PM Gati Shakti

National Master Plan for Multi-Modal Connectivity

Government of India
Ministry of Commerce & Industry

G20
भारत 2023 INDIA

LEADS 2023

Logistics Ease Across Different States

> *Dedicated freight corridors, industrial corridors, expressways, logistic parks, these are becoming the identity of New India...... PM GatiShakti is a national platform for infrastructure building in India which has taken the form of the National Master Plan...... We have implemented our National Logistics Policy with an aim to make India the world's most competitive logistics market.*

Hon'ble Prime Minister
Shri Narendra Modi

at Global Investors' Summit, 11th January 2023

पीयूष गोयल
PIYUSH GOYAL

वाणिज्य एवं उद्योग,
उपभोक्ता मामले, खाद्य और सार्वजनिक वितरण तथा
वस्त्र मंत्री, भारत सरकार
**MINISTER OF COMMERCE & INDUSTRY,
CONSUMER AFFAIRS, FOOD & PUBLIC DISTRIBUTION AND
TEXTILES, GOVERNMENT OF INDIA**

FOREWORD

At the outset, I would like to thank the State Governments and Union Territory Administrations for their active participation and appreciate the logistics industry stakeholders for providing their valuable insights for the 5th Edition of the LEADS (Logistics Ease Across Different States) report. I would also like to extend my best wishes to the States/UTs who fall under the category of *Achievers, Fast Movers and Aspirers*.

The Government led by Prime Minister Shri Narendra Modi is committed towards advancing the logistics sector in India through initiatives like the PM GatiShakti, which prioritizes extensive infrastructure development for smarter project planning and execution. This is further reinforced by National Logistics Policy (NLP) and digital tools like the Unified Logistics Interface Platform (ULIP) alongside dedicated freight corridors. Together, these initiatives aim to streamline the logistics sector, fostering green practices, agility, transparency, and integration.

This edition of the LEADS report empowers the Government by providing region specific insights for informed decision making and comprehensive growth. On the lines of the Logistics Performance Index of World Bank, the LEADS report through detailed objective survey based analysis takes into consideration the views and perspectives of users/ stakeholders which makes this exercise more robust and comprehensive. The report encourages competitive federalism among States and drives adoption of data-driven policy reforms. It analyzes the impact of PM GatiShakti and the National Logistics Policy across states, outlining initiatives to enhance logistics efficiency. It also focuses on infrastructure development and seamless movement of goods for improved supply chain management, thereby promoting trade along with enhanced growth of the manufacturing sector.

The LEADS 2023 analysis highlights an enhanced overall stakeholder perception across all States and UTs, signalling a positive shift in the assessment of logistics performance pillars—Logistics Infrastructure, Logistics Services, and Operating and Regulatory Environment. This enhanced perception, from both domestic and foreign stakeholders, will further strengthen India's LPI rankings.

Lastly, I would like to congratulate the Logistics Division and the team involved in carrying out this important initiative and preparing this insightful LEADS 2023 report. I hope the department will continue the engagement with the States and UTs to implement the recommendations in the report for fostering holistic growth and progress.

Piyush Goyal

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आज़ादी का
अमृत महोत्सव

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सत्यमेव जयते

आज़ादी का
अमृत महोत्सव

राज्य मंत्री
वाणिज्य एवं उद्योग मंत्रालय
भारत सरकार
Minister of State
Commerce & Industry
Government of India

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FOREWORD

India is actively pursuing its vision of becoming a developed nation and a global manufacturing hub by 2047. The Government has introduced key initiatives such as PM GatiShakti National Master Plan (NMP), the National Logistics Policy, digital initiatives such as Unified Logistics Interface Platform (ULIP) and Logistics Data Bank (LDB) to address various logistics related challenges.

The LEADS 2023 report is a unique opportunity to assess logistics transformation in States and Union Territories, guiding our efforts to build an agile and resilient system. I would like to congratulate all the States and Union Territories for their outstanding performance reflected in the results. I hope that the LEADS 2023 report will provide the necessary guidance to move forward in a manner that contributes significantly to the development of our nation. I am happy to note that 23 States/Union Territories have already notified their logistics Policy.

This report will serve as a valuable guide for States and UTs in their journey towards transforming logistics. It is a valuable manual for States and UTs, offering insight into their performance, their strengths, and areas in need of development. Moreover, it extends a helping hand by delineating strategies and best practices to enhance logistics performance.

I would like to express my appreciation to all the stakeholders in the logistics industry for their steadfastness and dedication to transforming the logistics ecosystem in our country. Their invaluable inputs through the LEADS initiative have played a pivotal role in shaping this report. I would also like to appreciate the Department and team members involved in producing this report.

