. These areas reflect the need for service delivery improvements.

Compared to LEADS 2023 performance, the State has performed significantly better in 'Reasonableness of Price of Logistics Services'.

Logist Figure 88: Logistics services performance for Himachal Pradesh



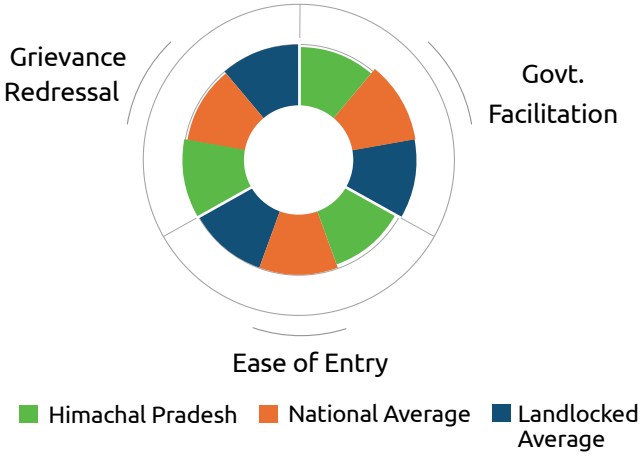
Himachal Pradesh is progressing in its logistics skill development through Himachal Pradesh Kaushal Vikas Nigam (HPKVN) programmes, offering training for drivers, loaders, warehouse staff and logistics specialists. The State is focusing on gender inclusivity, training over 255 individuals, including many women. In partnership with the Logistics Sector Skill Council (LSC), it aims to increase the logistics industry's skilled workforce. Additionally, Himachal Pradesh is adopting technology for secure transactions under the Unified Logistics Interface Platform (ULIP) initiative. The State is also establishing a Logistics CoE to drive innovation, particularly in agricultural and horticultural logistics.

Operating & Regulatory Environment

On 'Ease of Facilitation by the State/UT', Himachal Pradesh ranks lower the group and national averages, suggesting that state-level governance could be more supportive of logistics activities.

However, the State performs equally well as the national and group averages in 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' indicating adequate facilitation for entry and complaint resolution processes.

Figure 89: Operating & regulatory environment performance for Himachal Pradesh



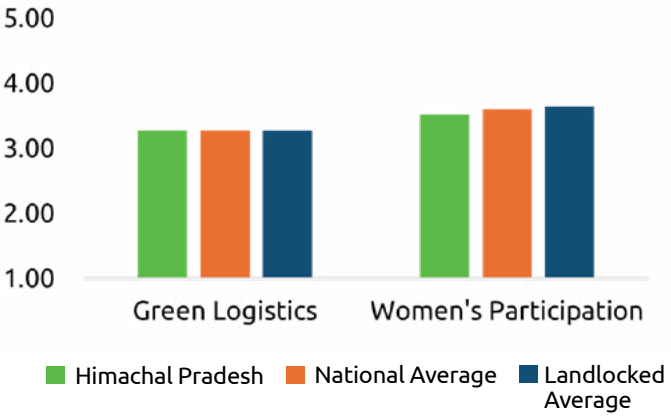
Himachal Pradesh is improving its operating and regulatory environment with online services for All India Tourist Permit (AITP) authorisation, permit applications, driving licences and token tax payments. Logistics sector unit approval will be streamlined by introducing a Common Application Form in the single-window clearance system. Twenty percent of the land will be allocated in new industrial areas for logistics facilities such as warehouses and truck terminals. Granting 'Infrastructure Status' to logistics will facilitate easier access to financing, including External Commercial Borrowings.

The State should also engage regularly with stakeholders to align State policies with their needs and foster partnerships for logistics advancements.

Sustainability and Equity Logistics

Himachal Pradesh's performance is on par with the group average for 'State's Commitment to Green Logistics'; however, it falls below the group and national averages for 'Women's Participation in Logistics Workforce'. The areas of sustainability and inclusivity in the logistics sector need improvements.

Figure 90: Sustainability and Equity Logistics performance for Himachal Pradesh



Himachal Pradesh is becoming a 'Model State for Electric Vehicles' through public–private collaboration. The State aims to become a global hub for electric mobility, focusing on EV development and manufacturing. Six National/State Highways will be transformed into EV Green Corridors. The Chief Minister announced the launch of 10,000 e-taxis and 26 e-bus routes along these corridors. The State has also waived commercial permit fees and road taxes for EVs to incentivise adoption.

Potential Opportunities in the State

Himachal Pradesh's logistics sector, supported by industrial hubs such as Baddi–Barotiwala–Nalagarh, growing warehousing facilities and commitment to sustainable practices, is vital to supporting the region's trade and industry. Through extensive consultations and on-ground assessments, potential opportunities in logistics sector of the State are identified.

Stakeholder's Insights

> Roads, particularly in industrial areas such as Baddi, are in disrepair despite being the primary mode of transportation in the State.

> Both Baddi and Shimla lack adequate warehousing facilities, relying on local stores that are insufficient for industrial and commercial needs.

> Although CONCOR facilities are present in Baddi, rail services remain underutilized due to inadequate infrastructure and low adoption by businesses.

> Transporters face delays and harassment due to unnecessary challans and policing issues near the Haryana–Punjab border at Charmandi.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for enhancing the existing infrastructure in the Baddi industrial area, including urgent repairs, to strengthen support for industrial and logistics activities.
2. Opportunity for development of warehouse groups, in locations such as Baddi and Shimla, to address storage needs and streamline supply chain operations. State Government to facilitate feasibility studies to identify the need.
3. Need for streamlining road freight movement into Himachal Pradesh by eliminating unnecessary stoppages near the Punjab/Haryana border at Charmandi.

Long-term opportunities:

4. Requirement to facilitate the approval and implementation of a pending proposal to connect Baddi to the Indian railway network to increase the rail share of cargo movement.
5. Demand to dismantle cartelization by road carriers in Himachal Pradesh to reduce disproportionately high logistics costs and promote fair competition.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Jharkhand

State Performance Snapshot

2024	2023
Aspirer	Aspirer

Jharkhand is categorised as an '**Aspirer**' within the landlocked group. The State is performing on par or below the national and group averages. While the State Government is undertaking several initiatives to improve its logistics ecosystem, a comprehensive strategy emphasizing infrastructure, service quality, and regulatory reforms, coupled with collaboration between government and private sector, is essential.

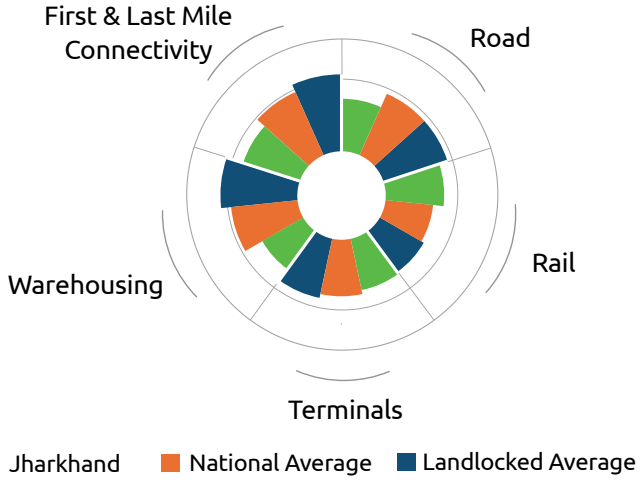
Jharkhand is improving its logistics sector through comprehensive infrastructure development, skill enhancement, regulatory improvements and sustainability initiatives. The State is developing a robust logistics network by establishing MMLPs, upgrading warehousing infrastructure and promoting private investment. The State's logistics policy grants 'Industry Status' to the sector, offering incentives to boost growth. Additionally, Jharkhand is progressing towards sustainability by promoting EV adoption and providing clean transport solutions.

The State need to prioritize development of Regional Master Plan / City Logistics Plan to identify and address the infrastructure inefficiencies. Additionally, adopting the GatiShakti platform for integrated infrastructure planning should also be a focus. The State may further leverage PPPs for different projects in logistics sector.

Logistics Infrastructure

Jharkhand ranks below the group and national averages in most Logistics Infrastructure indicators, including Adequacy and Quality of 'Road Infrastructure', 'Terminals Infrastructure' and 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity Infrastructure'. Improvement in these areas is crucial for boosting overall logistics efficiency.

Figure 91: Logistics infrastructure performance for Jharkhand



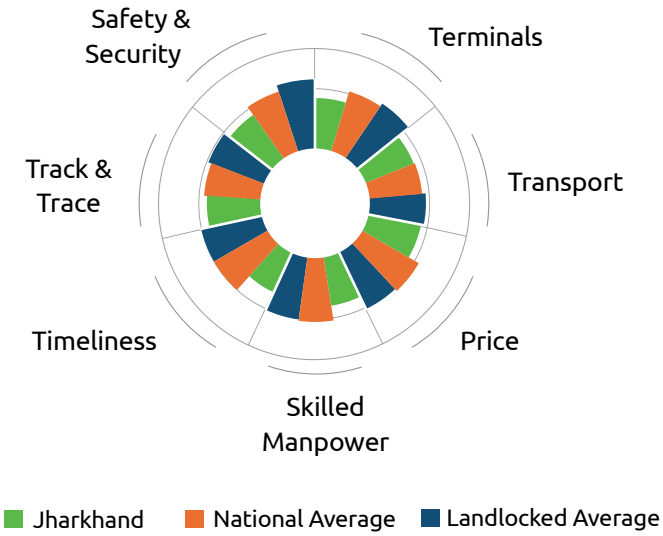
Jharkhand is developing its first MMLP in Nirsa, Dhanbad, under the PM GatiShakti initiative, with a project cost of INR 108 Crores. The park is expected to generate 1,750 direct and 3,000 indirect jobs. The State's focus is on upgrading its logistics and warehousing infrastructure to boost economic activities, enhance warehousing capacity and support both primary and secondary sectors. It also aims to attract private investment to develop industrial and logistics parks and units. The State will also enable land availability and incentives for industry and logistics parks, further promoting sector-specific and mixed-use developments.

Logistics Services

Jharkhand's performance in Logistics Services falls behind the landlocked group and national averages across all indicators, including 'Adequacy and Quality of Terminal Services', 'Adequacy and Quality of Transport Services', 'Reasonableness of Price of Logistics Services', 'Skilled Manpower', 'Timeliness of Cargo Delivery', 'Availability of Track and Trace for Cargo' and 'Safety and Security of Cargo'. Focus on service quality and workforce skills could drive improvements.

When compared with LEADS 2023, the State has underperformed in 'Timeliness of Cargo Delivery', 'Track & Trace of Cargo' and 'Safety & Security of Cargo'.

Figure 92: Logistics services performance for Jharkhand

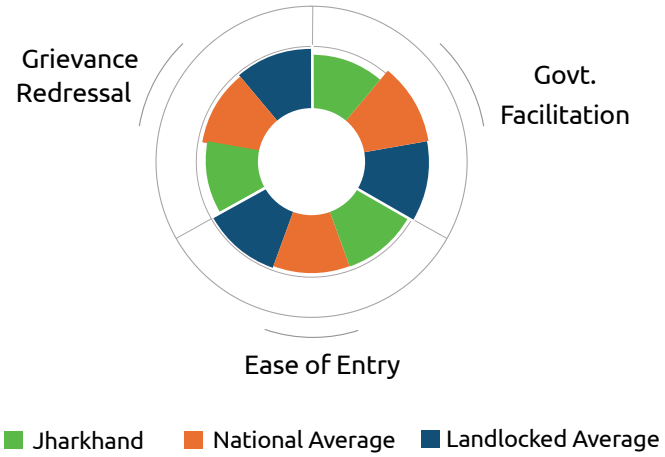


Jharkhand is taking initiatives in skill development such as the Jharkhand Skill Development Policy 2018, aimed at improving logistics, manufacturing and IT employability. The Saksham Jharkhand Kaushal Vikas Yojana offers NSQF-aligned courses with placement-linked and self-employment training, targeting 70 percent employment for successful trainees. The Deen Dayal Upadhyay Kaushal Kendra sets up benchmark skill centres offering long-duration courses, including apprenticeships. The State may focus on entering into partnerships with education institution and industry bodies for prompting skill development in logistics sector.

Operating & Regulatory Environment

While Jharkhand performs below the group and national averages in 'Ease of Facilitation' and 'Quality of Grievance Redressal Mechanisms', it is on par with the group and national averages in 'Ease of Entry from Neighbouring States'. Enhancing government support and grievance redressal systems should be a priority.

Figure 93: Operating & regulatory environment performance for Jharkhand



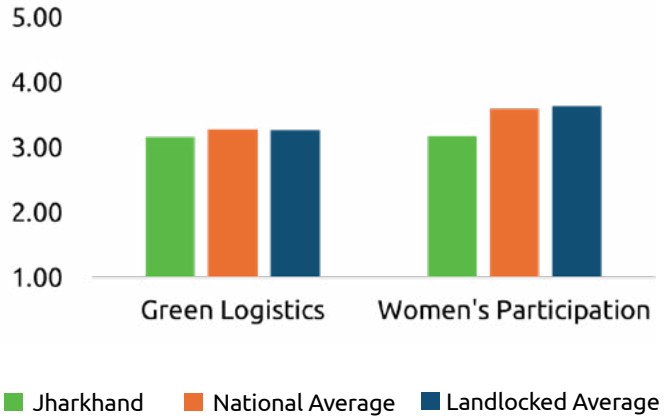
Jharkhand has implemented vital measures to enhance its logistics sector, including establishing the Single-Window Clearance Committee under the Jharkhand Single-Window Clearance Act 2015. The State's Logistics Policy 2022 has granted the sector 'Industry Status'. Additionally, it offers incentives such as tax rebates, subsidies and access to government schemes to improve infrastructure and logistics operations, fostering growth and development in the sector.

The State should further focus on simplifying processes, strengthen grievance redressal mechanisms to make logistics operations more efficient and stakeholder friendly.

Sustainability and Equity Logistics

Jharkhand falls below the group and national averages in 'State's Commitment to Green Logistics' and 'Women's Participation in Logistics Workforce', pointing to significant potential for improvement in achieving logistics sector sustainability and inclusivity.

Figure 94: Sustainability and Equity Logistics performance for Jharkhand



The Jharkhand Electric Vehicle Policy 2022 promotes EV adoption through manufacturing, purchasing and charging infrastructure incentives. The policy aims to create a cleaner transport system. By 2030, the State plans to become an EV manufacturing hub and achieve carbon-neutral transport. Key targets include a 10 percent EV share in new registrations, charging stations every 25 km on highways and government offices to prioritise EVs for official use.

The State needs to translate plans into actions for improving its performance on Sustainable Logisitcs.

Potential Opportunities in the State

Jharkhand's logistics sector, supported by initiatives such as developing MMLPs, upgraded warehousing facilities and promoting private investment, is becoming an essential contributor to regional economic growth. Detailed stakeholder consultations and field assessments enabled identification of potential opportunities that require attention in the logistics sector.

Stakeholder's Insights

> The rail connectivity between Ranchi and Jamshedpur is currently inefficient due to its reliance on lengthy route through Muri hindering optimal connectivity between the two industrial hubs.

> Freight vehicles face illegal tolls and harassment by RTOs at multiple locations, increasing operational costs.

> MSME cargo movement is restricted due to insufficient road and rail aggregation facilities, leading to high logistics costs and reduced competitiveness.

> The State has a limited warehouses near industrial and densely populated areas, primarily due to low awareness and inadequate policy support.

Potential Opportunities in the State

Short-term opportunities:

1. Opportunity for the development of spaces for MSME cargo aggregation through private-sector participation to streamline freight operations and boost industrial productivity. The State shall undertake comprehensive study to identify the locations for setting up such spaces.
2. Need to strengthen enforcement mechanisms to eliminate illegal collections from freight vehicles and promote seamless transport operations.
3. Requirement for streamlining the administration of logistics courses at training centres to ensure appropriate curriculum delivery and skill development.

Long-term opportunities:

4. Opportunity to coordinate with concerned stakeholders such as Railways to expedite the direct rail connection between Ranchi and Jamshedpur, significantly improving efficiency and reduced transit time.
5. Unmet demand for development of infrastructure for EV charging points and alternative fuels to reduce reliance on fossil fuels and encourage sustainable transport.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Madhya Pradesh

State Performance Snapshot

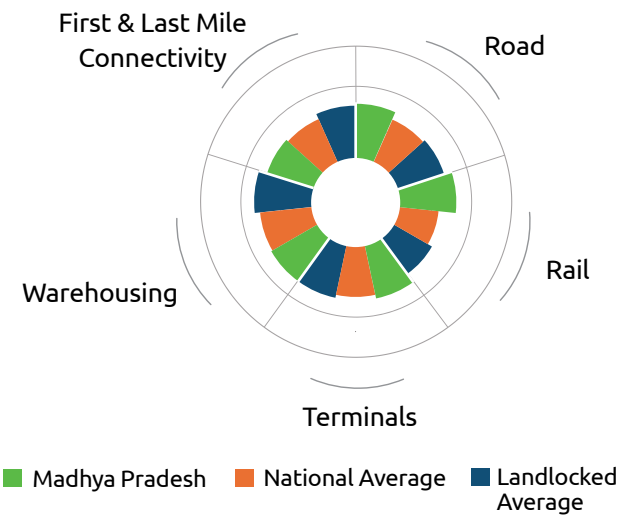
Madhya Pradesh retained its position as a '**Fast Mover**' within the landlocked group. The State is performing above or on par with national and group averages across several indicators; however, there are areas that present opportunities for intervention. The State Government is also undertaking various initiatives in the sector and may consider focusing on implementing these actions.

Madhya Pradesh is actively working to strengthen its logistics sector by improving its infrastructure, services and regulatory frameworks. The State is focused on building a cost-efficient logistics network, particularly in warehousing, to support the growing agricultural sector. Efforts to simplify regulatory processes and incentivise investments are boosting the Ease of Doing Business while promoting MSMEs ensures inclusive growth. In terms of sustainability, Madhya Pradesh is making progress with initiatives such as Behind-The-Metre (BTM) power infrastructure proposals to improve energy efficiency. Although skill development in logistics is still in its early stages, the State is taking steps to foster a skilled workforce aligned with industry needs.

Logistics Infrastructure

Madhya Pradesh performs better than the national and group averages in Adequacy and Quality of 'Road Infrastructure' and 'Rail Infrastructure'. In terms of Adequacy and Quality of 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity Infrastructure', improvements are needed to reach the group averages.

Figure 95: Logistics infrastructure performance for Madhya Pradesh



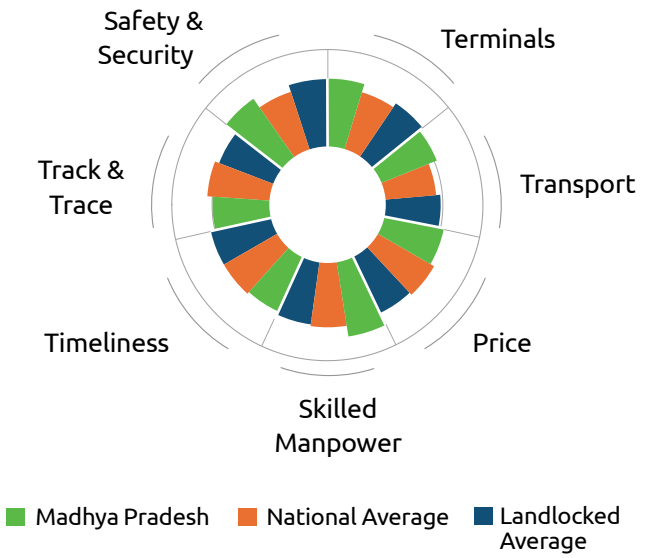
Madhya Pradesh's Logistics Infrastructure Policy focuses on creating a cost-efficient and integrated logistics network to enhance supply chain efficiency, benefitting various sectors. With the agricultural sector growing at 8–10 percent annually, expanding warehousing capacity is crucial to enable safe and efficient storage of agricultural commodities, support food security and reduce post-harvest losses.

The policy also emphasises improving connectivity, including road, rail and air infrastructure, to help smooth and seamless logistics operations across the State. A significant development includes an MoU between National Highway Logistics Management Ltd (NHLML), RVNL and MPIDC to establish a MMLP in Indore, with NHLML sharing 50 percent of the land acquisition cost for the project. This initiative is expected to improve logistics efficiency, create employment opportunities and enhance Madhya Pradesh's position as one of India's key logistics hubs.

Logistics Services

Madhya Pradesh's 'Adequacy and Quality of Terminal Services', 'Adequacy and Quality of Transport Services', 'Skilled Manpower' and 'Safety and Security of Cargo' are rated higher than the national and landlocked group averages. The State's performance on 'Reasonableness of Price of Logistics Services', 'Availability of Track and Trace for Cargo' and 'Timeliness of Cargo Delivery' is below the group and national averages, indicating potential areas for improvement.

Figure 96: Logistics services performance for Madhya Pradesh



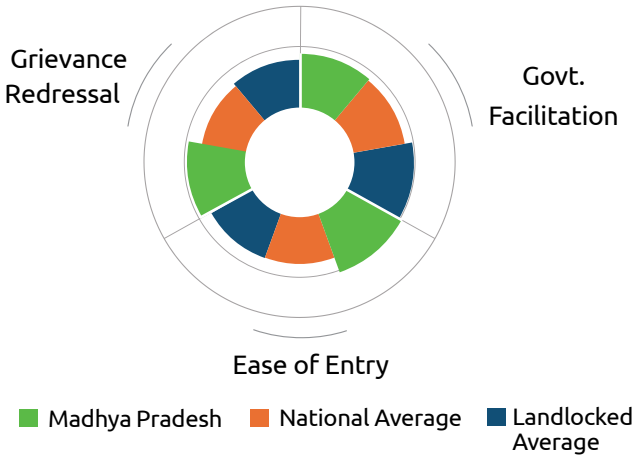
Madhya Pradesh is expanding its logistics services and developing a skilled workforce to support the growing sector. While one educational institution currently offers a degree course in logistics for the academic year 2023–24, the State is actively exploring opportunities to strengthen logistics education and training. The government recognises the importance of skill development in the logistics sector and is expected to make future budgetary allocations and investments to foster growth.

Operating & Regulatory Environment

The State's 'Ease of Facilitation' is comparatively lower than the landlocked group average, but above the national average. On 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms', Madhya Pradesh scored better than the landlocked group and national averages.

Madhya Pradesh is simplifying processes and creating a favourable investment climate in the logistics sector. The Industrial Promotion Policy 2014 (amended in 2019) strengthens the single-window clearance system through MPIDC. It includes initiatives such as consolidating legal requirements, establishing a Land Bank for industries and launching an online land allotment system. The State also incentivises MSMEs for inclusive growth and established MPCVET to enable a skilled workforce.

Figure 97: Operating & regulatory environment performance for Madhya Pradesh

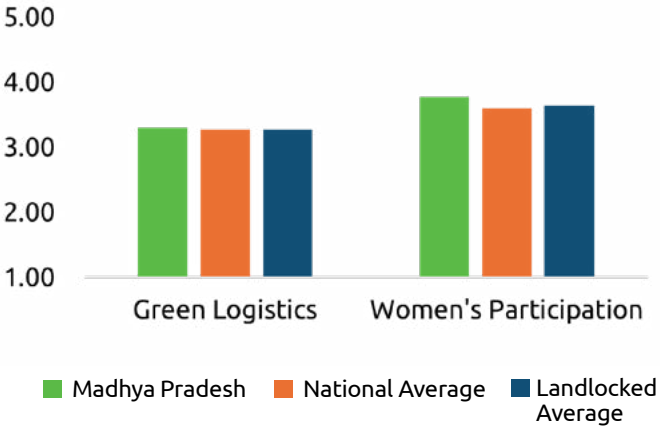


Sustainability and Equity Logistics

Madhya Pradesh outperforms the national and landlocked group averages in 'State's Commitment to Green Logistics' and 'Women's Participation in Logistics Workforce', indicating areas of strength.

Madhya Pradesh is making progress towards sustainable logistics by approving two BTM power infrastructure proposals worth ₹17.59 crore for Bhopal and Ujjain. This initiative, cleared in the 9th CSSC meeting on 22 July 2024, aims to improve energy efficiency and support sustainable logistics growth in the State.

Figure 98: Sustainability and Equity Logistics performance for Madhya Pradesh



Potential Opportunities in the State

Madhya Pradesh is improving its logistics sector by bolstering its infrastructure, services and regulatory frameworks. However, there are potential opportunities for the State that have been identified through extensive consultations and on-ground assessments. These shall ensure focused interventions for effective and sustainable logistics reform.

Stakeholder's Insights

> Road connectivity is inadequate in rural and remote regions, limiting access to markets and essential services.

> Insufficient safety measures, like reflectors, proper lighting and speed bumps increase the risk of accidents.

> Congestion on major transport routes during peak hours, festivals and monsoon seasons due to limited alternative routes.

> Driver issues, such as inadequate training, long working hours and underpayment, contribute to fatigued and often unqualified drivers.

Potential Opportunities in the State

Short-term opportunities:

1. Unaddressed demand to strengthen the connectivity of State highways by improving road infrastructure and ensuring clear signs for speed breakers and obstacles, especially in industrial and densely populated areas.
2. Opportunity to enhance mobile connectivity in and around ICDs, MMLPs and industrial groups to enable efficient shipment tracking and improve logistics operations.
3. Potential to widen existing roads, especially rural roads such as in Bundelkhand and Vindhya Regions and Malwa region, to accommodate future growth and enable smoother traffic flow.

Long-term opportunities:

4. Growing need for development of warehouses in strategic locations, particularly industrial hubs and transport corridors.
5. Need for establishing driver-training institutes to address skill gaps and ensure safe driving conditions across the State.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Punjab

State Performance Snapshot

Punjab has been categorized as **"Fast Mover"** within the landlocked group. The States's transition from Achiever in 2023 to Fast Mover in 2024 reflects both its sustained efforts in key areas while also indicating opportunities for further improvement. The slight decline across several indicators serve as key areas for recalibration, while gains in infrastructure and manpower emphasize the State's progress.

Punjab has taken steps to streamline logistics and enhance efficiency, including the Integrated Logistics Action Plan (2022–27) with 28 action points and 103 KPIs across infrastructure, technology, skills and policy. The State has institutionalised a two-tier governance mechanism for implementation, introduced a unified single-window system for 140+ regulatory clearances and developed the Punjab Industrial and Business Development Policy 2022, granting Industry Status to logistics centres. Green initiatives such as EV promotion, Intelligent Transportation Systems and targeted logistics training programmes further emphasise sustainability and skill development.

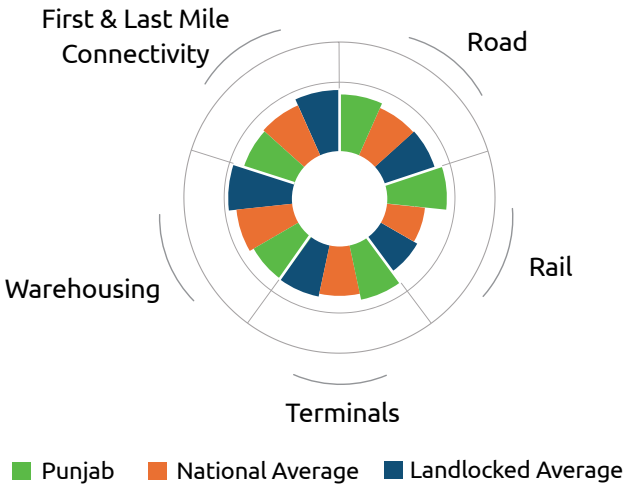
The slight declines across several indicators serve as key areas for introspection and action, while the gains in infrastructure and manpower underscore the State's adaptability. With robust strategies and interventions, Punjab can capitalize on its strengths, address existing gaps to have a better logistics ecosystem.

Logistics Infrastructure

Punjab's logistics performance is balanced across key infrastructure parameters. The 'Adequacy and Quality of Rail Infrastructure' surpasses the national and landlocked group averages, highlighting the State's effective rail network. Other logistics infrastructure indicators are on par with national and landlocked group averages, indicating consistent and reliable logistics infrastructure.

When compared with LEADS 2023, the State's has underperformed on all indicators of Logistics Infrastructure.

Figure 99: Logistics infrastructure performance for Punjab



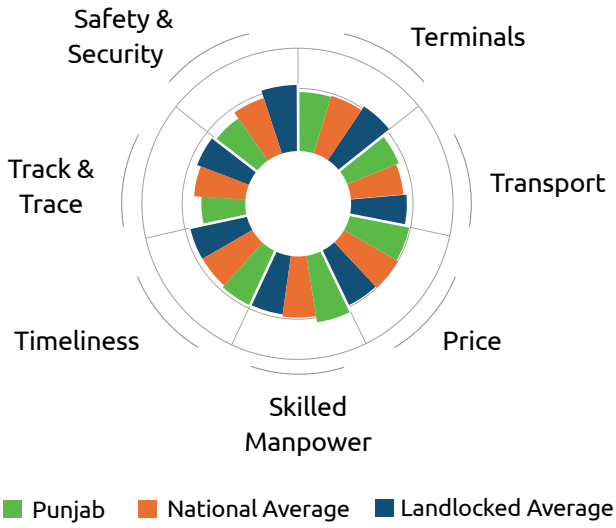
Punjab has been undertaking initiatives in its logistics infrastructure, with key projects improving connectivity and operational efficiency. The Sahnewal–Pilkhani section of the Eastern Dedicated Freight Corridor, inaugurated in March 2024, has strengthened freight movement across the region. Logistics and Warehousing Hubs, such as the Zirakpur–Tepla–Rajpura group, are strategically positioned to serve freight demands from Shimla, Baddi and Delhi. Major expressway projects will improve interState connectivity, including the Delhi–Amritsar–Katra Expressway (Phase I) and the Ludhiana–Roopnagar Greenfield NH 205K. The State is developing dedicated transport zones and truck terminals near highways and industrial corridors to streamline cargo handling. Specialised warehousing facilities in agricultural zones and industrial regions, alongside ILPs, further support efficient storage and distribution to bolster Punjab's position as a logistics hub in North India.

Logistics Services

Punjab's logistics services performance is consistent with the national and group averages across key parameters. However, the 'Reasonableness of Price of Logistics Services', 'Availability of Track and Trace for Cargo' and 'Safety and Security of Cargo' are rated marginally below the national and landlocked group averages. Thus, these areas require interventions to improve service quality and competitiveness.

Compared to LEADS 2023, the State is underperforming in 'Adequacy and Quality of Transport Services'.

Figure 100: Logistics services performance for Punjab

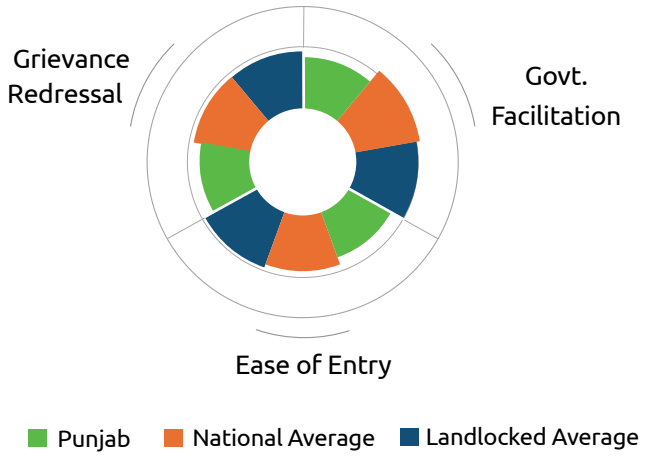


Punjab is undertaking initiatives that address skill development, driver welfare and operational efficiency. Over 7,500 candidates have been trained under the Punjab Skill Development Mission, with logistics-specific training programmes targeting 1,925 more candidates in 2024–25. The State promotes truck driver welfare by establishing Trucker Parks along major highways, offering amenities such as rest areas, food, hygiene and vehicle repair facilities. Collaborative efforts with Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) and sector skill councils intend to mainstream logistics training and introduce professional certifications such as the Certified Logistics Professional Scheme.

Operating & Regulatory Environment

Punjab's operational and regulatory environment performs slightly below the national and landlocked group averages. These marginally lower scores highlight opportunities to streamline processes and enhance interState coordination and grievance resolution mechanisms.

Figure 101: Operational & regulatory environment performance for Punjab



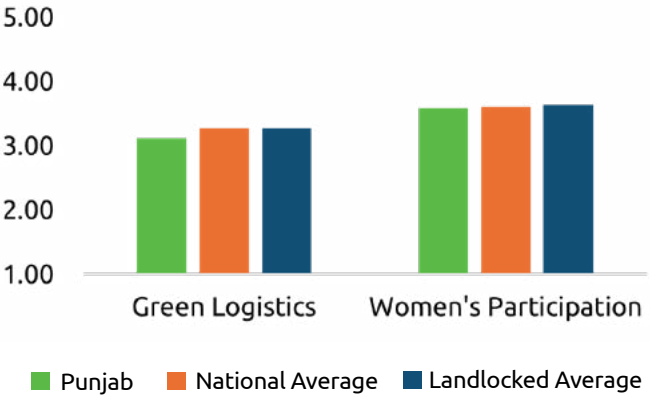
The State's unified Single-Window System offers over 140 regulatory clearances, including building plans, fire NOCs and pollution control approvals, with approval provisions to ensure timely clearances. A fast-track mechanism for logistics and warehousing projects was introduced, aided by a single integrated approval system. Warehousing facilities, including those supporting the e-commerce ecosystem, can operate 24/7 to enable last-mile connectivity. Additionally, the Government is developing rational regulations and compliance requirements to simplify regulatory processes.

There is a need for enhanced streamlining of entry processes and more effective grievance redressal mechanisms. As these aspects are crucial for reducing administrative friction and ensuring stakeholder satisfaction. There is further need to strengthen stakeholders' confidence in ease of Government's facilitation towards projects in the sector.

Sustainability and Equity Logistics

Punjab's performance in sustainable and inclusive logistics highlights areas for improvement. 'State's Commitment to Green Logistics' and 'Women's Participation in the Logistics Workforce' trail behind the national and landlocked group averages, indicating the areas that need targeted efforts to improve the sector's sustainability and gender diversity.

Figure 102: Sustainability and Equity Logistics performance for Punjab



The State has been encouraging adopting green practices, including using EVs, non-motorised transport and alternative fuels such as CNG, LNG and ethanol. Infrastructure upgrades include EV charging stations and sustainable design standards for warehouses, terminals and logistics facilities, integrating energy efficiency, wastewater recycling and waste management systems. The Punjab Electric Vehicle Policy 2022 further supports emission reduction and promotes and positions the State as an EV hub.

Potential Opportunities in the State

Punjab's logistics landscape, shaped by its agricultural strength and strategic location, reflects the need for a comprehensive approach for addressing its diverse demands. Extensive consultations and on-ground assessments have revealed opportunities for the State which shall ensure focused interventions for effective and sustainable logistics reform.

Stakeholder's Insights

> Poor road conditions and congestion in key areas such as Ludhiana Transport Nagar hinder efficient logistics operations.

> Driver and commodity safety remain significant concerns, compounded by empty or underloaded vehicles during specific seasons, such as the apple season in Leh–Ladakh.

> Increasing taxes, diesel prices and tire rates impose a financial burden on transporters, affecting their competitiveness.

> Green logistics is limited to local transportation, with minimal adoption of eco-friendly practices such as electric vehicles.

Potential Opportunities in the State

Short-term opportunities:

1. Unmet demand for upgradation of roads serving industrial areas and transport nagars, such as Ludhiana Transport Nagar, to streamline logistics operations in addition to implementation of enhanced security through CCTV installation, deployment of guards and better lighting to curb theft.
2. Growing need for setting up charging points and initiate access to alternative fuels in key logistics hubs to promote green logistics.

Long-term opportunities:

3. Opportunity for development of a modern, spacious new Transport Nagar with state-of-the-art facilities at Ludhiana. State Government to facilitate land allocation.
4. Need for optimizing security systems by implementing advanced surveillance and secure parking facilities in major logistics zones.
5. Demand for expanding EV charging networks and alternative fuel infrastructure, fostering the shift to green logistics practices.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Rajasthan

State Performance Snapshot

Rajasthan has maintained its position as a 'Fast Mover' within the group. The State's performance is mostly aligned with national and group averages across all indicators.

In terms of State government initiatives, several are already underway or being planned for improving its logistics efficiency.

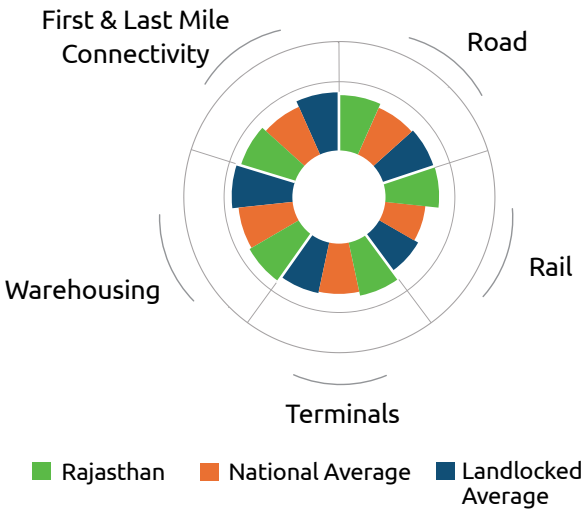
Rajasthan is planning to introduce the 'Rajasthan Logistics Policy 2024' to improve the efficiency, sustainability and competitiveness of the logistics sector. This policy aims to establish logistics hubs in strategic locations, including manufacturing groups, areas rich in natural minerals and agricultural production zones. The State has strengthened RAJNIVESH, its online single-window clearance system for registration, tracking, clearance and approval of project proposals. Green initiatives in logistics sector further emphasise sustainability and skill development.

Rajasthan's sustained status as "Fast Mover" highlights a well-balanced logistics ecosystem that aligns closely with the national group averages, underscoring its potential to transition into an "Achiever".

Logistics Infrastructure

Rajasthan aligns closely with the national and group averages for all landlocked States across indicators, including the Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure', 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity'. Notably, the State exceeds the national average in 'Adequacy and Quality of First- and Last-Mile Connectivity.

Figure 103: Logistics infrastructure performance for Rajasthan

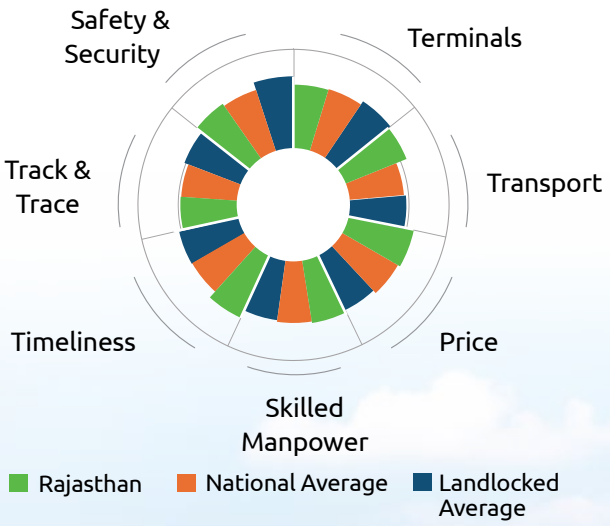


Rajasthan has taken strides in logistics infrastructure development with key projects enhancing connectivity and operational efficiency such as facilitating rail connectivity between Taranga Hill and Abu Road and proposing a Jhunjunu–Chirawa–Pacheri highway linkage to strengthen freight movement in the State. The State has prioritised upgrading the Jaipur–Ajmer highway including construction of overpasses to shorten road transit times and has also facilitated improved rail services connecting Jaipur and Mundra port.

Logistics Services

The State is aligned with the national and landlocked group averages for service indicators such as 'Adequacy and Quality of Terminal services', 'Reasonableness of Price of Logistics Services', 'Availability of Skilled Manpower', 'Availability of Track and Trace for Cargo' and ensuring 'Safety and Security of cargo'. Rajasthan also rated higher than the national and landlocked group averages in 'Adequacy and Quality of Transport services' and the resultant improved 'Timeliness of Cargo Delivery'.

Figure 104: Logistics services performance for Rajasthan

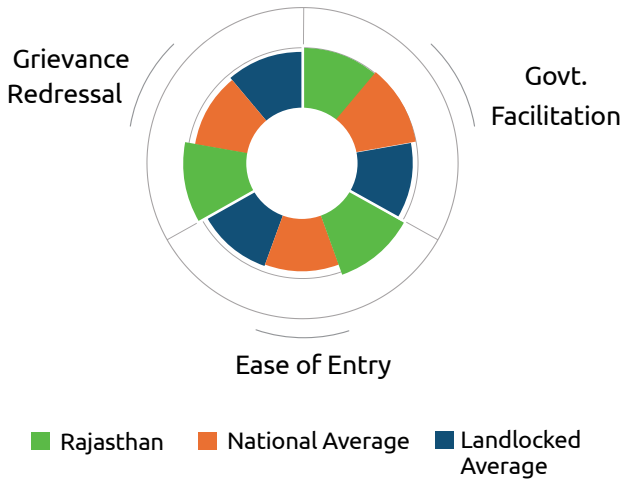


Rajasthan plans to enhance logistics services through skill development initiatives such as training for MSMEs, start-ups and R&D units to enable the competitiveness of the workforce in the State. The State shall support intellectual property creation with assistance for patents, geographical indicators and trademarks.

Operating & Regulatory Environment

While Rajasthan is on par with the group and national averages for the 'Ease of Facilitation by the Government', the State scores higher than both the national and landlocked group averages for 'Quality of Grievance Redressal Mechanisms' and 'Ease of entry from Neighbouring States'.

Figure 105: Operating & regulatory environment performance for Rajasthan



The State Industries Department, through the department of Information Technology & Communication (IT&C), is integrating geospatial enablement with 'Rajdharaa', the single-window clearance portal of the State government, which will facilitate real-time data sharing across all stakeholders, thus improving decision-making and information access for stakeholder departments in Rajasthan.

While continuing to refine grievance redressal mechanisms implementing proactive monitoring systems to ensure seamless regulatory processes across diverse logistics functions will help to sustain the State's competitive edge

Sustainability and Equity Logistics

Rajasthan scores higher than the national and landlocked group averages for 'State's Commitment to Green Logistics' and encouraging increased 'Women Participation in the Logistics Workforce' in the State. The State's proactive approach to green logistics reflects its dedication to adopting sustainable practices, reducing the environmental impact of logistics operations and fostering eco-friendly infrastructure. Simultaneously, its emphasis on increasing women's participation in the logistics sector highlights a commitment to inclusivity and workforce diversity.

Figure 106: Sustainability and Equity Logistics performance for Rajasthan

Rajasthan promotes the adoption of green practices by offering State incentives towards adoption of renewable energy, including solar, wind, hybrid power and energy storage. The State also offers subsidies and tax exemptions to support eco-friendly projects, thereby fostering a culture of sustainability in logistics operations.

Potential Opportunities in the State

Rajasthan, as a key link between northern and western India, plays a vital role in trade and industrial connectivity. Strengthening its logistics ecosystem is crucial for driving its logistics sector growth.

Potential opportunities are identified to address these, ensuring focused interventions for effective and sustainable logistics reform.

Stakeholder's Insights

> Road and rail connectivity from Jaipur to Mundra port is good but connectivity to Nhava Sheva is poor and needs to be improved.

> There is no facility for consolidation of LCL cargo at RAJISCO and CONCOR Jaipur. CONCOR Jaipur also lacks adequate cargo storage facilities and needs to facilitate extended working hours.

> There is an urgent need for increasing the custom bonded warehousing facilities in Jaipur.

> Logistics service providers face challenges with entry of cargo at RAJISCO ICD at the Mansarovar Industrial Area in Jaipur.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for development of adequate warehousing and storage facilities in the State by providing targeted State incentives. The State should undertake a comprehensive study to assess the need and locations for setting up warehouses.
2. Increasing demand for setting up charging points and initiate access to alternative fuels in key logistics hubs to promote green logistics.

Long-term opportunities:

3. Potential need for upgradation of approach road to the ports, particularly Nhava Sheva Port.
4. Opportunity to strengthen cold chain logistics for agro-exports such as spices, millets and fruits.
5. Requirement for establishing Multi-Modal Parks near industrial groups like Jaipur, Udaipur and Alwar.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Telangana

State Performance Snapshot

Telangana has maintained its position as an **'Achiever'** within the landlocked group. The State has outperformed national and group averages for most of its indicators. This performance is further demonstrated by the initiatives being implemented by the State Government to promote the growth of its logistics ecosystem.

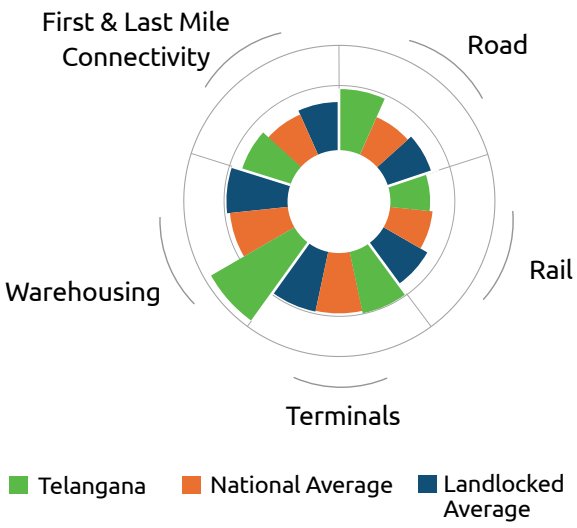
Telangana has adopted a forward-looking approach to ease and optimise logistics operations through standout initiatives such as the Telangana State Logistics Policy 2021–26, which emphasises private investment and infrastructure development. Projects such as Multi-Modal and Integrated Logistics Parks are being established with PPPs, supported by single-window clearances under TS-iPASS. Sustainability is prioritised with the introduction of electric buses, zero-emission trucking (ZET) through the ZET Accelerator and energy-efficient urban development plans. Workforce readiness is enhanced through a Centre of Excellence for Logistics Training in collaboration with the Telangana Academy of Skill and Knowledge (TASK), while digital platforms such as TG-bPASS and Unified Logistics Interface Platform (ULIP) streamline approvals and provide real-time logistics visibility.

Logistics Infrastructure

Telangana's logistics infrastructure shows robust performance, with 'Adequacy and Quality of Road Infrastructure' and 'Adequacy and Quality of Warehousing Infrastructure' exceeding national and landlocked group averages.

Other indicators match national and landlocked benchmarks, reflecting comparable efficiency. However, 'Adequacy and Quality of Rail Infrastructure' falls marginally below the group average, indicating potential for improvement.

Figure 107: Logistics infrastructure performance for Telangana

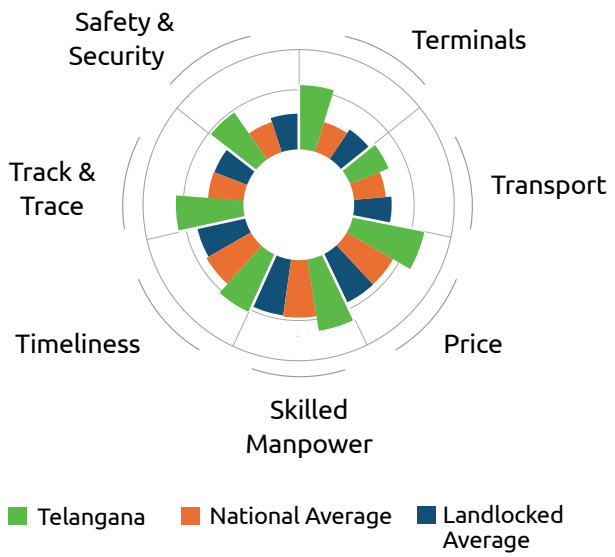


Telangana is making significant progress in logistics infrastructure with projects such as the MMLP at Parkibanda village, Medak District, covering 324 acres and developed through the NHLML. The State has also planned a 9-km greenfield approach road connecting NH-65 to the Zaheerabad National Investment and Manufacturing Zone, facilitating efficient freight movement within the Hyderabad-Nagpur Industrial Corridor. Additionally, the government is encouraging the development of ILPs in each district to consolidate logistics activities. Specific measures include earmarking at least 5 acres in industrial parks and SEZs for warehouses, cold storages and trucking hubs. To address capacity challenges, Telangana incentivises large-scale warehouses exceeding 1,00,000 sq. ft. and cold storage units over 20,000 sq. ft., with relaxed requirements for facilities near tribal zones.

Logistics Services

Telangana's logistics services demonstrate exceptional performance, with scores for all indicators exceeding national and landlocked group averages. This strong performance underscores Telangana's competitive edge in logistics services.

Figure 108: Logistics services performance for Telangana

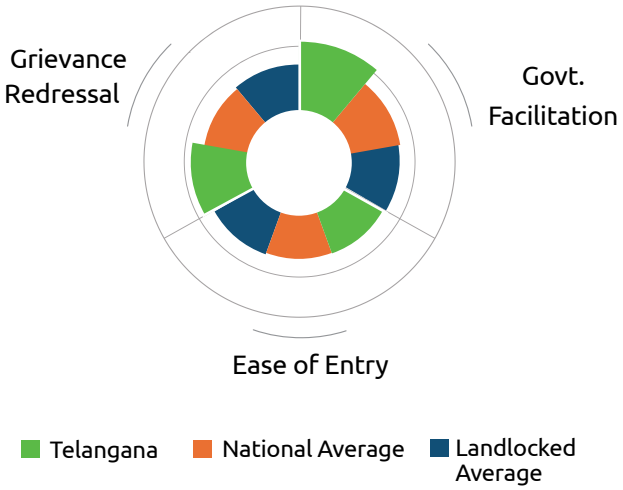


The State is actively attracting 3PL, 4PL and 5PL service providers to improve service quality and operational efficiency. Workforce readiness is a key focus, with the establishment of a Centre of Excellence for Logistics Training (CoE) in collaboration with TASK. The CoE is designed to provide end-to-end training solutions, including technical and non-technical skill development tailored to the logistics sector's evolving needs. The Government is also fostering inclusivity by reimbursing 100% of PF contributions for women and differently abled employees recruited from accredited training institutes for three years.