(SOM PARKASH)

राजेश कुमार सिंह, भा.प्र.से.
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सचिव
SECRETARY

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

FOREWORD

India's transport and logistics sector has witnessed remarkable growth, thanks to substantial infrastructure investments and pioneering initiatives like the PM GatiShakti National Master Plan and National Logistics Policy. These forward-looking strategies have a "Whole of Government" approach bolstered by cutting-edge technology.

Digital transformation, in particular, has delivered impressive results by reducing dwell times and enhancing overall efficiency. The 2023 National Time Release Study, which aimed to expedite cargo clearance, revealed significant reductions in release time of approximately 20% at Inland Container Depots (ICDs), 11% at airports, and 9% at seaports compared to 2022. As a result, India's global logistics performance ranking has climbed significantly. In 2023, India secured the 38th position out of 139 nations in the World Bank's Logistics Performance Index (LPI), marking a substantial improvement from the 44th rank in 2018 and 54th in 2014.

The Logistics Ease Across Different States (LEADS) reports have been instrumental in evaluating the logistics sector's business-friendly environment across the country. The 5th edition, LEADS 2023, further aligns with the transformative vision of PM-GatiShakti and the National Logistics Policy reforms. It identifies critical challenges and bottlenecks and other valuable insights for addressing these challenges along with taking concrete steps for ensuring smooth working of critical supply chains. In conjunction with the formulation of State-level logistics policies, there is a concerted effort to establish State-level institutional mechanisms, develop State logistics master plans, and create city-level logistics plans.

I extend my heartfelt gratitude to the State Governments and Union Territories, Chief Secretaries, Principal Secretaries of Industry, and the entire logistics community for their unwavering commitment to the LEADS 2023 surveys. My congratulations go to the Logistics Division and the dedicated team responsible for this report's preparation. The LEADS 2023 report will undoubtedly serve as an invaluable guide for States and Union Territories to steer their efforts in the right direction.

(Rajesh Kumar Singh)

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सुमिता डावरा, भा.प्र.से.
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SUMITA DAWRA, IAS
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सत्यमेव जयते

आज़ादी का अमृत महोत्सव

भारत सरकार
वाणिज्य एवं उद्योग मंत्रालय
उद्योग संवर्धन एवं आंतरिक व्यापार विभाग
Government of India
Ministry of Commerce & Industry
Department for Promotion of Industry & Internal Trade

FOREWORD

PM GatiShakti National Master Plan (NMP), is a transformative approach for comprehensive multi modal infrastructure development, launched on 13th October 2021. PM GatiShakti's twin framework comprising an inter-Ministerial institutional mechanism at Centre and State levels, and a GIS-data based decision support system for integrated planning in logistics and infra sector, is leading to building Next Generation Infrastructure which improves Ease of Living as well as Ease of Doing Business. It also aims to ensure seamless movement of goods, optimize supply chains, drive trade, and boost manufacturing growth.

The PM GatiShakti National Master Plan has now completed two years, during which it has made a significant impact on both improving infrastructure development in India and increased capital expenditure and promoting overall economic growth of the nation. The LEADS study is increasingly recognized as a pivotal enabler in expediting the implementation of PM GatiShakti, further enhancing its effectiveness. Additionally, the National Logistics Policy has completed a year, prioritizing service efficiency enhancements (processes, digital systems, regulatory frameworks), and human resource development. States and Union Territories are aligning their policies accordingly.

The key highlights of the LEADS 2023 report include the reduced gap between top and bottom performers within each group, as well as a focus on infrastructure development through the Area-Based approach, encouraged in PMGS.

My sincere gratitude extends to all the State and Union Territory Governments for their unwavering support throughout the LEADS 2023 survey exercise, and I extend heartfelt congratulations for their commendable performance. Special thanks are due to the Chief Secretaries, Principal Secretaries of the Industries department, and all stakeholders whose proactive involvement enriched the LEADS 2023 survey.

I urge States and Union Territories to integrate the insights gleaned from LEADS into their overarching strategies for optimizing the efficiency of the logistics sector. Together, let us continue to build upon this robust foundation, fostering a future where India's logistics prowess knows no bounds.

Sumita Dawra
Sumita Dawra

ABBREVIATIONS

Abbreviations	Full form
AAI	Airport Authority of India
AFS	Air Freight Station
ASSOCHAM	Associated Chambers of Commerce and Industry of India
ATMS	Advanced Traffic Management System
BRAP	Business Reforms Action Plan
CBIC	Central Board of Indirect Taxes and Customs
CFS	Container Freight Station
CLU	Change of Land Use
CNG	Compressed Natural Gas
COP	Conference of the Parties
CWC	Central Warehousing Corporation
DFC	Dedicated Freight Corridor
DGCIS	The Directorate General of Commercial Intelligence & Statistics
DGFT	Directorate General of Foreign Trade
DPIIT	Department for Promotion of Industry and Internal Trade
DPR	Detailed Project Report
EODB	Ease of Doing Business
EOU	Export Oriented Unit
EU	European Union
EV	Electric Vehicle
EXIM	Export-Import
FDI	Foreign Direct Investment
FF	Freight Forwarder
FIEO	Federation of Indian Export Organisation
FMCG	Fast-moving consumer goods
FOIS	Freight Operations Information System
FSSSAI	Food Safety and Standards Authority of India
FY	Financial Year
GDP	Gross Domestic Product
GIS	Geographic information system
GPS	Global Positioning System
GST	Goods and Services Tax
GSTN	Goods and Services Tax Network
GSVA	Gross State Value Added

Abbreviations	Full form
ICCC	Integrated Command and Control Center
ICD	Inland Container Depot
ICP	Integrated Check Post
INR	Indian Rupee
LDB	Logistics Data Bank
LEADS	Logistics Ease Across Different States
LPI	Logistics Performance Index
LSP	Logistics Service Provider
MMLP	Multi-Modal Logistics Park
MOHUA	Ministry of Housing and Urban Affairs
MTPA	Metric Tonnes Per Annum
NE	North East
NER	North Eastern Region
NH	National Highways
NLDS	NICDC Logistics Data Services
NLP	National Logistics Policy
NMP	National Master Plan
NPG	Network Planning Group
ODC	Over Dimensional Cargo
OECD	Organization for Economic Cooperation and Development
PCA	Principal Component Analysis
PFT	Private Freight Terminal
PMGS	PM GatiShakti
PPP	Public-Private Partnership
RFID	Radio-Frequency Identification
SD	Standard Deviation
SEM	Sequential Equation Model
SEZ	Special Economic Zone
SIG	Service Improvement Group
SLA	Service Level Agreement
TIES	Trade Infrastructure for Export Scheme
TISP	Terminal Infrastructure Service Provider
TM	Trader Manufacturer
TSP	Transport Service Provider
ULIP	Unified Logistics Interface Platform
UNFCCC	United Nations Framework Convention on Climate Change

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Executive Summary

Executive Summary

Logistics Ease Across Different States (LEADS) is a unique initiative of Government of India, focused on assessing performance of logistics eco-system across States and Union Territories (UTs). It provides valuable insights to States and UTs about key drivers of logistics performance, which States / UTs can leverage for effective policy and decision making. LEADS has also become a one of its kind platforms thereby showcasing initiatives taken by individual States and UTs for improving logistics performance. LEADS is thereby promoting competitive federalism model for development of logistics sector across the country.

Having an efficient domestic logistics eco-system is a pre-requisite for both national and international trade competitiveness and developing resilient supply chains. LEADS initiative focuses on enhancing domestic logistics performance. Combined with various trade facilitation and EXIM logistics related initiatives being implemented, it helps to enhance overall competitiveness of Indian logistics eco-system and global positioning. Improvement in India's LPI rank by six places to 38th position in 2023 is a reflection of the same.

The fifth edition of LEADS (2023) builds on the framework adopted in fourth edition (2022) coupled with valuable insights from previous versions. LEADS integrates perception-based data with objective data,

creating a holistic and comprehensive framework for measuring logistics performance across States and UTs. The objectivity of LEADS 2023 has been significantly enhanced, as it now comprehensively considers the wide array of initiatives undertaken by States and Union Territories to improve the logistics sector. The LEADS 2023 perception survey instrument has been enhanced with a more effective methodology to accurately gauge improvements in the logistics performance of the States and to gather specific insights on First/Last Mile Connectivity quality, Packaging Facilities availability, and Skilled Manpower availability. Similarly, the objective survey instrument has been revised to capture details about the various initiatives undertaken by States and UTs to improve the logistics ecosystem, including the adoption of PM GatiShakti (PMGS) for project planning.

Continuing with the approach adopted in the fourth edition of LEADS report (2022), States and UTs based on their Geography were placed into four Groups namely **Coastal Group, Landlocked Group, North-East Group** and **Union Territories Group** to analyse their logistics performance.