Operating & Regulatory Environment

Telangana's well-established operating and regulatory environment is reflected in its performance, with 'Ease of Facilitation by the State/UT' and 'Quality of Grievance Redressal Mechanisms' surpassing national and landlocked group averages. 'Ease of Entry from Neighbouring States/UTs' is comparable to both averages, reflecting scope for further enhancement.

Figure 109: Operating & regulatory environment performance for Telangana

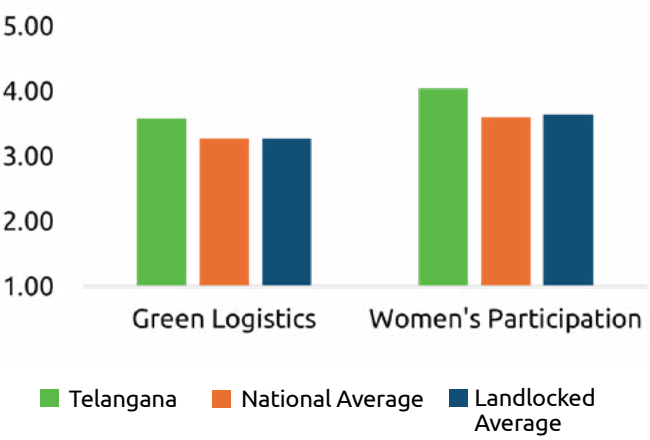


The TS-iPASS (Telangana State Industrial Project Approval and Self-Certification System) provides a single-window clearance mechanism for expediting approvals required for logistics infrastructure projects. The Friendly Electronic Services of Transport platform offers digital access to key services such as licence renewals and permits, reducing dependency on physical visits and improving convenience for logistics operators. For land and construction, the TG-bPASS (Telangana Building Permission Approval and Self-Certification System) simplifies obtaining building and layout permissions, ensuring transparency and reducing processing times. The State also plans to integrate data-driven approaches through the Unified Logistics Interface Platform (ULIP) to provide real-time visibility of goods, vehicles and infrastructure to improve decision-making.

Sustainability and Equity Logistics

Telangana surpasses national and landlocked group averages in 'State's Commitment to Green Logistics' and 'Women's Participation in the Logistics Workforce', showcasing its progressive approach to sustainability and inclusivity in the logistics sector.

Figure 110: Sustainability and Equity Logistics performance for Telangana



Telangana is undertaking innovative initiatives such as the ZET Accelerator, promoting green freight corridors in collaboration with the Rocky Mountain Institute. The the development of energy-efficient urban plans within Hyderabad demonstrate a commitment to reducing carbon emissions. The State's EV and Energy Storage Policy supports electric vehicles with infrastructure and incentives. These efforts position Telangana as a leader in sustainable and eco-friendly logistics practices.

Potential Opportunities in the State

Telangana's logistics landscape, driven by its industrial growth and strategic central location, highlights the need for a well-integrated approach to meet its evolving demands. Potential opportunities for the State have been identified through extensive consultations and on-ground assessments.

Stakeholder's Insights

> Despite being a hub for specific industries like seeds and automobiles, Hyderabad lacks clearance facilities for seeds, electric vehicles and automobiles.

> Despite good infrastructure, Hyderabad Airport loses air cargo due to poor marketing, absence of courier shipment facilitation and testing labs for perishables.

> Due to absence of scheduled container services by CONCOR and delays in trans-shipments at Chennai, there is a large percentage of pharma cargo being cleared at Chennai or JNPT instead of Hyderabad.

> The skill development programs in logistics needs to be popularised in the State, and there is a need to encourage women's participation in the sector.

Potential Opportunities in the State

Short-term opportunities:

1. Need for a Fruit and Vegetable Clearance and Certification Facility at Hyderabad Airport to boost the exports of perishables.
2. Require co-ordination with CONCOR and Container Train Operators (CTOs) to offer Scheduled Rail Services to Chennai and JNPT Ports, thereby ensuring reliable logistics connectivity for Hyderabad-based industries.
3. Coordination with the concerned authority required to clearly define the procedures to establish Plant Quarantine, Seed Certification and EV Clearance facilities in Hyderabad by securing necessary approvals from Directorate General of Foreign Trade (DGFT).

Long-term opportunities:

4. Coordination with GMR to facilitate expansion of Hyderabad Airport's clearance capabilities to include certifications for a broad range of perishable and high-value goods.
5. Need for promoting Hyderabad as a certification hub for seeds, EVs and other specialized commodities, enabling ease of trade for industries in Telangana.
6. Demand for Institutionalising ongoing skill development initiatives with a focus on advanced logistics technologies.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Uttar Pradesh

State Performance Snapshot

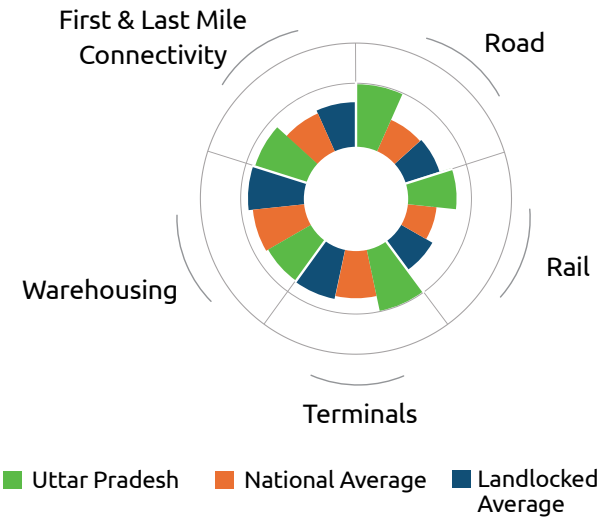
Uttar Pradesh has maintained its position as an **'Achiever'** within the group. The State has outperformed national and group averages for most of its indicators. At the same time, the State Government has undertaken several targeted initiatives for the sector with many of them already under action.

Uttar Pradesh has streamlined logistics and enhanced efficiency with the Warehousing and Logistics Policy 2022. City Logistics Plans have been developed for seven development authorities, namely Varanasi, Kanpur, Lucknow, Prayagraj, Meerut, Agra and Ghaziabad. The State has streamlined incentive access through the centralised Online Incentive Management System on its Nivesh Mitra single-window portal, offering NOCs and approvals for industries, including warehousing. The State has granted Industry Status to the logistics sector regarding land use and land rates. Green initiatives, such as EV promotion, intelligent transportation systems and targeted training programmes in logistics further emphasise sustainability and skill development.

Logistics Infrastructure

Uttar Pradesh outperformed the national and landlocked group averages in Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure', 'Terminal Infrastructure' and 'First- and Last-Mile connectivity'. Notably, the State has significantly improved 'Road Infrastructure', enhancing its logistics capabilities and overall transportation efficiency.

Figure 111: Logistics infrastructure performance for Uttar Pradesh

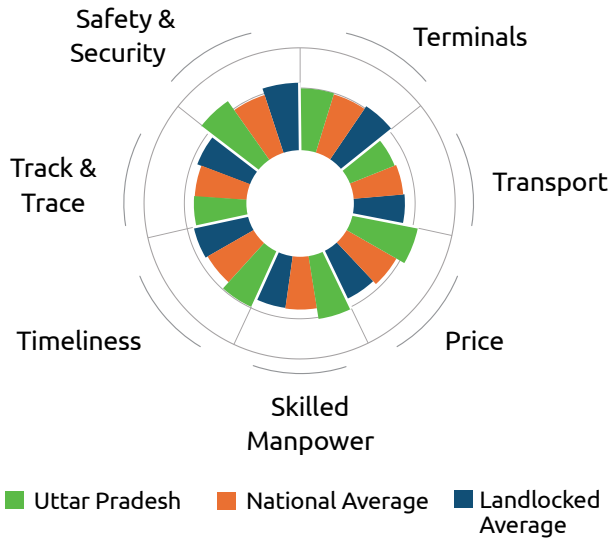


Uttar Pradesh has made progress in its logistics infrastructure with key projects improving connectivity and operational efficiency, including the Noida International Airport project under the PPP mode, significantly boosting the cargo-handling capacity and strengthen freight movement across the region. Logistics and warehousing hubs, such as the Multimodal Logistic Hub (823 acres) and Multimodal Transportation Hub (358 acres) near Dadri and Boraki, with strong rail and road connectivity and multicommodity cooling centres at Mandis run by UPAPMC further support efficient storage and distribution. Additionally, UPSIDA is facilitating logistics by supporting ALIMCO's warehouse setup in Trans Ganga City, alongside other infrastructure improvements such as road widening and flyovers across Uttar Pradesh.

Logistics Services

Uttar Pradesh has outperformed the national and group averages across all indicators such as 'Reasonableness of price of logistics services', 'Availability of Skilled Manpower', 'Timeliness of Cargo delivery' and ensuring 'Safety and Security of Cargo'. The State also mirrors the national and group averages for Adequacy and Quality of 'Terminal Services' and 'Transport Services'.

Figure 112: Logistics services performance for Uttar Pradesh

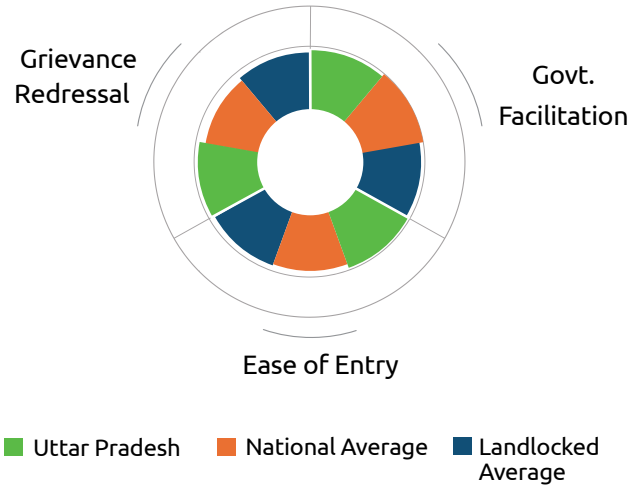


The Uttar Pradesh Skill Development Mission (UPSDM) provides training in 12 different logistics sector jobs. The Mission has 65 training providers offering training in the logistics sector, and the facility is available across the State to address skill-training requirements. Between FY22 and FY24, the UPSDM provided training to 6,711 professionals.

Operating & Regulatory Environment

Uttar Pradesh aligns with national and group averages for landlocked States across all three indicators – 'Ease of Facilitation by the State', 'Ease of Entry from Neighbouring States' and the 'Quality of Grievance Redressal Mechanisms'. This reflects the State's commitment to improving the logistics environment and overall operational efficiency.

Figure 113: Operating & regulatory environment performance for Uttar Pradesh



Uttar Pradesh has streamlined incentive access through the centralised Online Incentive Management System on its Nivesh Mitra single-window portal, which offers No Objection Certificates and approvals for industries, including warehousing. Additionally, the Nivesh Sarthi portal by Invest UP simplifies MoUs, investor assistance and project tracking. It is supported by Udyami Mitras and offers personalised guidance. An online building plan approval system further aids in quick approvals of construction projects across the State.

Sustainability and Equity Logistics

Uttar Pradesh has performed better than the national and landlocked group averages in demonstrating 'State's Commitment to Green Logistics' as well as 'Women Participation in the Logistics Workforce' in the State.

Figure 114: Sustainability and Equity Logistics performance for Uttar Pradesh

Uttar Pradesh promotes green logistics through eco-friendly transport, electric vehicles, renewable energy and waste management, offering incentives for sustainable practices in logistics. Key initiatives include EV deployment, multi-modal transport and solar lighting along major expressways. The State also promotes and incentivises smart warehousing, captive solar power plants and solar energy usage and adoption of advanced technologies such as IoT and AI to enhance transportation efficiency with electric mobility, reverse logistics and optimised capacity utilisation.

Potential Opportunities in the State

As a key industrial and trade hub, Uttar Pradesh requires a streamlined and integrated logistics ecosystem to support seamless operations. Extensive consultations and on-the-ground assessments have highlighted potential opportunities in the state, which shall ensure effective and sustainable logistics reform.

Stakeholder's Insights

> Transport Nagar Kanpur is in not in good condition due to congestion and pollution from ongoing Metro construction work.

> Need to establish warehousing and cold-chain storage facilities to prevent loss of food grain stock and support the agri sector, which is the backbone of our economy.

> Transporters are facing issues of over-height challans due to the lack of uniformity in the over-height policies being followed across various States.

> The participation of women in logistics workforce has increased but more need to be done.

Potential Opportunities in the State

Short-term opportunities:

1. Need for upgradation of all roads, including internal roads, serving Transport Nagar in Kanpur to improve the efficiency of logistics operations.
2. Demand for expansion of the existing Transport Nagar facility at Kanpur; State Government to conduct a study to assess the requirement.
3. Opportunity for the development of cold-chain warehousing facilities to supplement growing demand from within as well as neighbouring States.
4. Requirement for introducing skill-development programs for logistics with a focus on enhancing employment opportunities for women.

Long-term opportunities:

5. Need for a modern, spacious Transport Nagar equipped with technology and state-of-the-art facilities. State Government to facilitate land allocation.
6. Growing requirement to incentivize transporters to embrace cargo vehicles with increased cargo-carrying capacity.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Uttarakhand

State Performance Snapshot

2024
Achiever

2023
Fast Mover

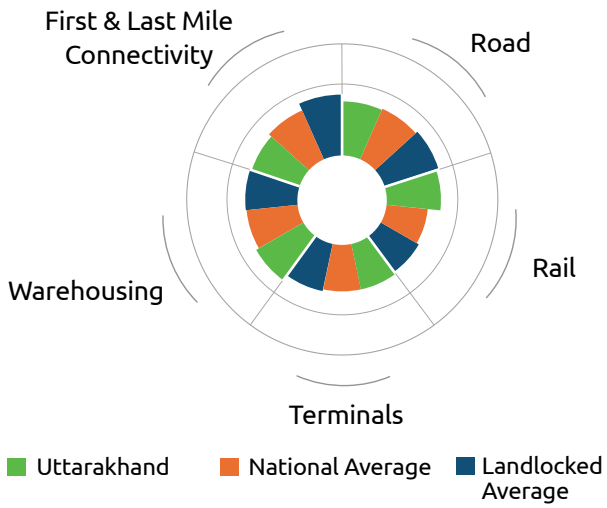
Uttarakhand is categorised as an 'Achiever' within the landlocked group, marking progress from its previous status. The State's performance is mostly aligned with national and group averages across all its indicators. The State Government has undertaken various efforts to improve its logistics sector through several targeted initiatives.

Uttarakhand stands out with its impactful initiatives to transform logistics with ease and efficiency. The State is upgrading infrastructure such as ICDs and cold storage facilities and developing air cargo complexes at strategic locations to boost connectivity. Projects such as the Dehradun–Mussoorie Ropeway and e-commerce hubs near high-demand areas focus on innovation and accessibility. Logistics parks in industrial zones such as Haridwar and Dehradun are being developed with integrated skill-training facilities. The State also promotes green logistics through electric and hybrid vehicles in multi-modal transport, establishing 'green channels' for export–import cargo among others.

Logistics Infrastructure

Uttarakhand performs close to average across logistics infrastructure parameters. 'Adequacy and Quality of Warehousing Infrastructure' shows a slight edge over the national and landlocked group averages, while other parameters are consistent with national and landlocked group averages.

Figure 115: Logistics infrastructure performance for Uttarakhand

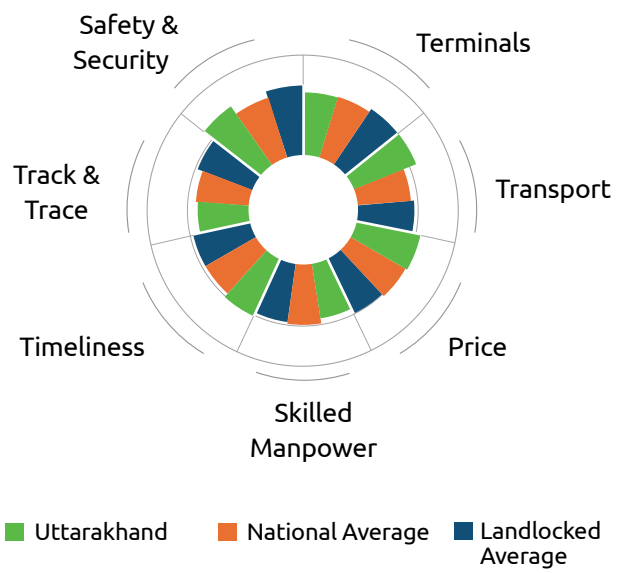


Uttarakhand is enhancing accessibility and boosting tourism through notable projects such as the Dehradun–Mussoorie Ropeway and the Yamunotri Ropeway. Developing e-commerce hubs near urban peripheries is streamlining supply chains while reducing congestion. Strategic projects such as the Delhi–Dehradun Economic Corridor and the Char Dham National Highway have further improved regional and interState connectivity. The Lakhwar Multipurpose Project integrates logistics with hydropower, irrigation and drinking water solutions for long-term sustainability. Truck terminals, driver rest areas and parking spaces are being planned near industrial parks in Haridwar and Dehradun, facilitating efficient freight movement. Additionally, the Khurpia Industrial Manufacturing Group and MMLP Pathri initiatives, in partnership with SIIDCUL and CONCOR, exemplify the State's commitment to industry-oriented logistics infrastructure.

Logistics Services

Uttarakhand's logistics services performance is comparable with national and group averages in most areas. 'Adequacy and Quality of Transport Services', 'Timeliness of Cargo Delivery' and 'Safety and Security of Cargo' are perceived slightly more favourably, suggesting marginal strengths. In contrast, 'Skilled Manpower' is perceived as marginally lower, indicating an area requiring attention.

Figure 116: Logistics services performance for Uttarakhand

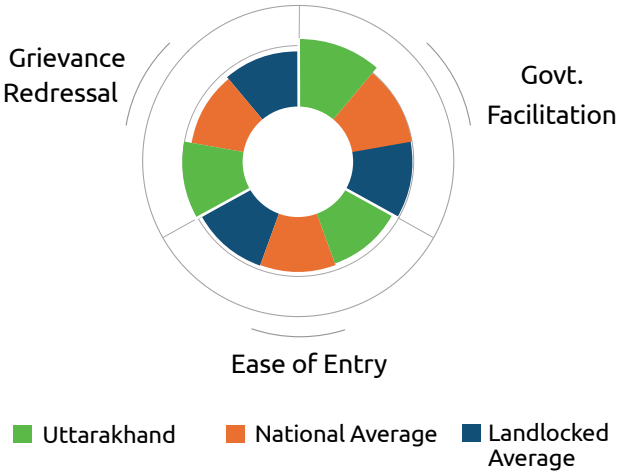


The State is establishing a CoE in Logistics and Supply Chain Management in collaboration with Doon University, which will serve as a research, training and innovation hub. The Uttarakhand Skill Development Mission (UKSDM), in partnership with the LSC, is delivering National Skills Qualification Framework (NSQF); these are aligned programmes to equip the workforce with industry-relevant skills. Developing logistics parks in industrial zones such as Haridwar and Dehradun includes integrated skill-training facilities to support sector growth.

Operating & Regulatory Environment

Uttarakhand's operating and regulatory environment scores are marginally higher in 'Ease of Facilitation by the State/UT', indicating stronger State support compared with national and landlocked group averages. 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' are perceived as being on par with these averages, reflecting consistent user experiences in these areas.

Figure 117: Operating & regulatory environment performance for Uttarakhand



The State 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. The State is implementing mechanisms for streamlined movement of trucks under the Roads Act, 2007, and the Indian Motor Vehicles Act, reducing road checkpoints and bottlenecks. For instance, the green channels initiative enables uninterrupted movement of vehicles carrying export–import and defence cargo. Furthermore, Uttarakhand is leveraging vital schemes, such as the Trade Infrastructure for Export Scheme and the Micro and Small Enterprises Group Development Programme (MSE-CDP), to enhance logistics competitiveness.

Sustainability and Equity Logistics

Uttarakhand is performing notably better than the national and group averages in its 'Commitment to Green Logistics', reflecting strong efforts towards sustainability and eco-friendly practices. However, 'Women's Participation in the Logistics Workforce' is slightly below the landlocked group average, suggesting that promoting gender inclusivity in the sector is an areas that deserves attention.

Figure 118: Sustainability and Equity Logistics performance for Uttarakhand

Uttarakhand is driving sustainable logistics by deploying EVs and hybrid vehicles in planned logistics parks in Haridwar and Dehradun and establishing green channels for uninterrupted eco-friendly export–import and defence cargo movement. The State is promoting solar-powered warehouses and sustainable practices in logistics hubs to reduce their carbon footprints.

Potential Opportunities in the State

Uttarakhand's logistics landscape, defined by its diverse geography and growing industries, highlights the need for a tailored approach to meet its unique challenges. A robust logistics ecosystem is essential for driving growth and connectivity with the tourism, agriculture and pharmaceutical sectors.

Stakeholder's Insights

> Heavy congestion in Haridwar during the Kanwar Yatra, with alternate routes provided by the government proving inadequate for smooth logistics movement.

> Overloading issue persists due to penalties targeting transporters without shared accountability among other stakeholders and lack of e-way bill integration with mParivahan.

> Poor infrastructure in Transport Nagar Haridwar, including damaged roads and insufficient facilities, affecting logistics operations.

> Rail services are underutilised across Uttarakhand, limiting their role in logistics efficiency.

Potential Opportunities in the State

Short-term opportunities:

1. Demand for maintenance of roads, installation of streetlights and the provision of basic amenities in Transport Nagar Haridwar to address existing deficiencies.
2. Requirement for integration of the e-way bill system with the mParivahan portal using automated digital platforms, enabling real-time monitoring of vehicle capacity and preventing overloading.
3. Opportunity for upgradation of Pantnagar Airport as a logistics and air cargo hub to serve the export of pharmaceuticals, flowers and agricultural produce.

Long-term opportunities:

4. The State government should undertake study to identify the need and exact location for setting up the logistics hub, such as in Haridwar.
5. Unmet demand for development of small-scale cold chain facilities for horticulture and floriculture produce in regions such as Nainital and Chamoli.

Please note that the suggested recommendations are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Union Territories Group

Group Level performance

India's Union Territories (UTs) have unique geographical and administrative structures, making them integral to the nation's logistics framework. For example, UTs such as Andaman and Nicobar Islands and Lakshadweep hold strategic importance in maritime logistics, providing opportunities for enhancing coastal trade and connectivity. Furthermore, Delhi, Chandigarh and Puducherry are urban logistics hubs with established infrastructures that support efficient freight and urban supply chain operations. Collectively, these UTs are a critical node in India's logistics efficiency.

The LEADS 2024 assessment highlights key improvements:

1. **Logistics Infrastructure:** Improved by 1% due to advancements in transportation and storage facilities.
2. **Logistics Services:** Increased by 3%, reflecting enhanced efficiency in cargo delivery and terminal operations.
3. **Operational and Regulatory Environment:** Improved by 3%, driven by streamlined entry processes and effective grievance mechanisms.

Chandigarh, Dadra and Nagar Haveli and Daman and Diu (DNH and DD), and Delhi lead in infrastructure and services. Challenges remain for Andaman and Nicobar Islands, Jammu and Kashmir, and Ladakh, particularly in connectivity and capacity development.

Figure 119: Union Territories Group - Performance Changes

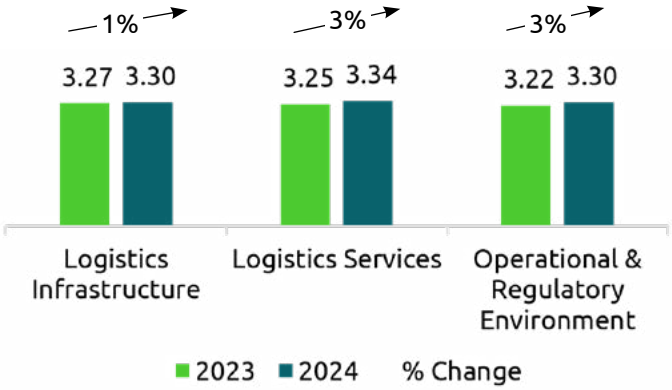
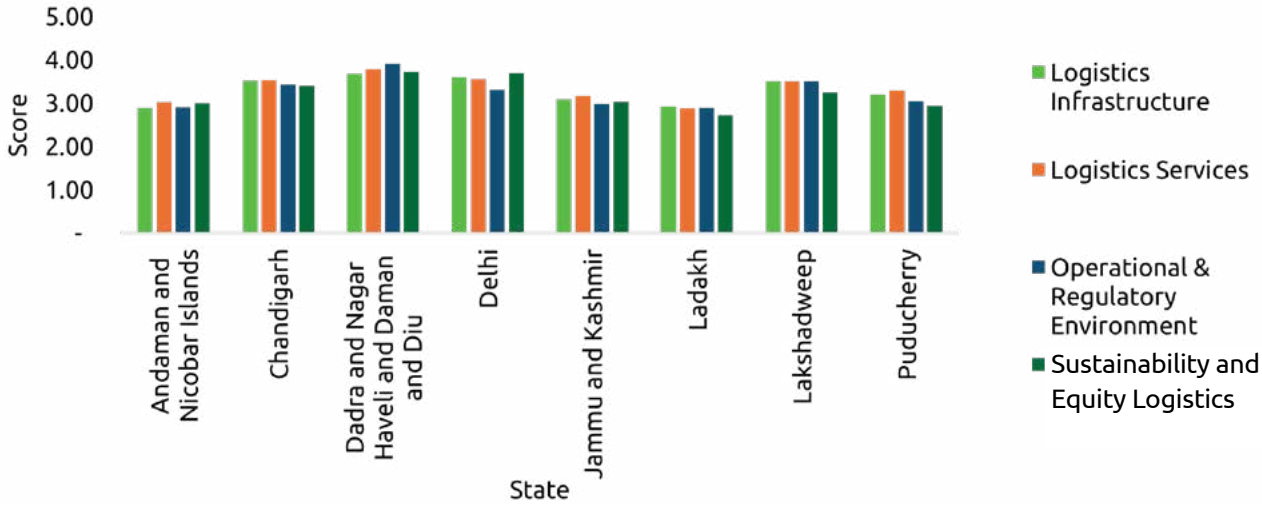


Figure 120: Summary of Union Territories Group's Performance



The performance data underscore the diverse logistics landscape in UTs, shaped by varying economic activities, geographic conditions and resource availability. A targeted approach emphasising infrastructure upgrades, policy integration and sustainability can help address specific regional needs, enabling balanced growth across all territories.

Review of performance on Logistics Infrastructure

Infrastructure development efforts show mixed results:

1. **Leading Regions:** Chandigarh and DNH and DD excel in road and terminal infrastructure. Lakshadweep shows steady performance, focusing on sustainable logistics.
2. **Challenges:** Andaman and Nicobar Islands, Jammu and Kashmir, and Ladakh face gaps in road, rail, and warehousing capacities.

Key initiatives, such as enhancing first-and-last-mile connectivity and multimodal transport systems, are critical for addressing regional disparities.

Figure 121: Union Territories Group- Logistics Infrastructure Performance

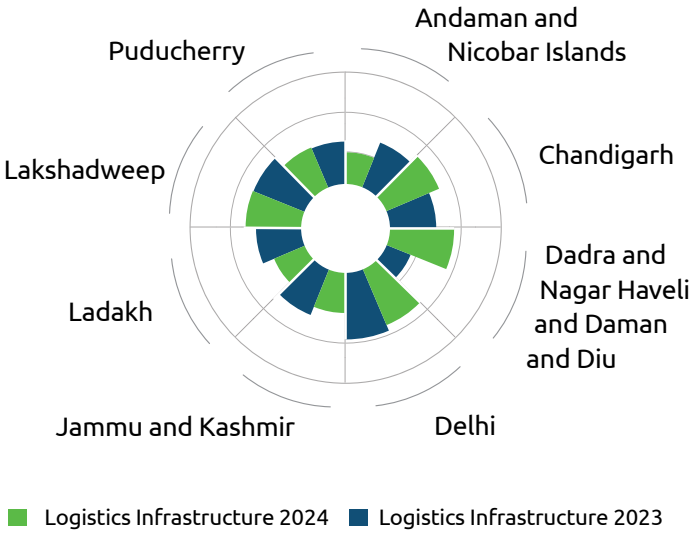


Table 10: Performance of UTs across indicators of Logistics Infrastructure

State	Logistics Infrastructure				
	Road	Rail	Terminal	Warehousing	First-and-Last Mile Connectivity
Andaman and Nicobar Islands	🟠	🟠	🟠	🟠	🟠
Chandigarh	🟢	🟢	🟢	🟢	🟢
Dadra and Nagar Haveli and Daman and Diu	🟢	🟠	🟢	🟢	🟢
Delhi	🟢	🟠	🟢	🟢	🟢
Jammu and Kashmir	🟠	🟠	🟠	🟠	🟠
Ladakh	🟠	🟠	🟠	🟠	🟠
Lakshadweep	🟢	🟠	🟢	🟢	🟢
Puducherry	🟠	🟠	🟢	🟢	🟠

🟢 Above Group Average 🟠 Below Group Average

Review of performance on Logistics Services

Ranked second among performance pillars, logistics services benefit from improved supply chain efficiencies:

1. **Standouts:** Chandigarh and DNH and DD excel in timeliness, pricing, and manpower availability. Delhi maintains consistent performance.
2. **Challenges:** Andaman and Nicobar Islands, Ladakh, and Puducherry require improvements in service quality, tracking technologies, and skilled workforce availability.

Technology adoption for real-time cargo tracking and enhanced service delivery remains a priority.

Figure 122: Union Territories Group - Logistics Services performance

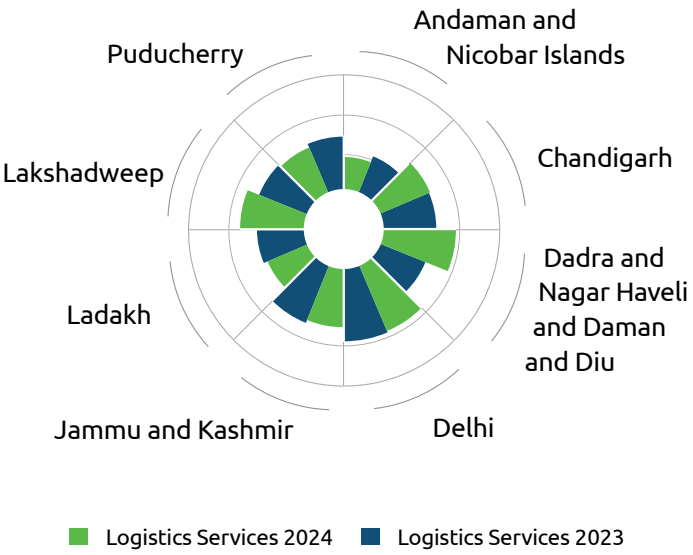


Table 11: Performance of UTs across indicators of Logistics Services

State	Logistics Services						
	Terminal	Transport	Price	Skilled Manpower	Timeliness	Track & Trace	Safety & Security
Andaman and Nicobar Islands	●	●	●	●	●	●	●
Chandigarh	●	●	●	●	●	●	●
Dadra and Nagar Haveli and Daman and Diu	●	●	●	●	●	●	●
Delhi	●	●	●	●	●	●	●
Jammu and Kashmir	●	●	●	●	●	●	●
Ladakh	●	●	●	●	●	●	●
Lakshadweep	●	●	●	●	●	●	●
Puducherry	●	●	●	●	●	●	●

● Above Group Average ● Below Group Average

Note: Price refers to Reasonableness of Shipment Prices, Timeliness refers to on time delivery of cargo.

Review of performance on Operational & Regulatory Environment

The operating and regulatory environment shows a mix of progress and challenges:

1. **Leading Regions:** DNH and DD and Lakshadweep lead with effective government facilitation and streamlined entry processes.
2. **Challenges:** Andaman and Nicobar Islands, Ladakh, and Puducherry need regulatory reforms to enhance operational efficiency and grievance redressal mechanisms.

Figure 123: Union Territories Group - Operational and Regulatory Environment performance

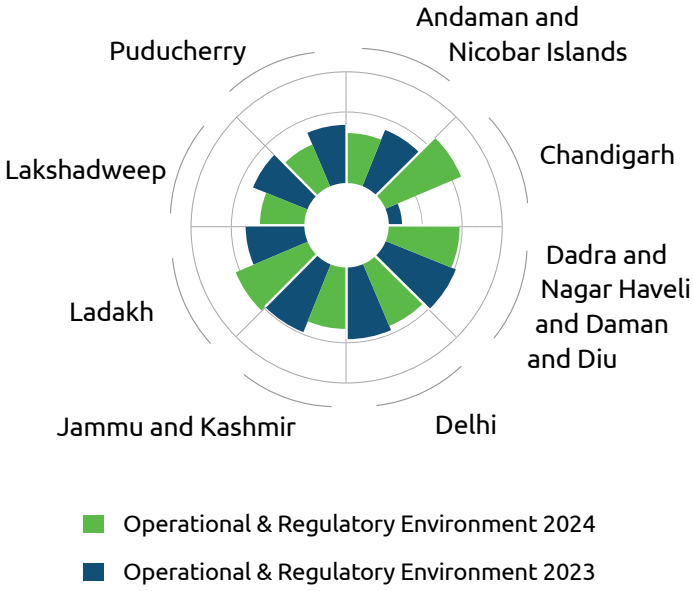


Table 12: Performance of UTs across indicators of Operating and Regulatory Environment

State	Operational & Regulatory Environment		
	Govt. Facilitation	Ease of Entry	Grievance Redressal
Andaman and Nicobar Islands	●	●	●
Chandigarh	●	●	●
Dadra and Nagar Haveli and Daman and Diu	●	●	●
Delhi	●	●	●
Jammu and Kashmir	●	●	●
Ladakh	●	●	●
Lakshadweep	●	●	●
Puducherry	●	●	●

● Above Group Average ● Below Group Average

Review of performance on Sustainability and Equity Logistics pillar

Efforts to adopt green logistics and promote inclusivity show varying results:

1. **Highlights:** Chandigarh, DNH and DD, and Delhi lead in sustainability initiatives and women's workforce participation.
2. **Challenges:** Andaman and Nicobar Islands, Jammu and Kashmir, Ladakh, and Puducherry need to strengthen green logistics policies and create inclusive opportunities for women.

Table 13: Performance of UTs across indicators of Sustainability and Equity Logistics

State	Sustainability and Equity Logistics	
	State's Commitment to Green Logistics	Women's participation in Logistics Sector
Andaman and Nicobar Islands	🟠	🟠
Chandigarh	🟢	🟢
Dadra and Nagar Haveli and Daman and Diu	🟢	🟢
Delhi	🟢	🟢
Jammu and Kashmir	🟠	🟠
Ladakh	🟠	🟠
Lakshadweep	🟠	🟢
Puducherry	🟠	🟠

🟢 Above Group Average 🟠 Below Group Average

The Union Territories group demonstrates steady improvements in logistics, but regional disparities persist. While regions like Chandigarh and DNH and DD exemplify best practices, underperforming areas such as Ladakh and Andaman and Nicobar Islands require targeted interventions. Coordinated efforts will enable balanced growth and unlock the full potential of these territories in India's logistics ecosystem.

The following sections provide a detailed analysis of the performance of each UT across various indicators, along with an overview of the initiatives undertaken by different administrations.

Andaman & Nicobar Islands

UT Performance Snapshot

The UT of Andaman and Nicobar Islands, previously categorized as a "Fast Mover" has now transitioned into the **"Aspirer"** category. While it has been actively implementing initiatives to enhance its logistics ecosystem, its performance across several indicators remains below the group averages this year.

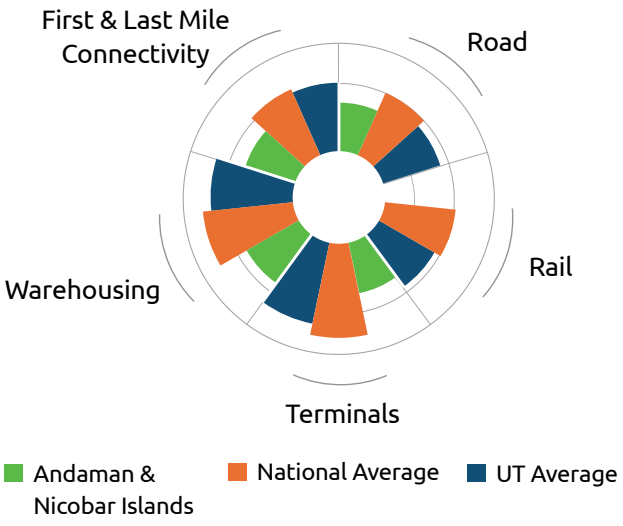
The Andaman and Nicobar Islands are implementing measures to enhance logistics efficiency and ease of operations. Key highlights include finalising Master Plans for two islands, addressing infrastructure gaps and outlining future logistics requirements. The Administration has also implemented the National single-window system and mapped 104 additional layers on the PM GatiShakti portal for integrated infrastructure planning. Other proposed initiatives include the development of a transhipment port, preparation of a Comprehensive Master Plan for the entire UT and promotion of sustainability and equity logistics.

While the UT has a logistics policy, it needs to develop an implementation plan for the policy to undertake action on the planned initiatives. The UT can also explore PPP options for logistics sector projects.

Logistics Infrastructure

The Andaman and Nicobar Islands need improvements across several logistics infrastructure performance indicators when compared with the National and group averages. The 'Adequacy and Quality of Road Infrastructure' is lower than both benchmarks, highlighting the need for improved connectivity. Similarly, the 'Adequacy and Quality of Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity' all remain low, reflecting barriers that hinder the region's logistics performance.

Figure 124: Logistics infrastructure performance for Andaman and Nicobar Islands

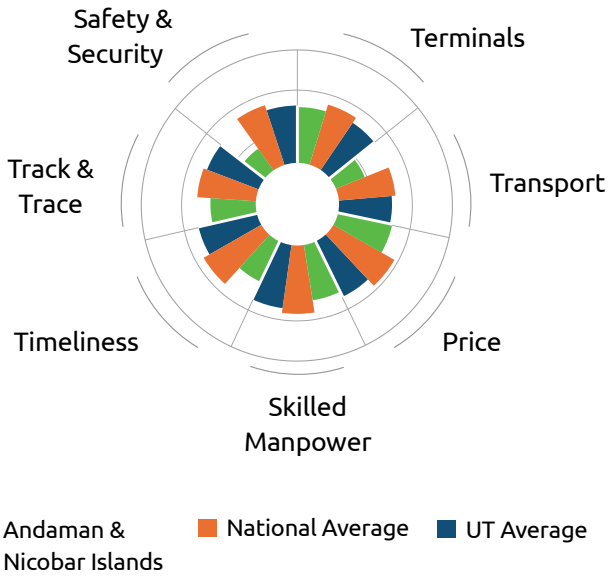


The Andaman and Nicobar Islands are working towards improving their logistics infrastructure, focusing on bridging critical gaps and planning for future demands. The finalised Master Plans for Sri Vijaya Puram and the Swaraj and Shaheed Dweep planning areas provide a foundation by addressing current infrastructure deficits and outlining strategic upgrades. A Comprehensive Master Plan is being developed to extend this progress, targeting coordinated improvements across the UT. Key proposals include establishing an international container transhipment port at Galathea Bay and creating an integrated logistics park featuring advanced facilities such as warehouses, controlled atmosphere storage and transport yards. Additional efforts include upgrading air cargo terminals, constructing greenfield airports at Port Blair and Great Nicobar and developing truck terminals with rest areas and repair facilities to reduce urban congestion. The plans also aim to establish customs and quarantine ports at key locations such as Diglipur, Mayabunder and Campbell Bay, ensuring streamlined trade and inter-island logistics operations.

Logistics Services

The performance of the Andaman and Nicobar Islands in logistics services shows mixed results compared with the National and group averages. The 'Adequacy and Quality of Terminal Services' is on par with UT group average, but other critical indicators reflect potential for improvement in terms of service efficiency, affordability and reliability.

Figure 125: Logistics services performance for Andaman and Nicobar Islands



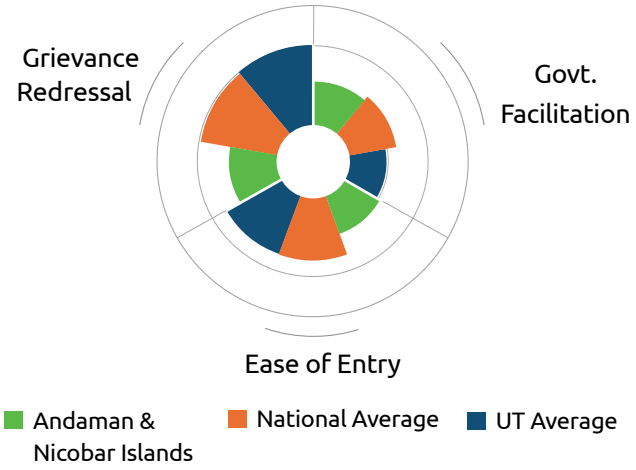
The UT's Administration has set up technical institutes such as an engineering college, a polytechnic and an industrial training institute, which offer various logistics-related courses. Periodic analyses are conducted to identify existing cargo centres, assess infrastructure gaps and project future trade and logistics requirements. Focus areas include facilitating private sector participation through Public-Private Partnership (PPP) models and ensuring effective implementation of infrastructure projects. The Administration plans to modernise services by adopting advanced tracking systems to enhance cargo handling and delivery precision.

The UT can further explore the options to enter into partnerships with education institutions and industry bodies for promoting skill development in the sector.

Operating & Regulatory Environment

Compared with the National and group averages, the UT underperforms in its operational and regulatory environment indicators. The 'Ease of Facilitation by the State/UT' is slightly lower, indicating potential for improvement in streamlining administrative processes.

Figure 126: Operating and regulatory environment performance for Andaman and Nicobar Islands



Other indicators also have low scores, reflecting the need for enhanced co-ordination, better accessibility and more effective stakeholder engagement mechanisms.

The UT has begun adopting the ease of doing business framework, simplifying processes such as business registration, reducing approval turnaround times and eliminating redundant procedures. A dedicated logistics and warehousing facilitation cell has been proposed as a single-window system for all logistics-related matters, ensuring efficient co-ordination among stakeholders and expediting clearances. The UT's administration is also working on establishing regulatory frameworks to incentivise logistics and warehousing units by granting them Industry Status and making them eligible for benefits under the Andaman and Nicobar Islands Industrial Policy. Efforts are also being made to digitise and integrate processes such as port data sharing and cargo management to enhance transparency and operational efficiency.

Sustainability and Equity Logistics

The UT has potential for improvement in key indicators related to Sustainability and Equity Logistics, where it trails behind both National and group averages.

The results underscore the need for greater adoption of sustainable practices and enabling policies to reduce the environmental impact of logistics operations.

Figure 127: Sustainability and Equity Logistics performance for Andaman and Nicobar Islands

Furthermore, the results highlight the need for augmenting initiatives to promote gender diversity and inclusion within the logistics sector.

The UT is promoting sustainable logistics practices to minimise environmental impact, encouraging adoption of the Green Rating for Integrated Habitat Assessment and Leadership in Energy and Environmental Design (LEED) standards for logistics infrastructure and focusing on energy-efficient designs and eco-friendly materials. Proposed initiatives include rainwater harvesting, rooftop solar panel installations, bio-methanation for waste management and extensive plantation drives for carbon sequestration. Further, logistics parks and facilities in the UT will be designed with natural ventilation, recycled water systems and sustainable construction materials to align with green norms.

Potential Opportunities in the UT

The Andaman and Nicobar Islands have a strategic location, and their development aspirations necessitate a robust and efficient logistics ecosystem. Customised infrastructure and sustainable innovations are vital in positioning the islands as a critical node in regional and international trade networks.

Stakeholder's Insights

> Limited port facilities, insufficient storage and warehousing capacity and poor cold-chain networks increase costs and reduce the efficiency of logistics operations.

> Unpredictable cargo ship schedules and heavy reliance on labour-intensive methods hinder timely movement of goods and operational efficiency.

> Strict environmental regulations and limited incentives for private sector investment slow the development of a robust logistics ecosystem.

> Poor digital connectivity and limited inter-island road networks restrict the adoption of modern logistics technologies and seamless transport operations.

Potential Opportunities in the UT

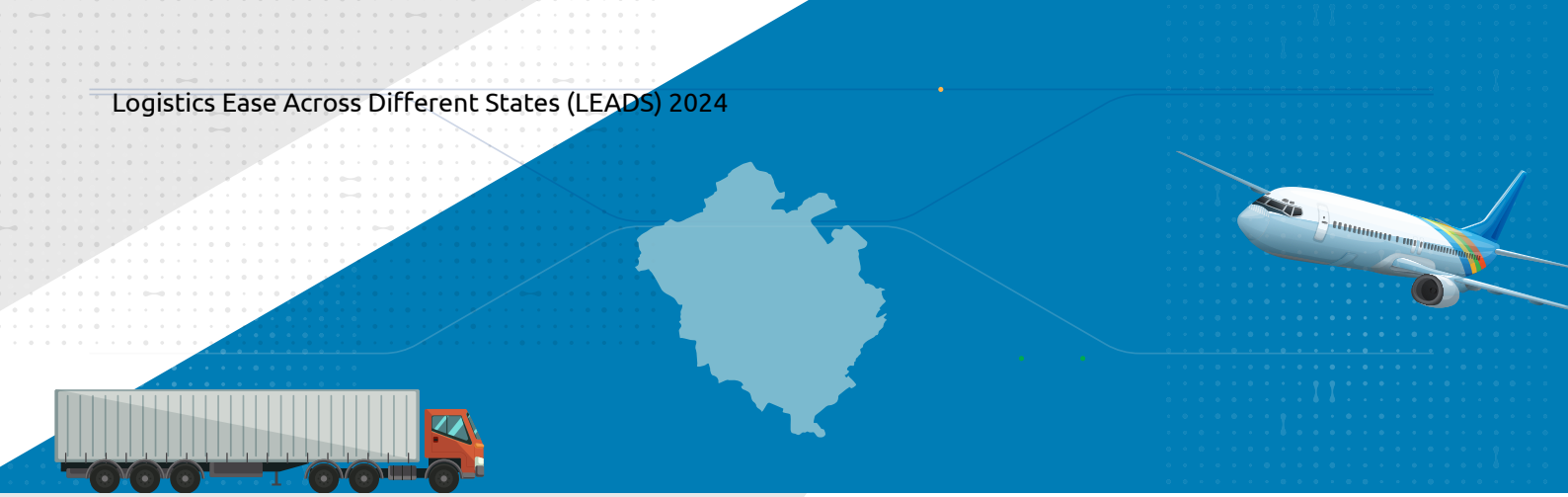
Short-term measures:

1. Demand for upgrading existing ports with modern equipment such as reach stackers and developing additional handling facilities to improve cargo management.
2. Requirement for introducing subsidies for freight charges to lower transportation costs and make logistics more affordable for businesses.

Long-term measures:

3. Potential opportunity for constructing deep-water ports capable of handling large vessels to enhance trade and connectivity with international markets. The UT administration may undertake a comprehensive traffic flow study to identify the location and size of such port facilities.
4. Growing requirement for developing temperature-controlled storage units at key ports to reduce losses in perishable goods and enable efficient supply chains.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.



Chandigarh

UT Performance Snapshot

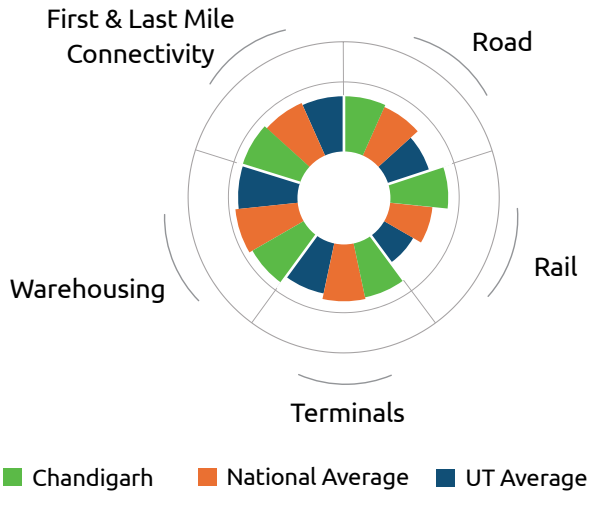
Chandigarh has retained its position in the **'Achiever'** category in LEADS 2024. The UT is actively pursuing multiple initiatives to strengthen its logistics sector and the performance assessment this year demonstrates these measures' effectiveness in improving the logistics ecosystem. For most indicators, the UT's averages surpass the group's average performance.

Chandigarh is enhancing its logistics sector through the development of a draft policy instrument focused on augmenting logistics infrastructure, promoting private investment and improving connectivity with neighbouring areas. The UT aims to streamline logistics services by enhancing transportation links and supporting skill development initiatives in emerging sectors such as electric mobility. The operating and regulatory environment is being strengthened with online services and regulatory frameworks to encourage private investment and technological adoption. Chandigarh is also progressing in sustainable logistics by incentivising Electric Vehicle (EV) adoption and establishing a comprehensive EV infrastructure to promote cleaner transportation solutions.