Performance of States / UTs, in each of these Groups, was measured using combination of objective data and user perception scores (respondents' ratings) for individual indicators under the three pillars of logistics

performance i.e., Quality of **Logistics Infrastructure,** Quality of **Logistics Services,** and **Operating & Regulatory Environment**.

States / UTs were classified into three performance levels – **Achievers, Fast Movers** and **Aspirers**, based on their logistics performance as measured through the LEADS framework which is detailed out in Chapter 2 of this report.

A total of 7,321 responses spread across 36 States and UTs were received as part of LEADS 2023 survey.

In addition, more 750 stakeholder consultations were conducted pan India. Like previous editions, results are best interpreted as a snapshot of where a State / UT stands on logistics with respect to its peers.

Overall logistics performance assessment summary

Consistent improvement in the performance of the States / UTs with varying degree has been observed. Results of performance assessment are captured in the table below:

Table 1 LEADS 2023 Results

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

LEADS 2023: Performance Snapshot

* States/ Union Territories within the performance categories are listed in alphabetical order

Results

Within Coastal Group, Maharashtra has moved from Achievers to Fast Movers while Odisha has moved from Achievers to Aspirers. In Landlocked Group, Uttarakhand has moved from Achievers to Fast Movers and Himachal Pradesh has moved from Achievers to Aspirers. Within North-East Group, Sikkim and Tripura have moved from Fast Movers to Achievers while Arunachal Pradesh and Nagaland have moved from Aspirers to Fast Movers. Within Union Territories Group, Andaman & Nicobar and Lakshadweep have moved from Aspirers to Fast Movers.

Balance States and UTs within each Group have retained their 2022 performance category. A close competition among the States and UTs, with the difference between Achievers and Fast Movers narrowing down was observed.

Insights from data analysis

While there has been stability in performance,

perception data reflects a marked improvement in stakeholder satisfaction regarding ease of logistics across States and UTs when compared to 2019[1] perception results. Importantly, positive shift in perception is spread across all the States and UTs plus across all the three pillars of logistics performance. This reflects a comprehensive improvement in the overall logistics eco-system in the country.

Positive shift in stakeholder satisfaction is attributed to multiple reform measures initiated by States and UTs over the past couple of years to improve their logistics eco-system including formulation of logistics policy, development of supporting infrastructure and enhancing regulatory ease.

Overall, pace of infrastructure development has increased consistently between 2014-15 and 2022-23 due to systematic push of the Government and results of the same are getting reflected in the positive perception of stakeholders regarding quality of logistics infrastructure. Similarly on the policy side, complementing the National Logistics Policy, many

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[1] LEADS 2019 has been taken as reference as it covered both EXIM and domestic segments of the industry. LEADS 2018, which was the first LEADS report, focused on EXIM logistics.

States and UTs have notified their respective Logistics Policy. Further, to provide impetus to the sector, various States and UTs, have given Industry status to logistics sector.

Insights from Perception analysis:

While overall perception regarding logistics performance has improved, specific insights about each of the four categories of States is presented below:

A. Coastal Group:

   I.   Overall: Amongst the three pillars of logistics efficiency, stakeholders in Coastal States have a higher level of satisfaction with Logistics Infrastructure compared to Logistics Services and Operating & Regulatory Environment.

   II.   Logistics Infrastructure: Users have a higher level of satisfaction with Road Infrastructure compared to other infrastructure indicators i.e., Rail Infrastructure, Warehouse Infrastructure and First & Last mile Connectivity.

   From an individual State perspective, user perception scores of all Infrastructure indicators for Andhra Pradesh, Gujarat, Karnataka and Tamil Nadu are above the indicator average score within Coastal States Group.

   Satisfaction levels appear to be broadly similar across Coastal and Landlocked States for all the infrastructure indicators except Terminal Infrastructure such as Ports, CFS, ICD, where satisfaction level in Coastal States is higher compared to that in Landlocked States.

   III.   Logistics Services: Within Services pillar, users are more satisfied with Safety & Security of Cargo, Track & Trace Services, Transport Services and Terminal Services compared to other Service indicators.

   From an individual State perspective, user perception scores of all Service indicators for Gujarat and Maharashtra are above indicator average score for Coastal States Group.

   Satisfaction levels appear to be broadly similar across Coastal and Landlocked States for all Logistics Service indicators except Terminal Services, Track & Trace and Safety & Security of Cargo, where satisfaction level in Coastal States is slightly higher compared to Landlocked States.

   IV.   Operating & Regulatory Environment: Within the Operating & Regulatory Environment pillar, users are more satisfied with Ease of Entry indicator compared to other indicators in this pillar. From an individual State perspective, user perception scores of all Operating & Regulatory Environment indicators for Karnataka are above indicator average.