Logistics Infrastructure

Chandigarh's performance in 'Adequacy and Quality of Road Infrastructure' aligns with the National and group averages. In 'Adequacy and Quality of Rail Infrastructure', Chandigarh outperforms both the group and National averages. In 'Adequacy and Quality of First- and Last-Mile Connectivity', the UT outperforms both National and group averages, suggesting a focus on effective connectivity for smooth transportation.

Figure 128: Logistics infrastructure performance for Chandigarh

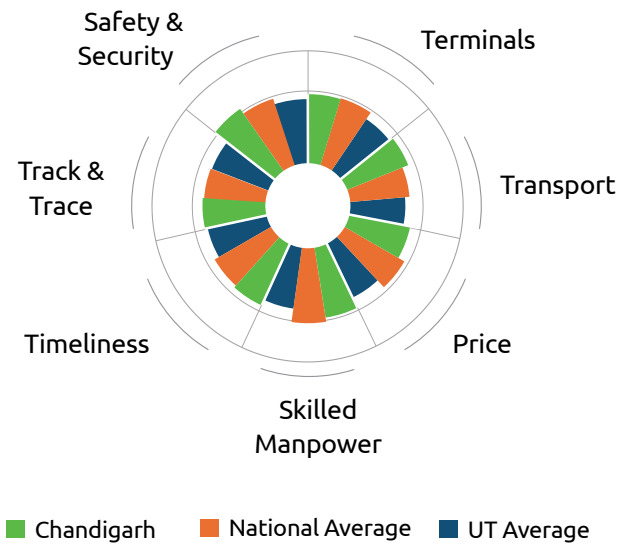


Chandigarh is drafting a logistics policy with several key objectives to strengthen its infrastructure. The policy will focus on developing new logistics facilities and upgrading existing ones, promoting private investment to set up such facilities. It aims to improve connectivity with nearby container depots in Ludhiana and Dappar and to develop integrated logistics facilities across the region. This approach includes exploring options for enhancing land connectivity within the Tricity and prioritising the establishment of transport yards, warehouses and cold storage facilities, which is aimed to reduce logistics costs. The policy will address key issues and bottlenecks affecting the UT's logistics efficiency.

Logistics Services

Chandigarh has showcased high performance across logistics services in most areas. In 'Adequacy and Quality of Terminal Services', 'Adequacy and Quality of Transport Services', 'Timeliness of Cargo Delivery', 'Availability of Track and Trace for Cargo' and 'Safety and Security of Cargo', the UT outperforms both the National and group averages. Chandigarh has potential for improvement in 'Skilled Manpower' and 'Reasonableness of Price of Logistics Services'.

Figure 129: Logistics services performance for Chandigarh

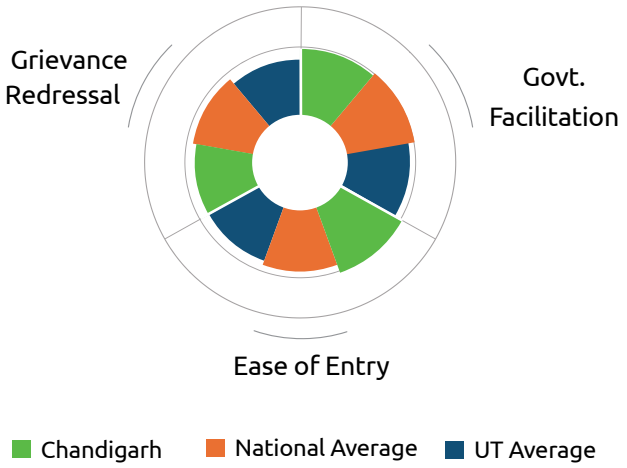


Chandigarh's logistics policy links raw-material supply locations with manufacturing and assembling centres through modern transport and logistics services. This linkage aims to stimulate the growth of the existing manufacturing sector, attract investment and create job opportunities. To further support this initiative, short-term courses on electric mobility, EV supply equipment and battery manufacturing will be introduced in collaboration with the Education and Transport Departments. Polytechnics will offer two-week courses to enhance EV awareness. Additionally, skill enhancement centres will be developed in partnership with original equipment manufacturers and service providers to train workers in repairing and servicing EVs and charging stations.

Operating & Regulatory Environment

Chandigarh's performance in 'Ease of Facilitation by the State/UT' is slightly below the National and group averages, pointing to areas for improvement in policy facilitation. The UT outperforms the National and group averages in 'Ease of Entry from Neighbouring States/UTs', indicating an efficient system that supports smooth logistics operations. The UT could further focus on improving its 'Quality of Grievance Redressal Mechanisms' to address various concerns of logistics operators.

Figure 130: Operating and regulatory environment performance for Chandigarh

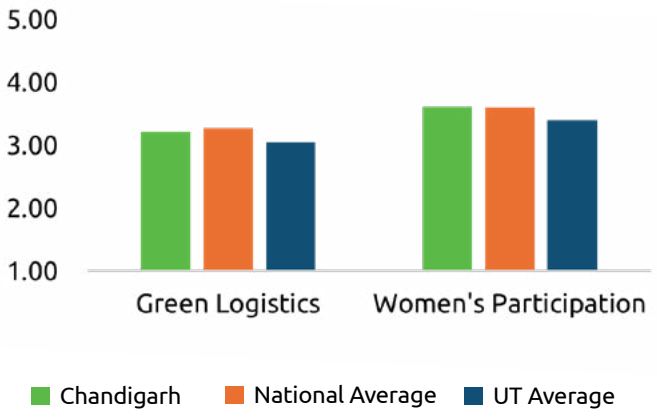


Chandigarh has made progress in simplifying logistics regulations, with services such as registration certificate renewal, National permit authorisation and permit issuance now available online through the State Transport Authority. The draft policy also aims to establish an effective regulatory and support system to foster private investment, encourage the adoption of new technologies and create employment opportunities within the logistics sector.

Sustainability and Equity Logistics

In UT's 'Commitment to Green Logistics' Chandigarh outperforms the group average while lagging behind the National average, indicating room for stronger focus on sustainability. Further, 'Women's Participation in Logistics Workforce' is above the group average and at par with the National average, reflecting positive workforce inclusion and diversity trends.

Figure 131: Sustainability and Equity Logistics performance for Chandigarh



The Draft Logistics Policy focuses on promoting EV adoption and infrastructure, with a proposed 'UT EV fund' to offer incentives for adoption of EVs and related infrastructure. Eligible vehicles (including those converted from internal combustion engines to EVs) will benefit from waived road tax and registration fees. The Administration will create an IT platform for EV charging infrastructure and a mobile app to provide real-time updates on charging stations, availability and tariffs, providing a one-stop solution for users and stakeholders.

Potential Opportunities in the UT

Chandigarh's strategic location and its future development pathways require that desired capacity and quality across logistics ecosystem is developed ahead of demand. Through extensive consultations and assessments, potential opportunities requiring intervention by the UT Administration have been identified, presented below.

Stakeholder's Insights

> Limited infrastructure at Chandigarh Transport Nagar, which is confined to just 25 acres since 1965, requires urgent expansion to meet current demand.

> Lack of adequate warehousing facilities in and around industrial zones, impacting cargo storage and handling efficiency.

> The inefficiency of no-entry restrictions during morning and evening hours, coupled with heavy vehicle limitations, leads to significant bottlenecks in freight movement, hindering overall logistics efficiency.

> There is a need for a major extension of the Transport Nagar by 2031 to accommodate growing logistics needs and infrastructure demands.

Potential Opportunities in the UT

Short-term measures:

1. Unmet demand for developing Transport Nagars in the UT equipped with all the necessary amenities to boost logistics efficiency and connectivity. The administration is set to undertake a comprehensive study to identify the location and size of such Transport Nagars.
2. Unaddressed demands for developing warehousing groups near railway facilities to improve cargo handling and storage; the UT Administration to coordinate with the Railway Authority and demarcate areas to establish warehousing groups.

Long-term measures:

3. Demand for implementing the National Motor Vehicle Policy, focusing on over-height cargo regulations to promote safe and standardized transportation.
4. Increasing demand for streamlining traffic management and reduce congestion at critical logistics zones through enhanced coordination between key stakeholders. For example, such demand is highlighted for Zirakpur-Chandigarh Highway, Transport Nagar etc.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Dadra and Nagar Haveli and Daman and Diu

UT Performance Snapshot

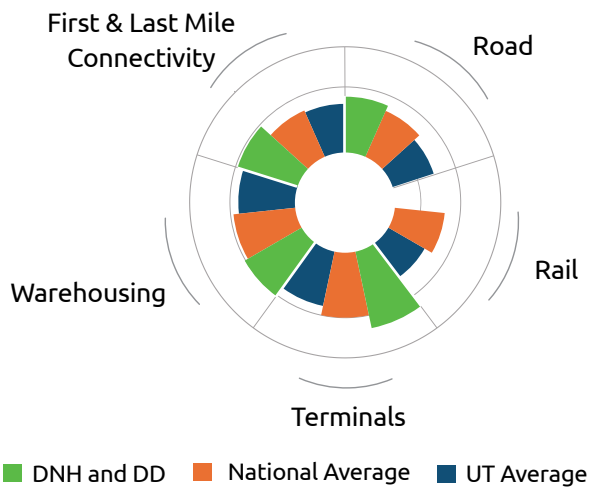
The UT of Dadra and Nagar Haveli and Daman and Diu (DNH and DD) has moved into the **'Fast Mover'** category, from "Aspirer" last year, within the UT group. The indicator averages for this UT have outperformed National and group averages, indicating that the UT has undertaken various measures to improve the logistics ecosystem.

DNH and DD is transforming its logistics sector, shifting from traditional warehousing to integrated value-added services to enhance efficiency and infrastructure. The UT is focusing on developing logistics parks with facilities such as truck terminals, cold storage and agriculture consolidation centres. Efforts are underway to optimise first- and last-mile connectivity by linking ports, jetties and warehouses and improving utilisation of existing facilities. Simplified approval processes, a dedicated logistics category on the single-window clearance portal and Information And Communication Technologies (ICT) for real-time monitoring aim to streamline operations. Sustainability is prioritised, with initiatives promoting EVs, greener transport modes, energy efficiency and green ratings.

Logistics Infrastructure

DNH and DD has a substantial lead for all indicators of Logistics Infrastructure such as 'Adequacy and Quality of Road Infrastructure', 'First- and Last-Mile Connectivity', 'Terminal Infrastructure' and 'Warehousing Infrastructure', surpassing both the National and group averages. The UT shows a remarkable lead in the first two indicators, highlighting its well-developed logistics infrastructure.

Figure 132: Logistics infrastructure performance for Dadra and Nagar Haveli and Daman and Diu

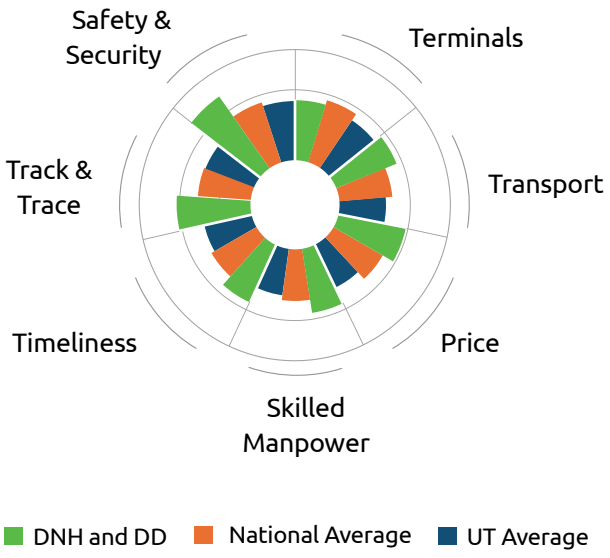


DNH and DD aims to transform their logistics sector from traditional warehousing to integrated value-added services to enhance efficiency and infrastructure. The draft policy emphasises the development of truck terminals with repair, maintenance, rest and parking facilities near industrial hubs and cargo-dense areas. It also plans for agriculture consolidation centres, cold storage, distribution facilities and liquid cargo tanks through inter-departmental co-ordination. The policy prioritises linking logistics hubs such as ports, jetties and warehouses while optimising the use of existing facilities under private and government control. Leveraging its coastal advantage, the UT supports jetty development and maritime infrastructure via PPP models. Logistics parks will feature comprehensive infrastructure, including roads, utilities and green spaces, to cater to the pharmaceuticals, e-commerce and agriculture sectors.

Logistics Services

DNH and DD exhibits strong performance across several indicators of Logistics Services, consistently surpassing both National and group averages. The UT excels in all areas except for 'Adequacy and Quality of Terminal Services', but it still outperform the group average and is almost aligned with the National average.

Figure 133: Logistics services performance for Dadra and Nagar Haveli and Daman and Diu



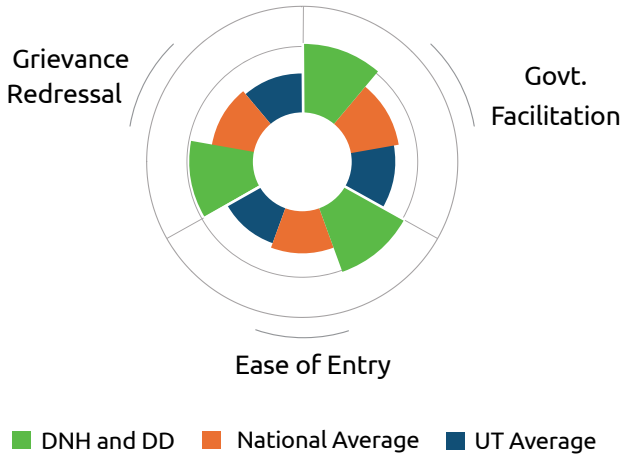
Notably, the UT has shown a remarkable lead in 'Safety and Security of Cargo' and 'Track and Trace of Cargo', highlighting its well-developed logistics services.

DNH and DD's Draft Logistics Policy focuses on comprehensive measures to enhance efficiency and reduce logistics costs. The policy emphasises expediting the availability of power, water and infrastructure for logistics facilities while supporting existing facilities to improve capacity utilisation. Establishing local testing laboratories and quarantine facilities to eliminate the need for inter-State certifications will reduce turnaround times. Establishing a 'Think Tank' will encourage a data-driven approach, and incentives for patent registrations by technology providers and start-ups will encourage innovation. The policy also promotes digitisation at logistics facilities and jetties with ICT-enabled technologies for real-time cargo and asset monitoring. Furthermore, the policy introduces sector-specific courses in collaboration with National- and UT-level institutions to strengthen workforce capabilities.

Operating & Regulatory Environment

DNH and DD has shown better performance in all indicators of 'Operating and Regulatory Environment' such as 'Ease of Facilitation by the UT', 'Ease of Entry from neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanism'. The UT has scored more than the National and group averages, showcasing the efficient mechanisms in place.

Figure 134: Operating and regulatory environment performance for Dadra and Nagar Haveli and Daman and Diu



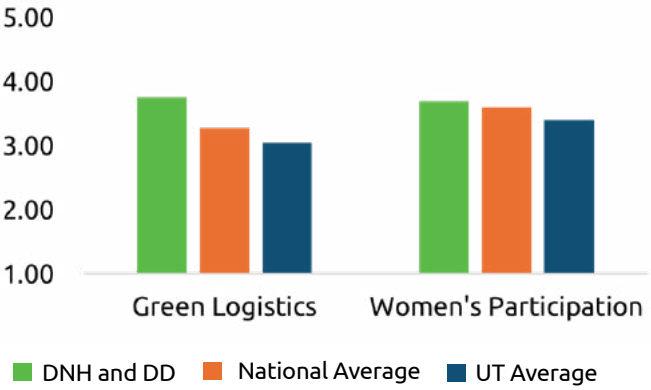
DNH and DD aims to attract private sector participation in the logistics industry by enhancing the ease of doing business. Efforts include simplifying business registration processes, providing a centralised system to check eligibility for incentives and subsidies, reducing approval turnaround times and eliminating redundancies. A dedicated logistics category will be added to the existing 'Single Window Portal for Industrial Clearances' to streamline approvals and provide comprehensive support for projects and units under this initiative.

Sustainability and Equity Logistics

DNH and DD has scored more than the National average and group averages for both indicators of 'Sustainability and Equity Logistics', namely 'State/UT's Commitment to Green Logistics' and 'Women's Participation in Logistics Workforce'.

This highlights the UTs' interventions to fostering sustainability and inclusivity within its logistics ecosystem.

Figure 135: Sustainability and Equity Logistics performance for Dadra and Nagar Haveli and Daman and Diu



DNH and DD is promoting green practices and energy efficiency to prioritise sustainability and decarbonisation in the logistics sector. Key initiatives include encouraging the use of rail, coastal shipping and inland waterways, improving vehicle utilisation and adopting the 'reduce, recycle, reuse' principle. The UT aims to promote EVs for short-distance logistics and port operations, identify priority corridors for EV charging infrastructure and explore alternate greener transport modes such as slurry pipelines. Additionally, green concepts and rating systems will enable environmentally sustainable development within the logistics sector.

Potential Opportunities in the UT

DNH and DD faces specific challenges and opportunities when it comes to logistics infrastructure, services and regulatory frameworks due to their scattered geography. While the UT has positioned themselves well in terms of the logistics ecosystem, extensive on-ground research and stakeholder consultations have helped identify potential opportunities that can be improved with interventions from the UT.

Stakeholder's Insights

> The UT has limited connectivity to major ports and trade hubs, which increases the reliance on neighbouring States such as Gujarat and Maharashtra for seamless logistics.

> DNH and DD have insufficient warehousing and cold storage facilities, which in turn hinders logistics operations, especially for perishable goods.

> The region lacks a robust railway network or direct port access, making multimodal transport less feasible.

> The UT has fewer logistics and transportation service providers compared with larger States, leading to higher costs and limited competition.

Potential Opportunities in the UT

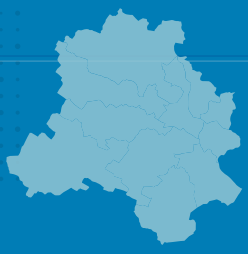
Short-term measures:

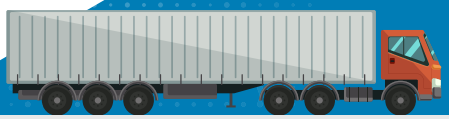
1. Increasing demand for developing modern warehouses and cold storage facilities under PPPs in key industrial areas. For example, stakeholders have reported Silvassa, Daman and Diu as one of the key industrial area with this requirement. The UT Administration to undertake a comprehensive study to identify the locations for establishing such infrastructure facilities.
2. Requirement for streamlining interState permit systems for smoother goods movement between Maharashtra, Gujarat and the UT.
3. Demand for developing online systems for vehicle permits and GST compliance to reduce procedural delays.

Long-term measures:

4. Potential opportunity to develop export hubs at key locations focusing on local industries such as textiles, chemicals and plastics—key sectors in the UT. For example, as Silvassa is one of location for such development highlighted by the stakeholders.
5. Unmet demand for investment in connecting key rail and road hubs with major trade corridors such as the Delhi–Mumbai Industrial Corridor (DMIC) and nearby ports including Mundra and Nhava Sheva.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.





Delhi

UT Performance Snapshot

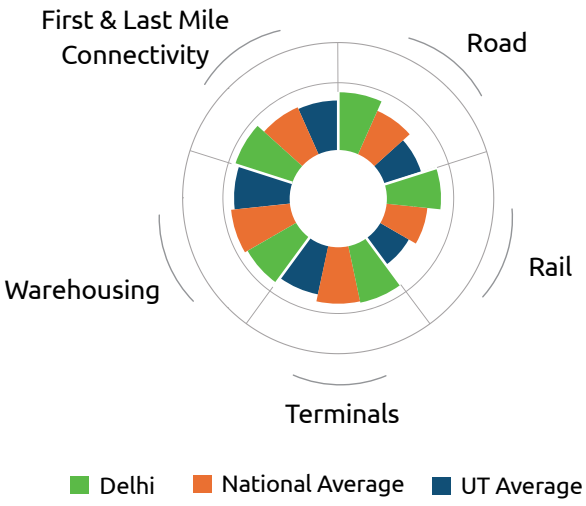
Delhi has retained its position in the **'Achiever'** category in LEADS 2024. The NCT administration is actively working to enhance logistics operations through targeted initiatives. This is corroborated by most indicator averages surpassing the National and group averages for the NCT.

Delhi is undertaking a study to develop a comprehensive City Logistics Plan (CLP). The study highlights multiple action points to improve logistics efficiency, reduce costs and enhance environmental sustainability while ensuring stakeholder collaboration and achieving long-term urban development goals. The National Capital Territory of Delhi (NCTD) notified EV policy in 2020 envisions transforming Delhi as the EV capital of India and targets EV adoption of 25% for all vehicle registrations by 2024.

Logistics Infrastructure

Delhi surpasses the National and the group averages for several indicators including Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure' and 'First- and Last-mile Connectivity'. The NCT mirrors the National average for Adequacy and Quality of 'Terminal Infrastructure' and 'Warehousing Infrastructure', highlighting the UT's competitive edge in logistics infrastructure.

Figure 136: Logistics infrastructure performance for Delhi

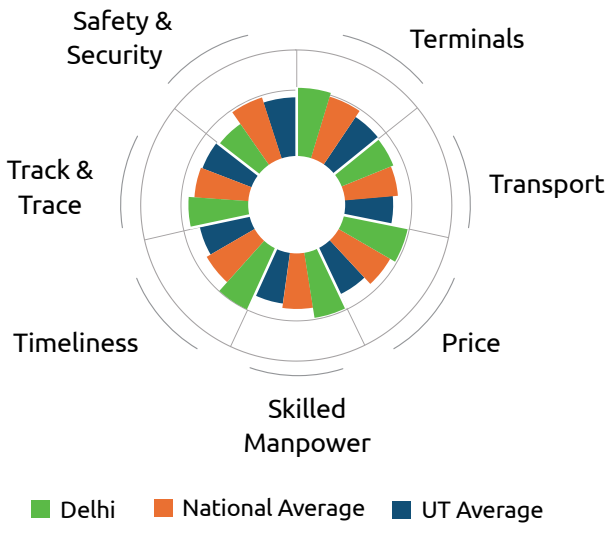


As part of the CLP, Delhi plans to implement the recommendations under the Delhi Master Plan 2041 to decongest its freight hotspots, shifting wholesale storage and warehouse activities to Integrated Freight Complexes (IFCs) and the proposed three Urban Consolidation And Logistics Distribution Centres (UCLDCs). The UCLDCs will cater to key EXIM commodities from Delhi and be located on the peripheral roads/highways leading to the city. Each UCLDC will have modern facilities for handling, storing, sorting, consolidating and distributing cargo, providing adequate parking and rest areas. The distribution network will be supported by 60–70 micro-delivery hubs covering all 250 wards in the city based on population density and consumption patterns. Each micro-delivery hub will have an average last-mile delivery range of 3–5 km.

Logistics Services

Delhi has performed better than the National average for 'Timeliness of Cargo Delivery' and the 'Availability of Track and Trace for Cargo'. The NCT, however, mirrors the National and UT averages for Adequacy and Quality of 'Terminal Services', 'Transport Services', 'Reasonability of Price for Logistics Services', Availability of 'Skilled Manpower' and 'Safety and Security of cargo'. This underscores the UT's competitive edge in the provision of logistics services.

Figure 137: Logistics services performance for Delhi



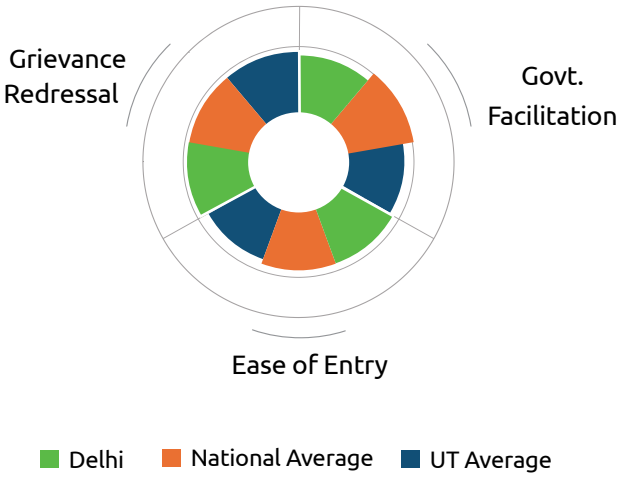
The UT is enhancing logistics services through targeted initiatives that address skill development gaps, promote driver welfare and enhance the operational efficiency of the logistics sector. ITI Pusa has commenced dedicated courses in logistics. Additionally, Delhi has engaged 62 training centres offering training programmes catered to the logistics sector. Delhi promotes truck-driver welfare by providing ample parking and rest areas for the proposed three UCLDCs under the CLP for Delhi. Additionally, as part of technology adoption initiatives, the NCT is planning the development of an integrated freight information system portal under Geospatial Delhi (GSDL) to strengthen tracking and tracing of cargo.

Operating & Regulatory Environment

Delhi is aligned with the National and UT group averages on indicators such as 'Ease of Facilitation by the State/UT', 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' put in place by the UT, highlighting the progressive approach of the UT towards the logistics sector.

As part of measures under Delhi's proposed City Logistics Plan (CLP), the UT intends to permit 24×7 operations by warehouses and logistics distribution centres. The CLP also proposes to enhance logistics efficiency by developing and deploying an integrated freight information system portal for cargo handled in the city.

Figure 138: Operating and regulatory environment performance for Delhi

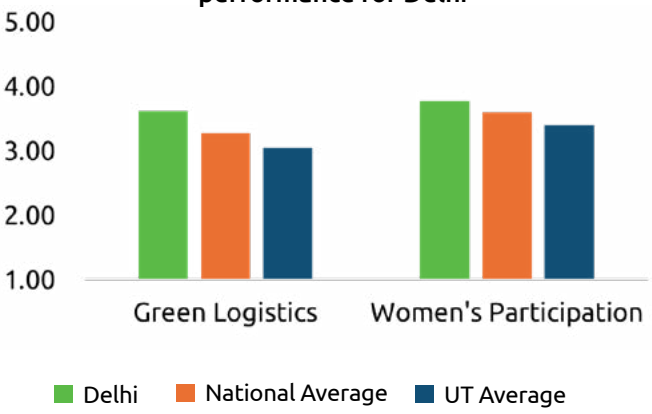


Sustainability and Equity Logistics

Delhi outperforms the National average and UT group average for 'State/UT's Commitment to Green Logistics' and encourages 'Women Participation in Logistics Workforce' of the UT.

This performance reflects the city's progressive approach towards sustainability and inclusivity within the logistics sector.

Figure 139: Sustainability and Equity Logistics performance for Delhi



The Delhi Electric Vehicle Policy 2020 envisions Delhi as the EV capital of India and will increase EV adoption to 25% of new registrations by 2024. The NCT administration announced financial incentives, such as purchase and scrapping incentives, road tax and registration fee waivers and interest subsidies on EV loans. Besides adopting EVs, the NCT encourages using non-motorised transport and alternative fuels such as CNG, LNG and ethanol. Infrastructure upgrades include setting up EV charging stations and sustainable design standards for warehouses, terminals and logistics facilities by integrating energy efficiency, wastewater recycling and waste management systems.

Potential Opportunities in the UT

Delhi may prioritise stricter implementation of anti-pollution measures and strengthen co-ordination between agencies for effective pollution control. The UT may also facilitate the development of cargo transport corridors for unhindered cargo movement. Select barriers to logistics performance and potential opportunities have been identified through extensive consultations with stakeholders and assessments, as presented below.

Stakeholder's Insights

> There is no advance notice given prior to the introduction of GRAP which severely affects both production and movement of cargo.

> The bulk of the EXIM cargo moves to the ports by road due to uncertainty of train schedules and the high tariff levied on rail freights.

> Access to the ICD and CFS in Delhi is hampered due to traffic restrictions on the movement of cargo and the tendency of RTO staff to extort money from vehicles moving with cargo.

Potential Opportunities in the UT

Short-term measures:

1. Increasing demand for development of modern, spacious ICD/CFS located beyond city limits. The UT administration may undertake a feasibility study to identify specific locations for setting up such facilities and facilitate land allocation for the same.
2. Requirement for coordination between central and UT departments and agencies to implement proper pollution-reduction mechanisms and systems to curb pollution, including stricter monitoring, penalties for violations and effective deterrence.
3. Potential for development of transport groups around Delhi as hubs with smaller, clean-fuel based vehicles moving in and out of Delhi.

Long-term measures:

4. Growing requirement for augmenting the number of EV public transport vehicles in the city to facilitate reducing the number of private vehicles on city roads.
5. Potential for upgradation of approach roads to existing ICD and CFS facilities at Tughlakabad and Patparganj.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Jammu and Kashmir

UT Performance Snapshot

Jammu and Kashmir has been categorised as a **'Fast Mover'** in LEADS 2024. Although most indicator averages are at par or below the group averages, the UT is actively implementing several initiatives to transform its logistics ecosystem.

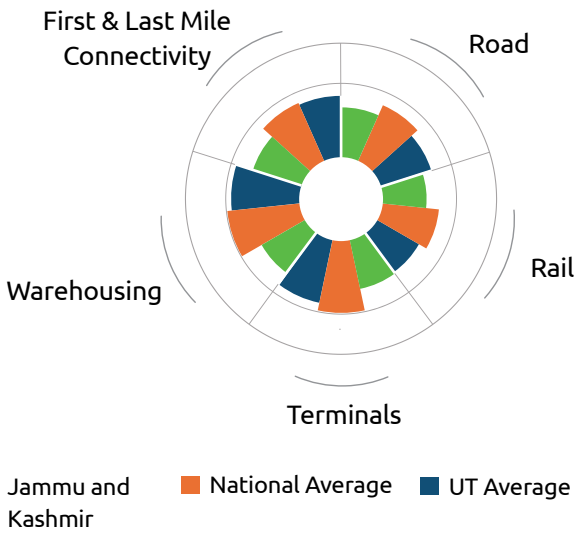
Jammu and Kashmir is focusing on infrastructure enhancement, sustainable practices and streamlined operations. Urban solutions such as ring roads aim to reduce congestion while green logistics initiatives promote eco-friendly transportation. The region prioritises advanced storage facilities and e-commerce support to meet emerging demands, complemented by skill development programmes that prepare a workforce for modern logistics challenges. With a single-window system and alignment with National schemes, Jammu and Kashmir is positioning itself as a growing hub for logistics excellence.

Logistics Infrastructure

Jammu and Kashmir's performance in logistics infrastructure indicates a need for further improvement compared with the National and group averages across key indicators, including Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure', 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity'.

The UT is implementing several initiatives to augment logistics infrastructure and enhance overall logistics efficiency. Furthermore, targeted investments and initiatives are crucial for bridging these gaps and strengthening the region's logistics ecosystem.

Figure 140: Logistics infrastructure performance for Jammu and Kashmir



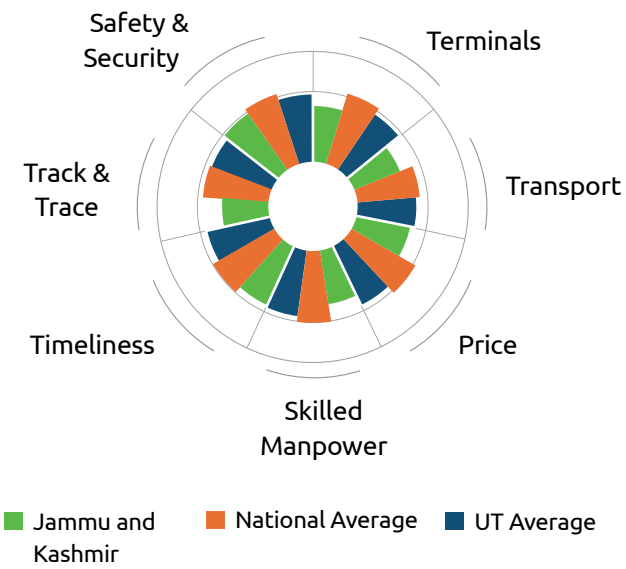
Jammu and Kashmir is attempting to make efforts in logistics infrastructure development to boost connectivity and economic growth. Key projects include the Udhampur–Banihal rail link and the Zojila and Z-Morh Tunnels, which enhance access between Srinagar and Leh. The Multi-modal Logistics Park (MMLP) at Samba, developed in partnership with NHLML, and new terminals at Jammu and Srinagar airports strengthen the region's logistics capacity. Congestion is being reduced by transforming urban mobility with ring roads and elevated light metro rail projects in Jammu and Srinagar.

Strategic road projects, such as the six-lane Delhi–Amritsar–Katra Expressway, double-laning of the Srinagar–Leh road via Kargil and NH-44 upgrades, are streamlining travel and freight movement. The construction of semi-ring roads in Jammu and Srinagar and traffic decongestion initiatives under the 'My Town My Pride' programme add to this robust infrastructure.

Logistics Services

Jammu and Kashmir's performance in several indicators of logistics services indicates potential for improvement as they fall below the National and group averages, except for 'Safety and Security of Cargo', where UT outperforms the group average.

Figure 141: Logistics services performance for Jammu and Kashmir



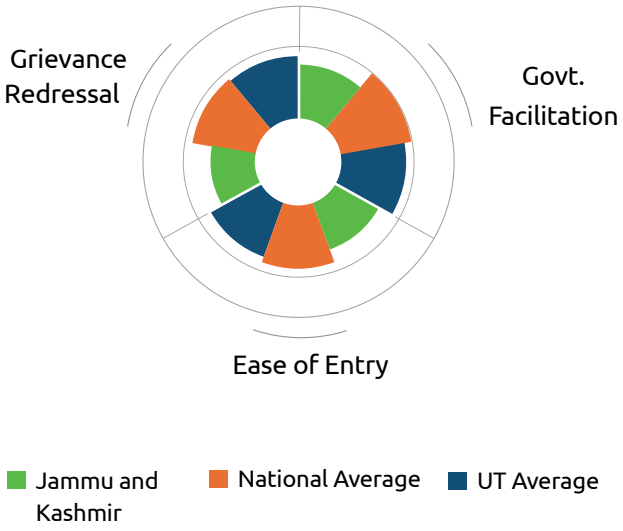
The UT has begun implementing several initiatives to enhance the logistics services ecosystem.

Jammu and Kashmir is developing strategic storage and handling facilities for focus industries such as agriculture, pharmaceuticals, e-commerce and dairy, ensuring efficient logistics operations. E-commerce hubs are being established near high-demand zones and city peripheries to streamline supply chains. Skill development is a priority, as indicated by programmes such as IIM Jammu's Certificate in Logistics and Supply Chain Management and the University of Kashmir's logistics and transportation electives, which include practical training and industry collaboration. The University of Kashmir also conducts specialised programmes, such as a six-day training on supply chain management for small- and medium-sized enterprises in partnership with SKAUST-Kashmir.

Operating & Regulatory Environment

Jammu and Kashmir's performance indicates potential for improvement in regulatory aspects, with indicators such as 'Ease of Facilitation by the State/UT' and 'Ease of Entry from Neighbouring States/UTs' pointing at areas requiring better administrative co-ordination. Similarly, the 'Quality of Grievance Redressal Mechanisms' highlights the need for more streamlined processes to address concerns.

Figure 142: Operating and regulatory environment performance for Jammu and Kashmir



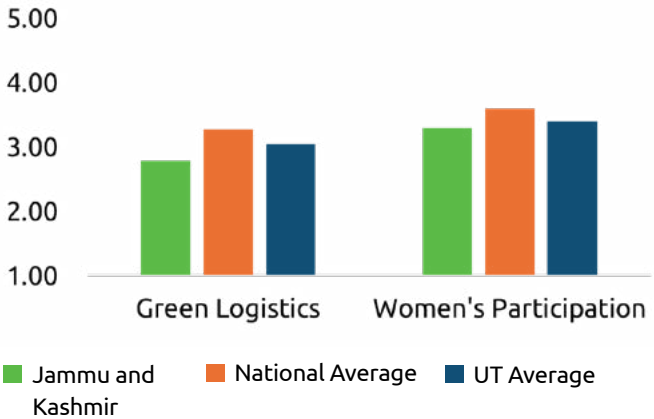
The UT's single-window clearance system, established under the Jammu and Kashmir Single Window (Industrial Investments and Business Facilitation) Act, 2018, enables streamlined and time-bound project approvals. The Motor Vehicles Department's online platform simplifies compliance for operators by providing services such as vehicle permits and fitness certificates. The UT also leverages central schemes, such as the Trade Infrastructure for Export Scheme and the Micro and Small Enterprises Group Development Programme (MSE-CDP), to boost logistics development and export readiness. Fixed timelines for approvals, mandated under the Public Service Guarantee Act, further strengthen operational transparency and efficiency.

Sustainability and Equity Logistics

Jammu and Kashmir has scope for sustainability and inclusivity improvement within its logistics sector. 'State/UT's Commitment to Green Logistics' reflects a need for greater emphasis on environmentally sustainable practices, whereas 'Women's Participation in the Logistics Workforce' highlights limited representation.

The UT administration is actively pursuing several initiatives to advance sustainability and equity logistics.

Figure 143: Sustainability and Equity Logistics performance for Jammu and Kashmir



The draft EV policy aims to accelerate electric vehicle adoption and establish a supportive ecosystem for green transportation. Initiatives include creating 'green channels' for seamless cargo movements, particularly for EXIM and defence logistics, and implementing smart systems at checkpoints to enhance efficiency. The UT also invests in waste management, promoting biodegradable materials and adopting recycling techniques.

Potential Opportunities in the UT

As a region with vibrant horticulture, tourism and handicraft industries as well as a renewed focus on accelerating economic development, Jammu and Kashmir requires a resilient and efficient logistics ecosystem. To achieve this, several potential opportunities emerged during extensive consultations and assessments, as presented below.

Stakeholder's Insights

> Delayed completion of the Srinagar-Jammu highway upgrade and insufficient railway connectivity hinder supply chain efficiency and regional integration'.

> Limited cold storage infrastructure and low cargo handling capacities at airports impact the movement of perishable goods and overall logistics efficiency.

> A lack of trained personnel in the logistics sector constrains operational efficiency and service quality.

> High logistics costs, limited last-mile connectivity and the absence of tracking and data systems reduce transparency and delay supply chain operations.

Potential Opportunities in the UT

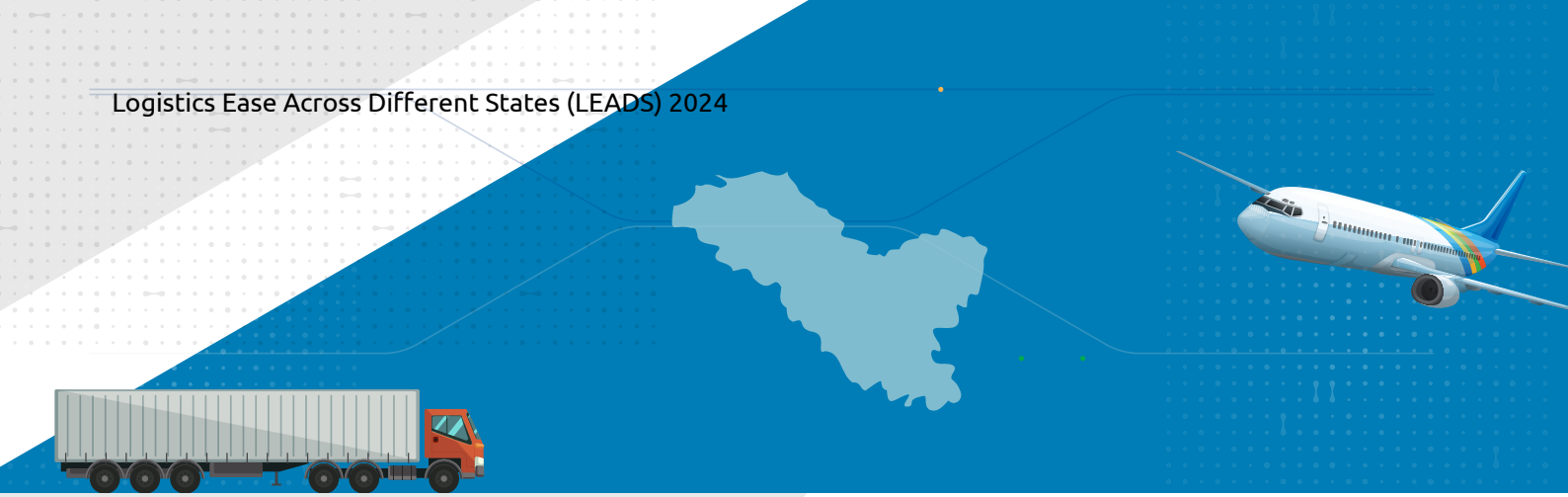
Short-term measures:

1. Increasing demand for development and upgradation of cold storage infrastructure in key horticulture zones such as such as Shopian and Baramulla districts to support preserving and transporting perishable goods.
2. Growing need for strengthening skill development programmes in logistics, focusing on practical training and industry collaborations to address the shortage of skilled workforce.
3. Potential opportunity for strengthening logistics support for key industries or commodity – such as creation of aggregation platform (FPOs) to consolidate produce for bulk transportation, creation of packhouses certified to international standards near production groups etc.

Long-term measures:

4. Unmet demand for upgradation of rail sidings at select railway stations, including Bari Brahmana and Kathua, to improve freight-handling capabilities and connectivity with major logistics hubs.
5. Opportunity for development of dedicated air freight terminals to increase cargo-handling capacities at Srinagar and Jammu airports.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.



Ladakh

UT Performance Snapshot

LEADS 2024 has categorised Ladakh as an **'Aspirer'**. The UT is actively undertaking several initiatives to enhance its performance; however, potential remains for improvement, as many indicators fall below the group average.

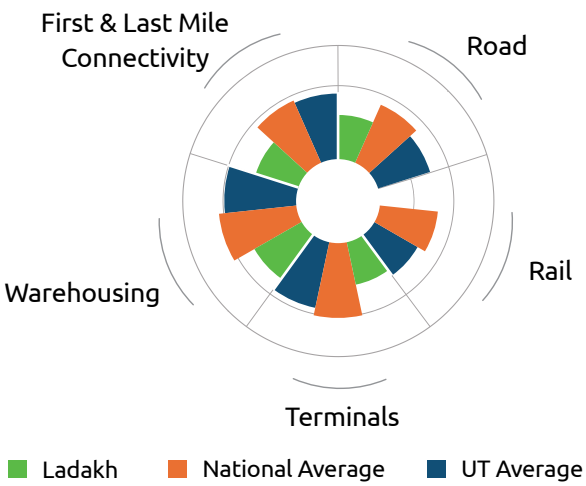
Ladakh is working on transforming its logistics sector to overcome geographical challenges and drive sustainable growth. Major infrastructure projects have been lined up to provide all-weather connectivity and integrate the region into the National rail network. Sustainability efforts include a renewable energy park, green hydrogen production and the promotion of e-mobility to reduce carbon emissions. Proposed skill development programmes aim to support capacity-building, and regulatory improvements such as single-window clearance systems have been proposed to streamline operations.

The UT can prioritize development of a logistics policy and its implementation plan for undertaking specific initiatives. It can further leverage PPP options for development of infrastructure and other initiatives in logistics sector.

Logistics Infrastructure

Ladakh's logistics performance shows consistent challenges across key indicators, with scores below the National and Union Territories' averages. The 'Adequacy and Quality of Road Infrastructure', 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity' all remain low. This affect the efficiency and reliability of logistics operations, limiting the region's ability to support seamless transportation and storage needs.

Figure 144: Logistics infrastructure performance for Ladakh



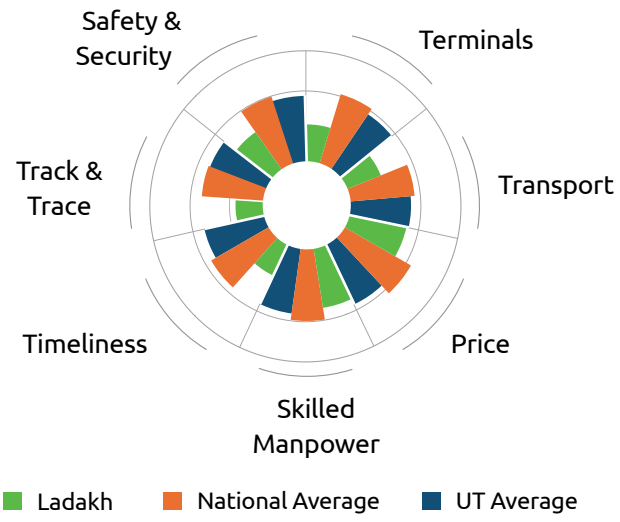
Ladakh's logistics infrastructure faces challenges due to its high-altitude terrain and harsh climatic conditions. Key connectivity projects, including the Zoji La and Shinku La Tunnels, aim to provide all-weather road access. At the same time, the proposed Bhanupli–Leh railway line seeks to integrate the region into the National network; however, the region lacks adequate roadside amenities, warehousing facilities and terminal infrastructure.

Logistics Services

Ladakh's logistics services presents areas for improvement across multiple indicators, with its performance below the National and group averages for all indicators pertaining to logistics services.

'Adequacy and Quality of Terminal Services', 'Transport Services' and 'Reasonableness of Price of Logistics Services' remain low, reflecting limited-service efficiency and affordability. Additionally, gaps in the 'Availability of Skilled Manpower', 'Timeliness of Cargo Delivery', 'Availability of Track and Trace for Cargo' and 'Safety and Security of Cargo' further hinder the UT's logistics operations.

Figure 145: Logistics services performance for Ladakh



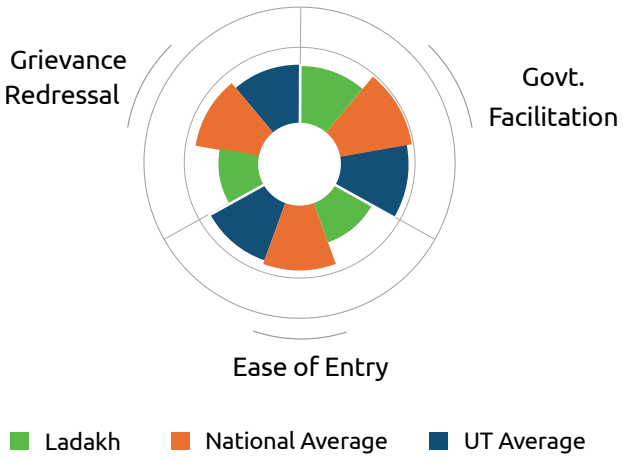
Ladakh plans to address its logistics service challenges through targeted initiatives to improve efficiency and reliability. The Ladakh Skill Development Mission is expected to bridge skill gaps by training local youth in logistics and supply chain management, addressing the region's shortage of skilled workers. Efforts are also underway to incorporate advanced cargo tracking systems, enhancing transparency and operational efficiency. The UT should also focus on entering into partnerships with education institutes and industry bodies for promoting skill development in the logistics sector.

Operating & Regulatory Environment

Ladakh's Operating and Regulatory Environment also requires targeted interventions, with the UT's performance below the National and group averages. Indicators such as 'Ease of Facilitation by the State/UT', 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' score relatively low, reflecting areas that can be streamlined in terms of administrative processes and co-ordination.

The administration's efforts include establishing a single-window clearance system under the Ladakh Industrial Land Allotment Policy 2023. These efforts aim to streamline operations, reduce procedural bottlenecks and enhance inter-State co-ordination.

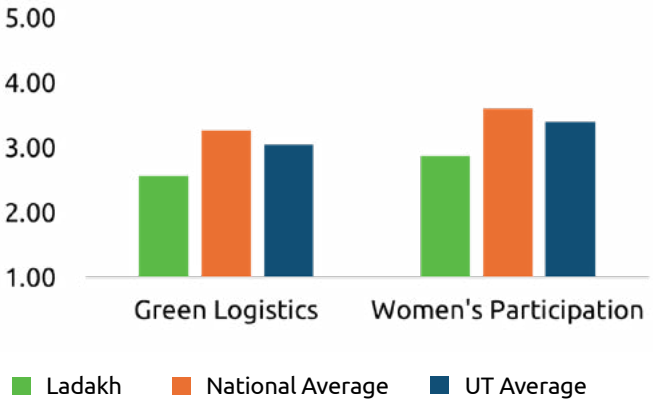
Figure 146: Operating and regulatory environment performance for Ladakh



Sustainability and Equity Logistics

Ladakh's performance in sustainability and inclusivity within logistics is below the National and group averages. Indicators such as 'State/UT's Commitment to Green Logistics' and 'Women's Participation in the Logistics Workforce' are rated sub-optimal, highlighting a need for improvement in environmental initiatives and gender inclusivity.

Figure 147: Sustainability and Equity Logistics performance for Ladakh



Prioritising green logistics policies and encouraging women's involvement in the sector are essential for fostering sustainable and equitable logistics development in the region.

Ladakh's focus on sustainable logistics includes environmental preservation. Key initiatives include obtaining approval to set up a 13-GW renewable energy project for the region. Additionally, NTPC has established the world's highest green hydrogen plant in Leh, which uses solar energy to produce hydrogen fuel for transportation. As part of its Green Hydrogen Mobility Project, NTPC has also launched trial runs of hydrogen fuel cell buses in Leh, aiming to decarbonise public transportation and reduce emissions. Furthermore, policies promoting eco-friendly infrastructure and using alternative energy sources for logistics operations are being explored to create a greener supply chain.

Potential Opportunities in the UT

Ladakh's developmental aspirations are deeply ingrained in enabling robust and efficient logistics. A lack of this key requirement also impacts its residents' daily lives and impedes the pace of economic development. Tailored interventions, presented below, are critical to enable Ladakh to develop its logistics ecosystem.

Stakeholder's Insights

> All major roadways to Ladakh, including NH1 and NH3, remain inaccessible during winter due to heavy snowfall, severely limiting connectivity.

> Highways lack essential facilities such as fuel stations, medical assistance, streetlights and mechanical support, impacting transportation efficiency and safety.

> Rural and border areas face poor mobile network coverage, with critical gaps along highways despite gap analysis under the "Saturation of 4G Mobile Services" project.

> Absence of a notified UT Logistics Policy and insufficient logistics infrastructure, including green and innovative facilities, hinder seamless supply chain operations.

Potential Opportunities in the UT

Short-term measures:

1. Increasing demand for developing all-weather road connectivity and expedite the construction of tunnels in the State/UT, particularly the Zojila and Shinku La tunnels.
2. Opportunity to augment roadside amenities, including medical assistance, fuel stations and highway mechanical support.
3. Demand for enhance mobile network connectivity under the 'Saturation of 4G Mobile Services' project, especially in rural and border areas.
4. Requirement for development of a comprehensive Logistics and Warehousing Policy for Ladakh to guide infrastructure and service improvements.

Long-term measures:

5. Potential opportunity to develop additional civilian airports in Kargil and Nubra for year-round air connectivity.
6. Opportunity exists to advance the development of the proposed Bilaspur–Leh railway line under the PM GatiShakti NMP portal, in collaboration with the Railway Authority, to integrate Ladakh into the National rail network.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Lakshadweep

UT Performance Snapshot

2024	2023
Fast Mover	Fast Mover

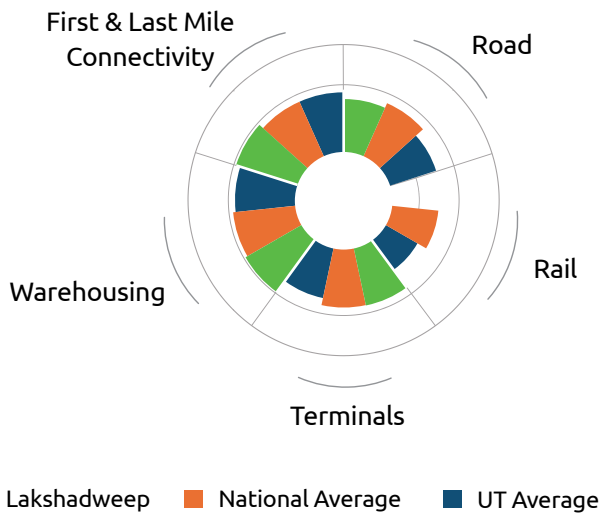
Lakshadweep has retained its position as a **'Fast Mover'** in LEADS 2024. The UT performs better than the National and group averages on most indicators. The administration is actively working towards enhancing its logistics performance and addressing connectivity challenges between the islands to promote trade and growth.

Lakshadweep is an archipelago of 36 islands in the Indian Ocean. Its strategic location and natural resources hold potential for tourism development; however, the region has limited infrastructure, connectivity issues and isolation, which hinder logistics growth. The government is actively improving the logistics ecosystem by developing key infrastructure such as container terminals and inland depots, streamlining business processes and promoting private sector investment. Efforts are also underway to enhance sustainability through green technologies, clean fuel options and waste management systems. Through these initiatives, Lakshadweep aims to unlock its logistics potential, foster economic growth and position itself as a key hub in the region.

Logistics Infrastructure

Lakshadweep has performed well in Adequacy and Quality of 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity', surpassing the National and group averages, indicating efficient cargo handling and transportation. However, 'Adequacy and Quality of Road Infrastructure' needs to improve, as it lags behind the National and group averages. Road connectivity is essential for reducing logistics costs and improving island access. As Lakshadweep lacks a rail network, the focus should shift to strengthening alternative transport networks.

Figure 148: Logistics infrastructure performance for Lakshadweep

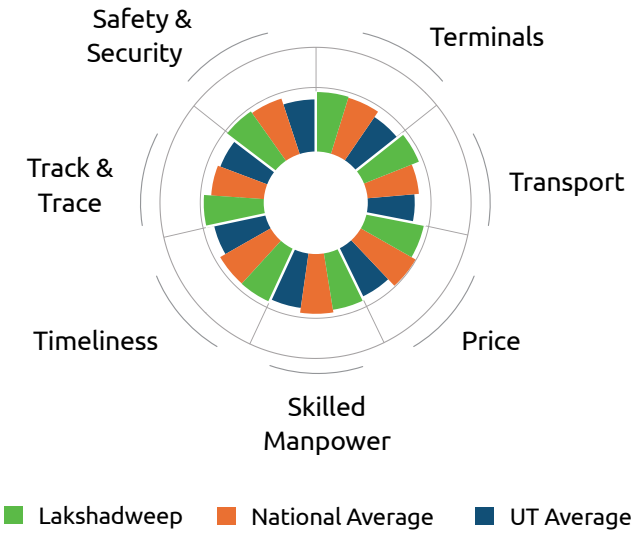


Lakshadweep's logistics infrastructure development pipeline includes several key PPP projects to enhance connectivity and services across the islands. These projects are part of the UT's efforts to improve logistics and tourism infrastructure. Notable initiatives include eco-tourism projects on the Kadmat, Suheli and Bangaram islands, airport development at Agatti and Minicoy and the construction of a city centre and a nursing and paramedical college in Kavaratti. These projects aim to improve the region's transportation, healthcare and tourism infrastructure.

Logistics Services

The UT performs better than the group and National averages in Adequacy and Quality of 'Terminal Services' and 'Transport Services', 'Safety and Security of Cargo' and 'Availability of Track and Trace for Cargo'. The UT lags behind in indicators such as 'Reasonableness of Price of Logistics Services' and 'Skilled Manpower', indicating areas for potential improvements in its logistics services portfolio.

Figure 149: Logistics services performance for Lakshadweep



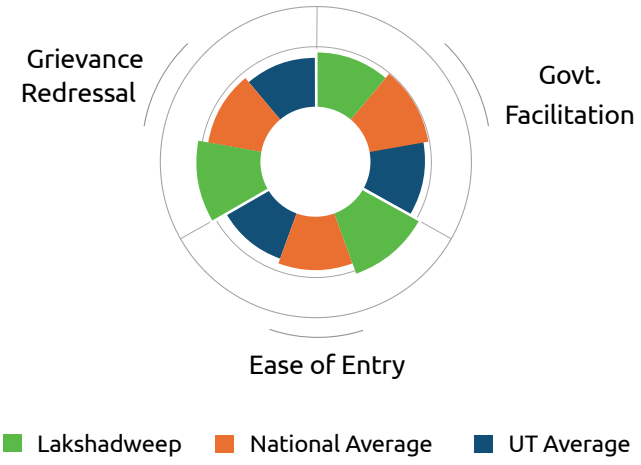
Lakshadweep has immense potential for enhancing its logistics services, but a lack of infrastructure and connectivity currently hinders the sector. The Administration is focused on improving transportation networks, such as introducing a container terminal at Minicoy Island and an inland container depot at Agatti Island. These developments aim to strengthen the region's connectivity with mainland India and neighbouring countries such as Sri Lanka and the Maldives. Furthermore, Lakshadweep is adopting innovative technologies, including GPS tracking for fleet management and digital tools to enhance communication and streamline logistics operations. These advancements will boost operational efficiency, reduce costs and improve service delivery, unlocking the potential of logistics services in the region.

Operating & Regulatory Environment

The 'Ease of Facilitation by the State/UT' in Lakshadweep is slightly lower than National and group averages, which suggests opportunities for improvement in enabling logistics processes. 'Ease of Entry from Neighbouring States/UTs' is higher than the group and National averages, indicating relatively smooth entry for logistics operations. The 'Quality of Grievance Redressal Mechanisms' is rated better than the group and National averages, highlighting effective handling of issues.

Lakshadweep's operating and regulatory environment faces challenges such as limited infrastructure and connectivity between islands. The administration aims to address these issues by planning a container terminal at Minicoy and an inland container depot at Agatti.

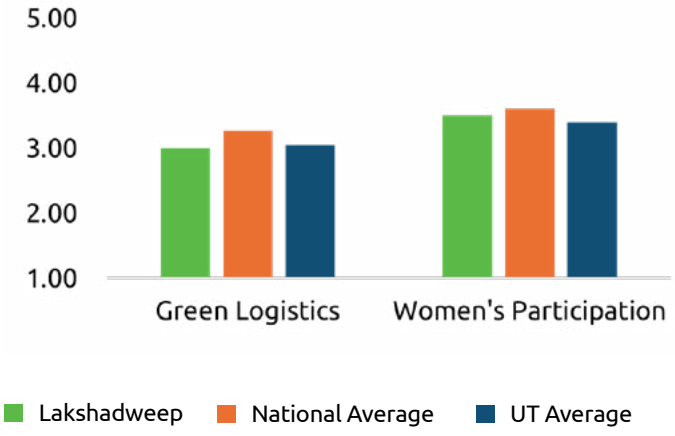
Figure 150: Operating and regulatory environment performance for Lakshadweep



Sustainability and Equity Logistics

In 'State/UT's Commitment to Green Logistics' Lakshadweep performs below the National and group averages, signalling a need for improved sustainability efforts. 'Women's Participation in Logistics Workforce' in logistics is above the group but below the National average, indicating some progress but still room for growth in this area.

Figure 151: Sustainability and Equity Logistics performance for Lakshadweep



Lakshadweep is evaluating integrating green technologies in its logistics sector, including clean fuel options, battery-operated vehicles and sustainable practices such as solar energy and waste management. Such efforts can reduce emissions, align with global sustainability goals and enhance operational efficiency.

Potential Opportunities in the UT

Detailed consultations and assessments have identified specific areas for intervention in the logistics sector. Customised action plans have been developed to enable focused and sustainable logistics reform.

Stakeholder's Insights

> Small ports in Lakshadweep lack modern infrastructure and sufficient berth facilities, causing delay as ships rely on small boats for cargo transfers.

> A shortage of warehouses, including cold storage, hamper efficient handling and preservation of goods.

> Low frequency of cargo ships and weather disruptions delay shipments while limited air freight options restrict the transport of larger goods.

> Poor digital infrastructure and inadequate inter-island services hinder efficient distribution and adoption of modern logistics technologies.

Potential Opportunities in the UT

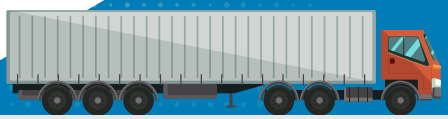
Short-term measures:

1. Demand for development of modern port infrastructure by upgrading small ports such as Kavaratti, Minicoy, and Agatti, with additional and deeper berths, better cargo handling facilities and containerized shipping facilities to boost cargo-handling capacity.
2. Growing requirement for developing storage facilities to address shortages by establishing warehouses and cold storage units for better goods preservation.
3. Need for streamlining shipping schedules by enhancing the frequency and reliability of cargo ships to minimize delays caused by irregular schedules and weather disruptions.

Long-term measures:

4. Demand for promoting inter-island cargo movement through ferries or carrier services by strengthening transportation services.
5. Requirement for Implementing subsidies for essential goods to reduce transportation costs and promote affordable access to critical supplies.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.



Puducherry

UT Performance Snapshot

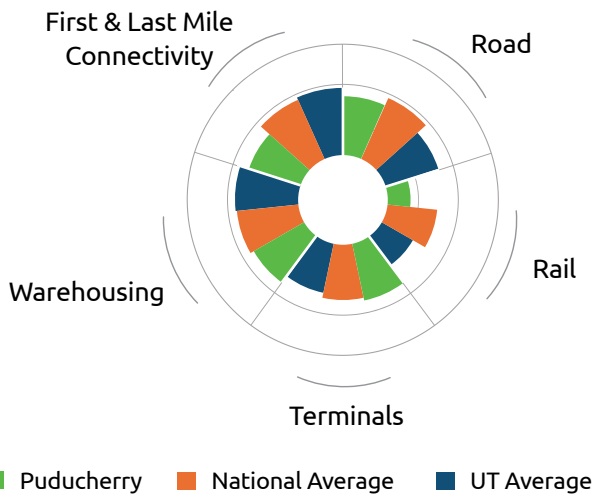
Puducherry has retained its performance as a **'Fast Mover'** during LEADS 2024 assessment. The UT has been aligned with National and group averages on most performance indicators. The administration is also prioritising the strengthening of its logistics sector through multiple initiatives.

Puducherry is working on its logistics sector through the Integrated Logistics Infrastructure Policy, 2023. This policy focuses on MMLPs, dedicated corridors and mega food parks to create a seamless logistics ecosystem. The policy promotes start-ups, advanced technologies such as blockchain for tracking and smart enforcement to enhance efficiency. A logistics centre of excellence is being established for skill development and capacity-building, while single-window clearances and logistics committees streamline operations. Puducherry's sustainability initiatives, including greener fuels, e-mobility under the Faster Adoption and Manufacturing of Electric (and hybrid) vehicles (FAME) initiative and a shift of cargo to railways and waterways, position the UT as a regional logistics and warehousing hub.

Logistics Infrastructure

Puducherry's logistics performance is largely at par or slightly below than national and group averages for most indicators. However, 'Adequacy and Quality of Road Infrastructure' is perceived as slightly underperforming, whereas 'Adequacy and Quality of Rail Infrastructure' is rated as below both averages, highlighting the need for improvement in infrastructure and connectivity across these areas.

Figure 152: Logistics infrastructure performance for Puducherry

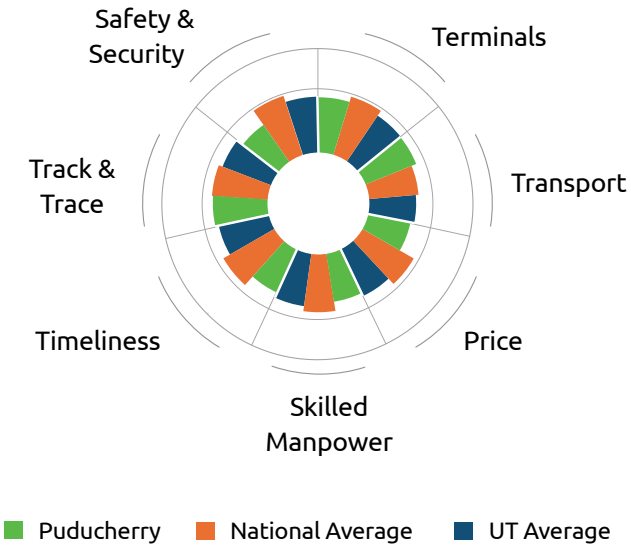


Puducherry is strengthening its logistics infrastructure under the Puducherry Integrated Logistics Infrastructure, Multi-modal Logistics Park and Warehouse Policy, 2023. Development plans include integrated multi-modal logistics parks featuring cold storage, bonded warehouses and intermodal transfer hubs near key transport nodes such as ports, airports and railways to improve connectivity. Dedicated corridors and parking spaces along highways are being developed to support freight transport. Additionally, mega food parks are planned to connect farmers, processors and markets to reduce wastage and boost value addition.

Logistics Services

Puducherry's logistics services match group averages across most indicators. However, 'Safety and Security of Cargo' is rated below the Group and National averages, highlighting a critical area requiring targeted measures to enable better protection of goods in transit.

Figure 153: Logistics services performance for Puducherry

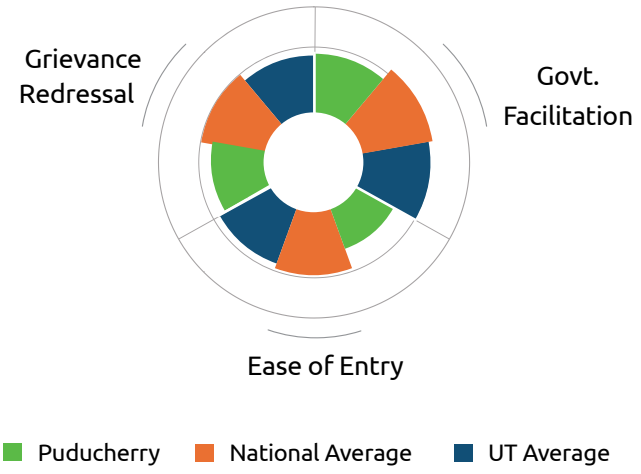


Puducherry plans to enhance logistics services by establishing a logistics Centre of Excellence (LCoE), providing end-to-end training and assessing infrastructure quality through a rating system. The proposed LCoE will collaborate with National bodies such as the Logistics Skill Council (LSC), NSDC and NCVET to deliver skill development programmes tailored for logistics operations. The policy also encourages capacity-building initiatives in partnership with industrial associations and private organisations, with proposed incentives for conducting training programmes. These initiatives aim to develop a skilled workforce and support efficient operations of warehouses, logistics parks and the broader logistics ecosystem in Puducherry.

Operating & Regulatory Environment

Puducherry's operational and regulatory environment reflects similar outcomes to group averages for most indicators. However, 'Ease of Entry from Neighbouring States/UTs' falls below the National and group averages, indicating a need for better infrastructure and co-ordination to improve inter-State logistics connectivity.

Figure 154: Operating and regulatory environment performance for Puducherry

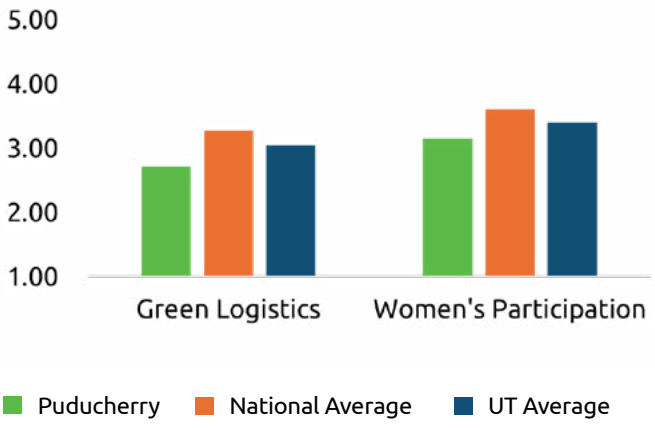


Puducherry is preparing for a streamlined operational and regulatory environment as proposed under the above policy. Plans include establishing the Puducherry Logistics Cell to operate a single-window clearance system for efficiently processing applications related to logistics facilities and policy incentives. The policy also proposes forming city-level logistics co-ordination committees across municipal regions to address urban freight issues, reduce congestion and promote eco-friendly practices. Furthermore, a UT-level logistics co-ordination committee is envisioned to enhance collaboration among inter-State/UT agencies, ensuring smoother freight movement.

Sustainability and Equity Logistics

Puducherry's approach to sustainability and inclusivity within logistics trails behind the National and group averages. 'State/UT's Commitment to Green Logistics' and 'Women's Participation in Logistics Workforce' are underperforming, indicating scope for initiatives to promote eco-friendly practices and greater gender diversity in the logistics sector.

Figure 155: Sustainability and Equity Logistics performance for Puducherry



Puducherry's logistics policy emphasises sustainability through proposed green initiatives, aiming to shift cargo movement from traditional road transport to environmentally friendly modes such as railways, coastal shipping and inland waterways. It also encourages the adoption of greener fuels, energy-efficient vehicles and practices to minimise noise and emissions, reducing the overall carbon footprint. An EV policy aligned with the FAME initiative aims to promote e-mobility by incentivising EV adoption and establishing infrastructure such as charging stations.

Potential Opportunities in the UT

Select feedback received during stakeholder consultations including potential opportunities are presented below:

Stakeholder's Insights

> Despite its strategic potential, the Puducherry port remains under-promoted and faces operational inefficiences, such as higher cranage fees.

> Poor road connedivity, insufficient warehousing facilities, and limited port infrastructure hinder the smooth movement of cargo.

> The absence of adequately trained personnel in logistics and supply chain management reduces ability to meet modern logistics demands.

> Infrastructure issues disrupt seamless truck movement between Tamil Nadu and Puducherry, impacting trade flow and regional connectivity.

Potential Opportunities in the UT

Short-term measures:

1. Increasing requirement for promoting Puducherry Port through UT-led initiatives to attract more customers.
2. Demand for immediate action on road maintenance issues at locations such as Cuddalore Road, Villianur Road, to improve connectivity.
3. Requirement for encouraging PPPs to set up warehousing facilities in the UT. The administration may undertake a feasibility study to identify specific solutions.
4. Potential for launching training programmes for short-term logistics and supply chain management in collaboration with National skill bodies.

Long-term measures:

5. Increasing demand for upgrading Puducherry Port's infrastructure, including handling equipment and berths, to support higher cargo volumes.
6. Unmet demand for robust road networks, multi-modal logistics parks and warehousing facilities as part of a comprehensive logistics plan.
7. Opportunity for development of a dedicated logistics training and research centre to build a skilled workforce and support industry needs.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the UT to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with UT's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

North-Eastern States Group

The North–East group States include Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. These States have untapped potential with both domestic and international trade, justifying the proactive approach adopted by the government to facilitate the development of the logistics in the region. Such developments include inland water transport in Assam and Arunachal Pradesh, international trade points along the international border with Myanmar and Bangladesh in Mizoram, aggregation hubs in Nagaland and Tripura and the BBIN corridor in Meghalaya.

The LEADS 2024 assessment shows notable improvements:

1. **Logistics Infrastructure:** Improved by 9% due to enhancements in roads, railways, and terminals.
2. **Logistics Services:** Rose by 7%, reflecting a more robust logistics ecosystem.
3. **Operational and Regulatory Environment:** Declined by 3%, with most States underperforming in regulatory responses.

Assam, Sikkim, and Tripura lead in infrastructure and services. Challenges remain for Arunachal Pradesh, Manipur, Nagaland, and Mizoram in road, terminal, and warehousing development.

Figure 156: North-East Group - Performance Changes

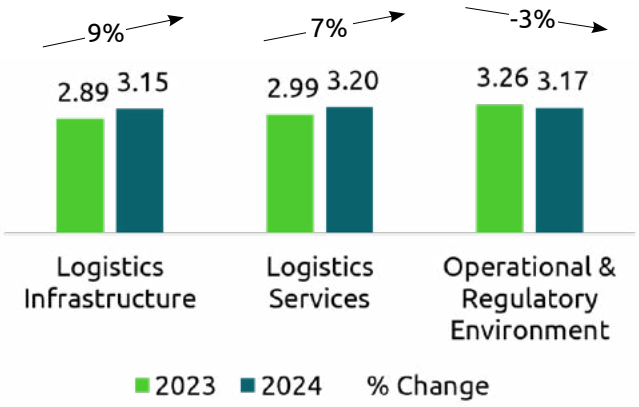
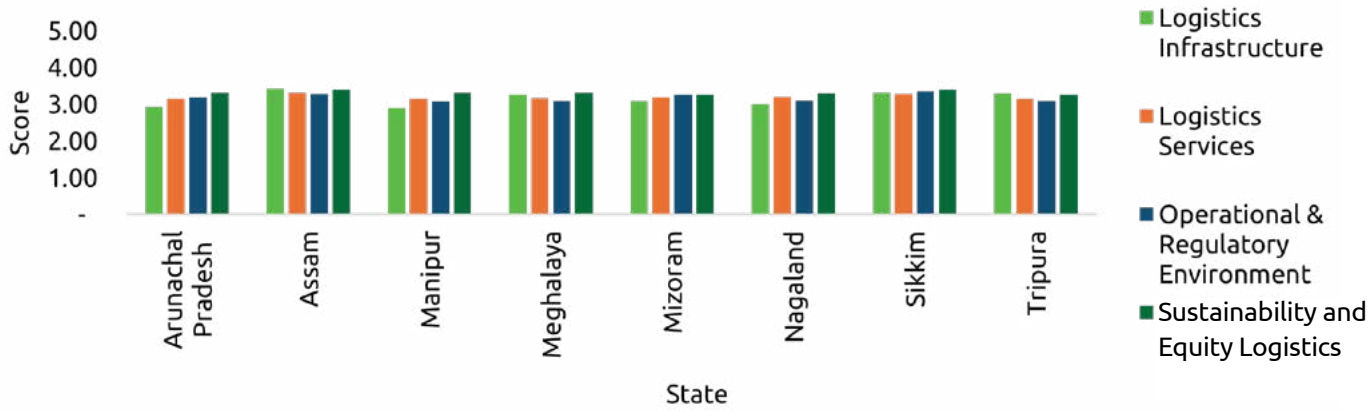


Figure 157: Summary of North East Group's Performance



Review of performance on Logistics Infrastructure

Development initiatives such as the SASEC and BBIN trade corridors significantly improved connectivity. Leading States include:

1. **Assam and Tripura:** Outperform across all infrastructure indicators.
2. **Sikkim:** Strong performance in terminal and first-and-last-mile connectivity.

States such as Arunachal Pradesh and Nagaland need to enhance warehousing infrastructure, road capacities, and broad-gauge rail reach.

Figure 158: North East Group- Logistics Infrastructure Performance

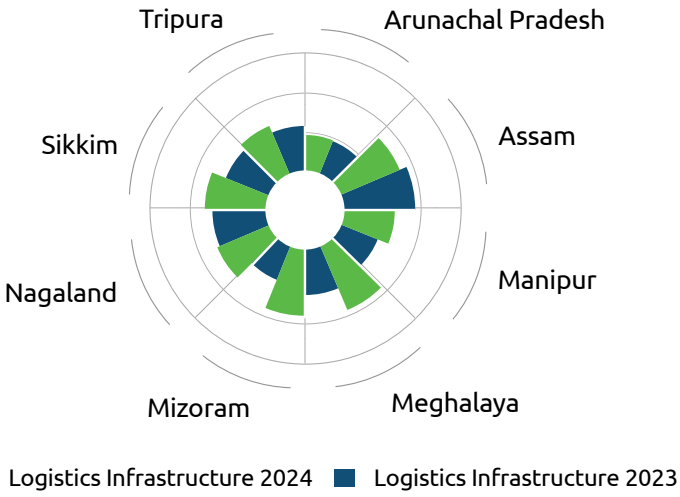


Table 14: Performance of NER States across indicators of Logistics Infrastructure

State	Logistics Infrastructure				
	Road	Rail	Terminal	Warehousing	First-and-Last Mile Connectivity
Arunachal Pradesh	🟠	🟠	🟠	🟠	🟠
Assam	🟢	🟢	🟢	🟢	🟢
Manipur	🟢	🟠	🟠	🟠	🟠
Meghalaya	🟠	🟢	🟢	🟢	🟢
Mizoram	🟠	🟢	🟢	🟢	🟠
Nagaland	🟠	🟠	🟠	🟠	🟠
Sikkim	🟢	🟠	🟢	🟢	🟢
Tripura	🟢	🟢	🟢	🟢	🟢

🟢 Above Group Average 🟠 Below Group Average

Areas of focus that the North–East group States may look to prioritise include enhancing warehousing infrastructure, developing MMLPs, upgrading road infrastructure to cater to larger capacity vehicles and augmenting the reach of the broad-gauge railway network to improve first- and last mile connectivity.

Review of performance on Logistics Services

Ranked second in the region's four performance pillars, logistics services are well-supported by supply chain efficiencies. Standouts include:

1. **Assam and Sikkim:** Excel in pricing, timeliness, and manpower availability.
2. **Meghalaya and Mizoram:** Improve cargo safety and transport.

Technology adoption in tracking and tracing remains a critical need.

Figure 159: North East Group - Logistics Services Performance

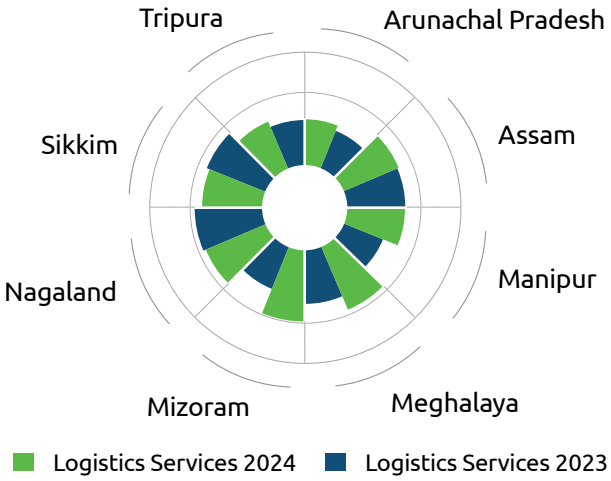


Table 15: Performance of NER States across indicators of Logistics Services

State	Logistics Services						
	Terminal	Transport	Price	Skilled Manpower	Timeliness	Track & Trace	Safety & Security
Arunachal Pradesh	●	●	●	●	●	●	●
Assam	●	●	●	●	●	●	●
Manipur	●	●	●	●	●	●	●
Meghalaya	●	●	●	●	●	●	●
Mizoram	●	●	●	●	●	●	●
Nagaland	●	●	●	●	●	●	●
Sikkim	●	●	●	●	●	●	●
Tripura	●	●	●	●	●	●	●

● Above Group Average ● Below Group Average

Note: Price refers to Reasonableness of Shipment Prices, Timeliness refers to on time delivery of cargo.

From a service enhancement perspective, States may look to channelize and focus on adopting technology to enhance service delivery such as 'Track and Trace for Cargo' and facilitating better pricing to the end users for availing logistics services.

Review of performance on Operational & Regulatory Environment

Assam and Sikkim lead with state-supported logistics policies and facilitation. However, most States experienced declining scores, signaling the need to:

1. Improve grievance redressal mechanisms.
2. Streamline ease of entry.

Figure 160: North East Group - Operational and Regulatory Environment performance

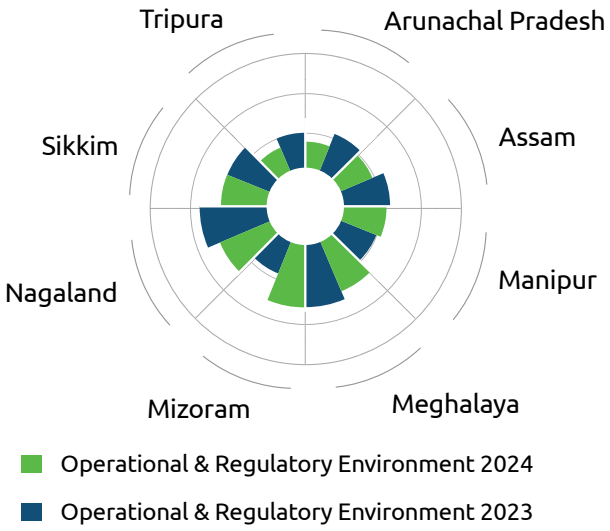


Table 16: Performance of NER States across indicators of Operating and Regulatory Environment

State	Operational & Regulatory Environment		
	Govt. Facilitation	Ease of Entry	Grievance Redressal
Arunachal Pradesh	●	●	●
Assam	●	●	●
Manipur	●	●	●
Meghalaya	●	●	●
Mizoram	●	●	●
Nagaland	●	●	●
Sikkim	●	●	●
Tripura	●	●	●

● Above Group Average ● Below Group Average

Review of performance on Sustainability and Equity Logistics

Efforts to adopt green logistics are recognized, but a greater focus on increasing women's participation in the work-force is essential. Highlights include:

- Sikkim and Assam: Lead sustainable initiatives.
- Meghalaya: Progress in women's participation.

Table 17: Performance of NER States across indicators of Sustainability and Equity Logistics

State	Sustainability and Equity Logistics	
	State's Commitment to Green Logistics	Women's participation in Logistics Sector
Arunachal Pradesh	●	●
Assam	●	●
Manipur	●	●
Meghalaya	●	●
Mizoram	●	●
Nagaland	●	●
Sikkim	●	●
Tripura	●	●

● Above Group Average ● Below Group Average

While the North-East group demonstrates steady improvements in logistics, addressing regional disparities is crucial. States like Assam and Sikkim exemplify best practices, but regions such as Nagaland and Arunachal Pradesh require targeted interventions to achieve balanced growth. Coordinated efforts will unlock the full potential of North-East India in domestic and international trade.

A detailed analysis of the performance of each State in the North-East group across various indicators, along with an overview of initiatives undertaken by different governments and administrations, is provided in the subsequent section.

Arunachal Pradesh

State Performance Snapshot

2024
Achiever

2023
Fast Mover

Arunachal Pradesh is categorized as **'Achiever'** within the North-East group, marking its progress from last year. The State's performance mostly aligns with the group average across all indicators. The government is prioritising its logistics sector and taking initiatives towards its development.

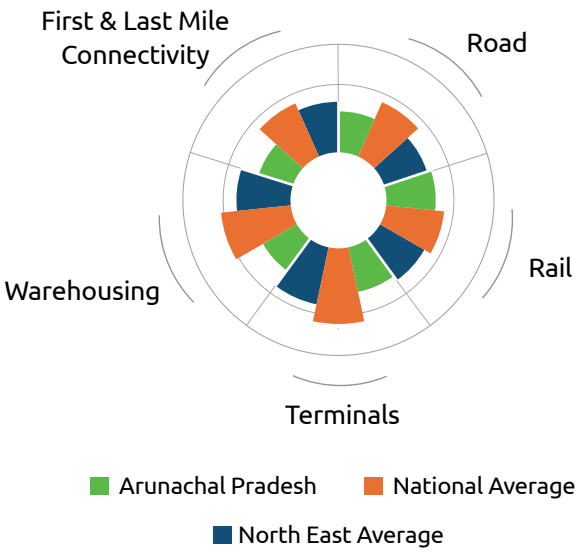
Arunachal Pradesh has outlined initiatives through its Logistics Policy 2023, including focusing on technology adoption, effective regulation and compliance strategies, initiating labour skilling programmes and adopting sustainability practices. The State has announced that all logistics infrastructure, including warehouses and cold storage facilities in identified industrial and logistics hubs, would be eligible to claim incentives under the State's Industrial Policy.

Logistics Infrastructure

Arunachal Pradesh aligns with the group average for Adequacy and Quality of 'Road Infrastructure' and 'Rail Infrastructure'.

The State falls behind the National and group averages on indicators such as Adequacy and Quality of 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity', highlighting that there is much potential for improvement to catch up with other NER States.

Figure 161: Logistics infrastructure performance for Arunachal Pradesh



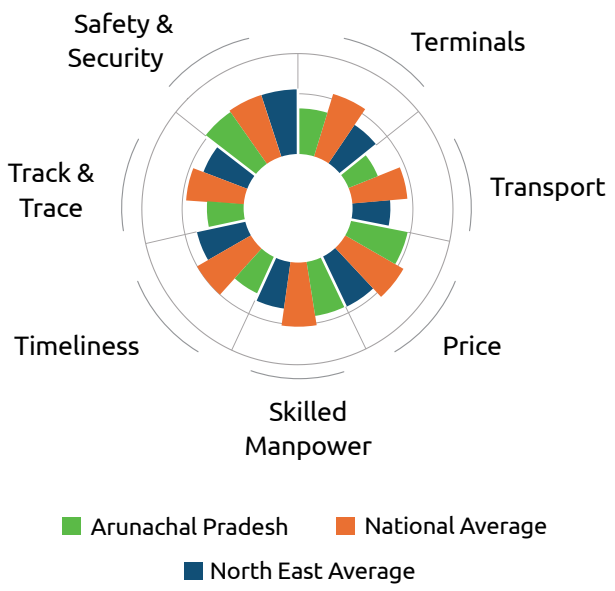
Arunachal Pradesh is taking steps to transform its logistics sector. Some key infrastructure initiatives include the 1,859 km Arunachal Frontier Highway from Nafra to Vijoynagar, the proposed 2,400 km Trans-Arunachal Highway and the widening of 2,284 km of existing National highways. Additional proposals include 600 km of new railway lines, 3 river ports leveraging the State's inland waterways, special economic zone development at Balinong near the Indo-Myanmar border and the proposed development of five agri-horti logistics groups in the State.

Logistics Services

Arunachal Pradesh performs below the National average on all logistics service indicators except for ensuring the 'Safety and Security of Cargo', whereas the State performs at par with the National average.

The State also scores below group average on three service indicators – 'Adequacy and Quality of Transport Services', 'Timeliness of cargo delivery' and the 'Availability of Track and Trace for Cargo' – highlighting areas for intervention.

Figure 162: Logistics services performance for Arunachal Pradesh



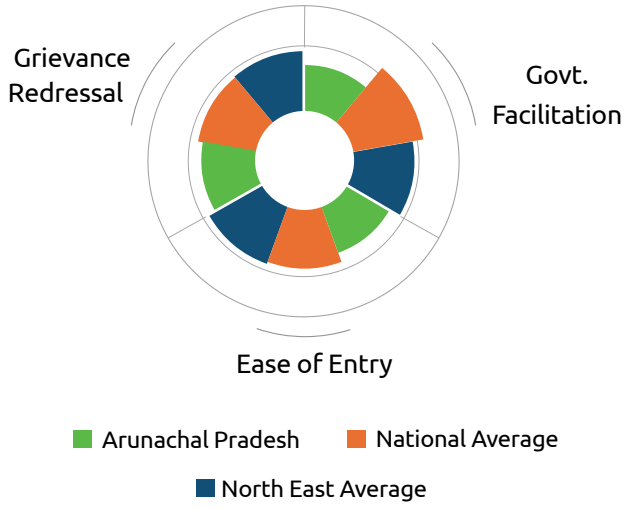
Arunachal Pradesh prioritises its logistics sector by promoting digital technologies such as RFID and GPS for better regulation. The State is trying to address skill gaps in the logistics sector in collaboration with premier institutes and organisations such as the Logistic Skill Council, National Skill Development Corporation and Indian Institute of Entrepreneurship. The State will set up a Centre of Excellence for logistics and warehousing in the capital complex city of Itanagar through PPP mode or by incentivising private players.

Operating and Regulatory Environment

The State's performance aligns with the National and group averages in the 'Quality of Grievance Redressal Mechanisms' introduced by the State and facilitating 'Ease of Entry from Neighbouring States'.

In terms of 'Ease of Facilitation by The State', Arunachal Pradesh falls below the National average but matches the group average.

Figure 163: Operating and regulatory environment performance for Arunachal Pradesh



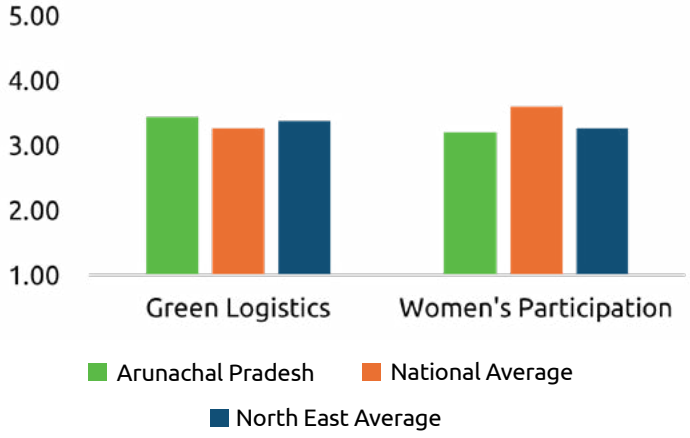
The State plans to extend the benefits of the Single-Window Clearance System (SWCL). The system shall be time-bound, granting all State approvals, licences and no objection certificates. Additionally, the renewal or extension of previously issued services will also be executed through SWCL, thereby enhancing the ease of doing business.

Sustainability and Equity Logistics

Arunachal Pradesh outperforms National and group averages in 'State's Commitment to Green Logistics', demonstrating a dedication to adopting sustainable practices within the logistics sector.

However, in 'Women's Participation in Logistics Workforce', Arunachal Pradesh falls behind both group and National average scores, highlighting the need for more inclusive policies to promote gender diversity in the sector.

Figure 164: Sustainability and Equity Logistics performance for Arunachal Pradesh



Arunachal Pradesh is trying to reduce emissions and combat climate change by promoting the adoption of SBTi among logistics companies, offering incentives for net-zero commitments and encouraging the use of BS-6 vehicles, EVs and hydrogen fuel-cell trucks. The State aims to advance energy sustainability by supporting renewable-powered captive power plants, complying with Bureau of Energy Efficiency standards and ensuring that large logistics hubs obtain GRIHA certification.

Potential Opportunities in the State

Arunachal Pradesh's remote location and difficult terrain present unique challenges for infrastructure development initiatives. Several opportunities have been identified through multiple on-ground consultations with logistics sector stakeholders, to promote effective and sustainable improvement in the State's logistics ecosystem.

Stakeholder's Insights

> Arunachal Pradesh needs adequate warehousing, cold storage and pack-house facilities to support agricultural and horticultural production demand.

> The Siang River has consistent water flow and can be used for transporting agricultural produce and timber to Pasighat that can serve as a hub for riverine trade and tourism.

> Warehouses in the State need modern security systems, which increases the risk of break-ins, unauthorized access and theft of cargo.

> Establish railway connectivity to the areas close to the Indo-China border as these are vital for defence and logistics.

> Lack of transport hubs with safe resting facilities for drivers, leading to security issues and theft of truck accessories such as batteries, tires and diesel.

> There is urgent need to upgrade the Pasighat–Yingkiong and Pasighat–Ledum–Tene roads that are critical for maintaining the local supply chain.

Recommended Actionable Measures

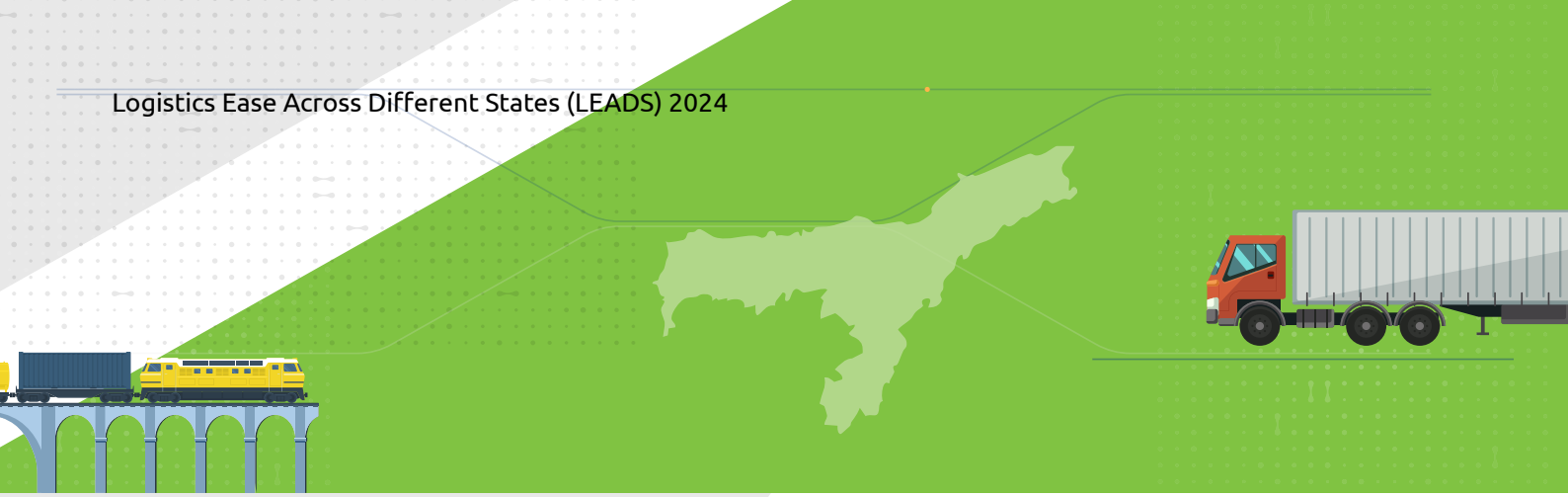
Short-term opportunities

1. Demand for the development of modern, well-equipped warehousing and cold storage facilities with power backup in the State. For example, the shortage of such storage and warehousing infrastructure was highlighted by the stakeholders, particularly for sectors such as agriculture and horticulture produce. The State government should undertake a study to identify locations and capacity requirements for such facilities.
2. Requirement for strengthening of security at warehouses and other critical locations to reduce cargo and truck accessories theft.

Long-term opportunities

3. Unmet demand for development of truck terminals with adequate parking and resting facilities along the border routes in the State. For example, NH29 connecting Assam to Dimapur was highlighted as one of the important routes for setting up truck terminal.
4. Growing requirement for promoting the Siang River as a hub for riverine trade by developing modern jetties, terminals and storage facilities along its banks. This approach will facilitate the transportation of agricultural produce and timber to neighbouring States, including Assam and Pasighat.
5. Requirement for coordinating with Indian Railways to prioritize extending rail links within the State. For example, stakeholders specifically highlighted need for extensions from Tinsukia to Tezu, Roing and Itanagar.
6. Opportunity to promote the development of the Trans-Arunachal Highway (TAH) under the Bharatmala project, in coordination with NHAI to improve connectivity across the state.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.



Assam

State Performance Snapshot

Assam has maintained its position as an **'Achiever'** in the North-East group. The State's performance surpasses the group average and aligns with the National average across most indicators, highlighting the Government's efforts to enhance the logistics ecosystem through multiple initiatives.

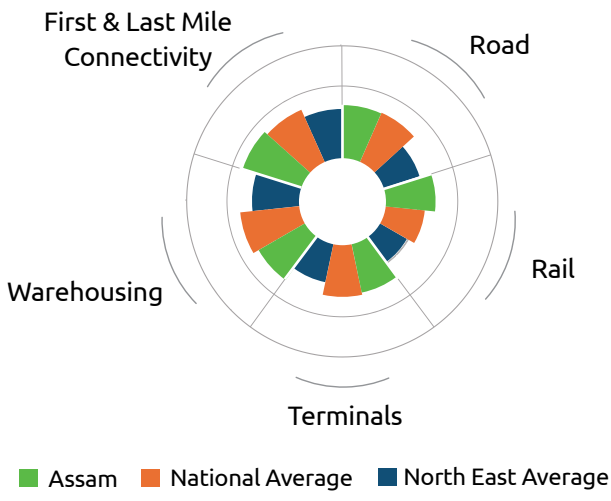
Assam is taking steps to transform its logistics sector, focusing on key industries and aligning investments with priority export products. The State is enhancing infrastructure by establishing advanced logistics facilities, promoting sustainable practices such as adopting electric vehicles, utilising renewable energy sources and integrating digital technologies for better regulation and efficiency. A single-window clearance mechanism and digitalised processes for permits and registrations are being implemented to streamline operations. Skill development is a priority, with sector-specific training programmes, partnerships with leading institutions and initiatives supporting women in the workforce. Additionally, Assam is improving inland waterway transport and fostering regional connectivity to neighbouring countries, positioning itself as a key logistics hub. Sustainability remains central, with targets for emissions reduction, clean fuels and green certifications for logistics hubs.

Logistics Infrastructure

Assam performs better than National and group averages in the 'Adequacy and Quality of Rail Infrastructure' and 'First- and Last-Mile Connectivity' indicators.

However, in 'Adequacy and Quality of Road, Terminals and Warehousing Infrastructure', Assam scores higher than the group average but lower than National average. This disparity reflects the State's strong performance relative to other North-East States, highlighting the potential for improvement to align with the National benchmark.

Figure 165: Logistics infrastructure performance for Assam



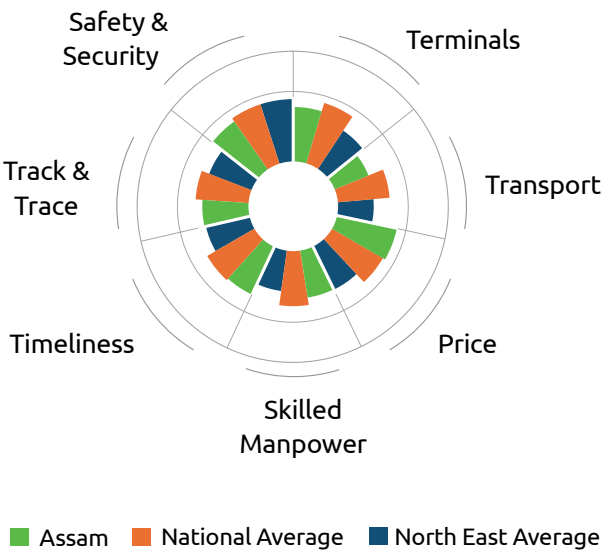
Assam plans to develop logistics infrastructure, focusing on sectors such as food processing, bamboo, pharmaceuticals, IT, textiles and tourism (as outlined in the 2019 Industrial Policy). The State's Logistics Policy supports flagship programmes such as One District One Product (ODOP) and District as Export Hubs, aligning private investments with priority export products. Key initiatives include developing truck terminals with repair, maintenance and rest facilities in addition to dedicated parking near industrial parks. Assam aims to promote inland water transport via National Waterways 2 and 16, with immigration checkpoints at Silghat, Pandu, Karimganj and Dhubri. The policy emphasises modern logistics services, advanced transport management, Public–Private Partnership (PPP) frameworks and enhanced regional connectivity with Bangladesh, Bhutan, Nepal, Southeast Asia and neighbouring States, fostering corridor-based infrastructure development.

Logistics Services

Assam's performance for most indicators pertaining to Logistics Services ranks lower than the National average but higher than the group average. These indicators include 'Adequacy and Quality of Terminal Services', 'Skilled Manpower' and 'Timeliness of Cargo Delivery'.

Assam ranks lower than the National and group averages for indicators such as 'Adequacy and Quality of Transport Services' and 'Safety and Security of Cargo', highlighting areas for intervention. 'Reasonableness of Price of Logistics Services' is a parameter where the State ranks higher than the group average and at par with the National average.

Figure 166: Logistics services performance for Assam

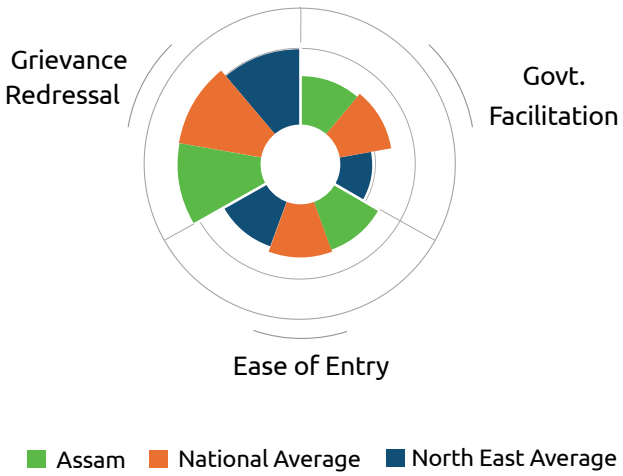


Assam plans to prioritise its logistics sector by promoting digital technologies such as Radio-Frequency Identification (RFID) and GPS for better regulation and launching sector-specific skill programmes with institutions such as IIT Guwahati. Initiatives such as the Assam Skill University Project and Flipkart's Supply Chain Academy aim to bridge skill gaps and create jobs, particularly in e-commerce logistics, and five female-focused industrial training institutes support training programmes for women. Partnerships such as IIT Guwahati's with Airbus India under the UDAN scheme focus on advancing aviation and logistics education. The State also plans to establish a logistics crisis management group to ensure smooth commodity movement during emergencies, strengthening Assam's position as a logistics hub.

Operating and Regulatory Environment

Assam's 'Quality of Grievance Redressal Mechanisms' scores are better than the group average and are at par with the National average, indicating that a competitive mechanism is in place. In terms of 'Ease of Facilitation by the State' and 'Ease of Entry from the Neighbouring State/UT', Assam scores more than the group average but falls behind the National average, indicating a decent performance in the group.

Figure 167: Operating and regulatory environment performance for Assam



To enhance the ease of doing business, the Assam government plans to implement a single-window clearance mechanism, granting logistics and warehousing-related permissions such as trade licences and building plan approvals through a common application form on the ease of doing business portal. Co-managers will assist projects with clearances, while efforts to promote unified technical standards and digitalised processes, such as vehicle registration transfers and permits, aim to streamline operations.

Sustainability and Equity Logistics

Assam has better performance scores than National averages in 'State's Commitment to Green Logistics' and stands at par with the group average.

Although 'Women's Participation in Logistics Workforce' is a parameter where Assam is doing better than group average, it falls behind the National average, indicating a need for more inclusive policies.

Figure 168: Sustainability and Equity Logistics performance for Assam

Assam is working towards clean fuel adoption in logistics by planning to promote EVs for short-distance transport and developing EV charging corridors as part of its logistics master plan. The Assam Electric Vehicle Policy 2021 targets 25% BEV registrations by 2026 and aims to phase out fossil fuel-based fleets by 2030. The State supports Science-Based Targets (SBTi), Bharat Stage VI vehicles, hydrogen fuel-cell trucks and renewable-powered plants to combat emissions. Large logistics hubs will align with sustainability goals by achieving Green Rating for Integrated Habitat Assessment (GRIHA) certification.

Potential Opportunities in the State

Assam stands out within the North-East group due to its strong connectivity and developing logistics ecosystem. While the State is well-positioned, certain areas require interventions to enhance infrastructure further and establish Assam as a prominent logistics hub in the North-East region. By addressing these gaps, Assam can strengthen its logistics capabilities and boost its role as a key regional trade and commerce player.

Stakeholder's Insights

> Many roads leading to industrial and economic zones are narrow, winding and in poor condition such as in an around Transport Nagar and Khanapara.

> Infrastructure deficits and Assam's remoteness from major manufacturing hubs drive up transportation costs, reducing competitiveness.

> Assam has yet to adopt technologies such as GPS tracking and warehouse automation, causing inefficiencies, delays and higher costs.

> Inland Waterways in Assam offer significant potential, but progress in translating plans into actionable outcomes on the ground has been limited.

Recommended Actionable Measures

Short-term opportunities

1. Demand for the development of modern, well-equipped warehousing and cold storage facilities with power backup in the State was highlighted by the stakeholders particularly for sectors such as agriculture and pharmaceuticals. The State government should undertake a study to identify locations and capacity requirements for such facilities.
2. Upgrade approach roads to industrial hubs and economic zones. For example, the approach roads in and around areas such as Khanapara and Transport Nagars, have been reported as narrow and in poor condition.
3. Promote implementation of a Unified Logistics Interface Platform (ULIP) at the State level to enable a track-and-trace mechanism.

Long-term opportunities

4. Prioritise the development of truck terminals along the border routes, particularly the one connecting Assam to Dimapur (Nagaland) and Shillong (Meghalaya).
5. Co-ordinate with IWAI to expedite the operationalization of inland waterway routes in the State. The stakeholders highlighted the need for enhancing cargo movement through inland waterways at pre-identified locations such as Jogighopa and Pandu.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with State's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Manipur

State Performance Snapshot

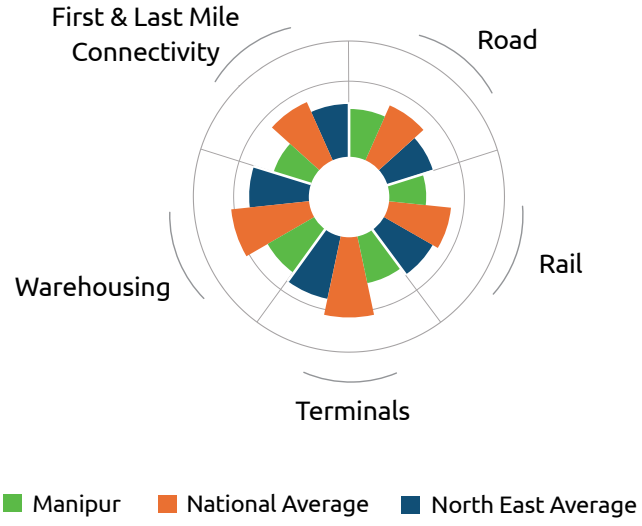
Manipur is categorised as an **'Aspirer'** within the North-East group. The State's performance is below the National and group averages for almost all indicators. The government can focus towards implementing strategic initiatives to promote its logistics ecosystem.

Manipur is undertaking development and improvement of its existing facilities. The State's logistics policy aims to address capacity and operational bottlenecks while promoting the establishment of multi-modal logistics parks, truck terminals and borders to optimise logistics efficiency. Manipur emphasises workforce development with specialised training programmes in collaboration with educational institutions and encourages innovation by adopting modern technologies and technical patents. Regulatory reforms, including simplified business processes and grievance redressal mechanisms, are planned which are expected to attract private sector investment. The policy also prioritises sustainable logistics by promoting green technologies, clean fuel adoption and energy-efficient practices to reduce environmental impact.

Logistics Infrastructure

Manipur performs better than the group average and below the National average in 'Adequacy and Quality of Road Infrastructure'. On other indicators, including 'Adequacy and Quality of 'Rail Infrastructure', 'Terminals Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity Infrastructure', the State's performance is below that of the National and group averages. This highlights need for investments towards the State's logistics infrastructure.

Figure 169: Logistics infrastructure performance for Manipur



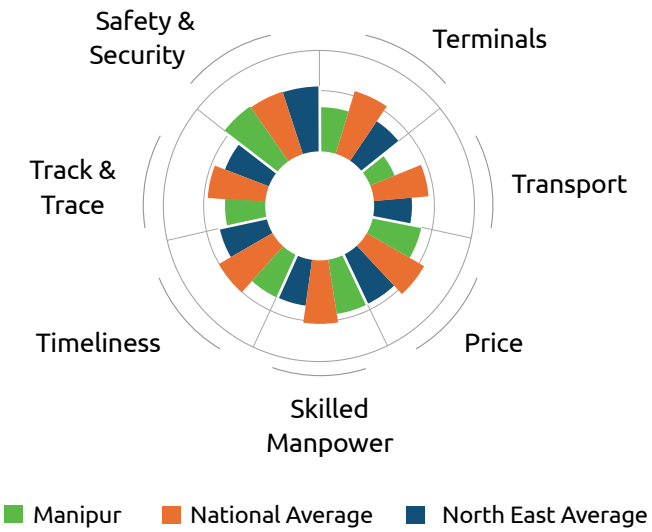
Manipur's Integrated Logistics Policy 2022 aims to enhance the State's infrastructure by comprehensively surveying existing facilities and services. This approach is expected to address bottlenecks while facilitating planning for future development in line with the Act East Policy and Trans-Asian Highway. The policy focuses on optimising existing logistics facilities under private and government control by setting performance parameters and engaging stakeholders. Key initiatives include the development of logistics parks, multi-modal logistics parks, truck terminals, container freight stations and land ports, especially along the international border with Myanmar.

The policy also aims to improve storage and handling facilities, support e-commerce growth by establishing centres near demand locations and enhance connectivity for logistics facilities, including cold storage and warehouses, to improve efficiency and reduce costs. The policy also emphasises the construction of truck terminals to improve driver amenities, reduce congestion and facilitate smoother operations.

Logistics Services

Manipur performs better than group on the 'Safety and Security of Cargo' and 'Skilled Manpower' indicators. On all other indicators, 'Adequacy and Quality of Terminal Services', 'Adequacy and Quality of Transport Services', 'Reasonableness of Price of Logistics Services', 'Availability of Track and Trace for Cargo' and 'Timeliness of Cargo Delivery', the State's performance is lower than the group and National averages. This indicates a need for the State to reform logistics services.

Figure 170: Logistics services performance for Manipur



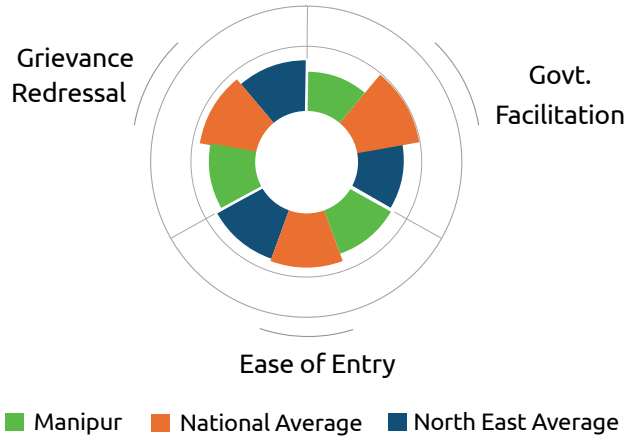
Manipur's logistics policy further emphasises workforce development with specialised training for managerial and ground-level roles in partnership with institutions such as Manipur University and NIT Imphal. A Trade Facilitation Cell is planned to foster stakeholder collaboration. The policy promotes modern technology for tracking time-sensitive cargo, incentivising innovation through support for technical patent registrations for technology providers, start-ups and businesses.

The State may explore options to enter into partnerships with education institutions and industry bodies for promoting skill development initiatives for the logistics sector.

Operating and Regulatory Environment

Manipur's performance is below group and National averages for 'Ease of Facilitation by The State/UT', 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms'. This suggests that these areas require state-level facilitation and regulatory process improvement.

Figure 171: Operating and regulatory environment performance for Manipur

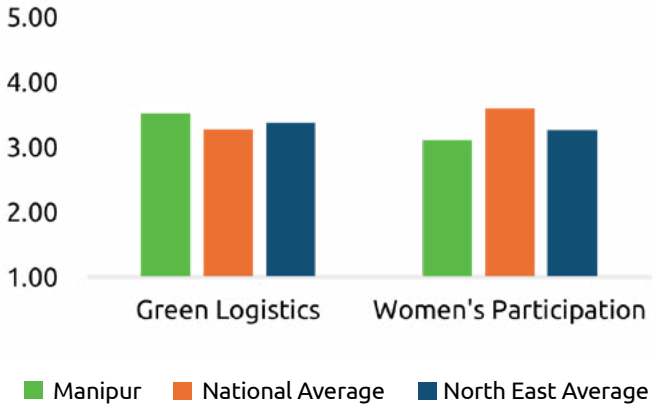


The policy focuses on improving the ease of doing business. It emphasises simplifying processes such as business registration, offering a single source for eligibility checks, reducing physical interactions for approvals and ensuring time-bound approvals. A dedicated logistics category on the single-window portal will streamline incentives and support, while a grievance redressal mechanism will ensure timely issue resolution.

Sustainability and Equity Logistics

Manipur performs below the group and National averages for 'Women's Participation in Logistics Workforce'. However, Manipur shows better performance than the group and National averages in 'State's Commitment to Green Logistics', indicating a strong governmental focus on sustainable logistics initiatives.

Figure 172: Sustainability and Equity Logistics performance\for Manipur



Manipur's Sustainable Logistics Policy aligns with national and international efforts to reduce carbon footprints. It promotes green logistics through solar panels, rainwater harvesting, waste management and renewable energy at logistics facilities. The policy encourages green and GRIHA norms at new and existing facilities, supports EV charging infrastructure and explores greener transport modes to reduce emissions. Additionally, it promotes using battery-operated vehicles to transport goods and enhance sustainability.

The State should prioritize development of an action plan for promoting sustainable logistics for freight movement to and from the state.

Potential Opportunities in the State

Manipur's location as a gateway to Southeast Asia offers various opportunities for enhancing connectivity and trade. Potential opportunities in the logistics sector were identified based on in-depth stakeholder consultations. Customised actionable measures have been developed to facilitate sector-wide interventions.

Stakeholder's Insights

> Inadequate road connectivity in Manipur and North-East States restricts larger trucks, forcing cargo offloading to smaller vehicles, which increases logistics costs.

> Lack of transport hubs with safe resting facilities for drivers, leading to security issues and theft of truck accessories such as batteries, tires and diesel.

> Illegal toll collections at locations such as Mau Gate (Manipur Border) raise operational costs and hinder smooth transport.

> Limited market connectivity results in poor service, with receivers having to collect goods from designated points, disrupting the supply chain.

Recommended Actionable Measures

Short-term opportunities

1. Potential for development of logistics and warehousing infrastructure in the State, including provisions for power backup. This requirement is particularly highlighted to support the storage needs of agricultural and horticultural produce in Manipur.
2. Need to promote the elimination of illegal toll collections at multiple points in the State through stricter enforcement and greater transparency in toll policies. Key constraint points include locations such as Balaji Mandir, Lanka and Mau Gate, as highlighted by stakeholders.
3. Requirement for development of targeted policies to encourage investment and infrastructure development.

Long-term opportunities

4. Opportunity to develop dedicated transport hubs with parking and resting facilities and logistics support to streamline operations and enhance efficiency. The State government should identify specific locations based on a detailed study.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Meghalaya

State Performance Snapshot

In 2024, Meghalaya is categorised as a **'Fast Mover'** in the North-East group, marking its progress from the previous year. The State's performance is at or above the group average for all indicators, and the State Government is undertaking multiple initiatives for the sector.

Meghalaya is strengthening its logistics and industrial ecosystem by enhancing infrastructure, fostering investment and promoting sustainability. The State is working to improve regional connectivity through corridors that link it with neighbouring countries and major economic zones while streamlining land allocation processes to attract industrial development.

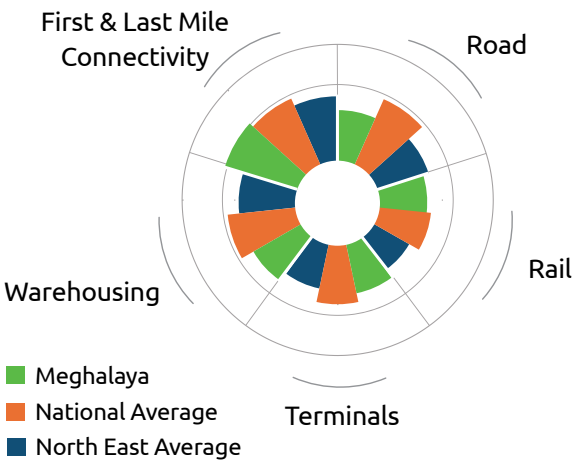
A single-window platform has been established to boost the ease of doing business for faster approvals and compliance processes, supported by a dedicated authority to oversee investment promotion. The State is also committed to advancing clean energy adoption, with targeted EV penetration goals, investments in charging infrastructure and initiatives to support EV start-ups. Furthermore, skill development programmes and short-term courses in collaboration with industry and academic institutions aim to create a skilled workforce aligned with modern industrial needs. These measures, combined with an emphasis on sustainability and eco-friendly transport options, are positioning Meghalaya as a key hub for logistics, trade and industrial growth in the region.

Logistics Infrastructure

Meghalaya's performance in 'Adequacy and Quality of First- and Last-Mile Connectivity' ranks better than the National and group averages. However, the State's performance in 'Adequacy and Quality of Road Infrastructure' falls below the National and group averages, highlighting a need for improvements in road infrastructure to enhance overall connectivity.

In terms of 'Quality and Adequacy of Rail, Terminal and Warehousing Infrastructure', the State ranks below the National average but outperforms the group average.

Figure 173: Logistics infrastructure performance for Meghalaya



When compared with LEADS 2023, the State has performed significantly better across all five indicators of logistics infrastructure.

Meghalaya is positioned to benefit from the upcoming development of the Bangladesh, Bhutan, India, and Nepal (BBIN) corridor, which will connect the State with Bangladesh, Nepal and Bhutan, as part of a broader initiative to strengthen logistics infrastructure in NER. Furthermore, efforts are underway to enhance rail connectivity, establish air links with ASEAN countries and develop national highway corridors to improve trade and transportation with Bangladesh. To attract investments and support the industrial ecosystem, the Government of India has launched the Uttar Poorva Transformative Industrialization Scheme (UNNATI) 2024, which aims to accelerate economic growth in the region. The State government also plans to create dedicated land banks for industrial use, adopt community-based ownership models and develop a comprehensive repository of land parcels suitable for industrial activities. These initiatives aim to streamline land allocation, foster industrial development and strengthen Meghalaya's role in regional logistics and trade networks.

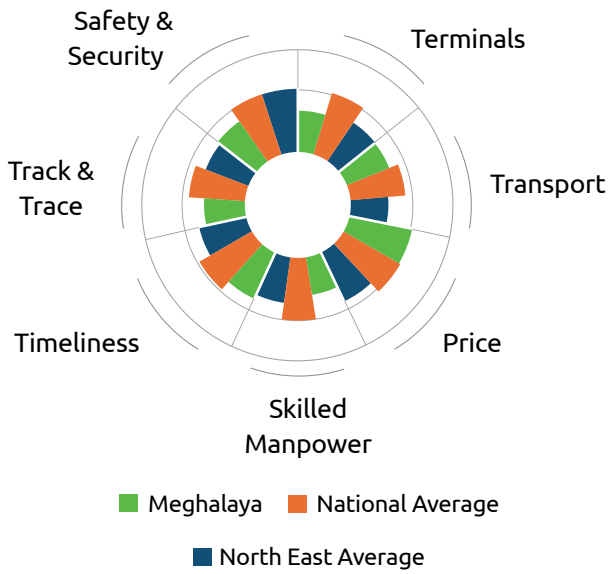
Logistics Services

Meghalaya's performance in 'Adequacy and Quality of Transport Services', 'Reasonableness of Price of Logistics Services' and 'Timeliness of cargo delivery' is higher than the group average but has fallen behind the national average.

'Adequacy and Quality of Terminal Services' and 'Skilled Manpower' and 'Availability of Track and Trace for Cargo' are below national and group standards, indicating potential improvements.

Compared to LEADS 2023, the State has performed significantly better in 'Adequacy and Quality of Terminal Services', 'Reasonable of Shipment Prices' and 'Timeliness of Cargo Delivery'.

Figure 174: Logistics services performance for Meghalaya



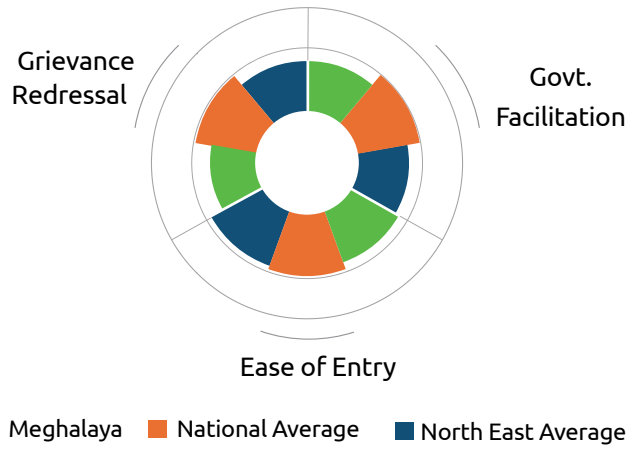
Meghalaya plans to facilitate the introduction of short-term courses (4–6 months) focused on EV charging stations and related systems in collaboration with academic institutions such as polytechnics and engineering colleges. These courses will be developed in consultation with the EV industry and include short internship modules with partnering original equipment manufacturers to provide practical experience and industry exposure.

Operating and Regulatory Environment

All 'Operating and Regulatory Environment' indicators 'Quality of Grievance Redressal Mechanisms', 'Ease of Facilitation by The State' and 'Ease of Entry from the Neighbouring State/UT' aligns with group averages, highlighting an opportunity for Meghalaya to ease regulations and promote a more efficient operating environment.

Overall, the State has performed better on all three indicators than LEADS 2023.

Figure 175: Operating and regulatory environment performance for Meghalaya

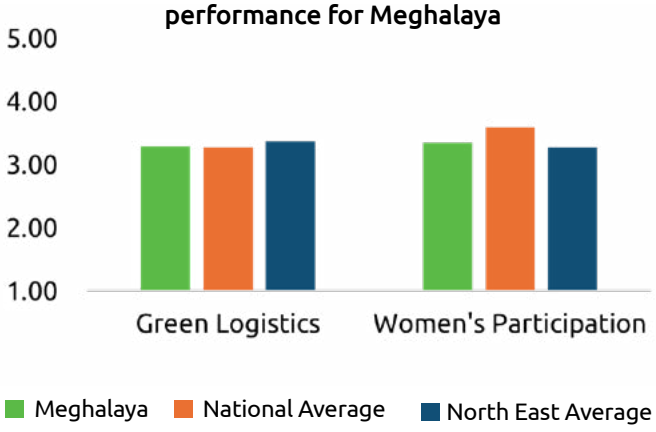


Meghalaya is enhancing its ease of doing business framework by developing the Unified Investment Portal (UIP), a single-window platform designed to streamline business approvals, licences and compliance processes. This user-friendly portal eliminates physical interactions with government departments, offering status tracking, automated approvals, digital documentation and e-payment options, thereby reducing business costs and time. The UIP also facilitates logistics compliance, including e-permits and automated processes.

Sustainability and Equity Logistics

Meghalaya is perceived to be performing below the group average in terms of 'State's Commitment to Green Logistics'. However, in 'Women's Participation in the Logistics Workforce', the State performs better than the group average but still falls behind the National average. This indicates potential for improvement in both sustainability and gender inclusivity within the logistics sector.

Figure 176: Sustainability and Equity Logistics performance for Meghalaya



Meghalaya is promoting EV adoption, targeting 15% EV penetration over the next five years and aiming to deploy 20,000 EVs during the policy period. This initiative is expected to save 50 lakh litres of fuel annually and reduce CO2 emissions by over 36.5 lakh kg annually. The State will encourage investments in slow and fast EV charging networks in public spaces and government buildings through public–private partnerships to support this transition.

Potential Opportunities in the State

Meghalaya has potential to improve its logistics sector, with opportunities to enhance infrastructure for greater ease of transport. Potential opportunities for growth have been identified through extensive consultations and on-ground assessments.

Stakeholder's Insights

> Many locations across the North-East States lack adequate transport hubs/storage infrastructure that offer a safe environment and resting facilities for drivers and their support staff.

> Efforts should focus on operationalizing existing Integrated Check Posts (ICPs) by enhancing operational management and addressing road connectivity issues.

> Challenging terrain and inadequate infrastructure in the North-East leads to longer logistics timelines, driving up operational costs across all North-East States.

Recommended Actionable Measures

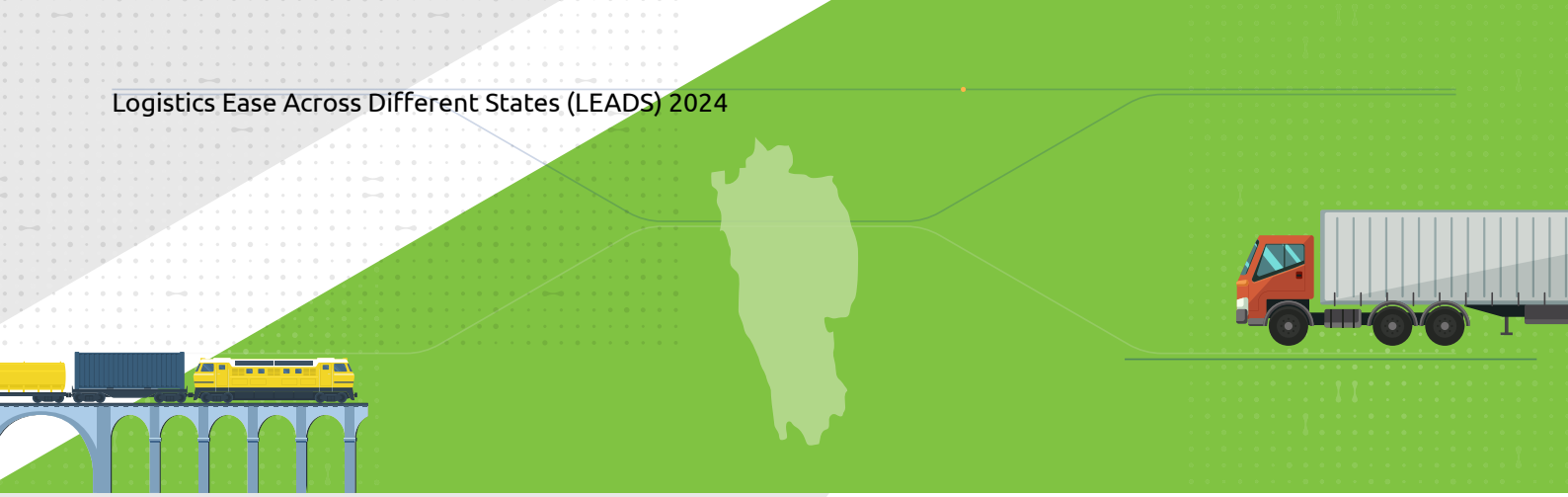
Short-term opportunities

1. Unaddressed demand for storage and warehousing facilities across the State in strategically suitable locations. For instance, a lack of warehouses and cold storage facilities has been identified as a constraint in the following areas:
   (a) Byrnihat (NH-37) for mineral/industrial goods and agricultural products,
   (b) Umiam (NH-06) for agricultural produce,
   (c) Dawki, particularly for trade with Bangladesh and
   (d) Jowai for minerals and industrial goods.
2. Potential for development of road connectivity between industrial/economic zones and consumption centres to enable the use of larger-volume trucks, thereby reducing logistics costs. Stakeholders have highlighted the following specific needs:
   (a) Widening and upgrading the Shillong–Byrnihat corridor (NH-40 and NH-6),
   (b) Widening the Shillong–Tura Roda stretch (NH-217) and
   (c) Converting narrow roads into two-lane highways along the Baghmara–Mahendraganj route (SH-8).
3. Need for formulating policies to encourage the establishment of storage and warehousing facilities in the State.

Long-term opportunities

4. Unmet demand for dedicated transport hubs with adequate parking and resting facilities along the critical routes in the State. For example, stakeholders have specifically highlighted the need for parking bays and truck lay-bys along the Jowai–Dawki stretch (NH-40E) and the Shillong–Tura Road (NH-217).

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.



Mizoram

State Performance Snapshot

Mizoram is categorised as **'Fast Mover'** in the North-East group, marking its progress from previous year. The State's performance aligns with or exceeds the group average across all indicators. The State has been actively implementing initiatives in the sector to strengthen its position.

Mizoram is focused on building a robust logistics framework to enhance connectivity, trade and storage while promoting sustainability. The State's logistics master plan prioritises developing highways, waterways and modern logistics networks to streamline transportation and supply chains. Key initiatives include upgrading trade points, creating cold storage, air cargo terminals and truck terminals to reduce congestion and improve efficiency. Procedures are being simplified to align with ease of doing business, and a dedicated logistics facilitation cell is being established to attract investment and manage logistics projects. The State also incentivises green practices through Green Rating for Integrated Habitat Assessment (GRIHA) and Leadership in Energy and Environmental Design (LEED) standards, promoting energy efficiency and sustainable development.

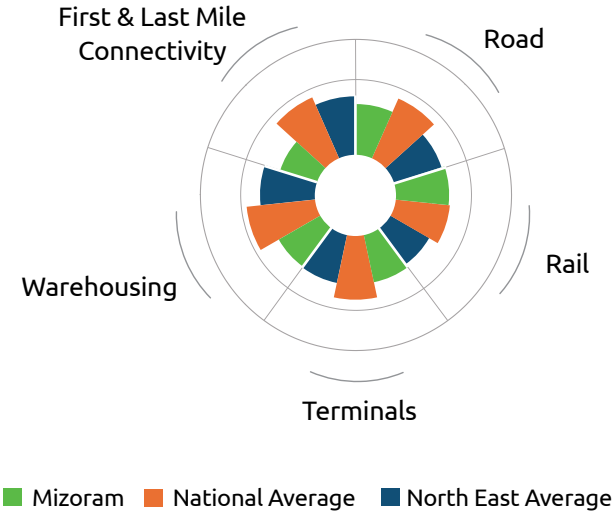
Logistics Infrastructure

The State's performance in 'Adequacy and Quality of Rail, Warehousing and Terminal Infrastructure' is closely aligned with the group average, with scope for further improvement to meet the national average.

Additionally, there is potential for improvement in areas such as 'Adequacy and Quality of Road Infrastructure' and 'First- and Last-Mile Connectivity'. The State can boost its logistics infrastructure by enhancing these areas, further strengthening connectivity and overall efficiency.

When compared with LEADS 2023, the State performed better in Adequacy and Quality of 'Road Infrastructure', 'Rail Infrastructure' and 'Terminal Infrastructure'.

Figure 177: Logistics infrastructure performance for Mizoram



Mizoram is focusing on its logistics infrastructure with key initiatives to enhance connectivity, trade and storage capabilities. The Kaladan Multi-modal Transit Transport Project (KMMTTR), linking Kolkata with Myanmar's Sittwe port, will reduce reliance on the narrow Siliguri Corridor. At the same time, the Bairabi–Sairang railway line and the upgradation of Lengpui airport for cargo handling will further strengthen internal trade and export promotion.

The State plans to develop trade points along its borders with Myanmar and Bangladesh, including upgrades to land customs stations at Zokhawthar and Zorinpui and the integrated check post at Kawrpuichhuah. Border Haats at strategic locations will also be linked with improved transport logistics. Furthermore, logistics infrastructure development includes cold storage, agriculture consolidation centres, jetties, air cargo terminals and truck terminals for maintenance and rest facilities, addressing congestion issues and ensuring smoother operations. These measures aim to establish Mizoram as a key regional trade and economic growth player.

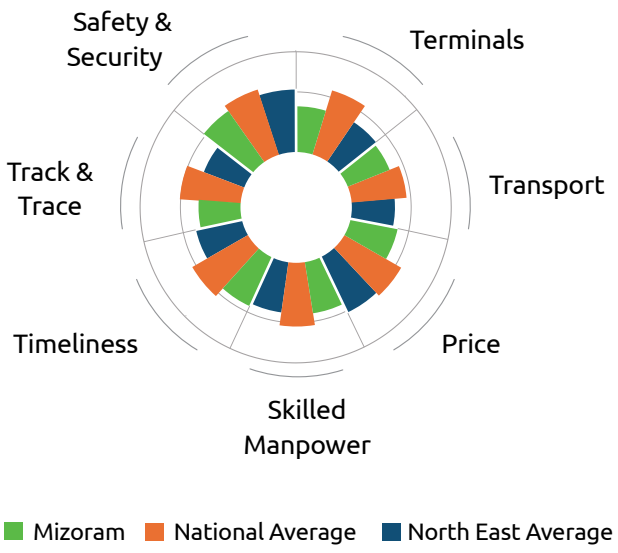
Logistics Services

Mizoram's performance has been marginally better than the group average for some indicators such as 'Adequacy and Quality of Terminal, Transport Services', 'Skilled Manpower' and 'Timeliness of cargo delivery'. However, the State still falls behind the national average in all these areas, highlighting areas for further improvement to reach national benchmarks.

In indicators such as 'Reasonableness of Price of Logistics Services' and 'Track and Trace' Mizoram performs below both national and group averages.

When compared with LEADS 2023, the State has performed better in 'Reasonable of Shipment Prices', 'Skilled Manpower', 'Timeliness of Shipment Delivery' and 'Safety and Security of Cargo'.

Figure 178: Logistics services performance for Mizoram



Mizoram aims to establish a comprehensive logistics framework by constituting a special task force to oversee the creation and implementation of a logistics master plan. This plan will focus on developing national and State highways, waterways and other critical logistics infrastructure. The policy emphasises building efficient supply chain logistics for agriculture and horticulture products through regulatory and facilitative mechanisms. It also seeks to connect raw-material supply locations with manufacturing centres, ensuring seamless transport and logistics. Industrial growth areas and economic zones will also be developed with modern logistics networks to boost the manufacturing sector, attract investments and create employment opportunities.

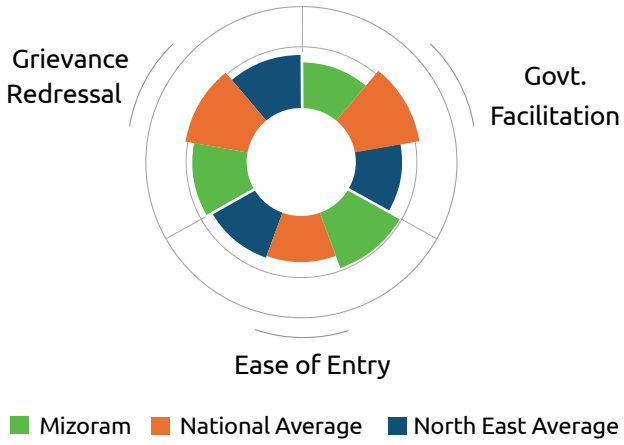
Operating and Regulatory Environment

Mizoram outperforms the National and group averages in 'Ease of Entry from the Neighbouring State/UT'. In 'Quality of Grievance Redressal Mechanisms', the State performs better than the group average but indicates potential to further enhance this system to align with the National average and continue improving service quality.

For 'Ease of Facilitation by The State', the State scores lower than the group and National averages, indicating an opportunity to refine policies and enhance the overall ease of doing business and operations within the State.

The State has outperformed in all three indicators compared to its LEADS 2023 performance, particularly in 'Quality of Grievance Redressal Mechanisms' and 'Easy of Entry from Neighbouring States'.

Figure 179: Operating and regulatory environment performance for Mizoram

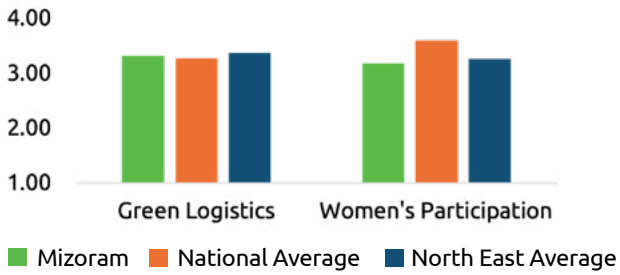


Mizoram's Logistics Policy aligns with ease of doing business principles, emphasising simplified procedures, streamlined approvals and reduced turnaround times for business registration and incentives. The State's Industrial Policy is under revision, with plans to potentially grant industry status to logistics. A Dedicated Logistics and Warehousing Facilitation Cell will oversee progress and attract private investments. This cell will work alongside the investor facilitation centre and single-window clearance authority under the Mizoram Ease of Doing Business Act 2022, to manage time-bound clearances, sanction special packages for logistics projects and facilitate activities such as container depots, freight forwarding and warehousing.

Sustainability and Equity Logistics

Mizoram performs better than the National average in 'State's Commitment to Green Logistics' but falls behind the group average. Meanwhile, the State falls behind National and group averages for 'women's participation in the logistics workforce', highlighting the importance of better inclusivity practices.

Figure 180: Sustainability and Equity Logistics performance for Mizoram



Mizoram aims to promote sustainable development by incentivising compliance with GRIHA norms and LEED ratings. Incentives will be provided for adopting green practices, including extensive horticulture and plantation, sewage treatment and water recycling for landscaping. Additional measures include using natural materials for exteriors, bio-methanation for bio-waste treatment and gas generation, rainwater harvesting, rooftop solar panels, energy-efficient windows and ensuring adequate ventilation and natural daylight. These initiatives aim to foster energy efficiency and environmental sustainability in infrastructure projects.

Potential Opportunities in the State

Mizoram is well-positioned to enhance its logistics and infrastructure se tor with a customised action plan to address its unique challenges. The State has growing economic potential and can benefit greatly from improvements in road connectivity and the establishment of key transport hubs.

Stakeholder's Insights

> The lack of trade facilitation centres with neighbouring countries limits potential trade and encourages unregulated activities seen in Kawreuichhuah, Mizoram.

> Poor road connectivity to major consuming markets in the North-East States hampers adequate cargo delivery.

> Sustained investment and targeted region-specific policies are crucial for enhancing logistics in the North-East.

Recommended Actionable Measures

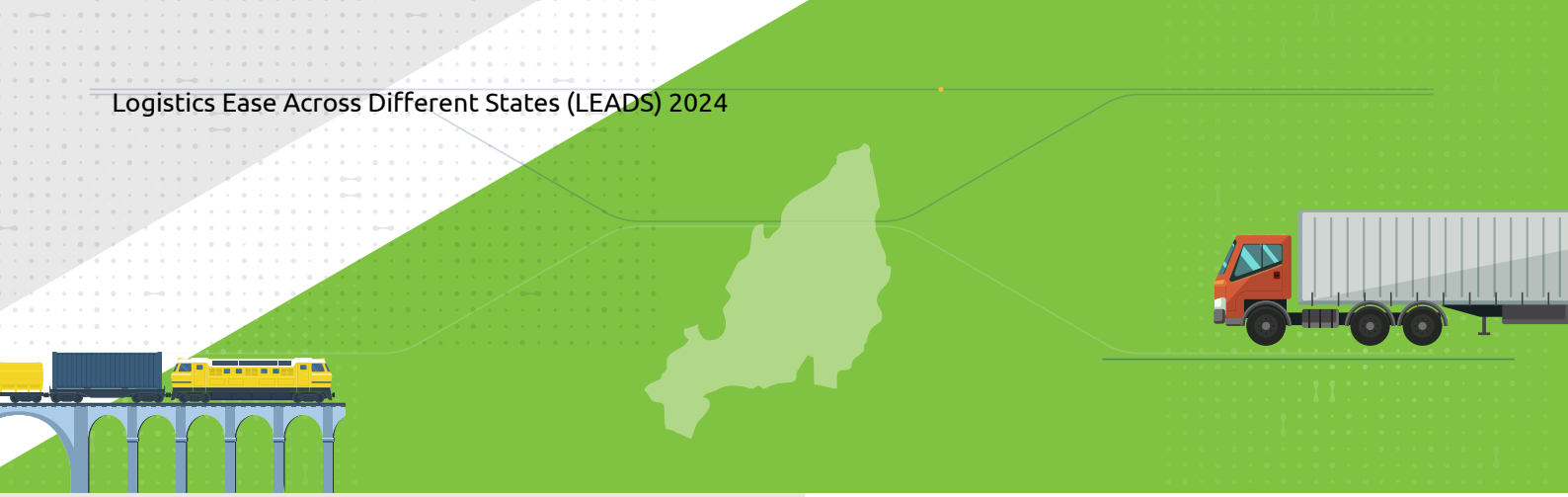
Short-term opportunities

1. Growing demand for region-specific storage and warehousing infrastructure requirements in the State; the Government to conduct a comprehensive study.
2. Need for devising policies to promote development of storage and warehousing facilities in the State, as stakeholders have highlighted a shortage of such facilities.
3. Unmet demand for upgrading road infrastructure connecting industrial and economic zones to key consumption markets within the State to accommodate larger trucks, thereby reducing logistics costs.

Long-term opportunities

4. Potential for developing dedicated transport hubs within the State with sufficient parking and rest areas. The State to undertake feasibility studies to identify the priority locations for setting up the transport hubs.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.



Nagaland

State Performance Snapshot

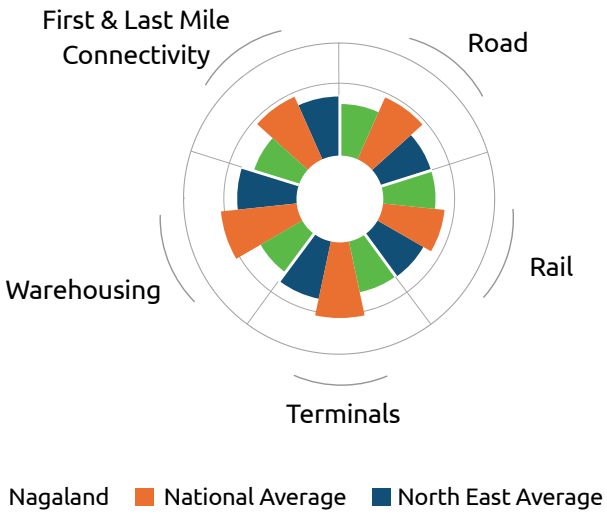
Nagaland has been categorised as **'Fast Mover'** within the North-East group. The State's performance is equal to or below the group average across most indicators. The State government is implementing strategic measures to enhance its logistics ecosystem and take targeted actions for improvement.

Nagaland is taking steps to address the sector challenges through its Draft State Logistics Policy, which is currently under review by the State Government. The policy aims to enhance the State's logistics infrastructure by establishing advanced logistics facilities, promoting sustainable practices and integrating digital technologies for better regulation and efficiency. The State plans to prioritise skill development with sector-specific training programmes, partnerships with leading institutions and initiatives supporting women in the workforce.

Logistics Infrastructure

Nagaland falls behind the National average scores across all logistics infrastructure indicators. The State also falls short of the group average scores for Adequacy and Quality of 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity' and 'Adequacy and Quality of Rail Infrastructure'. However, the State aligns with the group average scores for 'Adequacy and Quality of 'Road Infrastructure' and 'Rail Infrastructure', highlighting areas that need interventions.

Figure 181: Logistics infrastructure performance for Nagaland

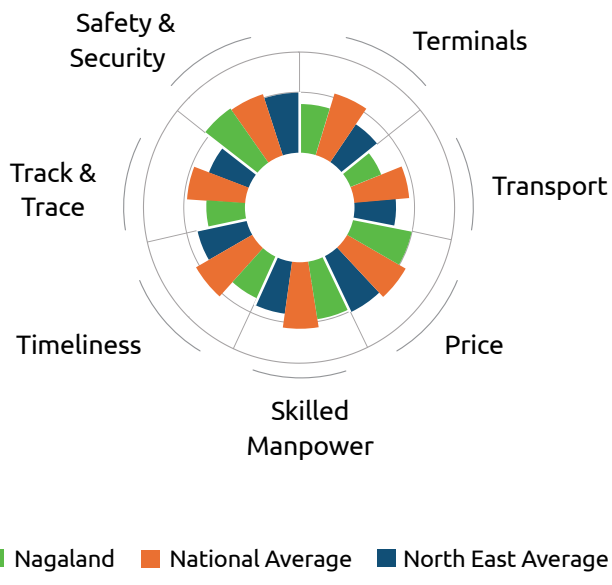


Nagaland is focusing on developing its logistics infrastructure through targeted completion of ongoing and planned infrastructure projects. Some key initiatives include proposed expansion of Dimapur Airport to include a cargo terminal facility for ODOP products from the State, such as chilli, turmeric, kiwis and pineapples. Under the Krishi UDAN scheme, further initiatives include planned construction of 360 km Trans-Nagaland Highway, identifying strategic locations for industrial and logistics hubs in the State, constructing modern aggregation facilities at five locations in State and development of a Unity Mall at Dimapur to promote ODOP products from Nagaland.

Logistics Services

Nagaland falls behind the national average on all logistics service indicators except in ensuring the 'Safety and Security of Cargo', wherein the State performs slightly above the national average.

Figure 182: Logistics services performance for Nagaland



The State aligns with the NER group average scores on all service indicators except in 'Adequacy and Quality of Transport Services', wherein it is slightly behind the NER group average score, indicating gaps requiring interventional steps. At the same time, it is performing above the group and national averages for 'Safety and Security of Cargo'

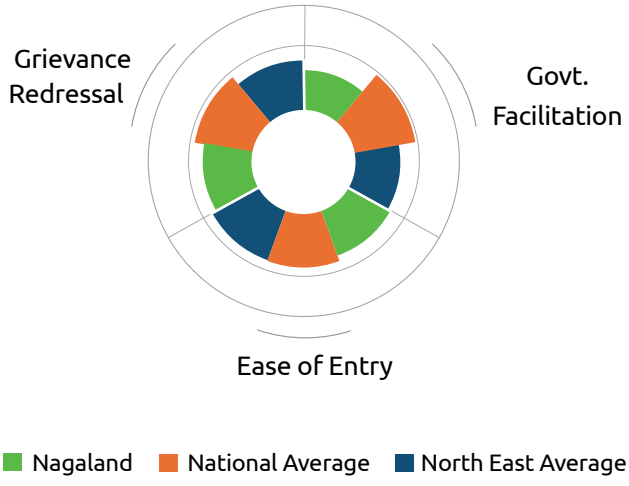
Nagaland is working towards equipping its logistics sector by promoting the adoption of digital technologies such as RFID and GPS for better control and effective regulation of the logistics fleet. The State is looking to bridge the skill gaps in the logistics sector by launching sector-specific development programmes in partnership with the ITIs in Nagaland, including training programmes targeted at the female workforce in the logistics sector.

Operating and Regulatory Environment

Nagaland aligns with the NER group average scores in all three indicators and aligns with the National average in the 'Ease of Entry from Neighbouring States'.

However, to catch up with the National average with regard to 'Ease of Facilitation', there is scope for intervention by the State.

Figure 183: Operating and regulatory environment performance for Nagaland

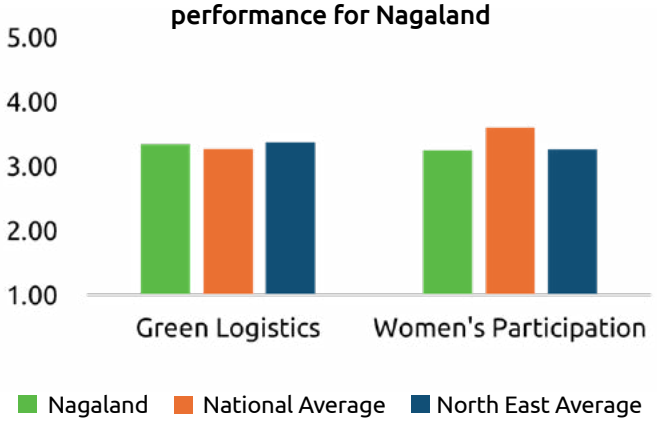


The State has aligned with the National Single-Window System of the Union Government to grant logistics and warehousing-related permissions, licences and approvals to enhance the ease of doing business.

Sustainability and Equity Logistics

Nagaland has scored higher than the national average and stands at par with the NER group average in 'State's Commitment to Green Logistics'.

Figure 184: Sustainability and Equity Logistics performance for Nagaland



However, there is scope for adopting a more inclusive approach to enhance 'Women's Participation in Logistics Workforce', wherein Nagaland falls behind the national average as well as the NER group average scores.

Nagaland is promoting the adoption of green and sustainable logistics practices by incentivising compliance with GRIHA norms and LEED ratings. The State supports the induction of Bharat Stage VI vehicles and hydrogen fuel-cell trucks in the State's transportation fleet.

Potential Opportunities in the State

Nagaland's strategic border location holds immense potential for cross-border trade; however, several challenges hinder its development. Key issues have been identified through on-ground stakeholder consultations, and potential opportunities have been highlighted to enable targeted interventions for effective and sustainable improvements in the logistics sector.

Stakeholder's Insights

> The State lacks adequate warehousing, cold storage, and pack-house facilities which are essential for the agricultural and horticultural sectors.

> Lack of transport hubs with safe resting facilities for drivers, leading to security issues and theft of truck accessories such as batteries, tires and diesel.

> Dimapur, the commercial and logistics hub of Nagaland. Expansion and upgradation of the Dimapur Railway Freight Terminal is urgently required.

> NH29, crucial for regional trade connecting Nagaland with Assam and Manipur, needs to be upgraded and widened to handle increased traffic.

Recommended Actionable Measures

Short-term opportunities

1. Demand for augmenting the handling capacity of the Dimapur Freight Terminal, including the modernization and expansion of the facility to handle larger volumes of goods, such as storage and container handling.
2. Requirement to strengthen security at warehouses and other critical locations to reduce cargo and truck accessories theft.
3. Potential for augmentation of road infrastructure connecting industrial zones to major transport routes to enable the plying of large-capacity trucks to reduce logistics costs.
4. Unmet demand for intra- and inter-State road connectivity upgrades through NESIDS funding, particularly for NH 29, NH 702 and NH 202.

Long-term opportunities

5. Opportunity for development of logistics parks, warehouses and cold storage facilities within the State. For example, stakeholders emphasised the need for (a) a logistics park with multimodal connectivity in Dimapur and (b) storage facilities along NH 29, particularly to support Nagaland's agriculture and horticulture sectors. The State government shall undertake detailed feasibility studies to identify other specific locations.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Sikkim

State Performance Snapshot

Sikkim is categorised as a **'Fast Mover'** within the North-East group. The State is performing below National average and at par with group average for most of the indicators. While the State has exhibited notable gains in infrastructure and pricing, key service-oriented indicators and certain regulatory aspects saw declines. This shift underscores the need for a balanced approach to consolidating strengths while addressing existing gaps.

Sikkim is focusing on key industries and aligning investments with priority export products such as pharmaceuticals. The State should enhance infrastructure by establishing logistics facilities, promoting sustainable practices such as EVs and renewable energy and integrating digital technologies for better regulation and efficiency. The shortage of a trained logistics workforce means that skilling initiatives should be prioritised, with sector-specific training programmes and initiatives such as supporting women's employment in the logistics workforce.

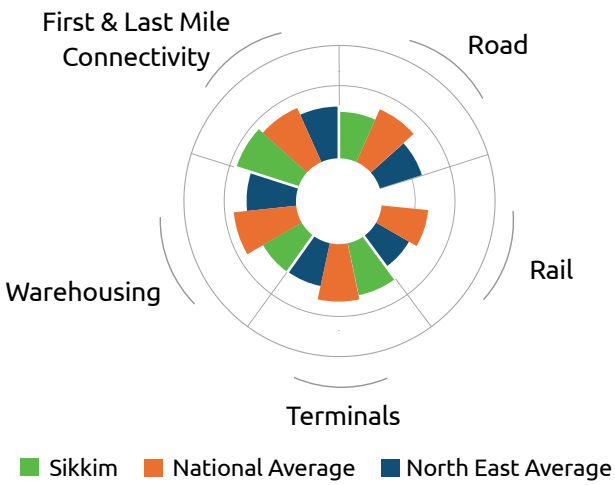
Further, The State needs to prioritize development of Logistics Policy and corresponding action plan to translate its plans into implementation. As Sikkim navigates its path forward, it must consolidate its improvements while addressing service-related and regulatory inefficiencies to achieve balanced growth and regain its status as an 'Achiever".

Logistics Infrastructure

Sikkim underperforms the National average on Adequacy and Quality of 'Road Infrastructure', 'Terminal Infrastructure' and 'Warehousing Infrastructure' highlighting the need for intervention.

At the same time, the State outperforms both the National and group averages in 'Adequacy and Quality of First- and Last-Mile Connectivity'.

Figure 185: Logistics infrastructure performance for Sikkim



Sikkim is working towards developing logistics infrastructure to augment capacity. The State Industrial Policy supports flagship programmes such as ODOP to align private investments with priority export products. Key initiatives include the Siliguri–Rangpo railway line being completed on a war footing to ensure passenger and freight movement ease, which is otherwise solely dependent on road connectivity in the State. Other focus areas include developing warehousing and logistics infrastructure and freight terminals.

The State should leverage PPPs for development of logistics infrastructure within the state.

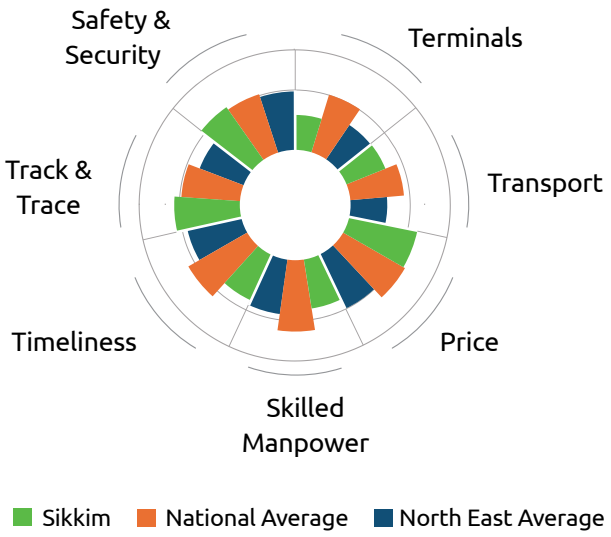
Logistics Services

Sikkim has performed better than both National and group averages in 'Availability of Track and Trace for Cargo'. The State is at par with the National average and has scored higher than the NER group score in the 'Reasonableness of Price of Logistics Services'.

However, there is scope for introducing interventions in the provision of 'Adequacy and Quality of Terminal Services', in which the State falls behind the National average and NER group scores. The State may also consider additional measures to augment 'Adequacy and Quality of Transport Services' and improve the 'Timeliness of Cargo Delivery'.

The State falls behind in 'Adequacy and Quality of Terminal Services' when compared to LEADS 2023 performance, emphasizing the need for targeted interventions in service quality improvements.

Figure 186: Logistics services performance for Sikkim



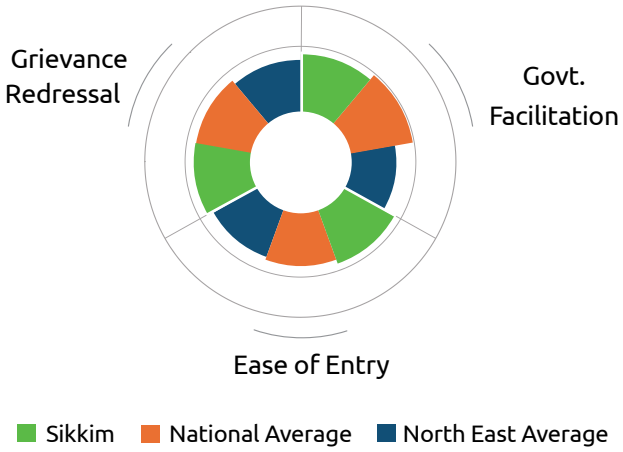
Sikkim is prioritising skill development in the logistics sector through targeted and sector-specific skilling and training programmes such as those provided by the State's Industrial Training Institutes (ITIs). The State should enter into partnerships with education institutions and industry bodies for promoting skill development in the sector.

Operating and Regulatory Environment

Sikkim has scored higher than the group scores in all three indicators and aligns with the National averages in two of three indicators, namely, 'Quality of Grievance Redressal Mechanisms' and in the 'Ease of Entry from Neighbouring States'.

However, to catch up with the National average with regard to 'Ease of Facilitation', there is scope for intervention by the State.

Figure 187: Operating & regulatory environment performance for Sikkim



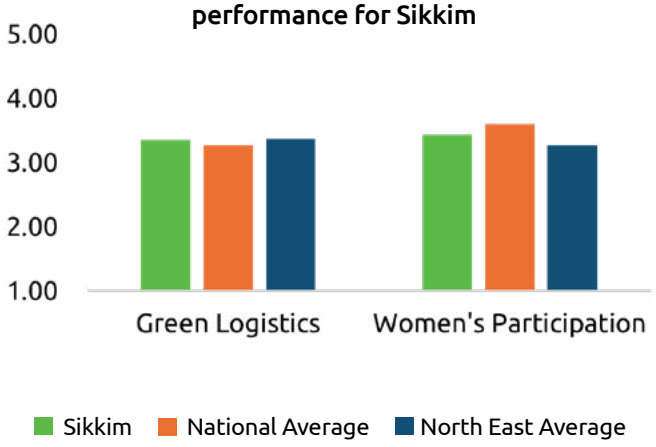
Sikkim has implemented the National Single-Window System, where all the logistics and warehousing-related clearances, permissions, licences and approvals shall be granted. As part of the Sikkim Industrial and Investment Policy 2024, to enhance ease of doing business, the government is implementing a single-window portal at the district and State levels to provide timely clearance for investment.

Sustainability and Equity Logistics

Sikkim has performed better than the National average and at par with the group average in 'State's Commitment to Green Logistics'.

However, there is scope for adopting a more inclusive approach to enhance 'Women's Participation in Logistics Workforce', wherein Sikkim scores higher than the NER group average but falls behind the National average.

Figure 188: Sustainability and Equity Logistics performance for Sikkim



By virtue of 82% of its landmass being under green cover and hydropower, Sikkim enjoys a carbon neutral or negative status. The State has implemented the Sikkim EV Policy 2023, which advances clean fuel adoption in logistics by promoting EVs for transport and developing an EV charging station within Gangtok. The State plans to decarbonise its public transportation system by optimally utilising EVs, green hydrogen and appropriate technology for solid waste management.

Potential Opportunities in the State

Sikkim's strategic location as a gateway to international trade presents vast opportunities, yet challenges remain in fully unlocking its economic and logistics potential. Stakeholder consultations have identified potential opportunities in the logistics sector for the state.

Stakeholder's Insights

> The road connecting Gangtok with Siliguri in West Bengal is narrow, in poor condition, and prone to landslides, which often results in delayed movement of cargo.

> Lack of proper road connectivity has impacted competitiveness of local industries based in Rangpo.

> Funds allocated for maintenance and construction of infrastructure required to support industries in the region have not been released.

Recommended Actionable Measures

Short-term opportunities

1. Potential demand for improvement of road infrastructure projects connecting to important industrial locations. For example, the stakeholders highlighted the need for improved road connectivity to Rangpo.
2. Opportunity for upgrading the road linking Sikkim with the rest of India. For example, stakeholders have highlighted importance of improving the road from NH10 in West Bengal (Siliguri corridor) to ensure all-weather connectivity.

Long-term opportunities

3. Growing requirement for developing warehousing and cold storage facilities to support the transportation of agricultural and horticultural produce. The State government to undertake detailed feasibility studies to identify the locations for such facilities.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Tripura

State Performance Snapshot

Tripura is categorized as a **'Fast Mover'** within the North-East group. The State's performance is at par or below the group and National averages for most logistics performance indicators. The State needs to undertake initiatives to improve the overall logistics ecosystem and regain its position as Achiever. It may focus on active implementation of multiple initiatives in the sector.

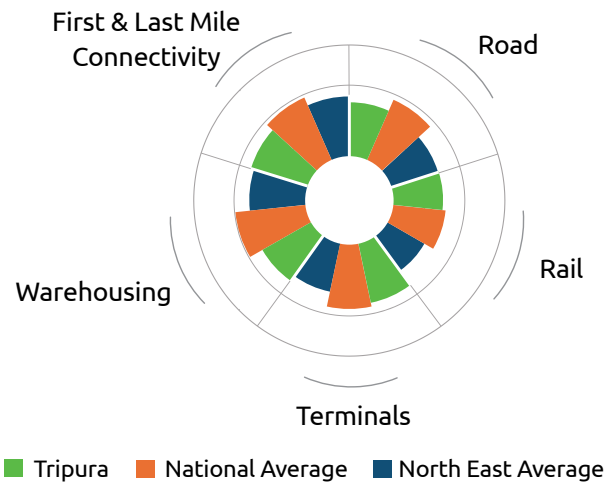
Tripura is enhancing its logistics ecosystem by focusing on infrastructure, services, sustainability and the ease of doing business. The State is developing transport zones, rail infrastructure, aggregation hubs and logistics parks near highways to boost competitiveness. Skill development is prioritised under Mukhay Mantri Dakyata Unnayan Prakalpa, with a skill development fund supporting training initiatives. Regulatory reforms such as the Swaagat portal and single-window clearance promote private investment and increase approval speeds. Although sustainability efforts are underway, detailed measures remain limited.

While the State has a logistics policy in place, the need is to develop corresponding action plan to implement its initiatives effectively. Further, the State may prioritize development of Regional Master Plan or City Logistics Plan to identify and address its infrastructure gaps.

Logistics Infrastructure

Tripura's performance in 'Adequacy and Quality of Road Infrastructure' is better than the group but falls short of the National average. Similarly, for Adequacy and Quality of 'Rail Infrastructure', 'Terminal Infrastructure', 'Warehousing Infrastructure' and 'First- and Last-Mile Connectivity Infrastructure', Tripura ranks higher than the group but below the National average. These scores indicate that while improvements have been made, room for enhancement remains to reach National standards.

Figure 189: Logistics infrastructure performance for Tripura



Tripura's logistics infrastructure development focuses on creating a robust and cost-efficient framework to enhance industrial competitiveness and attract investments. The State proposes acquiring 30-foot-wide land corridors along national and State highways for logistics facilities, reducing costs and fostering manufacturing growth. Additional land at existing rail stations, including Agartala, Jirania, Dharmanagar, Sabroom and Udaipur, will support warehouses, storage and multi-modal transport, ensuring integrated connectivity. Strategic land use policies facilitate the conversion of agricultural land for logistics purposes, improving feasibility and returns for investors. Aggregation hubs at district and village levels is planned to cater to specific commodities, featuring cold storage and warehousing for perishables. Comprehensive transport zones and parking terminals along key freight routes are expected to provide workshops, rest facilities and amenities for transport operators, ensuring a conducive environment for the logistics and transportation industries.

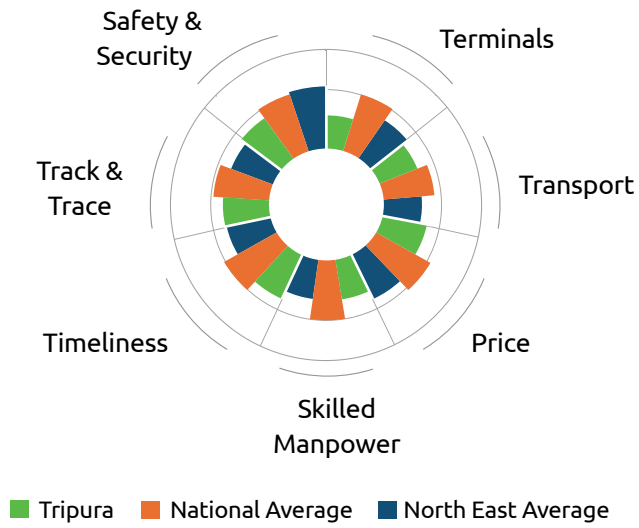
The State needs to put these initiatives into action by developing a policy implementation plan or a regional master plan. Additionally, the State should explore opportunities to engage in PPPs for infrastructure development.

Logistics Services

Tripura's performance in 'Adequacy and Quality of Terminal Services' is lower than the group and National averages. In 'Adequacy and Quality of Transport Services', the State ranks better than the group but still falls behind the National average. Tripura's performance is below the group and National averages for 'Skilled Manpower' and 'Safety and Security of Cargo', indicating a need for further development.

The 'Reasonableness of Price of Logistics Services' also ranks lower than the group and national averages. However, Tripura performs better than the group but still behind the National average for 'Availability of Track and Trace for Cargo'. 'Timeliness of Cargo Delivery' remains below the group and National averages, highlighting the need to improve service delivery and logistics operations.

Figure 190: Logistics services performance for Tripura

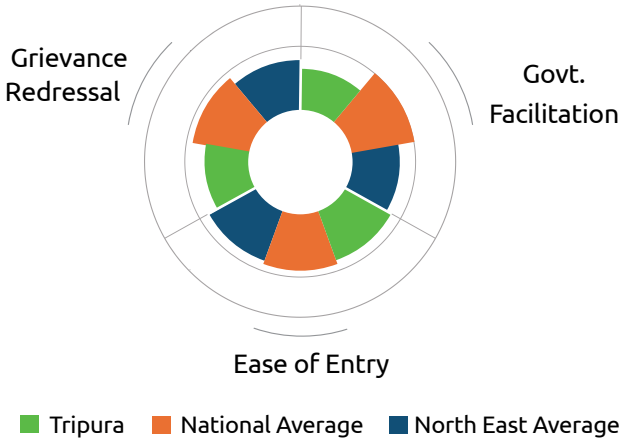


Tripura is focusing on skill development and workforce readiness to strengthen its logistics services and meet the sector's demands. Training programmes in the logistics sector are being conducted under the Mukhya Mantri Dakyata Unnayan Prakalpa, with plans for expansion to enhance workforce capabilities. A memorandum of understanding between the Directorate of Skill Development and the Higher Education Department facilitates degree colleges' employability enhancement and entrepreneurship programmes to bridge the skill gap. The Tripura Skill and Entrepreneurship Policy emphasises the apprenticeship model as a sustainable skilling approach, aligning with the National Apprenticeship Promotion Scheme to promote apprenticeships in the private and public sectors, including healthcare and education.

Operating and Regulatory Environment

Tripura's 'Ease of Facilitation by The State/UT', 'Ease of Entry from Neighbouring States/UTs' and 'Quality of Grievance Redressal Mechanisms' are all below the National and group averages. Improvements in these regulatory aspects are crucial to making logistics processes more efficient and attractive for businesses and stakeholders.

Figure 191: Operating and regulatory environment performance for Tripura



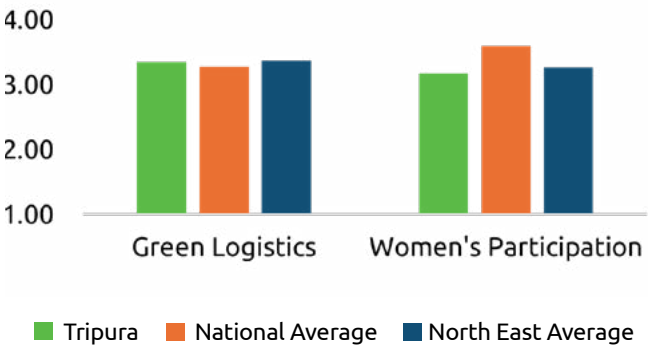
Tripura is working towards its operating and regulatory environment to attract investments and streamline logistics operations. The ease of doing business initiatives include a single-window clearance portal for unified approvals, fast-tracked statutory clearances and help desks for logistics parks. A core committee, led by the Chief Secretary, oversees logistics sector development, addressing bottlenecks and ensuring smooth operations. The Swaagat portal simplifies administrative processes for permits and registrations, while smart enforcement technologies improve compliance across key departments. This arrangement fosters a business-friendly ecosystem and drives growth in the logistics sector.

Sustainability and Equity Logistics

In terms of 'State's Commitment to Green Logistics', Tripura ranks better than the national average but remains below the group average. The State also has potential for improvement in 'Women's Participation in Logistics Workforce', as it ranks lower than national and group averages.

Further emphasis on sustainability and increasing women's involvement in the logistics workforce can contribute positively to Tripura's long-term development in the logistics sector.

Figure 192: Sustainability and Equity Logistics performance for Tripura



Tripura is progressing towards sustainable logistics through preliminary initiatives; however, detailed information on specific measures remains limited.

Potential Opportunities in the State

Potential opportunities in the State's logistics sector have been identified based on extensive on-ground stakeholder consultations. The same have been highlighted to address these challenges, focusing on sustainable and targeted reforms.

Stakeholder's Insights

> Limited connectivity restricts large trucks, causing cargo transfers, delays and high costs in industrial and economic zones.

> Bureaucratic delays and unclear trade processes hinder efficiency, encourage illegal practices and limit cross-border trade opportunities.

> Insufficient storage spoils perishables, delays operations and raises costs, reducing logistics efficiency and competitiveness.

> Poor security causes theft of truck parts and cargo, increasing losses and reducing logistics reliability in Tripura.

Recommended Actionable Measures

Short-term opportunities

1. Unmet demand for augmenting dedicated transport hubs with proper parking and resting facilities to improve operational efficiency for freight transport.
2. Potential for strengthening security at critical locations in the State to reduce theft of truck accessories and ensure cargo safety. For example, stakeholders particularly highlighted the need for such safety measures at Jorabagh and Umaransu.
3. Opportunity for developing road infrastructure connecting industrial zones to major transport routes to enable larger trucks and reduce logistics costs.
4. Requirement for coordination with local authorities and businesses to address illegal collection points and streamline enforcement to ensure smoother freight operations.

Long-term opportunities

5. Growing requirement for cold storage, warehousing and pack-house facilities with power backup to support agricultural and horticultural produce transportation. Conduct a study to understand region-specific logistics requirements, leading to targeted policies for immediate improvement in warehousing and cold storage facilities.

Please note that the suggested potential opportunities are indicative in nature and collated basis stakeholder consultations. It is essential for the State to assess feasibility, cost-effectiveness, and prioritize these interventions based on various aspects including alignment with state's own policy direction, potential impact on logistics efficiency, ease of implementation, among others.

Chapter 5

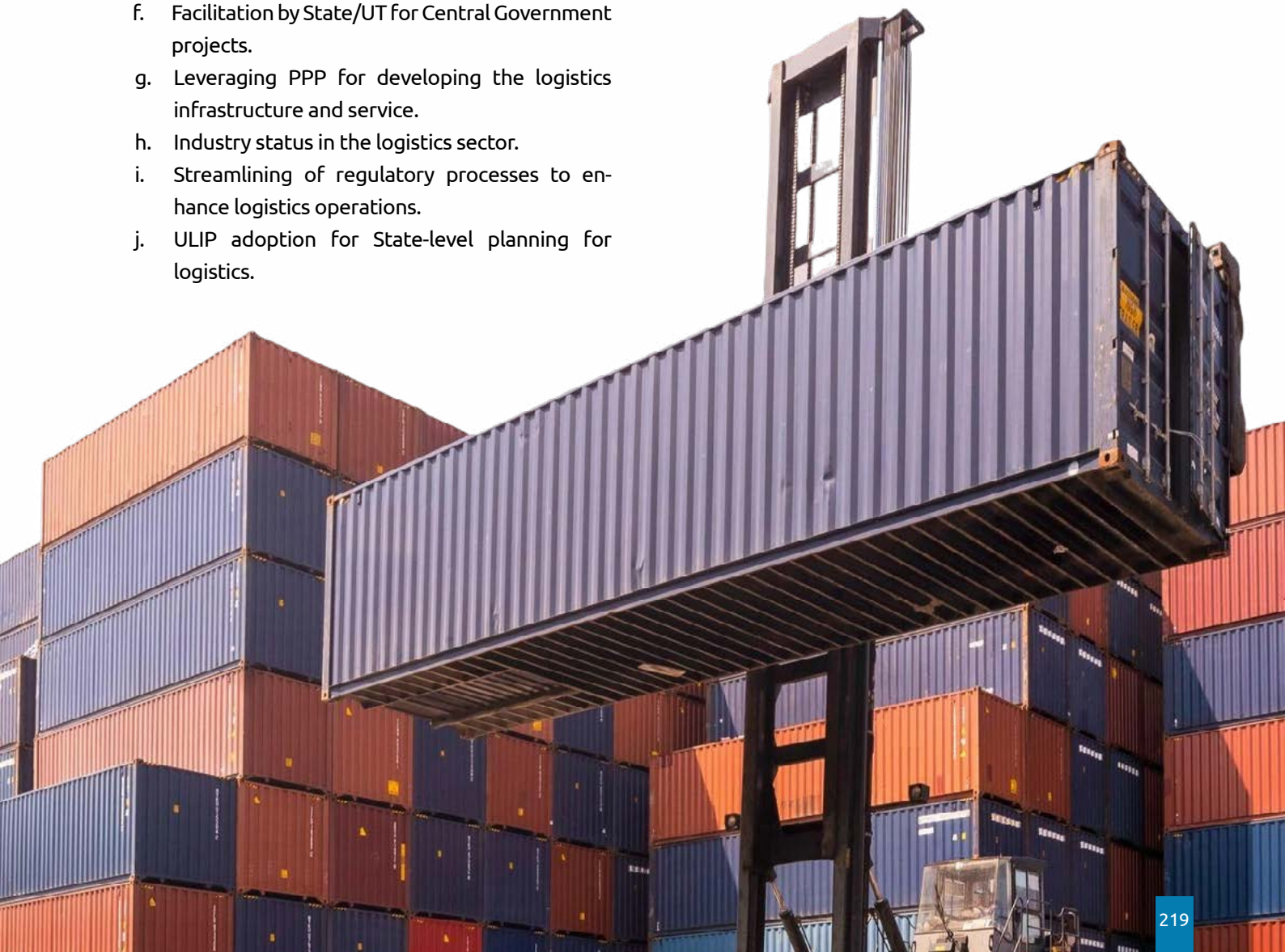
Analysis of Objective Indicators

The objective indicators in the LEADS 2024 were categorised into Regulatory Measures, which assess State-level policies and compliance facilitation, and Enablers, which focus on the availability, capacity and utilisation of logistics infrastructure and assets.

1. Assessment of regulatory measures included 10 binary indicators that assessed various regulatory efforts by States and UTs, aimed at enhancing the logistics ecosystem. These indicators concentrated on the following areas:

    a. Preparation of State/UT logistics policy.
    b. Formulation of a State-wide Logistics Master Plan or Regional Master Plan/City Logistics Plan.
    c. Utilising PMGS for infrastructure planning.
    d. Initiatives taken to promote human resource development for logistics in the State/UT.
    e. Measure taken towards the promotion of green logistics.
    f. Facilitation by State/UT for Central Government projects.
    g. Leveraging PPP for developing the logistics infrastructure and service.
    h. Industry status in the logistics sector.
    i. Streamlining of regulatory processes to enhance logistics operations.
    j. ULIP adoption for State-level planning for logistics.

2. To capture the enablers of the logistics ecosystem, objective data on 20 indicators related to logistics infrastructure were collected from State Governments and UT Administrations. Additionally, 7 data points from Central authorities were collected for each State/UT, focusing on the availability, capacity and utilisation of critical logistics assets such as highways, ports, Inland Container Depots, Container Freight Stations and air cargo terminals. This study also incorporated an in-depth analysis of the average speeds on National Highways and State Highways in each State/UT in addition to an assessment of accessibility to terminal infrastructure. These enablers provided a comprehensive understanding of the connectivity challenges and critical bottlenecks affecting road network efficiency and terminal accessibility across the logistics ecosystem. The key findings from analysis of the objective data are presented below.



Regulatory Measures

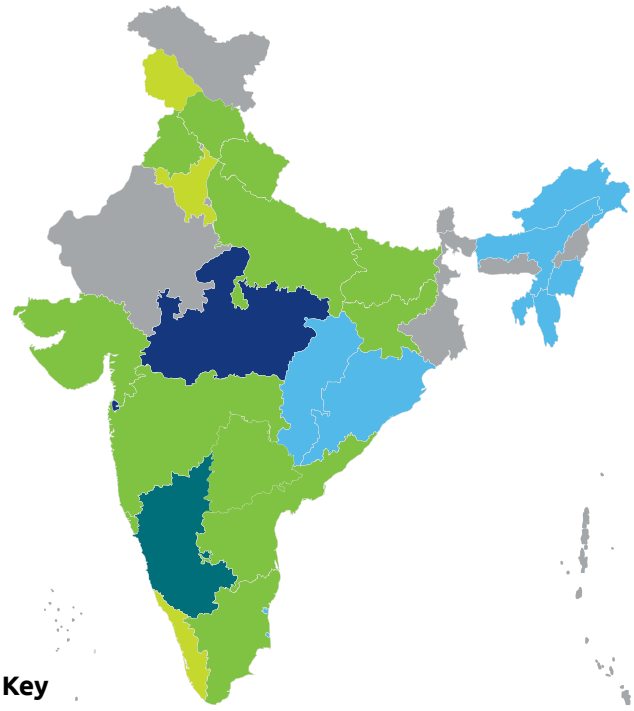
Preparation of State/ UT logistics policy

The analysis of logistics policy adoption across States and Union Territories highlights progress in structured planning. A total of 22 States and 5 UTs have successfully formulated a logistics policy, signifying widespread recognition of this critical initiative prescribed under the National Logistics Policy. Among these, 6 States/UTs—Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Haryana, Jammu and Kashmir, Kerala, and Madhya Pradesh —have their logistics policies in the draft stage, reflecting ongoing efforts that require acceleration toward finalization and implementation.[7]

However, only 15 States and 1 UT have developed an action or implementation plan, pointing to a critical gap between policy creation and execution. This disparity underscores the need for greater focus on converting policy frameworks into tangible outcomes.

Moving from policy formulation to implementation is critical to addressing logistics challenges and driving economic growth. States/UTs with policies and action plans are well-placed for a smoother transition from intent to execution for holistic development of logistics ecosystem not only in the State but collectively for the entire nation.

Figure 193: Map of India showing the Logistics Policy and Action Plan status of different States/UTs



Key

- Notified Logistics Policy and Action Plan
- Notified Logistics Policy but no Action Plan
- Draft Logistics Policy and Action Plan
- Draft Logistics Policy but no Action Plan
- Action Plan but no Logistics Policy
- No Logistics Policy or Action Plan

[7] Madhya Pradesh had notified a logistics policy in 2012 that requires updation.

Formulation of a State-wide Logistics Master Plan or Regional Master Plan/City Logistics Plan

15 States and 3 UTs have initiated the preparation of Regional Master Plan or City Logistics Plans, indicating States/UTs efforts towards improving urban logistics systems. Among these, 14 States and 1 UT have developed action plans and introduced institutional frameworks to ensure effective implementation. These plans aim to streamline freight movement, lower logistics costs, and enhance urban safety .

For all the remaining States/UTs which have not initiated such efforts, addressing these gaps will strengthen logistics efficiency and enhance connectivity and economic growth across key urban areas.

Figure 194: States/UTs that have formulated a Logistics Master Plan or Regional Master Plan/City Logistics Plan

State/UT has initiated preparation of Regional Master Plan / City Logistics Plan

1. Andaman and Nicobar Islands
2. Andhra Pradesh
3. Chandigarh
4. Delhi
5. Gujarat
6. Haryana
7. Himachal Pradesh
8. Karnataka
9. Kerala
10. Maharashtra
11. Meghalaya
12. Odisha
13. Punjab
14. Sikkim
15. Tamil Nadu
16. Telangana
17. Uttar Pradesh
18. Uttarakhand

State/UT has developed an action/ implementation plan and set up an institutional framework

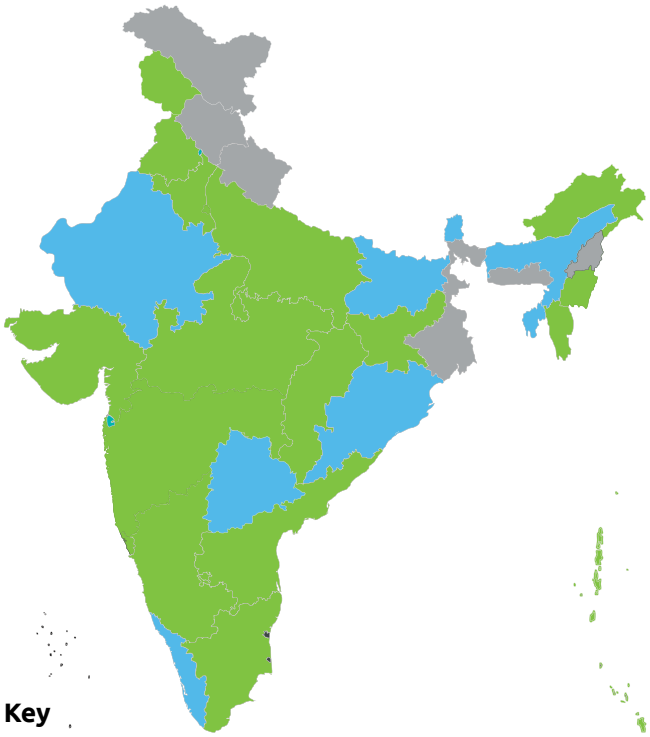
1. Andhra Pradesh
2. Delhi
3. Gujarat
4. Haryana
5. Himachal Pradesh
6. Karnataka
7. Kerala
8. Maharashtra
9. Meghalaya
10. Mizoram
11. Punjab
12. Tamil Nadu
13. Telangana
14. Uttar Pradesh
15. Uttarakhand

Utilising PMGS for Infrastructure Planning

The PM GatiShakti (PMGS) National Master Plan marks a transformative leap in integrated infrastructure planning, emphasising efficiency, coordination, and sustainability. By mapping critical data layers and geo-referencing land records, the initiative empowers States and UTs to make informed, data-driven decisions. All 36 States/UTs have adopted PM GatShakti National Master Plan that demonstrates a growing commitment to improving planning capabilities; 15 States and 3 UTs have completed the crucial task of geo-referencing land records—a vital step for ensuring precise project execution and seamless infrastructure alignment. Encouragingly, an overwhelming 26 States and 6 UTs have included extra data layers to address regional logistics challenges and infrastructure gaps.

Adopting PMGS facilitates unprecedented collaboration and integration between State and Central Government, fostering a holistic approach to infrastructure planning. By integrating data layers, the platform enables comprehensive project visualisation and improves synchronisation across sectors, directly benefitting sector. For example, mapping and integrating transport corridors, industrial hubs and urban infrastructure enhances freight movement, reduces transit times, and lowers logistics costs, which are key factors for improving the ease of doing business and enhancing global competitiveness. In this context, 22 States have mapped projects funded under the Scheme for Special Assistance to States for Capital Expenditure (2022-23), aligning infrastructure development with national economic priorities. Furthermore, 20 States and 5 UTs are actively coordinating with other Departments and Ministries, highlighting the increasing recognition of integrated planning. This multi-layered approach addresses immediate inefficiencies or redundancies and lays the foundation for effective and sustainable, long-term solutions.

Figure 195: Map of India showing the status of layer mapping under PM GatiShakti



Initiatives Taken to Promote Human Resource Development for Logistics in the State/UT

Human Resource Development (HRD) is fundamental in enhancing logistics efficiency and fostering growth in the sector. A skilled workforce ensures the seamless execution of supply chain operations, leveraging technology and driving innovation. Recognising this, 18 States and 2 UTs have initiated skill development programmes in the logistics sector, showcasing commitment to building a talent pool for modern challenges. Conversely, States/UTs that have not prioritised skill development in logistics have a valuable opportunity to enhance their capacity and adapt to industry shifts. Partnerships with educational institutions and industry bodies are equally important for aligning workforce capabilities with industry requirements. Encouragingly, 16 States and 1 UT have established such collaborations, reflecting an understanding of the importance of bridging the skill gap through targeted training and knowledge-sharing platforms. These partnerships are vital in fostering a technically proficient workforce adept at addressing real-world logistics challenges. States that have not engaged in such collaborations can enhance their competitive edge by integrating academia and industry expertise into their HRD strategies.

Figure 196: States/UTs that have taken initiatives to promote Human Resource Development for logistics in the State/UT

Measure Taken Towards Promoting Green Logistics

Promoting green logistics is critical to building sustainable and efficient supply chains. With 21 States and 4 UTs adopting policies or initiatives to support green logistics, significant momentum has been built towards implementing environmentally responsible practices. These efforts include adopting cleaner transportation modes, encouraging renewable energy use, and minimising the carbon footprint of logistics activities.

While most States have their policies in place, only 15 States and 2 UTs have developed actionable plans to implement green logistics initiatives, indicating a significant gap between intent and execution. Action plans are crucial for translating policies into tangible outcomes, such as establishing infrastructure for electric vehicles, promoting multimodal transportation, and encouraging the adoption of energy-efficient technologies. All States must move beyond policy formulation and focus on robust implementation to realise the full potential of green logistics, fostering a greener and more sustainable logistics ecosystem.

Figure 197: States/UTs that have taken measures towards promoting Green Logistics

Initiatives for green logistics

Andaman and Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chandigarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Odisha, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

Action Plan for implementation

Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Maharashtra, Mizoram, Odisha, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

Facilitation by State/UT for Central Government Projects

Facilitating Central Government logistics projects is crucial for aligning State-level initiatives with national development goals. 18 States and 1 UT actively supported logistics sector projects led by the Central Government, demonstrating a strong commitment to developing integrated infrastructure. Such facilitation ensures the smooth execution of projects, minimises bureaucratic delays and enables States to leverage national resources to promote regional growth.

Formal partnerships with Central Government agencies are pivotal in strengthening State-Level logistics infrastructure. 15 States and 1 UT have signed Memorandums of Understanding (MoUs) or partnership agreements with Central Ministries or agencies, reflecting proactive collaboration to develop critical logistics assets.

Figure 198: States/UTs that have facilitated Central Government projects

Facilitating Logistics Projects undertaken by Central Government

Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

Memorandums of Understanding (MOUs) or Partnership Agreements with Central Government Agencies or Ministries

Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

States that have yet to formalise partnerships or actively facilitate Central Government projects risk missing opportunities to enhance their logistics networks and align with national-level advancements, which are crucial for regional and national economic progress.

Leveraging Public–Private Partnerships for Developing Logistics Infrastructure and Services

Public–Private Partnerships (PPP) are pivotal for accelerating logistics infrastructure development by combining public resources and private sector expertise. These partnerships facilitate the construction of critical infrastructure, such as logistics parks, warehouses, and multimodal transport facilities, essential for streamlining supply chains and boosting regional competitiveness. 14 States and 2 UTs actively leveraged PPPs to enhance logistics infrastructure and services, showcasing their commitment to modernising the sector through innovative and collaborative approaches.

The same number of States (14) and UTs (2) also participated in PPP projects initiated by the Central Government, reflecting a growing alignment between State and National priorities in the logistics sector. These collaborations help bridge infrastructure gaps and optimise resource allocation, enabling States to attract investments and expand their logistics capabilities. States that are not yet utilising PPPs can adopt this model to unlock potential efficiencies, mobilize private sector resources and foster sustainable as well as scalable growth in the logistics ecosystem.

Figure 199: States/UTs that have actively leveraged PPPs to enhance logistics infrastructure and services

States/UTs leveraging PPP

1. Bihar
2. Goa
3. Gujarat
4. Haryana
5. Himachal Pradesh
6. Jammu and Kashmir
7. Karnataka
8. Kerala
9. Lakshadweep
10. Maharashtra
11. Odisha
12. Punjab
13. Tamil Nadu
14. Telangana
15. Uttar Pradesh
16. Uttarakhand

Figure 200: States/UTs that are participating in PPP projects initiated by the Central Government

States/UTs participating in PPP projects undertaken by Central Government

1. Andhra Pradesh
2. Assam
3. Bihar
4. Gujarat
5. Haryana
6. Jammu and Kashmir
7. Karnataka
8. Kerala
9. Lakshadweep
10. Maharashtra
11. Odisha
12. Punjab
13. Tamil Nadu
14. Telangana
15. Uttar Pradesh
16. Uttarakhand

Industry Status to Logistics Sector

Granting industry status to the logistics and warehousing sector is a transformative step that enhances recognition, funding access and regulatory support. 20 States and 2 UTs have granted industry status to logistics, highlighting their commitment to fostering growth within this vital sector. Such a status enables logistics companies to benefit from incentives such as lower taxes, easy credit availability and simplified regulatory frameworks, making the sector more attractive for investments and innovation.

States that have not granted industry status to the logistics and warehousing sector still have the opportunity to leverage this sector's potential as a driver of economic growth.

Figure 201: States/UTs that have given industry status to logistics sector

1. Andaman and Nicobar Islands
2. Andhra Pradesh
3. Arunachal Pradesh
4. Assam
5. Bihar
6. Chhattisgarh
7. Goa
8. Gujarat
9. Haryana
10. Himachal Pradesh
11. Jammu and Kashmir
12. Jharkhand
13. Karnataka
14. Kerala
15. Maharashtra
16. Odisha
17. Punjab
18. Tamil Nadu
19. Telangana
20. Tripura
21. Uttar Pradesh
22. Uttarakhand

Streamlining Regulatory Processes to Enhance Logistics Operations

Streamlining regulatory processes is critical for enhancing logistics efficiency and reducing operational bottlenecks. 21 States and 3 UTs have initiated measures to simplify logistics operations, including implementing online platforms, such as e-permits, digital documentation, single-window systems, and automated approval processes. Leveraging digital tools enables these States/UTs to reduce administrative delays and improve the ease of conducting logistics operations, making supply chains more agile and responsive to market needs.

Figure 202: States/UTs that have streamlined regulatory processes to enhance logistics operations

1. Andaman and Nicobar Islands
2. Andhra Pradesh
3. Arunachal Pradesh
4. Assam
5. Bihar
6. Chhattisgarh
7. Goa
8. Gujarat
9. Haryana
10. Himachal Pradesh
11. Jammu and Kashmir
12. Karnataka
13. Kerala
14. Madhya Pradesh
15. Maharashtra
16. Meghalaya
17. Mizoram
18. Odisha
19. Punjab
20. Tamil Nadu
21. Telangana
22. Tripura
23. Uttar Pradesh
24. Uttarakhand

Efforts to streamline regulatory processes for logistics infrastructure are equally impactful, with 19 States and 2 UTs adopting measures such as zoning regulations, fast-tracking construction permits and dedicated frameworks for land allocation. These steps are vital for ensuring the timely development of logistics parks, warehouses, and multimodal hubs.

ULIP Adoption for State-Level Logistics Planning:

Adopting the Unified Logistics Interface Platform (ULIP) represents a progressive initiative and opportunity for States/UTs to enhance logistics planning and operations through integrated digital solutions. 12 States and 1 UT have initiated specific actions—with some signing MoUs—showcasing their commitment to leveraging technology to improve supply chain efficiency. ULIP facilitates seamless data exchange among stakeholders, enabling better decision-making, real-time tracking, and the reduction of logistics bottlenecks.

States/UTs that have not adopted ULIP have an untapped opportunity to optimise logistics operations and improve connectivity. By integrating ULIP into their logistics planning frameworks, these States can improve coordination between different modes of transportation, reduce operational inefficiencies and support sustainability goals. Furthermore, adopting ULIP may attract private investment by demonstrating a forward-thinking approach to logistics infrastructure and operations.

Figure 203: States/UTs that have adopted ULIP for State-Level Logistics Planning

Infrastructure and Connectivity Enablers

Logistics Infrastructure and Operational Efficiency

The second section of the objective indicator analysis focused on evaluating infrastructure, human resources and operational efficiency across States and UTs. This approach included assessing the length of State Highways, District Roads And Railway Networks to understand the fundamental connectivity crucial for efficient goods movement. Indicators such as the number of registered Goods-Carrying Vehicles (GCVs), road accidents involving GCVs and the pool of registered drivers provided a comprehensive view of the sector's scale and safety challenges.

The analysis also examined the network of logistics training centres and the number of professionals trained, reflecting the emphasis on skill development and workforce readiness in the logistics sector. Additional parameters were considered, including population, geographical area, average speed of road network within a State/UT and ease of access to terminals. This approach provided a multidimensional and data driven perspective on the infrastructure's ability to meet current and future logistics demands.

Analyzing Speeds for Enhanced Logistics Connectivity

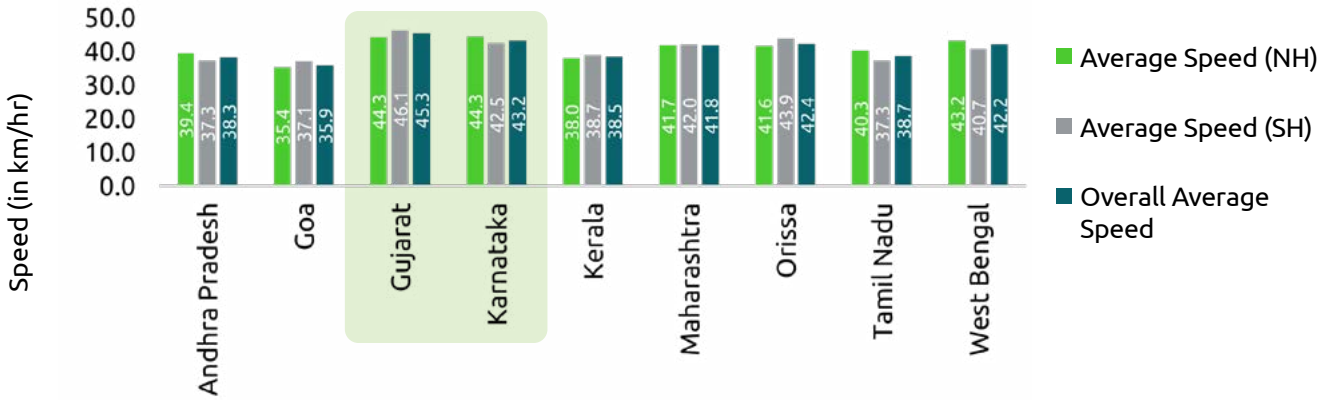
This edition of LEADS study also focusses on assessing logistics performance across 36 States and UTs by analysing average speeds on National Highways (NH) and State Highways (SH) for each State/UT. For the purpose of this analysis, Geographic Information System (GIS) tools and the Map API data is leveraged while employing a granular, data-driven approach to measure congestion and infrastructure gaps critical to improving freight movement and supply chain efficiency. By mapping over 55,000 nodes across the country and utilizing Map API to evaluate speed on a road section-by- road section basis provided, a detailed view of road network performance for freight movement is generated.

The analysis highlighted significant variations that have an impact on logistics performance. The average speeds across India were estimated at 43.95 km/hr on NH and 42.67 km/hr on SH. Landlocked States performed considerably better, with an average speed of 45.62 km/hr, compared to 41.66 km/hr in Coastal States. These differences reflect regional disparities in road quality and capacity utilisation.

Regional Insights:

Coastal States: These States have an NH network spanning 60,552 km and an SH network of 84,402 km, with average speeds of 41.85 km/hr on NH and 41.48 km/hr on SH. Although these metrics indicate better access to ports and industrial hubs, certain areas experience congestion near urban centres, particularly when accessing ports and logistics infrastructure.

Figure 204: Average Speeds in Coastal States



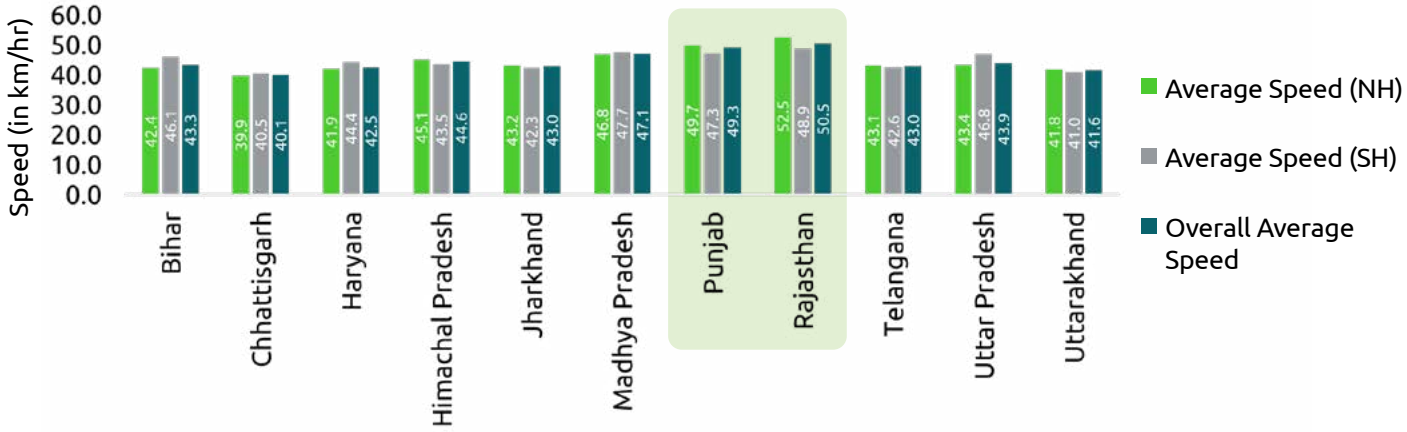
Source: Bing API Data, GIS-based mapping utilizing spatial analysis techniques, georeferencing of the network.

Gujarat and Karnataka led the coastal group in terms of performance, with sectional average speeds of 45.3 km/hr and 43.2 km/hr, respectively.

Landlocked States:

The NH and SH lengths are 71,674 km and 50,702 km, respectively, with speeds of 45.19 km/hr on NH and 46.59 km/hr on SH. While States such as Uttar Pradesh and Rajasthan benefit from dedicated expressway corridors, others face first-and last-mile connectivity challenges.

Figure 205: Average Speeds in Landlocked States



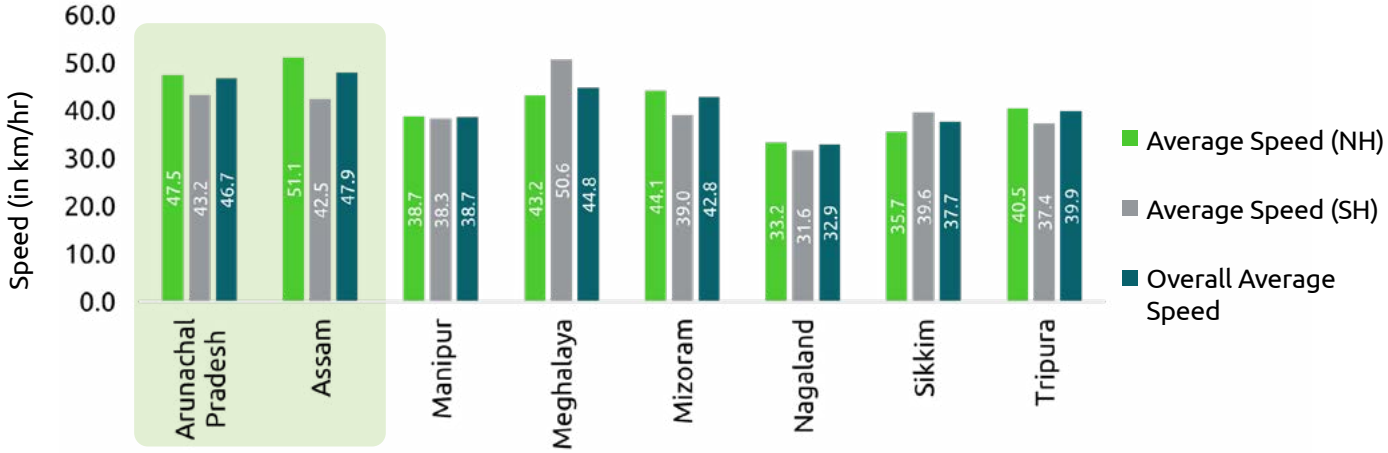
Source: API Data, GIS-based mapping utilizing spatial analysis techniques, georeferencing of the network.

Rajasthan and Punjab are the top performers in the landlocked group, with sectional average speeds of 50.5 km/hr and 49.3 km/hr, respectively.

North-Eastern States:

The NH and SH lengths used for this analysis were 14,151 km and 6,153 km, respectively, with average speeds of 44.5 km/hr on NH and 41.0 km/hr on SH. These speeds align with national averages, as the

Figure 206: Average Speeds in North-Eastern States



Source: API Data, GIS-based mapping utilizing spatial analysis techniques, georeferencing of the network.

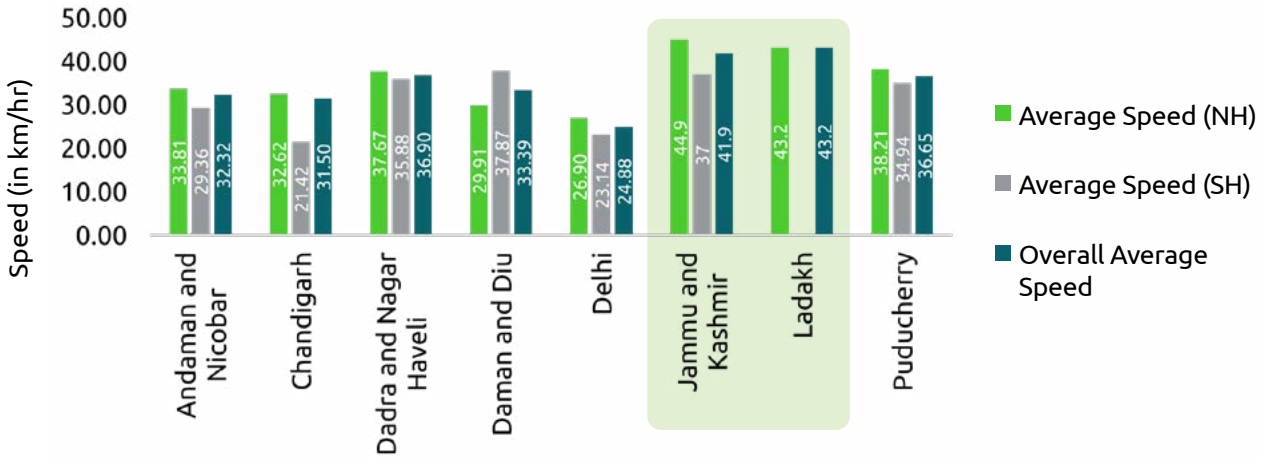
relatively low traffic volumes and lower urbanization in these States result in comparable speeds to other regions of India.

Assam and Arunachal Pradesh are the leading performers in the Northeastern States, with sectional average speeds of 47.9 km/hr and 46.7 km/hr, respectively.

Union Territories (UTs)

UTs have an NH length of 709.67 km and an SH length of 345.50 km, with speeds of 30.35 km/hr on NH and 26.32 km/hr on SH. Their compact geography often facilitates higher road densities while facing congestion issues in urban areas.

Figure 207: Average Speeds in UTs

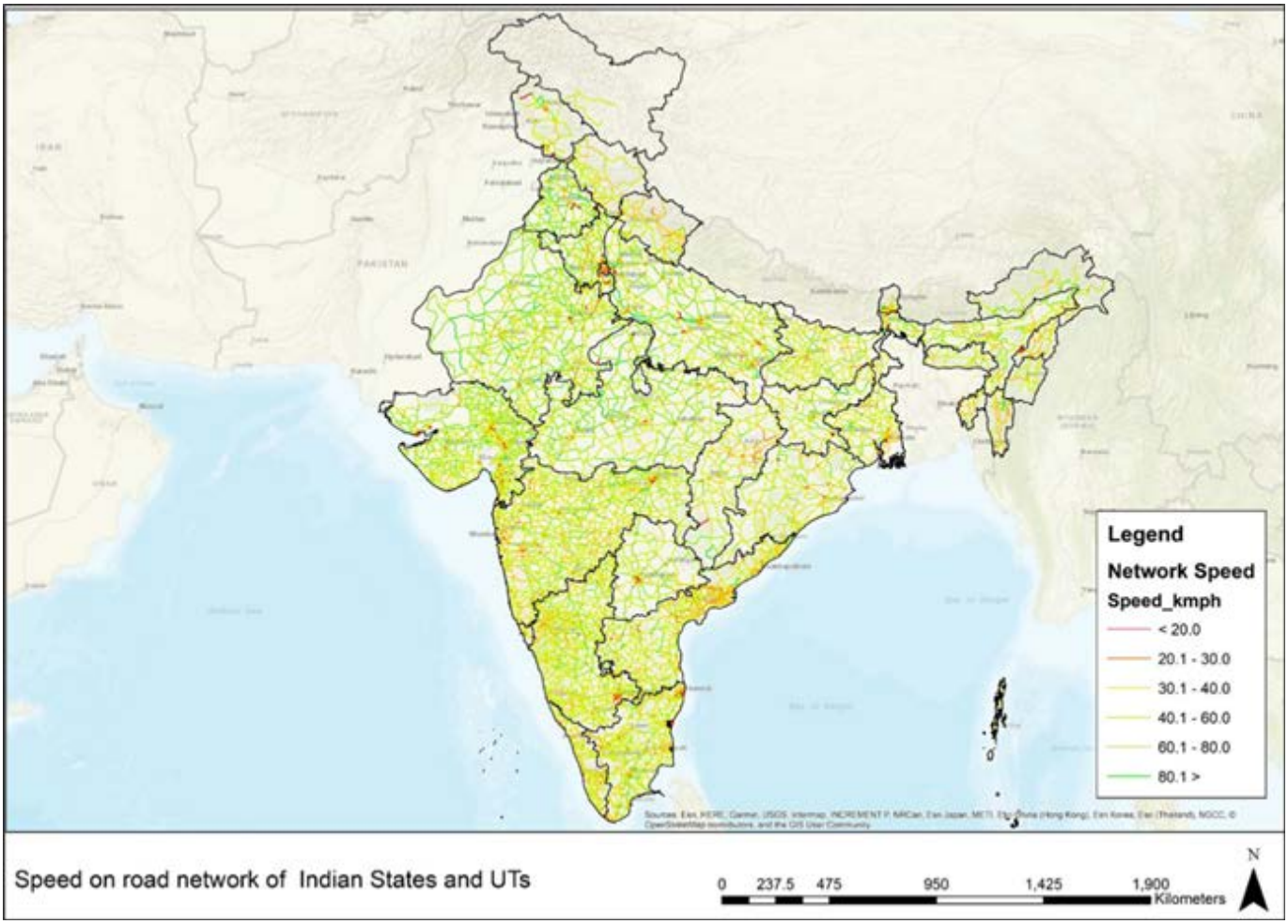


Source: Bing API Data, GIS-based mapping utilizing spatial analysis techniques, georeferencing of the network.

Ladakh and Jammu and Kashmir lead the UT group, with sectional average speeds of 43.2 km/hr and 41.9 km/hr, respectively.

The map below provides an overview of freight movement efficiency across States/UTs, based on the average speed of the road network. It highlights delays, congestion points, and infrastructure gaps in each State/UT, as identified in the earlier analysis. This map is in Annexure.

Figure 208: Speed of road network of Indian States and UTs



Source: API Data, GIS-based mapping utilizing spatial analysis techniques, georeferencing of the network.

Urbanized States experience choke points and congestion on certain routes that reduce their traffic speeds. This is evident in Tamil Nadu and Andhra Pradesh, where heavy congestion near port cities slows down movement. For example, on Tindivanam Road (NH 77) and Chennai Bypass (NH 16), average speeds drop to as low as 13 km/hr. However, in less urbanized areas of these States, such as the road sections of Madurai - Mandapam Highway (NH 87) and Tuticorin - Madurai Road (NH 38), speeds are above 80 km/hr. The comparatively lower speeds near port areas affect the overall average speeds within the State.

In comparison, hilly States such as Himachal Pradesh, despite their challenging topography, exhibit road speeds comparable to those in port cities. For instance, in the plains of Himachal Pradesh, road sections such as Anandpur Sahib Road and Una - Amb Road (NH 503) record speeds upto 82 km/hr. In contrast, steep terrain on road sections such as Kufri Road results in average speeds as low as 12 km/hr. However, most National Highways in the State maintain average speeds ranging from 30 to 45 km/hr. This can be attributed to lower urbanization and ongoing improvements in road infrastructure, enabling more consistent and efficient freight movement in these areas.

Please refer to Annexure for the list of road sections within the State/UT currently experiencing congestion, operating at E or F Level of Service (LoS). States may consider taking necessary actions to alleviate congestion on following Road Sections/Corridors roads, either In coordination with the Central Government for National Highways (NHs) or through direct investments for State Highways (SHs). Please note that the list is non-exhaustive in nature.

Level of Service (LoS) is a metric that measures the traffic flow and speed on a road stretch, starting from LoS A representing free flowing conditions to LoS F representing stop-and-go traffic

Accessibility Analysis of Terminal Facilities from Major Corridors

This sub-sector represents the efficiency of connectivity between logistics terminals—such as inland container depots, railway goods sheds and warehouses—and the NH and SH networks, focusing on average speed performance. These speeds are critical indicators of freight movement efficiency and accessibility to logistics infrastructure. The data were analysed using a GIS-based methodology, integrating logistics nodes with NH and SH networks, and employing the Map API for real-time speed analysis.

The national average speed across logistics terminals accessing the major corridors was 25.21 km/hr, reflecting variations in road infrastructure, terrain, traffic management and connectivity quality.

Regional Insights:

Coastal States:

1. Kerala (39.40 km/hr) has better logistics terminal integration than other southern States such as Tamil Nadu (14.09 km/hr) and Karnataka (19.19 km/hr), where urban congestion and infrastructure gaps persist.

Landlocked States:

1. Chhattisgarh (53.83 km/hr), Uttarakhand (47.72 km/hr) have strong terminal integration with NH/SH networks, boosting logistics efficiency.
2. Rajasthan (24.33 km/hr) performed close to the national average, with room for improvement in certain sections.

Northeastern States:

1. Arunachal Pradesh (48.07 km/hr) leads the region with efficient terminal connectivity. In contrast, Assam (11.66 km/hr) and Tripura (8.56 km/hr) highlight the need for significant infrastructure improvements.

Union Territories:

1. Dadra and Nagar Haveli and Daman and Diu (25.59 km/hr) aligned with the national average. Delhi (10.71 km/hr) and Chandigarh (10.08 km/hr) struggled with terminal accessibility due to heavy traffic and urban congestion.
2. Jammu and Kashmir (20.36 km/hr) is constrained by rugged landscapes and limited NH/SH connectivity to the terminals.

Summary

Initiatives such as logistics policies, regional or city logistics plans and granting industry status to logistics underline the growing recognition of the pivotal role of logistics in meeting development aspirations. Digital tools like PMGS and ULIP foster data-driven decision-making, while green logistics and PPPs pave the way for sustainable and innovative growth. Beyond policies, analysing key enablers reveal the sector's readiness, highlighting strengths in connectivity and operational capacity while identifying areas for improvement.

This year's focus on analysing road speeds offers valuable data driven insights with empirical evidence into connectivity challenges and congestion across various States and UTs. Some States and UTs perform well due to their robust multimodal integration and road corridors; however, others face limitations from urban congestion, rugged terrain. and infrastructure capacity gaps.

Chapter 6

Role of States and UTs in Driving Logistics Reforms: State/UT-Specific Logistics Policies and Action Plans

States and Union Territories (UTs) play a critical role and actively contribute to the success of logistics reforms in India. Their involvement helps align local, State, and national strategies, leading to improved logistics performance. Within the framework of India's National Logistics Policy (NLP), State and UT administrations play key roles by formulating supportive policies, establishing institutional frameworks, and implementing initiatives tailored to the unique logistics needs of their regions. Their effective participation transforms the NLP's overarching objectives into actionable plans that address regional requirements, leveraging local industry expertise, resources, and capabilities to enhance logistics infrastructure and service quality.

In this context, this chapter highlights how States and UTs are increasingly focusing on logistics reforms through state-specific policies and action plans. It underscores that developing policies and action plans alone is insufficient; the successful implementation of these initiatives is critical. Furthermore, the chapter guides how States and UTs can collaborate with central agencies, private stakeholders, and other entities to build a cohesive and adaptive logistics ecosystem.

Introduction to India's National Logistics Policy (NLP)

India's NLP, launched in 2022, is a strategic initiative by the Government of India aimed at addressing the various inefficiencies and challenges in the country's logistics sector. The NLP is part of a concerted effort at enhancing the competitiveness of India's logistics ecosystem, reducing logistics costs, and improving the country's ranking in the World Bank's LPI. The overarching goal is establishing a streamlined, efficient logistics framework that facilitates rapid movement of goods, improved connectivity, and reduced costs, thereby contributing to the nation's economic growth.

Figure 209: Introduction to India's National Logistics Policy (NLP)

Objectives and Goals

The National Logistics Policy aims to create a technologically advanced and efficient logistics ecosystem to drive India's economic growth.

Key features:

- Develop a **cost-efficient and resilient logistics ecosystem in India.**
- Support **rapid and inclusive economic growth through logistics.**
- Achieve global logistics cost benchmarks by 2030.
- **Rank among the top 25 in Logistics Performance by 2030.**
- Create **a data-driven system for a holistic logistics ecosystem.**

Key Strategies

The policy focuses on integrating processes, optimizing infrastructure, and modernizing logistics practices to enhance overall sector efficiency.

Key features:

- Promote **inter-modal and multi-modal logistics integration.**
- Optimize **utilization of logistics infrastructure and assets.**
- Establish benchmarks for assets, processes, and quality standards.
- **Adopt ICT, automation, and green logistics for modernization.**
- Reduce fragmentation through **education and workforce upskilling.**

Action Plan

A comprehensive action plan outlines steps to improve transportation, warehousing, and regulatory processes for a streamlined logistics network.

Key features:

- Enhance **efficiency in transportation, warehousing, and inventory.**
- Develop **integrated logistics infrastructure for better connectivity.**
- Improve **warehousing efficiency with optimal planning and digitization.**
- Promote **supply chain digitization** for better visibility and reliability.
- **Streamline regulatory processes** and standardize for better integration

Comprehensive Logistics Action Plan (CLAP)

To implement the vision of the NLP, the Comprehensive Logistics Action Plan (CLAP) has been made an integrated part of the NLP as a strategic framework. CLAP encompasses a wide range of actions aimed at improving the physical infrastructure and the quality of logistics services. It aims to integrate various components of the logistics sector, enhance multi-modal connectivity, promote digitalisation, and foster skill development. The interventions are designed to streamline logistics processes, enhance transport system efficiency, and boost India's trade competitiveness.

CLAP's interventions comprise eight key pillars, each of which addresses critical aspects of the logistics ecosystem.

Figure 210: Eight areas of Comprehensive Logistics Action Plan (CLAP)

These eight pillars are further explained below:

1. **Integrated Digital Logistics Systems:** This pillar focuses on developing a unified logistics interface platform to connect multiple data sources across sectors. It enables seamless information flow, cross-sector collaboration, and better decision-making.

2. **Standardisation of Physical Assets and Benchmarking Service Quality:** This initiative aims to improve logistics interoperability by standardising physical assets, such as transportation infrastructure, terminal handling, temperature controlled logistics, warehousing and packaging infrastructure and packaging. It also benchmarks service quality standards to optimise processes and minimise operational risks.

3. **Logistics Human Resources Development and Capacity Building:** CLAP envisions a comprehensive logistics human resource strategy. Sector-specific action plans are created under this framework to address skill gaps and internal capacity challenges across various sectors.

4. **State Engagement:** CLAP emphasises active State engagement, encouraging States and UTs to develop customised logistics plans at the State and city levels. These plans should address the unique logistics needs, infrastructure requirements and economic priorities of their respective regions.

   CLAP also establishes a structured framework to continuously monitor and assess State-level logistics performance through LEADS, enabling States to be comparatively ranked according to their logistics efficiency. This ranking system promotes accountability and motivates States to adopt the best practices in logistics. Furthermore, CLAP supports collaborations, fostering partnerships to help States coordinate logistics activities more effectively. Through this approach, CLAP aligns local improvements with national objectives, fostering a unified, resilient, and competitive logistics network across India. Further, CLAP is also aligned with the PM GatiShakti at the State level through the implementation of the PM GatiShakti State Master Plan (SMP) portals.

5. **Export–Import (EXIM) Logistics:** This pillar addresses the gaps in India's EXIM infrastructure and processes, focusing on creating a reliable logistics network with streamlined cross-border trade for enhanced trade competitiveness and integrating India into the global value chain.

6. **Service Improvement Framework:** This pillar promotes regulatory reform to eliminate fragmentation in logistics documentation, processes and liability regimes, aiming to improve sectoral interoperability, reduce regulatory bottlenecks and promote standardisation.

7. **Sectoral Plan for Efficient Logistics (SPEL):** SPEL aims to create interoperable, resilient, and sustainable sector-specific logistics systems. These plans align with the PM GatiShakti initiative, focusing on infrastructure, digital ,cross sectoral cooperation, focus on optimization of modal mix and workforce capacity building across sectors.

8. **Development of Logistics Parks:** This initiative promotes the development of logistics hubs, such as multi-modal logistics parks, inland container depots and air freight stations. These hubs are connected by an efficient transportation network and serve as centres for intermediary activities such as storage and handling.

NLP (2022) along with CLAP are designed to transform India's logistics ecosystem by driving efficiency, reducing costs, and creating a robust infrastructure that supports the country's economic ambitions. However, to achieve the ambitious goals set by the NLP, active and meaningful participation of States and union territories is indispensable.

Role of States/UTs In Driving Logistics Reforms

States/UTs are pivotal in driving logistics reforms by developing State/UT-level logistics policies and strategic action plans tailored to their unique economic, geographic, and industrial profiles. Adopting comprehensive logistics policies and action plans allows States to address inefficiencies, reduce costs and position themselves as competitive hubs for trade and commerce.

To this effect, the LEADS Study Report provides States/UTs with actionable insights to significantly enhance their logistics ecosystems. The study aligns directly with the objectives of the NLP and CLAP by systematically assessing and improving logistics performance across States and UTs. LEADS is essential in identifying key challenges, enabling States/UTs to benchmark against best practices and highlighting areas for targeted improvements, collectively contributing to the overarching NLP goals.

Furthermore, LEADS helps monitor the effectiveness of States' and UTs' logistics plans and committees as well as the progress of mechanisms for logistics management. It also serves as a platform for States/UTs to share best practices, participate in workshops and training programmes and receive feedback on their performance, driving sustained improvement in logistics efficiency across India.

Building on the insights gained from LEADS, States/UTs have begun transforming their logistics ecosystems at three distinct levels:

1. **Formulation of State/UT Logistics Policy:** Developing a comprehensive policy involves creating a strategic framework tailored to address the State's/UT's specific logistics needs and challenges. This policy should align with the NLP objectives while focusing on enhancing regional connectivity, improving infrastructure, and streamlining regulatory frameworks. The policy identifies critical logistics ecosystem gaps and prioritises investments, serving as a roadmap for state-level interventions to bolster supply chain efficiencies and attract investments.

Figure 211: 3 distinct levels on which States/UTs have begun transforming their logistics ecosystems

2. **Formulation of City and Regional Plans:** Effective logistics reform requires city and regional-level planning to address urban congestion, optimise first and last-mile connectivity, and enhance multi-modal integration. City-level plans should focus on developing dedicated freight corridors, logistics parks, transport hubs, skill development programmes and smart warehousing solutions. Regional plans should facilitate the seamless movement of goods across the State/UT by addressing critical bottlenecks, such as missing infrastructure links and inefficient transit systems. Such plans can ensure a holistic approach to logistics development, catering to urban and rural needs.
3. **Formulation of action and implementation plans:** Translating strategic logistics policies into tangible outcomes requires detailed action and implementation plans. Such plans outline specific projects, timelines, and measurable goals, ensuring accountability and progress tracking. They encompass a range of initiatives, from capacity-building programmes and technology adoption to infrastructure development and regulatory reforms. These plans ensure effective coordination among stakeholders and drive sustained improvements in the sector by detailing the operational steps needed to execute the logistics vision.

To execute action and implementation plans effectively, State/UT Governments intervene and drive initiatives through the following approaches:

i. **Direct Investments in Logistics Infrastructure:** State/UT governments directly invest in critical logistics infrastructure, such as constructing and upgrading road networks, developing logistics parks, building multi-modal logistics hubs, constructing ports and inland waterway terminals and enhancing warehousing capacity. Such investments create the foundational infrastructure needed to support the smooth movement of goods across the State/UT and beyond, enabling a robust logistics network that supports local industry needs.

ii. **Incentivisation (Financial and Non-Financial):** State/UT governments offer incentives such as capital subsidies, tax exemptions, land allocation benefits and interest rate subsidies to attract investments. Meanwhile, non-financial incentives can include fast-tracking project approvals, providing access to government resources, and ensuring tailored support for logistics operators aiming to improve service delivery in specific areas.

iii. **Facilitation of Logistics Activities:** States/UTs support logistics operations by streamlining administrative processes, providing single-window permit clearance, and improving ease-of-doing-business frameworks. Moreover, they can implement systems that simplify licensing and approval processes for logistics projects, ensuring minimal bureaucratic delays for logistics operators and investors.

iv. **Collaboration and Coordination:** States/UTs collaborate with Central Government agencies, other States/UTs, and private-sector stakeholders. This cooperation allows for harmonised policy actions, the sharing of best practices and the alignment of infrastructure projects across borders, contributing to a more cohesive and efficient logistics system. Coordination bodies, such as State/UT Logistics Committees, facilitate these partnerships to address broad logistics challenges.

Each role contributes to a supportive logistics ecosystem, fostering economic growth by improving efficiency and reducing the cost of transportation of goods across the State/UT.

A well-defined policy document serves as the foundation for initiating effective reforms and action plans. Therefore, States and UTs must incorporate comprehensive elements related to the logistics sector within their policy and action plan documents. This is essential to ensure the successful implementation of initiatives and to drive overall improvements in logistics efficiency across States and UTs.

Key tenets of a Logistics Policy for States and UTs

A well-structured logistics policy for States and UTs encompasses various tenets to foster efficient logistics performance. These tenets could include provisions for a defined policy period that enables continuous monitoring and updates, thereby adapting to changing logistics needs. Establishing a clear vision and mission would provide a framework that guides continued logistics development.

Additionally, focusing on developing and enhancing various infrastructure elements, such as transportation networks, logistics terminals, and facilities for drivers, might enhance overall efficiency. Incorporating technology in the logistics sector could facilitate improved communication and operational effectiveness.

Emphasising sustainability and decarbonisation initiatives could help align logistics practices with environmental goals. Furthermore, skill development efforts could facilitate availability of skillful workforce to meet the requirement of the industry, ensuring that personnel can meet the demands of a modern logistics environment.

A coordinated monitoring approach could be establish dedicateded through committees and regulatory support mechanisms for logistics performance. Financial incentives could encourage investment in logistics facilities; however, non-financial incentives might enhance the appeal of establishing logistics operations in certain regions. Collectively, these tenets could serve as a foundation for improving logistics performance and driving reforms within States and UTs.

Various tenets of a logistics policy are identified and explained below.

Figure 212: Key tenets of a comprehensive logistics policy

1. **Policy Period:** The logistics policy should encompass a structured duration to effectively implement and evaluate initiatives, thereby enhancing the logistics sector. This period should include continuous monitoring and evaluation provisions to ensure the policy remains relevant and adaptive to emerging trends, challenges, and technological advancements in logistics. Regular updates can facilitate timely adjustments to the policy framework based on performance metrics and stakeholder feedback. Additionally, a mechanism for ratification at the end of the policy period will provide an opportunity to review the initiatives' effectiveness and make necessary revisions, thereby ensuring the sustainability of logistics improvements over the long term. Further, it would be beneficial to align the policy period with national logistics initiatives such as PM GatiShakti to ensure synergy with the Central government objectives

2. **Vision and Mission:** The vision and mission statements should encapsulate the logistics policy's strategic objectives, providing a clear direction for stakeholders. The vision should focus on creating a world-class logistics ecosystem that enhances economic competitiveness, facilitates the seamless movement of goods and fosters sustainable practices. The mission should outline specific goals within the policy period, such as improving logistics infrastructure, enhancing service quality, promoting technology adoption and ensuring regulatory support. Clearly articulating the vision and mission will serve as a guiding framework for all logistics-related activities and initiatives.

3. **Development and Augmentation of Facilities:** A comprehensive logistics policy must address how various infrastructure facilities are developed and augmented, recognising their critical role in enhancing logistics efficiency.

a. **Road Infrastructure:** Upgrading State highways, constructing ring roads and developing first-and-last-mile connectivity should be emphasised. Such enhancements can reduce transit time and transportation costs, improving overall logistics performance. For example, better access to remote areas through well-constructed roads can significantly enhance supply chain efficiency.

b. **Rail Infrastructure:** Rail infrastructure development is primarily a Central Government responsibility; however, States/UTs can proactively collaborate with the Indian Railways to enhance regional connectivity. Through joint initiatives, States/UTs can support the development of rail terminals , sidings and approach roads to railways stations as well as terminals that complement local logistics needs promote multi-modal solutions and facilitate smoother bulk transport between industrial hubs.

c. **Aviation Infrastructure:** Establishing air freight stations and air cargo complexes can enhance air logistics capabilities, enabling faster and more reliable transport of high-value goods. States/UTs can actively support such developments through partnerships with central and private entities, particularly in building and upgrading greenfield airports to expand connectivity. States/UTs could also contribute by investing in efficient road and rail connectivity, creating specialised cargo terminals and logistics hubs near airports and establishing policies to allow mixed-use land near congested airports. Such policies could include designating commercial zones or facilities like air freight stations and supporting the seamless integration of air logistics within the broader supply chain.

d. **Ports and Inland Waterways Infrastructure:** Modernising port terminals, jetties and inland waterways terminals could improve maritime logistics efficiency. Investments in these areas can reduce vessel turnaround time and improve water transport integration in the overall logistics network.

e. **Logistics Terminals:** The development of inland container depots, container freight stations, multi-modal logistics parks and various types of warehouses (including cold storage facilities) can provide essential cargo handling and distribution nodes. These terminals should be strategically located to optimise supply chain operations.

f. **Truck Terminals and Associated Facilities:** Developing well-planned truck terminals and 'transport nagars' with Electric Vehicle (EV) charging infrastructure and technology-enabled amenities like real-time parking availability systems will significantly enhance the logistics ecosystem. These facilities provide secure parking, designated rest zones and essential amenities that contribute to driver welfare while improving operational efficiency by reducing congestion and ensuring smoother transitions in the supply chain.

4. **Utilisation of Technology in the Logistics Sector:** Leveraging information and communication technology is vital for modernising the logistics sector. The policy should encourage the adoption of digital platforms for tracking shipments, managing inventory, and optimising routing. Technologies such as the Internet of Things, blockchain and artificial intelligence can improve transparency especially for high value goods and introduce predictive analytics in route optimization and demand forecasting. Additionally, use of IoT-enabled sensors for cargo condition monitoring, ensuring goods' safety and quality. Taking these proactive steps will enhance data sharing and streamline operations across the logistics value chain.

5. **Initiatives for Sustainability and Decarbonising:** Sustainability initiatives are increasingly crucial in logistics, with a focus on reducing carbon footprints and promoting environmentally friendly practices. The policy should prioritize identification and development of green logistics corridors supported with exclusive EV lanes, charging infrastructure and renewable energy powered logistics hubs, facilitating the transition to cleaner modes of freight transport. Additionally, promoting EVs for freight transportation can significantly lower emissions and align with national sustainability goals. Further, steps may be undertaken to include carbon footprint monitoring mechanisms as a part of logistics facility operations. States/UTs can encourage the adoption of biofuels alongside EVs to provide sustainable alternatives for long-distance transport. This approach includes incentivising logistics providers to adopt green technologies and practices.

6. **Skill Development:** Addressing the logistics sector's skill gap is essential for enhancing workforce capability. The policy should support the establishment of regional training centres and skill development centres to provide targeted training programmes. These centres can offer specialised courses tailored to the needs of the logistics industry, such as digital skill training to equip the workforce with competencies in logistics technologies, such as AI-based platforms, ensuring a skilled workforce that can handle modern logistics challenges. Collaborations with industry stakeholders, global logistics leaders, and educational institutions to establish internationally certified training programs in logistics can further enhance skill development initiatives. Further States/UTs may look to integrate skill development initiatives with employment assurance programs, linking trained professionals with logistics employers.

7. **Monitoring and Coordination Support to the Logistics Sector:** Forming a State/UT Logistics Coordination Committee, Logistics Policy Cell or State/UT-level Empowered Committee can ensure that various stakeholders collaborate effectively. Further, States/UTs may institutionalize grievance redressal mechanisms within the logistics coordination committees for quicker resolution of stakeholder issues. Additionally, incorporating a trade facilitation cell can streamline processes and address operational bottlenecks within the logistics ecosystem. States/UTs may consider establishing State/UT-level logistics performance dashboards to monitor real-time progress on policy implementation. States/UTs should also consider integrating private stakeholders into these committees to enhance the implementation of logistics policies. The committees can better align public policies with real-world industry needs by involving industry leaders and logistics

service providers, ensuring more efficient and targeted interventions. This collaboration between the public and private sectors can also facilitate quicker decision-making and help address emerging challenges in logistics.

8. **Regulatory Support to the Logistics Sector:** Regulatory support is critical in creating an enabling environment for logistics operations. States/UTs may look at establishing a single-window clearance system specifically for logistics sector investors, including pre-clearance for land use and environmental compliance, simplifying the regulatory process for investors. Furthermore, States/UTs may incorporate a land zoning policy for logistics parks ensuring strategic placement and smooth land acquisition processes, access to land banks to identify suitable land parcels for logistics infrastructure. This will facilitate the establishment of new facilities, enhancing the overall logistics capacity in the State/UT.

9. **Provision for Financial Incentives:** The policy should include provisions for financial incentives to encourage investments in the logistics sector. Such provisions include capital expenditure subsidies to offset initial investment costs, interest expenditure subsidies to lower borrowing costs and reimbursement of stamp duties on land transactions. Such incentives can attract private investment and foster logistics infrastructure growth. Incentives should also support sustainable logistics practices, such as adopting EVs for transportation. These could include measures such as reducing registration fees for EVs and establishing infrastructure for EV charging stations to promote environmentally friendly logistics solutions.

10. **Provision for Non-Financial Incentives:** Besides financial support, the policy should outline non-financial incentives that promote logistics development, including leasehold land options for logistics facilities and connecting roads at the State/UT Government's expense. Non-financial incentives can enhance the attractiveness of logistics investments and help improve logistics network integration.

11. **Suggestions**

a. The State/UT logistics policy is fully integrated with the PM GatiShakti National Master Plan to leverage shared infrastructure data and planning tools.

b. Study and incorporate successful global logistics models, such as Singapore's port efficiency initiatives and Germany's multimodal integration systems, to be up to date with State/UT-level logistics strategies.

c. Conduct regular consultations with industry stakeholders, including MSMEs and small-scale operators, to effectively address localized logistics challenges.

d. Track and benchmark performance over time and to drive competitive improvements. These refinements will ensure that States/UTs and UT logistics policies are comprehensive, forward-looking, and aligned with national and global standards. By focusing on measurable outcomes, sustainability, and stakeholder collaboration, States/UTs can build robust logistics ecosystems that drive economic growth, enhance trade competitiveness, and achieve long-term sustainability.

It is crucial to assess whether States and UTs have effectively captured all the key tenets and nuances of the logistics industry in their policies and action plans. This ensures that the reforms are tailored to meet the specific needs and challenges of the sector.

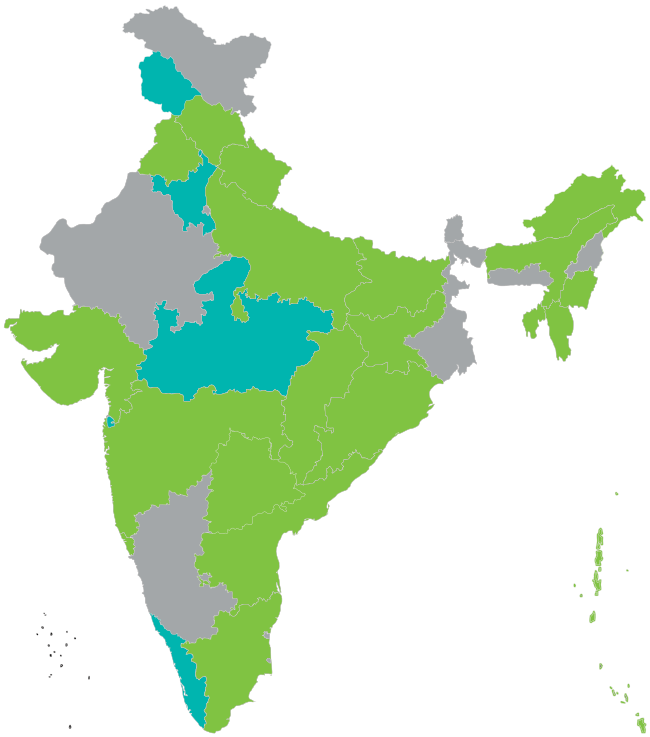
Participation of States and UTs in Shaping Logistics Policies and Action Plans

States/UTs participation in developing logistics policies

Several States and UTs in India have actively developed their logistics policies to improve their logistics ecosystems' efficiency. While some States/UTs have successfully formulated and reported their logistics policies, others are at varying stages of formation, approval, and ratification. This progressive approach demonstrates their commitment to the NLP and the CLAP.

The accompanying map graphically presents the States and UTs that have officially reported their logistics policies, reflecting ongoing efforts to streamline logistics operations and improve overall performance throughout India. Such initiatives are vital for a collaborative environment aimed at reducing logistics costs and enhancing the competitiveness of India's logistics sector.

Figure 213: Map showing States/UTs participation in developing logistics policies



Key Draft Stage Notified No Logistics Policy

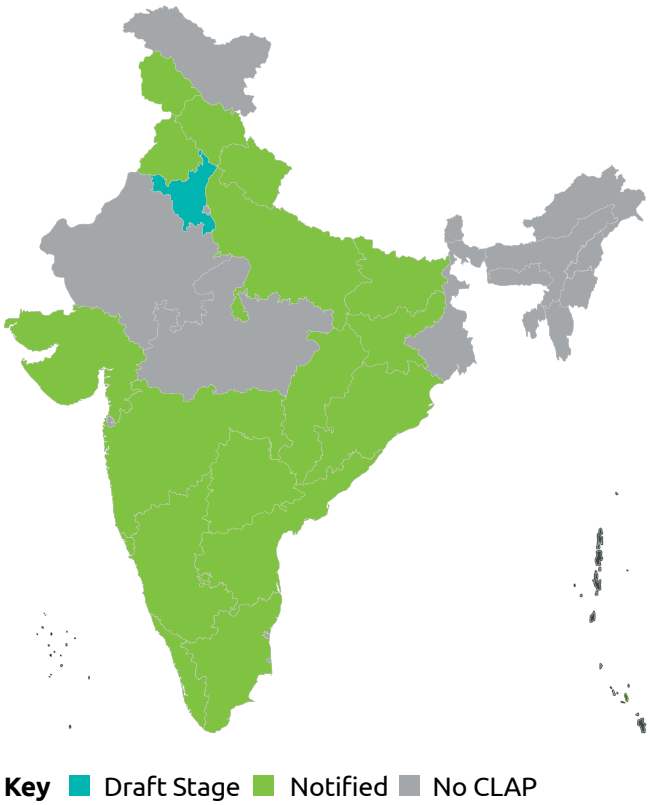
States/UTs contribution in formulating action plans

Several States/UTs have formulated logistics action plans that align with the National Logistics Policy (NLP), focusing on enhancing logistics efficiency and addressing local challenges. These plans typically emphasize improving infrastructure such as road and rail networks, developing multi-modal transport systems, and increasing warehousing and cargo handling capacities.

Many States/UTs are also prioritizing digitization of logistics operations, with initiatives for tracking and monitoring cargo movements and simplifying regulatory procedures to enhance the ease of doing business.

The status of these action plans varies across States/UTs, with some demonstrating advanced implementation strategies, including measurable targets and stakeholder collaboration, while others are in the initial stages of developing their frameworks. The accompanying map highlights States and UTs that have drafted logistics action plans, showcasing varying levels of progress and commitment toward streamlining logistics operations, and supporting national priorities.

Figure 214: Map showing States/UTs contribution in formulating action plans



Review of the coverage of Logistics Policies of States and UTs in India

This section discusses the logistics policies of States and UTs to outline the key tenets identified above. This assessment recognises the unique characteristics of each State and UT, necessitating tailored logistics policies that address their specific needs and circumstances. Therefore, this discussion does not involve comparative scoring; rather, it focuses on confirming that each critical parameter within the respective logistics policies is included.

This exercise aims to review the coverage of key tenets in the logistics policies of States and UTs. Determining the presence or absence of these elements enables the evaluation to highlight areas that require further attention. This approach allows stakeholders to identify gaps in their logistics frameworks and align their policies to improve logistics efficiency across the country..

The table below reviews the logistics policies of States and UTs.[8]

Table 18: Comparative analysis of policies across States/UTs

#	State/UT	Core Features			Infrastructure
		Vision and Mission	Provisions for Updation & Policy Period	Monitoring and Coordination Support	Development and Augmentation of Facilities
1	Andaman and Nicobar Islands	✓	✓	✓	✓
2	Andhra Pradesh	✓	✓	✓	✓
3	Arunachal Pradesh	✓	✓	✓	✓
4	Assam	✓	✓	✓	✓
5	Bihar	✓	✓	✓	✓
6	Chandigarh	✓	✓	✓	
7	Chhattisgarh	✓	✓		✓
8	Dadra and Nagar Haveli and Daman and Diu	✓	✓	✓	✓
9	Delhi				
10	Goa	✓	✓	✓	✓
11	Gujarat	✓	✓	✓	✓
12	Haryana	✓		✓	✓
13	Himachal Pradesh	✓	✓	✓	✓
14	Jammu and Kashmir	✓	✓	✓	✓
15	Jharkhand	✓	✓	✓	✓
16	Karnataka				
17	Kerala	✓		✓	✓
18	Ladakh				
19	Lakshadweep				
20	Madhya Pradesh				
21	Maharashtra	✓	✓	✓	✓
22	Manipur	✓	✓	✓	✓
23	Meghalaya				
24	Mizoram	✓		✓	✓
25	Nagaland				
26	Odisha	✓	✓	✓	✓
27	Puducherry	✓	✓	✓	✓
28	Punjab	✓	✓	✓	✓
29	Rajasthan				
30	Sikkim				
31	Tamil Nadu	✓	✓	✓	✓
32	Telangana	✓	✓	✓	✓
33	Tripura	✓	✓	✓	✓
34	Uttar Pradesh	✓	✓	✓	✓
35	Uttarakhand	✓	✓	✓	✓
36	West Bengal				

[8] Note: The above review of policy documents is non-exhaustive and was undertaken based on documents shared by the administrations of respective States and UTs. State/UT-specific observations include the following: (1) Kerala has notified a Logistics Action Plan and a Logistics Park Policy, which was reviewed in lieu of a logistics policy. (2) Madhya Pradesh had notified a logistics policy in 2012 that requires updation. (3) Karnataka does not have a logistics policy, but has instead published a logistics master plan to drive logistics reform in the State/UT.

Services	Policy Support				Sustainability
Utilization of Technology in the Logistics Sector	**Skill Development**	**Regulatory Support to the Logistics Sector**	**Provision for Financial Incentives**	**Provision for Non-Financial Incentives**	**Initiatives for Sustainability and Decarbonizing the Sector**
		✓			✓
✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
			✓	✓	
✓	✓		✓	✓	
✓	✓	✓	✓	✓	✓
No policy available as on date of publication of this report.					
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	
✓	✓	✓	✓		✓
✓	✓	✓	✓	✓	✓
		✓	✓	✓	
Karnataka does not have a logistics policy but instead published a Logistics Master Plan					
✓	✓				✓
No policy available as on date of publication of this report.					
No policy available as on date of publication of this report.					
The State had notified a logistics policy in 2012 that requires updation					
✓	✓	✓	✓	✓	✓
✓	✓	✓			✓
No policy available as on date of publication of this report.					
					✓
No policy available as on date of publication of this report.					
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
No policy available as on date of publication of this report.					
No policy available as on date of publication of this report.					
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✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓
No policy available as on date of publication of this report.					

The outlined tenets could serve as a valuable guide for States and UTs that have yet to formulate or notify their logistics policies to ensure comprehensive coverage of essential elements. These tenets can help States systematically address critical areas that may impact their logistics performance and reforms. The structured approach could help align policies with national objectives, facilitating efficient logistics operations.

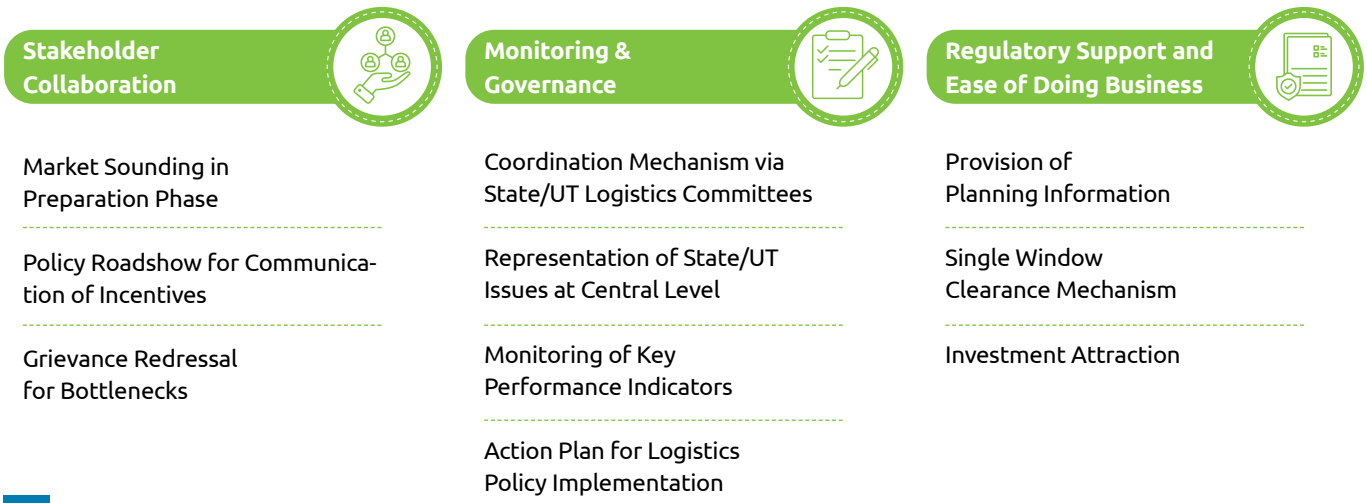
While a State/UT's logistics policy sets the framework for developing an efficient, integrated, and sustainable logistics ecosystem, the successful implementation of its initiatives relies on strong collaboration at the State/UT level. Additionally, effective monitoring, governance, and regulatory support are crucial to ensure the sector's growth through proper execution.

Key Measures for Effective Implementation of Provisions Under Logistics Policies/Action Plans

Active monitoring of policy outcomes are important to realise the benefits of a logistics policy and ensure alignment with evolving industry needs. Continuous engagement with private stakeholders can provide valuable insights into practical challenges and emerging trends, helping policymakers make timely adjustments that reflect current market dynamics. Furthermore, a robust framework for outcome monitoring enables tracking Key Performance Indicators (KPIs), such as timeframes for regulatory approvals and disbursement of financial incentives, which is essential for gauging policy effectiveness. This dual focus on stakeholder collaboration and outcome monitoring helps build a responsive logistics ecosystem that can adapt to changing demands while addressing operational bottlenecks in a structured and efficient manner.

The effective implementation of a logistics policy depends on a structured approach, where key pillars support creating a robust and responsive logistics ecosystem. These pillars—stakeholder collaboration, monitoring and governance, regulatory support, and ease of business—are essential for ensuring the policy's goals translate into tangible outcomes. Each pillar encompasses specific measures that provide a clear framework for engagement, oversight, and regulatory facilitation to foster a logistics-friendly ecosystem. The key pillars are presented below.

Figure 215: Key measures for effective implementation of provisions under logistics policies / action plans



1. **Stakeholder Collaboration:** Stakeholder collaboration is crucial for ensuring that policy initiatives address the needs of all parties within the logistics sector. This process involves establishing channels for active engagement with industry stakeholders, facilitating dialogue during policy formulation and ensuring clear communications regarding the policy's benefits and mechanisms.

b. **Market Sounding in the Preparation Phase:** Conducting market-sounding activities before finalising the policy enables policymakers to gather insights from industry stakeholders on critical focus areas. Engaging with logistics service providers, manufacturers and other supply chain entities helps identify pain points, understand market demands and prioritise initiatives. This preparatory engagement helps align policy measures with the industry's requirements and enhances their relevance and acceptance.

c. **Policy Campaign for Communication of Incentives:** Once the policy is in place, organising a structured campaign across relevant industry forums and regions can effectively communicate the financial and non-financial incentives provided within the policy. This outreach promotes awareness and fosters trust and engagement with the private sector, as stakeholders can see the tangible support available. By sharing case studies and success stories, these campaigns can serve as an interactive platform to clarify details about access to capital subsidies, tax exemptions and other support mechanisms.

d. **Grievance Redressal for Bottlenecks:** Establishing a grievance redressal mechanism is vital for resolving operational bottlenecks such as delays in land allocation, approval processes or other clearances required by logistics players. Addressing issues in a structured and timely manner can enable the policy to improve stakeholder confidence in public-sector responsiveness, enhancing the operational environment and ensuring smoother project implementation.

2. **Monitoring and Governance:** Monitoring and governance are integral to a logistics policy's success, ensuring that the policy is implemented and continuously improved based on outcome measurements. Effective governance mechanisms involve coordination between various State/UT and Central Governments, industry representation and a robust framework for evaluating performance metrics.

c. **Coordination Mechanism through State/UT Logistics Committees:** Establishing of State/UT logistics-empowered committees comprising representatives from industries and government departments is crucial for regularly identifying and addressing logistics issues. These committees can act as forums for discussing ongoing challenges, sharing updates on policy implementation, and providing feedback on industry concerns. Regular interactions foster better collaboration between the public and private sectors, facilitating proactive solutions to logistics challenges.

d. **Representation of State/UT Issues at the Central Level: State/UT** Logistics Committees can act as intermediaries, communicating the State's specific logistics challenges to Central Ministries. This representation helps address issues beyond State jurisdictions, such as cross-border movement barriers or regulatory mismatches, enabling assistance from the Central government with policy adjustments that benefit the broader logistics framework.

e. **Monitoring of Key Performance Indicators (KPIs):** Monitoring requires a data-driven approach for evaluating the policy's effectiveness. State/UT Logistics Committees should track KPIs such as the time taken to process regulatory approvals, evaluation durations for financial incentives and disbursement timelines for eligible projects. This framework can provide insight into areas needing further improvement, enabling timely interventions and maintaining accountability in policy implementation.

f. **Action Plan for Logistics Policy Implementation:** While the logistics policy provides the framework and intent, States/UTs must follow up with a comprehensive logistics action plan to convert policy goals into actionable steps. These action plans ensure effective implementation by aligning with policy objectives, setting clear, measurable goals, and identifying the key stakeholders. The plan should begin by thoroughly assessing the existing infrastructure and mapping gaps, enabling the identification of areas requiring immediate intervention. By setting priorities across short-, medium- and long-term timelines, the action plan helps in resource allocation and planning for financial and funding mechanisms to support the logistics ecosystem. A structured action plan could ensure that the logistics policy is implemented effectively and continuously refined based on real-time performance insights.

3. **Regulatory Support and Ease of Doing Business:** Streamlined regulatory support is necessary to simplify logistics facilities' establishment and operation and encourage private investment. A logistics-friendly regulatory environment lowers entry barriers, fosters investment and facilitates long-term growth.

d. **Provision of Planning Information:** Providing easy access to comprehensive planning information, such as land availability, infrastructure status and utility access, helps industry stakeholders make informed investment decisions. Clear information regarding land bank portals and other resources related to power and utilities help businesses plan their logistics projects more effectively, ensuring efficient resource allocation and reducing uncertainties.

e. **Single-Window Clearance Mechanism:** Introducing a single-window clearance mechanism can significantly reduce procedural delays, streamlining the process for obtaining the required licences, permits and certificates. By consolidating these requirements, the policy can accelerate the project setup phase and reduce delays that would otherwise hamper investments and operational timelines.

f. **Master Compounds for Investment Attraction:** Planning for master compounds, such as special economic zones and industrial parks, offers an attractive model for investors by providing focused logistics hubs. These hubs offer various benefits, including tax incentives and infrastructure support. These designated zones allow for concentrated investment in logistics, driving regional economic development while promoting synergies among logistics companies, manufacturers and service providers.

By focusing on these three pillars, the logistics policy creates a structured path for achieving an efficient, competitive and sustainable logistics ecosystem. Continuous alignment with private sector needs, robust governance mechanisms and streamlined regulations foster a conducive environment for logistics development and overall growth.

Summary

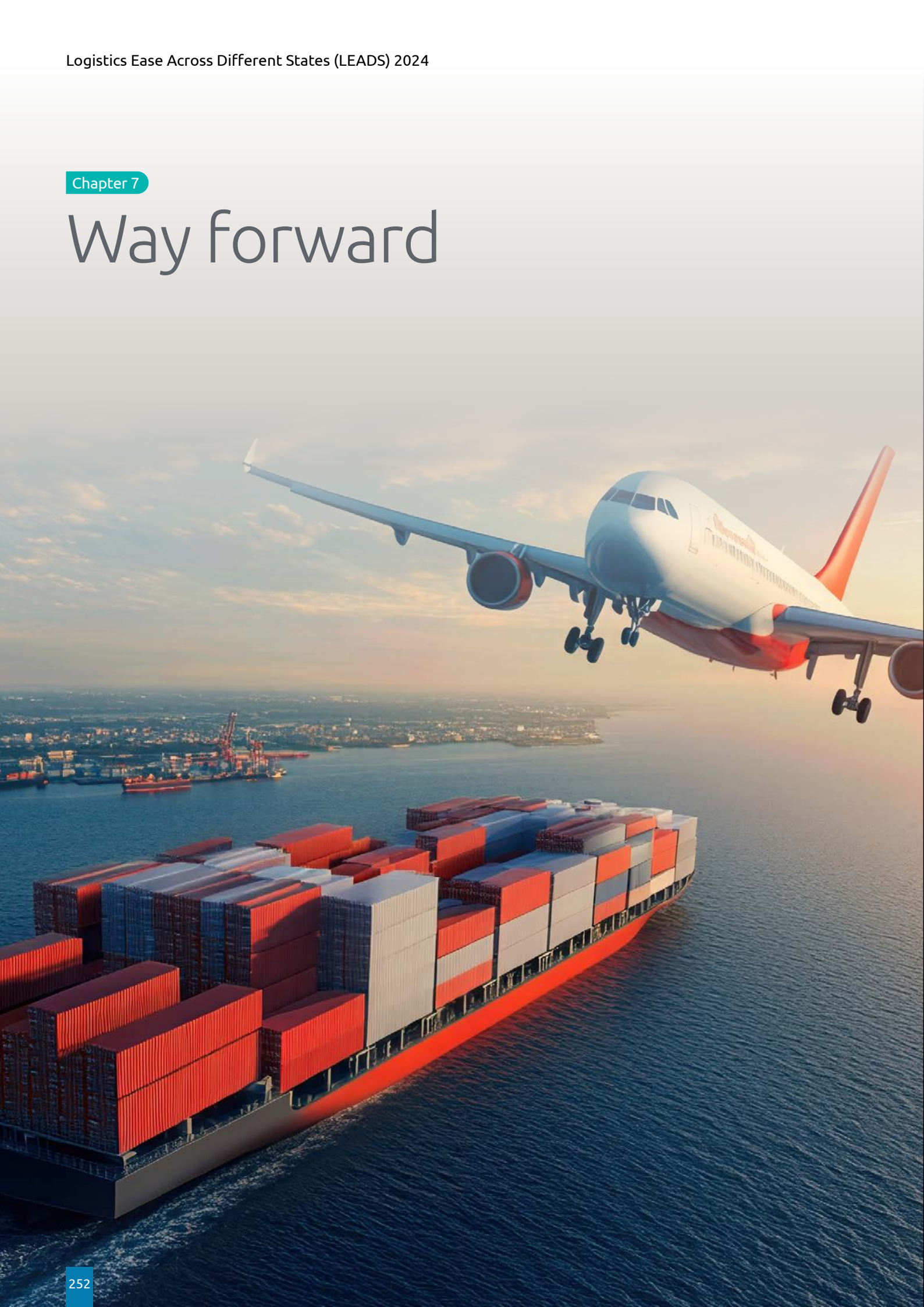
To effectively implement the goals of the NLP, States/UTs need to develop their own comprehensive logistics policies that are aligned with national objectives while addressing region-specific needs. Developing State/UT-level logistics policies ensures that local infrastructure and regulatory frameworks are optimised for improved efficiency, reduced costs, and enhanced competitiveness. These policies should include a clear roadmap for infrastructure investments, streamlined regulatory processes and the strategic development of multi-modal transport infrastructure.

Furthermore, a robust State/UT-level action and implementation plan is critical for implementing the policy. This plan must include specific actions, timelines, and accountability mechanisms. By doing so, States/UTs can contribute to the collective achievement of the NLP's vision of an efficient, integrated logistics ecosystem that enhances India's global competitiveness.

States/UTs may ensure that their logistics policy is in alignment with the National Logistics Policy such that there is uniformity in regulatory procedures, infrastructure development, and seamless inter-State transportation of goods.

Chapter 7

Way forward



The future development pathway for India's logistics ecosystem includes bringing redundancy and strength to withstand disruptions, augmenting ability to quickly adapt to changing market needs & trends, and delivering right efficiency to optimize costs, transit time and quality of logistics. This section highlights key enablers and corresponding action agenda towards achieving this vision. These enablers are grouped into four pillars of logistics performance: Infrastructure, Services, the Operating and Regulatory Environment, and Sustainability and Equity Logistics.

Key enablers to drive growth of India's logistics sector

The key enablers to reform logistics performance across the country could be as follows:

Figure 216: Key enablers to reform logistics performance across the country

Logistics Infrastructure

1. Implementation of the PM GatiShakti National Master Plan
2. Holistic Infrastructure Development for Logistics
3. Developing First-Mile Aggregation Points
4. Promotion of Multi-Modal Transport Systems
5. Achieving modal shift to efficient mode of transport

Logistics Services

1. Enhancing IT Infrastructure for Logistics Management
2. IT-Enabled Last Mile Delivery Solutions
3. Skill Development and Capacity Building in Logistics

Operating & Regulatory Environment

1. Drafting State/UT Logistics Policies in Line with National Logistics Policy
2. Need for Development of Action Plans for Logistics Policy
3. Need for Development of Regional / City Logistics Plans
4. Need for development of regional trade corridors
5. Creation of a Dedicated Land Bank for Logistics Infrastructure
6. Institutional Mechanism for Coordination among different State Departments
7. Single-Window Clearance System for Logistics
8. Institution of a Grievance Redressal System

Sustainable & Inclusive Logistics

1. Promotion of Green and Sustainable Logistics
2. Transport Decarbonization
3. Promoting Women's Participation in the Logistics Sector

Some of these enablers are further explained in detail below:

Logistics Infrastructure:

Active implementation of the PM GatiShakti National Master Plan:

The PM GatiShakti National Master Plan integrates various logistics and infrastructure development projects, providing a holistic approach to reducing bottlenecks in transportation. The plan's objective is to enhance multimodal connectivity across India, ensuring that State/UT-level planning aligns with national initiatives to improve infrastructure efficiency and reduce logistics costs.

To date, 22 States/UTs have completed the mapping of mandatory layers and 18 States/UTs have completed the geo-referencing of land records on the PM GatiShakti portal, enabling better spatial planning. Additionally, States/UTs have mapped projects funded under the 'Scheme for Special Assistance to States for Capital Expenditure' for enhanced capital expenditure by States for infrastructure development. Moreover, 26 States/UTs are actively adopting PM GatiShakti for infrastructure planning, which is a significant step toward improving coordination and streamlining processes for logistics and infrastructure development across the country.

Other States/UTs should also prioritize the active implementation of the program by mapping the required layers on the portal and emphasizing integrated planning to improve coordination and overall efficiency.

Transforming Logistics Through Holistic Infrastructure Development:

A coordinated approach to infrastructure development is key to improving the efficiency of India's logistics sector. By enhancing both physical and digital infrastructure, and integrating road, rail, air, and waterways, States/UTs can create a seamless and cost-effective logistics network.

States/UTs should focus on upgrading existing infrastructure, expanding logistics hubs, and developing multimodal transport facilities. Investing in smart technologies such as automated warehouses, real-time platforms, and data-driven solutions will further optimize supply chains. Collaboration between government, private sector, and other stakeholders is essential to align infrastructure development with the growing demands of logistics.

Additionally, expanding logistics infrastructure to tier-2 and tier-3 cities, and developing cold storage and warehouses, will support better rural-urban integration and reduce wastage, especially for perishables. Air freight also requires focused attention, particularly in addressing high operational costs, inadequate infrastructure, and delays. By offering incentives for the development of air cargo terminals and integrating digital platforms, air logistics efficiency can be significantly enhanced.

Developing First-Mile Aggregation Points

Developing First-Mile Aggregation Points: States/UTs can foster the development of logistics ecosystems by establishing first-mile aggregation points for agricultural produce and MSME products. These hubs provide a central location for consolidating goods, reducing transportation costs, and improving supply chain efficiency. By offering tax incentives and land banks for establishing these aggregation points, States/UTs can help build local supply chains that connect manufacturers and farmers to larger markets, thereby reducing logistics costs and wastage.

Promotion of Multi-Modal Transport Systems

Integration through Multi-Modal Transport Systems: The integration of various modes of transportation is critical to reducing logistics costs and improving efficiency. States/UTs can develop logistics plans that focus on improving intermodal connectivity, linking key logistics hubs to the National Economic Corridor, major highways, rail networks, and inland waterways. Enhancing first-mile and last-mile connectivity through effective planning will ensure the seamless movement of goods, reduce transit times, and lower overall costs. Multi-modal transport systems not only improve connectivity but also enable the shift towards more sustainable modes of transportation, such as rail and waterways, which have a lower environmental impact compared to road transport.

Logistics Services:

Enhancing IT Infrastructure for Logistics Management:

Digital infrastructure plays a transformative role in optimizing logistics operations. One such initiative is the Unified Logistics Interface Platform (ULIP), which offers immense potential for States/UTs to enhance their logistics frameworks. By integrating various logistics-related IT systems, ULIP enables real-time data exchange between government and private players, facilitating seamless movement of goods. States/UTs can leverage ULIP to drive efficiency, improve tracking, and foster a transparent logistics ecosystem. Similarly, adopting IT solutions such as smart enforcement of laws, digital freight corridors, and blockchain technology for supply chain transparency can further streamline operations and reduce costs.

IT-Enabled Last Mile Delivery Solutions:

The integration of technology in logistics is vital for improving the last mile delivery of goods. States/UTs can promote the use of IT-enabled platforms for route optimization, real-time tracking, and vehicle scheduling, which can significantly enhance delivery efficiency. Implementing digital solutions to monitor delivery performance leading to reduction in delays and improve customer satisfaction.

Skill Development and Capacity Building in Logistics:

One of the major challenges faced by the logistics sector is the lack of adequately trained human resources. States and UTs are encouraged to leverage national programs such as the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Deen Dayal Upadhyay Grameen Kaushalya Yojana (DDU-GKY) to build a skilled workforce for the logistics sector.

Currently, 20 States/UTs have taken initiatives to promote skill development across the logistics sector, demonstrating a proactive approach to addressing workforce challenges. Additionally, 17 States/UTs have entered into partnerships with educational institutions and industry bodies, fostering collaboration to provide targeted training and enhance industry readiness.

States/UTs should prioritize training drivers, operators, warehouse managers, and supervisors to reduce breakages, boost efficiency, and foster innovation. Capacity-building efforts should also promote logistics as a vital career option, emphasizing its role in economic growth through partnerships with academic institutions for seminars, career fairs, and internships. Additionally, training programs must include advanced skills in supply chain management, IT integration, and modern logistics technologies to prepare workers for the sector's evolving demands.

Operating & Regulatory Environment:

Drafting State/UT Logistics Policies in Line with National Recommendations:

States/UTs could focus on updating and aligning their logistics policies with the recommendations outlined in previous chapters. This ensures that the State/UT policies remain relevant to current challenges and opportunities while also contributing to the national logistics objectives. Furthermore, States/UTs should emphasize deep stakeholder engagement, a crucial aspect that is currently lacking. States/UTs are encouraged to organize workshops to popularize the updated logistics policy, raise awareness about the role of the nodal office, and encourage industry input for continuous improvement.

Additionally, States/UTs should recognize, and reward innovative logistics reforms implemented by private stakeholders, such as those acknowledged under initiatives such as Logistics Excellence, Advancement, and Performance Shield (LEAPS). This approach fosters collaboration between government and industry, enabling the co-creation of solutions and accelerating logistics improvements across the State/UT.

Need for Development of Action Plans:

Beyond policy development, implementing a comprehensive logistics action plan is essential to operationalize key initiatives effectively. As of now, 15 States/UTs have prepared detailed action plans to address logistics challenges and optimize infrastructure and services. However, while these action plans lay the foundation for progress, there is a critical need to establish a centralized monitoring framework to track the execution of these plans and measure their impact. This framework should focus on tracking progress on critical initiatives such as multimodal integration, digital adoption, and green logistics through platforms such as ULIP, enabling real-time monitoring of Key Performance Indicators (KPIs) and data-driven decision-making.

Additionally, introducing fast-track mechanisms for project approvals, particularly for infrastructure development and technology adoption, will accelerate implementation. These efforts can be further supported by State/UT level logistics task forces to ensure seamless coordination between Central and State/UT Authorities, thereby driving efficient project execution and timely progress reporting.

Need for Development of Regional / City Logistics Plans:

Regional and city-level logistics planning should focus on the development of region-specific logistics hubs that cater to local economic strengths, such as industry groups and agricultural zones. These hubs should be equipped with multimodal connectivity, warehousing infrastructure, and integrated digital systems to streamline operations. Select States/UTs have already initiated the preparation of regional and city-level logistics master plans to address these needs effectively, and it is imperative for others to follow suit to ensure comprehensive regional logistics development.

At the city level, urban freight systems need optimization through measures such as dedicated freight zones, policies for last-mile delivery efficiency, and incentives for adopting low-emission transport solutions. These initiatives should be integrated into broader urban development strategies to ensure alignment with city master plans and achieve sustainable urban logistics outcomes.

Developing Regional Trade Corridors to Facilitate Seamless Cross-Border Movement Between States/UTs:

In addition to developing State/UT specific logistics policies and master plans, enhancing regional connectivity with neighboring States/UTs is critical for streamlining interState logistics. Strengthening cross-border trade corridors and improving road, rail, and air connectivity between States/UTs can significantly reduce transit times, lower transportation costs, and improve the movement of goods across State/UT boundaries.

States/UTs should prioritize the development of key trade corridors, ensuring that infrastructure is optimized for seamless integration with neighboring regions. By enhancing connectivity, States/UTs can unlock the full potential of their logistics networks, foster regional cooperation, and enable smoother flow of goods between States/UTs, supporting economic growth and boosting trade efficiency.

Creation of a Dedicated Land Bank for Logistics Infrastructure:

Identifying and earmarking land for logistics infrastructure development is crucial for establishing a robust logistics network. In addition to designating land for logistics parks, Multimodal Logistics Parks (MMLPs), warehousing groups, and truck terminals, States and UTs are encouraged to allocate dedicated land parcels for logistics in all upcoming industrial groups and integrate with land use plan. This forward-thinking approach ensures that logistics facilities can be integrated seamlessly with industrial hubs, facilitating more efficient freight movement and reducing transportation costs.

By proactively designating land for logistics infrastructure within industrial zones, States/UTs can ensure that logistics operations align with industrial growth, support the growing demands of the logistics sector, and enhance the overall efficiency of supply chains.

Institutional Mechanism for Coordination:

The fragmented nature of logistics governance across multiple State/UT Departments—such as Transport Departments, Public Works Departments (PWD), and Regional Transport Offices (RTO)—necessitates the establishment of a cohesive institutional framework. States/UTs should focus on forming a State/UT Logistics Coordination Committee, not only with government departments but also including key private players in logistics. This expanded committee should involve e-commerce companies, technology providers in logistics, industry associations, chambers of commerce, and academic institutions.

The goal is to create a collaborative platform where public and private sectors can co-create solutions, address challenges, and align on logistics policies and infrastructure development. A well-rounded coordination mechanism will ensure that logistics infrastructure projects, regulatory clearances, and operational bottlenecks are effectively managed, benefiting the sector as a whole.

Single-Window Clearance System for Logistics:

The development of logistics-related infrastructure, such as Warehouses, Inland Container Depots (ICD), and Container Freight Stations (CFS), often faces delays due to lengthy regulatory and environmental clearances. Additionally, logistics stakeholders have reported significant challenges in obtaining approvals for Over-Dimensional Cargo (ODC) movements. These approvals often involve multiple authorities, including National Highways (NH), State Highways (SH), District and Panchayat authorities, Police, Traffic, RTOs, Electricity, Telecom, Forest, and Coastal Regulation authorities.

To expedite the establishment of logistics facilities and the movement of ODCs, States/UTs are encouraged to adopt a single-window clearance system that consolidates multiple clearance processes into a single platform. This mechanism would streamline approvals and make it easier for logistics service providers to invest in local facilities and facilitate the smooth movement of goods. By cutting down approval times and minimizing bureaucratic hurdles, States/UTs can attract investment, develop infrastructure, and reduce the time and cost involved in transporting goods across regions.

Institution of a Grievance Redressal System:

A digital grievance redressal system, such as the Ease of Logistics (E-LogS) portal developed by the Logistics Division, DPIIT, is essential for resolving issues faced by logistics stakeholders. This system allows for time-bound resolution of grievances and ensures that logistics-related issues are addressed promptly. States and UTs are encouraged to adopt similar mechanisms to provide a seamless platform for logistics stakeholders to voice their concerns and seek fast-track resolutions.

Sustainable & Inclusive Logistics:

Promotion of Green and Sustainable Logistics:

The transition towards sustainable logistics is essential for reducing environmental impact and fostering long-term growth in the logistics sector. Currently, 25 States/UTs have implemented policies or initiatives promoting green logistics, showcasing a strong commitment to decarbonizing transportation. These States/UTs are focusing on adopting alternative fuels such as biofuels and electric vehicles, as well as encouraging modal shifts from road transport to more eco-friendly modes, such as rail and inland waterways. Furthermore, 17 States/UTs have developed action plans to implement these policies or undertake initiatives related to green logistics, signaling a clear roadmap for sustainable logistics practices.

In addition to these efforts, States/UTs should incentivize the development of green logistics infrastructure, including energy-efficient warehouses, carbon-neutral logistics parks, and green buildings through private sector engagement and PPP models to foster investment in infrastructure and green logistics. The integration of smart enforcement systems to minimize unnecessary truck stoppages and inspections can also help reduce fuel consumption and enhance operational efficiency.

Sustainability commitments should include quantifiable goals, such as carbon neutrality in logistics parks and electrification of freight fleets, supported by green logistics incentives. Collectively, these initiatives will contribute to India's environmental sustainability goals while promoting a more competitive and resilient logistics ecosystem.

Promoting Women's Participation in the Logistics Sector:

Increasing women's participation in the logistics sector is essential for fostering diversity and addressing the sector's talent gap. States/UTs can collaborate with industry players and training institutions to introduce skill-development programs tailored to women, focusing on roles such as supply chain management, warehouse operations, and logistics technology. Additionally, awareness campaigns highlighting the logistics sector's contribution to economic growth and career opportunities for women can be organized in schools, colleges, and online platforms.

States/UTs should also encourage gender-sensitive workplace practices, including flexible working hours, safe and inclusive environments, and childcare support, to attract and retain women in logistics sector. Recognizing and showcasing successful women in logistics as role models can further inspire participation, breaking stereotypes and promoting a more inclusive sector.

Conclusion

The logistics sector is a crucial driver of economic growth and competitiveness in India as well as each of its constituent States and UTs. To meet their development aspirations, States and UTs must prioritize initiatives towards above action agenda including development of State-specific logistics policies with clearly defined timelines, setting up robust institutional frameworks for coordinated implementation, and integrating IT-enabled solutions such as real-time cargo tracking and automated processes. Concurrently, targeted initiatives for workforce skill development and incentivizing green logistics practices should be fast-tracked to address capacity gaps. States/UTs should look at setting measurable goals with defined KPIs and timelines for initiatives such as reducing logistics costs, increasing rail freight share, and promoting EV adoption as this is essential for tracking progress.

States/UTs should actively leverage platforms such as the Unified Logistics Interface Platform (ULIP) to digitalize their logistics operations, enabling seamless data sharing and streamlined coordination across stakeholders. The promotion of multi-modal transport systems, backed by strategic investments in infrastructure and technology, must be aligned with measurable outcomes to reduce logistics costs and environmental impact. States/UTs must adopt a focus-driven approach with simplifying regulatory frameworks, allocating dedicated funds, and leveraging digital platforms like ULIP for real-time monitoring to address implementation challenges.

States/UTs may also consider participating in regional customization efforts such as Coastal States focusing on port modernization and EXIM trade, North-Eastern States emphasizing on strengthening cross-border connectivity, and the Landlocked States prioritizing development of multimodal hubs, to yield collective dividends for the region as well as India.

By focusing on these actionable steps, all States/UTs as well as collectively India can transition toward a more efficient, sustainable, and globally competitive logistics ecosystem. Through close collaboration among States, UTs, and Central Government, the sector can significantly contribute to sustainable economic development both nationally and globally.

Not all of the aforementioned initiatives are new, as they have been previously introduced across various platforms and contexts. The critical success factor in enhancing India's logistics efficiency now lies in effective and outcome focused implementation. This necessitates the expedited execution of above initiatives, recalibration of strategies, and targeted focus on priority areas. The future LEADS edition will accordingly place much higher emphasis on effective implementation of above logistics initiatives by States/UTs.

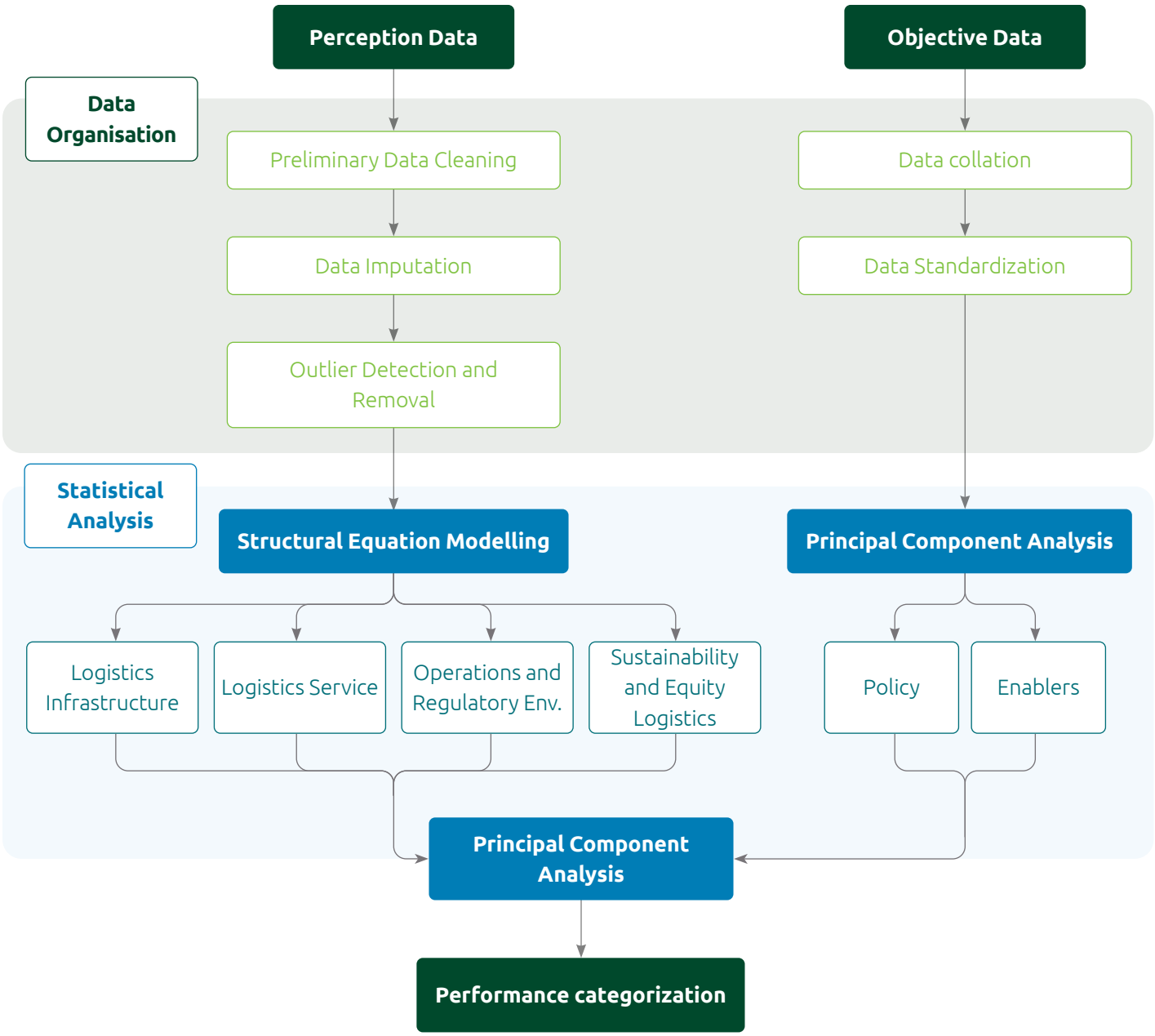
Chapter 8

Annexures

1. Framework for LEADS Score Assessment

The LEADS framework for logistics performance monitoring employs a structured approach to analyse perception and objective data. This process involves two key stages: data organisation and statistical analysis, which together comprehensive performance categorisation across States and UTs. The methodology provides actionable insights by combining stakeholder perceptions and objective metrics based on the following framework.

Figure 217: Framework for assessing LEADS score



Data Organization

Data organization serves as the foundation for subsequent statistical analyses. The process ensures that the data collected from perception surveys and objective sources is structured, cleaned, and standardized for reliability and consistency.

Perception Data

Initially, 8,205 responses were collected from the stakeholders as part of the perception survey. The responses were thoroughly processed to ensure accuracy and usability for further analysis.

1. **Preliminary Data Cleaning:** The first processing step applied broad data screening to ensure data accuracy and reliability. This process included identifying and removing responses with duplicate IP addresses, which indicated potential repetition or misuse. Entries with obvious errors, such as incorrect numerical values or incomplete responses, were also excluded. This initial screening ensured that only valid and unique responses were considered for further analysis, thus maintaining the dataset's integrity.

2. **Data Imputation:** In cases where missing data were identified, a systematic approach was followed wherein the median value of the respective pillar for the specific State was used to replace the missing entries. This method ensured that the imputed values reflected the central tendency of the available data within that pillar for the State in question. By using the median, the imputation process accounted for the distribution of responses while minimizing the influence of extreme values. This approach was applied uniformly across all pillars to ensure consistency in handling missing data across different States and indicators.

3. **Outlier Detection and Removal:** Outlier detection and removal were critical steps to ensure the consistency and reliability of dataset across all responses. A z-score assessment was performed for each data point to identify responses that deviated significantly from the mean. Specifically, any response with a z-score greater than +3 or less than −3 was classified as an outlier. These thresholds were uniformly applied to all variables and pillars across States and stakeholder groups. Responses outside this range were removed from the dataset because their extreme values could skew the analysis and misrepresent trends.

   The z-score method allowed for the identification of data points that were statistically inconsistent with the majority of the dataset. For example, responses with unusually high or low satisfaction scores, unrelated to observed trends for a particular State or pillar were flagged as outliers. By focusing on deviations from the mean, the process ensured that only typical patterns of perception and objective data were retained.

After completing these steps, the final number of responses used for the analysis stood at 7,198, representing 87.7% of the originally collected data. These steps ensured that the dataset was prepared for subsequent statistical analyses.

Objective Data:

This section evaluates the objective indicators collected as part of the LEADS 2024 initiative. As highlighted in chapter 5. The indicators were organized into two primary categories: regulatory measures, which assessed state-level policies and compliance facilitation efforts, and enablers, which focused on the quantitative measures of logistics efficiency. This categorization allowed for a structured evaluation of State and Union Territory (UT) performance in logistics.

Data collation: The data collation process for the objective indicators under the LEADS 2024 initiative involved two main components: regulatory measures and enablers. Each component was collated in a different manner based on the nature of data.

For regulatory measures, there were 10 binary pillars, each designed to evaluate state-level policies and efforts to enhance the logistics ecosystem. These pillars included areas such as logistics policy formulation, adoption of PM GatiShakti, and measures for sustainable and inclusive, among others. Each pillar was assigned a maximum score of 5, with States earning points based on their responses to the binary (Yes/No) questions. States that responded "Yes" to all questions under a particular pillar would receive the full score of 5 for that pillar. This approach provided a standardized way to evaluate the extent of regulatory measures implemented by each State or UT.

For enablers, there were 26 parameters assessing the length, capacity, utilization and other quantitative measures as highlighted in Table 19. However, some parameters faced data availability challenges. Parameters for which data was unavailable for more than 15% of the States were removed from the analysis to maintain the integrity and reliability of the evaluation process. This decision was made to avoid skewing the analysis and to focus on parameters with sufficient coverage across States and UTs.

This edition of the LEADS also incorporates average speed analysis for NH and SH and approach roads to terminals' across 36 States/UTs using APIs.

Use of APIs for data driven insights and its limitations: While these tools offer valuable insights, the following limitations should be considered:

1. Data Accuracy and Reliability:
   a. The Traffic API data is subject to inherent variability and may not fully capture real-world conditions such as temporary traffic disruptions, road maintenance activities, local restrictions, or seasonal fluctuations.
   b. Changes in infrastructure, construction activities, or unforeseen events (e.g., natural disasters or accidents) could result in discrepancies between the analyzed data and actual ground conditions.
2. Accessibility Analysis:
   a. The analysis is based on the network data available during the study period, with assumptions made about travel speeds, connectivity, and terminal operations.
   b. Dynamic factors such as variations in terminal operating hours, unanticipated congestion, or temporary road closures could influence real-time accessibility, which may not be reflected in the findings.
3. Coverage and Context Limitations:
   a. The granularity of data varies by region, and insufficient data density in certain areas may affect the accuracy of results, particularly in remote or underdeveloped regions.
   b. Localized conditions, such as road quality or specific regional traffic patterns, might not be fully represented, potentially impacting the contextual accuracy of insights.

Despite these limitations, the use of APIs represents a significant step in providing a data-driven approach to assessing logistics performance. The findings should be interpreted with these considerations in mind, applying professional judgment to contextualize the results and inform decision-making.

To ensure comparability across States with varying geographic and economic contexts, the data was standardized. Parameters were normalized using metrics such as Population and Geographical Area. This step allowed for equitable evaluation of States' logistics performance. Table 19 shows selected parameters used for analysis and the normalization metrics for each parameter.

Table 19: Parameters for Objective data-Enablers

Parameters	Used in LEADS 2024 Analysis	Normalization Parameter
Total Length of National highway	✓	Area
Total Length of State highway	✓	Area
Total Length of District Roads	✓	Area
Total Length of PMGSY Roads	✓	Area
Number of Registered GCVs	✓	GSDP
Number of Road Accidents of GCVs	✓	Total Road Length
Number of Logistics Training Centers	✓	GSDP
Professionals Trained in Logistics Training Centers	✓	GSDP
Railway network length	✓	Area
Number of Ports & Land ports	✓	GSDP
Delta Highways (increase in Highway Length from 2023)	✓	Taken in absolute terms
Delta Last Mile Connectivity (increase in District Road and PMGSY Road length from 2023)	✓	Taken in absolute terms
Delta Railways (increase in Railway Route kms from 2023)	✓	Taken in absolute terms
Speed of Road Network	✓	Taken in absolute terms
Accessibility to Terminals	✓	Taken in absolute terms
Total Length of Urban Roads	Dropped from further analyses due to lack of Data	
Total Length of Rural Roads		
Warehouse Capacity		
Capacity of Non-Major Ports		
Cold Storage Capacity		
Education Institutes providing Degree/Diploma Courses in Logistics		
Professionals Trained in Education Institutes		
Total Investment by State/UT (Public+Pvt. Investment)		
Capacity of Major Ports		
Capacity of Air Cargo Terminals		
Number of Registered GCV Drivers	Dropped due to high correlation with number of GCVs	

Please note that the lengths of National Highways (NH) and State Highways (SH) were combined for use in the indicators, as certain States, such as Delhi and Himachal Pradesh, do not have State Highways. Additionally, District Roads and PMGSY are combined as a last mile measure.

After completing these steps, the objective data was finalized for further analysis. Both types of objective data—Regulatory Measures and Enablers—were standardized using z-scores to ensure comparability and consistency across parameters. The standardized dataset provided a foundation for applying statistical techniques, such as Principal Component Analysis (PCA), to evaluate state-level logistics performance.

Statistical Analysis

The statistical analysis for LEADS 2024 focused on integrating and evaluating the perception and objective data to derive logistics performance scores for States and Union Territories (UTs). This process utilized advanced statistical methods to ensure that the insights generated were data-driven and consistent.

Structural Equation Modelling for Perception Scores

For scoring perception data, Structural Equation Modeling (SEM) was employed using the lavaan package in R. SEM is a statistical technique that enables the analysis of relationships between observed variables and latent constructs. This approach was chosen to evaluate stakeholder responses by linking measurable indicators to broader latent variables or pillars.

The lavaan package in R is a powerful and flexible tool for conducting Structural Equation Modeling (SEM), Confirmatory Factor Analysis (CFA), and Path Analysis. It is widely recognized for its simplicity and user-friendly syntax, which allows researchers to specify models with ease while maintaining precision.[9] The package provides a comprehensive suite of tools to estimate, evaluate, and validate complex models, offering rich outputs that include parameter estimates, fit indices, and modification indices. One of its key strengths lies in its ability to handle multiple data structures, such as continuous, categorical, or mixed data, making it suitable for diverse research contexts. Additionally, lavaan is supported by extensive documentation and active community forums, making it accessible even to users who are new to SEM. Its compatibility with other R packages enhances its utility for data preprocessing, visualization, and reporting, further solidifying its place as a leading tool for SEM in academic and applied research.

The latent variables used in the SEM analysis were based on four key pillars: Logistic Infrastructure, Logistics Service, Operations and Regulatory Environment and Sustainability and Equity Logistics. The SEM approach ensured that each pillar's contribution was statistically validated, providing a robust framework for scoring perception data. The results of the SEM analysis are presented below.

Table 20: Results of Structural Equation Modelling

Latent variables	Parameters	Loadings	Weights
Logistics Infrastructure	Road Infrastructure	0.80	5.76%
	Rail Infrastructure	0.84	6.01%
	Terminal Infrastructure	0.79	5.65%
	First and Last Mile Connectivity	0.81	5.83%
	Warehousing Infrastructure	0.84	6.02%

[9] Lavaan: An R Package for Structural Equation Modeling; Journal of Statistical Software, May 2012 Volume 48 Issue 2

Latent variables	Parameters	Loadings	Weights
Logistics Service	Terminal and Warehousing services	0.89	6.37%
	Transport Services	0.83	5.93%
	Reasonableness of shipment prices	0.83	5.98%
	Timeliness of Cargo Delivery	0.80	5.70%
	Track and Trace of Cargo	0.83	5.93%
	Skilled Development	0.80	5.74%
	Cargo Safety and Security	0.81	5.78%
Operational & Regulatory Environment	Facilitation by State and UT	0.87	6.21%
	Ease of entry from Neighbouring States UTs	0.78	5.58%
	Grievance redressal	0.81	5.82%
Sustainability and Equity Logistics	State Participation in Sustainable Logistics	0.88	6.32%
	Women Participation in Logistics	0.75	5.37%

Principal Component Analysis for Objective Scoring

For scoring objective data, Principal Component Analysis (PCA) was used. PCA is a statistical technique that reduces the dimensionality of data by identifying principal components, which are uncorrelated variables that capture the maximum variance in the dataset. This method allows for the aggregation of multiple indicators into a composite score while minimizing redundancy.

To arrive at weights for individual variables within the PCA execution, approaches recommended by Organization for Economic Cooperation and Development were adopted.[10]

[10] OECD Statistics and Data Directorate org

Results of the PCA are provided below:

Table 21: Results of Principal Component Analysis [11,12,13]

Category	Objective indicators	Loadings	Weights
Regulatory	Logistics Policy	0.92	6.01%
	Regional Master Plan / City Logistics Plan	0.73	3.75%
	PM GatiShakti Master Plan	0.71	3.58%
	Human Resource Development	0.90	5.64%
	Green Logistics	0.91	5.76%
	Facilitation by State/UT for Central Govt Projects	0.82	4.79%
	Public-Private Partnerships (PPP)	0.86	5.17%
	Industry Status to Logistics and Warehousing Sector	0.78	4.28%
	Streamlining of Regulatory Processes	0.77	4.19%
	ULIP Adoption for State-Level Planning for Logistics	0.57	2.30%
Enablers	Highway Length /sqkms	0.96	6.47%
	Last Mile Connectivity Length /sqkms	0.91	5.79%
	Railway Route Length/sqkms	0.66	3.09%
	Delta (Highways)	0.22	4.14%
	Delta (Last Mile)	0.87	5.27%
	Delts (Railways)	0.83	4.83%
	Number of Land Based Ports and Ports / GSDP	0.15	3.42%
	Number of Registered GCVs/ GSDP	0.83	4.83%
	Number of Road Accidents of GCVs/ Road Kms	0.48	1.61%
	Number of Logistics Training Centres/GSDP	0.75	4.01%
	Professionals Trained in Logistics Training Centers/GSDP	0.96	6.44%
	Average Speed of Road Network	0.45	2.38%
	Accessibility to Terminals	0.57	2.27%

PCA for Overall Performance Level

To determine the overall performance level for each State, two factors from objective data – Regulatory measures and Enablers, and four constructs derived from perception data—Logistics Infrastructure, Logistics Services, and Operations and Regulatory Environment—were utilized. The Principal Component Analysis (PCA), conducted using the OECD model, established the distribution of weights, assigning 32.5% to objective data and 67.5% to perception data. This weighting reflects the emphasis on stakeholder perceptions while incorporating measurable infrastructure and policy-related indicators for a comprehensive evaluation.

[11] Sum of National Highway and State Highway
[12] Sum of District roads and PGMSY roads
[13] Includes number of ports and land ports (ICDs) for the States

2. Road sections across States/UTs with Level of Service E or F

Coastal States

S.No.	States	Road Section / Corridor
1.	Andhra Pradesh	1. NH 16 (Rajahmundry Road) 2. NH 165 (Bantumilli Road, Palakaol Pulapalli Road)
2.	Goa	1. NH 366 2. NH 66 (Panvel - Kochi - Kanyakumari Highway)
3.	Gujarat	1. NH 53 (Vyara Bypass Road) 2. NH 64 (Jay Prakash Narayan Marg -Ring Road)
4.	Karnataka	1. SH 146 2. SH 141 3. NH 67 (Hubli Bellary Road) 4. NICE Peripheral Ring Road
5.	Kerala	1. SH 14 (Erattupetta - Peermade Road) 2. NH 66 (Salem - Kochi - Kanyakumari Road)
6.	Maharashtra	1. NH548DD (Theur Kesnand Road) 2. NH166E (Chiplun Guhagar Road)
7.	Odisha	1. NH 55 2. NH 20
8.	Tamil Nadu	1. NH 16 (Chennai Bypass) 2. NH 77 (Tindivanam Road) 3. NH544H (Thoppur - Mettur Dam - Bhavani - Eode Road 4. Madurai Ring Road
9.	West Bengal	1. SH 6 (Bangal Babu Bridge) 2. SH 12 (Peshok Road)

Landlocked States

S.No.	States	Road Section / Corridor
1.	Bihar	1. NH 33 (Bhagalpur Road) 2. NH 331 (Malmaliya - Jalalpur - Chhapra Road)
2.	Chhattisgarh	1. NH 43 (Ambikapur Highway Road) 2. NH 130D (Narayanpura - Kukdajhor Road)
3.	Haryana	1. SH 11 (Delhi Road (Bahalgarh)) 2. NH 352 (Jind-Narwana Road) 3. NH 48 (Delhi - Gurugram Expressway)
4.	Himachal Pradesh	1. NH 154 (Palampur - Dharamshala Road) 2. NH 707 (Paonta - Hatkoti Road)
5.	Jharkhand	1. NH 22 2. NH 33 (Banjhi Road - Dr Rajendra Prasad Road)
6.	Madhya Pradesh	1. NH 52 (Mumbai - Agra National Highway) 2. SH 40 (Indore Highways)
7.	Punjab	1. NH 703 (Barnala - Amritsar Bypass Road) 2. NH 205A (Kharar - Banur Road)
8.	Rajasthan	1. SH 29A 2. NH 58 (Pushkar Road) 3. Jodhpur Bypass Road
9.	Telangana	1. SH 23 2. NH 163 (Hyderabad - Janagam Highway) 3. NH 65 (Degloor - Hyderabad Road)
10	Uttar Pradesh	1. SH 38 (Sitapur-Kanpur Road) 2. NH 135A (Jaunpur - Bhadohi Road) 3. Rajesultanpur - Azamgarh Road (NH 28)
11	Uttarakhand	1. NH 34 (Haridwar - Dehradun Road) 2. NH 507 (Vikasnagar - Barkot Road)

Union Territories

S.No.	States	Road Section / Corridor
1.	Andaman and Nicobar Islands	1. SH 7 2. NH 4 (MG Road)
2.	Chandigarh	1. SH 12 A (Himalaya Marg) 2. NH 5 (Chandigarh Road)
3.	Dadra and Nagar Haveli and Daman and Diu	1. SH 185 2. NH848A (Surangi - Velugam Road)
4.	Delhi	1. Burari Bypass - Majnu ka Tilla 2. Wazirabad Road 3. Delhi - Gurugram Expressway
5.	Jammu and Kashmir	1. NH 701 (Sopore - Kupwara Highway) 2. NH 244A (Ring Road Jammu)
6.	Ladakh	NA
7.	Lakshadweep	NA
8.	Puducherry	1. NH 32 (Villupuram Puducherry Nagapattinam)

North Eastern States

S.No.	States	Road Section / Corridor
1.	Arunachal Pradesh	1. NH 13
2.	Assam	1. NH 15 (Jamugurihat Road)
3.	Manipur	1. NH 202 (Imphal - Jessami Road)
4.	Meghalaya	1. NH 6 (Mihmyntdu Road)
5.	Mizoram	1. NH 108 (Aizawl - Mamit - Vanhmun - Kumarghat Road)
6.	Nagaland	1. NH 202K 2. NH 29 (Kohima - Meluri Road) 3. NH 129 (Golaghat Road)
7.	Sikkim	1. SH 4 2. NH 510 (Singtam - Dikchu Road)
8.	Tripura	1. NH 108B (Assam - Agartala Road - Perpheral Connectivity Roads) 2. NH 108B (Agartala Airport Road)

3. Abbreviations

S No.	Abbreviations	Full Form
1	A&N	Andaman and Nicobar
2	AFS	Air Freight Station
3	AI	Artificial Intelligence
4	AITP	Association of Information Technology Professionals
5	ALIMCO	Artificial Limbs Manufacturing Corporation of India
6	APEDA	Agricultural and Processed Food Products Export Development Authority
7	API	Application Programming Interface
8	APSSDC	Andhra Pradesh State Skill Development Corporation
9	BEE	Bureau of Energy Efficiency
10	BRAP	Business Reform Action Plan
11	BSRP	Bengaluru Suburban Rail Project
12	BTM	Behind-The-Metre
13	CAF	Common Application Form
14	CFSs	Container Freight Stations
15	CLAP	Comprehensive Logistics Action Plan
16	CLP	Certified Logistics Professional
17	CNG	Compressed Natural Gas
18	CoE	Centre of Excellence
19	CONCOR	Container Corporation of India Limited
20	CSSC	Container Shipping Supply Chain
21	CTO	Container Train Operator
22	DBFOT	Design-Build-Finance-Operate-Transfer
23	DNHDD	Dadra and Nagar Haveli and Daman and Diu
24	DDU-GKY	Deen Dayal Upadhyay Grameen Kaushalya Yojana
25	DFC	Dedicated Freight Corridor
26	DMIC	Delhi-Mumbai Industrial Corridor

S No.	Abbreviations	Full Form
27	DNH	Dadra and Nagar Haveli
28	DPIIT	Department for Promotion of Industry and Internal Trade
29	DSDP	District Skill Development Plan
30	E-LogS	Ease of Logistics Services
31	EV	Electric vehicle
32	EXIM	Export-Import
33	FAME	Faster Adoption and Manufacturing of Electric Vehicles
34	FEST	Friendly Electronic Services of Transport
35	FTCCI	Federation of Telangana Chambers of Commerce and Industry
36	FTWZ	Free Trade Warehousing Zone
37	GCT	GatiShakti Multi-Modal Cargo Terminal
38	GCVs	Goods-Carrying Vehicles
39	GIDC	Gujarat Industrial Development Corporation
40	GPO-FMS	Gujarat Maritime Board's Port Operations and Financial Management System
41	GPS	Global Positioning System
42	GRAP	Graded Response Action Plan
43	G-RIDE	Gujarat Rail Infrastructure Development Corporation
44	GRIHA	Green Rating for Integrated Habitat Assessment
45	GSDL	Geospatial Delhi Limited
46	ICCC	Integrated Command and Control Center
47	ICD	Inland Container Depot
48	ICP	Integrated Check Post
49	ICT	Information and Communication Technology
50	IDTR	Institute of Driving & Traffic Research
51	IFP	Investor Facilitation Portal

S No.	Abbreviations	Full Form
52	ILMS	Intelligent Logistics Management System
53	ILP	Integrated Logistics Park
54	IMA	Invest Meghalaya Authority
55	IMMLPs	Integrated Multi-Modal Logistics Parks
56	IoT	Internet of Things
57	IT&C	Information Technology and Communication
58	ITI	Industrial Training Institute
59	ITMS	Intelligent Transport Management Systems
60	IWAI	Inland Waterways Authority of India
61	KPI	Key Performance Indicator
62	LCMG	Logistics Crisis Management Group
63	LCoE	Logistics Centre of Excellence
64	LCS	Land Customs Station
65	LEADS	Logistics Ease Across Different States
66	LEAPS	Logistics Excellence, Advancement, and Performance Shield
67	LEED	Leadership in Energy and Environmental Design
68	LMU	Logistics Management Unit
69	LNG	Liquefied Natural Gas
70	LPAI	Land Ports Authority of India
71	LPI	Logistics Performance Index
72	LSC	Logistics Skill Council
73	LSDM	Ladakh Skill Development Mission
74	MAITRI	Maharashtra Industry, Trade and Investment Facilitation Cell
75	MIA	Manohar International Airport
76	MIDC	Maharashtra Industrial Development Corporation
77	MMLP	Multi-Modal Logistics Park
78	MoU	Memorandum of Understanding

S No.	Abbreviations	Full Form
79	MPCVET	Madhya Pradesh Council for Vocational Education Training
80	MPEDA	Marine Products Export Development Authority
81	MPIDC	Madhya Pradesh Industrial Development Corporation
82	MSDC	Maharashtra Skill Development Corporation
83	MSE - CDP	Micro and Small Enterprises Group Development Programme
84	MSME	Ministry of Micro, Small & Medium Enterprises
85	NATPAC	National Transportation Planning and Research Centre
86	NCT	National Capital Territory
87	NER	North-East Region
88	NH	National Highway
89	NHLML	National Highway Logistics Management Limited
90	NIP	National Infrastructure Pipeline
91	NLP	National Logistics Policy
92	NOC	No Objection Certificate
93	NPG	Network Planning Group
94	NSQF	National Skills Qualification Framework
95	NSWS	National Single Window System
96	NTPC	National Thermal Power Corporation
97	ODC	Over-Dimensional Cargo
98	ODOP	One District One Product
99	ODR	Other District Roads
100	OECD	Organization for Economic Cooperation and Development
101	PCA	Principal Component Analysis
102	PLC	Puducherry Logistics Cell
103	PMGS-NMP	Prime Minister GatiShakti-National Master Plan
104	PMGSY	Pradhan Mantri Gram Sadak Yojana
105	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
106	PPP	Public-Private Partnership

S No.	Abbreviations	Full Form
107	PV	Photovoltaics
108	PWD	Public Works Department
109	RTO	Regional Transport Office
110	RVNL	Rail Vikas Nigam Limited
111	SBTi	Science-Based Targets initiative
112	SDG	Sustainable Development Goals
113	SEM	Structural Equation Modelling
114	SH	State Highway
115	SIIDCUL	State Infrastructure and Industrial Development Corporation of Uttarakhand Limited
116	SPEL	Sectoral Plan for Efficient Logistics
117	SWCL	Single Window Clearance System
118	TAH	Trans-Arunachal Highway
119	TASK	Telangana Academy of Skill and Knowledge
120	TFC	Trade Facilitation Cell
121	TG-bPASS	Telangana Building Permission Approval and Self-Certification System
122	TIES	Trade Infrastructure for Export Scheme
123	TNSDC	Tamil Nadu Skill Development Corporation
124	UCLDC	Urban Consolidation and Logistics Distribution Center
125	UKSDM	Uttarakhand Skill Development Mission
126	ULIP	Unified Logistics Interface Platform
127	UNNATI	Uttar Poorva Transformative Industrialization
128	UPAPMC	Uttar Pradesh Agricultural Produce Market Committee
129	UPSDM	Uttar Pradesh Skill Development Mission
130	UPSIDA	Uttar Pradesh State Industrial Development Authority
131	UT	Union Territorie
132	VBA	Visual Basic for Application
133	VKIC	Vishakhapatnam–Chennai Industrial Corridor
134	ZET	Zero-Emission Trucking

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For any suggestions / feedback, please write to:

Logistics Division

Department for Promotion of Industry and Internal Trade (DPIIT)
Ministry of Commerce & Industry, Government of India, New Delhi 110011

Contact Number: 011 23038477
Email: logistics-div@gov.in