B. Landlocked Group:

   I.   Overall: Stakeholders are equally satisfied with the Infrastructure and Operating & Regulatory Environment pillars compared to Logistics Services pillar.

   II.   Logistics Infrastructure: Users have a higher level of satisfaction with Road and Rail Infrastructure compared to other infrastructure indicators, specifically Warehousing Infrastructure, First / Last Mile Connectivity and Terminal Infrastructure.

   From an individual State perspective, user perception scores of all Infrastructure indicators for Punjab, Telangana and Uttar Pradesh are above the indicator average score within Landlocked States Group.

   As mentioned in Coastal State Group commentary, overall user satisfaction level with quality of Terminal Infrastructure within Landlocked State Group is lower compared to Coastal State Group. Additionally, Landlocked State Group has a higher incidence of States with below average score for Warehousing Infrastructure.

   III.   Logistics Services: Within Services pillar, users are more satisfied with Track & Trace Services, Transport Services and Safety & Security of Cargo compared to other Service including availability of Skilled Manpower, Terminal Services and Cost / Pricing of Logistics Services.

   From an individual State perspective, user perception scores of all Service indicators for Uttar Pradesh are above indicator average score.

   IV.   Operating & Regulatory Environment: Within the Operating & Regulatory Environment pillar, users are more satisfied with Ease of Entry and Grievance Redressal indicators compared to other indicators in this pillar. From an individual State perspective, user perception scores of all Operating & Regulatory

Environment indicators for Telangana, UP and Punjab are above indicator average score.

C. North-East Group

I. Overall: Stakeholders have a higher satisfaction level with Operating & Regulatory Environment in North-East compared to Logistics Infrastructure and Logistics Services pillars.

II. Logistics Infrastructure: Users have a higher level of satisfaction with First / Last mile Connectivity and Warehousing Infrastructure compared to other infrastructure indicators. From an individual State perspective, user perception scores of all Infrastructure indicators for Assam are above the indicator average score.

III. Logistics Services: Within Services pillar, user perception is higher than indicator average for all indicators except Quality of Terminal Services and Cost / Pricing of Logistics services. From an individual State perspective, user perception scores of all Service indicators for Assam are above indicator average score.

IV. Operating & Regulatory Environment: Within the Operating & Regulatory Environment pillar, users are more satisfied with Grievance Redressal mechanism compared to other indicators in this pillar. From an individual State perspective, user perception scores of all Operating & Regulatory Environment indicators for Assam and Nagaland are above indicator average score.

D. Union Territories Group

I. Overall: Stakeholders have broadly similar satisfaction levels across all the three pillars.

II. Logistics Infrastructure: Users have a higher level of satisfaction with Road Infrastructure and First / Last mile Connectivity compared to other infrastructure indicators. From an individual UT perspective, user perception scores of all Infrastructure indicators for Delhi are above the indicator average score.

III. Logistics Services: Within Services pillar, users are more satisfied with Track & Trace Services, Transport Services, Safety & Security of Cargo and Timeliness of Cargo. From an individual State perspective, user perception scores of all Service indicators for Delhi are above indicator average score.

IV. Operating & Regulatory Environment: Within the Operating & Regulatory Environment pillar, users are more satisfied with Ease of Entry indicator compared to other indicators in this pillar. From an individual UT perspective, user perception scores of all Operating & Regulatory Environment indicators for Delhi, Chandigarh and Puducherry are above indicator average score.

Insights from analysis of Objective data:

Adopting 'whole of Government' approach for Infrastructure Planning: State and UTs have moved to the next stage of PMGS which involves adopting the State Master Plan for planning of projects. This is supported by the fact that 25 States / UTs (23 States and 2 UTs) have actively begun adopting PMGS SMP for effective infrastructure planning.

Enhancing Industry Competitiveness: As mentioned earlier, 21 States and 2 UTs have notified their Logistics Policies, while 15 States and 1 UT have recognized the logistics sector with an Industry status. This recognition opens up opportunities for better funding options and increased competitiveness within the industry.

Enabling Data-Driven Planning for Logistics Sector: With the aim of enabling data driven planning of logistics interventions, 11 States and 2 UTs are in process of preparing their Logistics Master Plans / Action Plans, out of which 7 Logistics Master Plans have already been finalised. On similar lines, 6 States and 2 Union Territories have started preparing City Logistics Plans with the aim of enhancing efficiency of urban freight movement.

Significant Growth in Logistics Infrastructure: Availability of logistics infrastructure has seen a significant increase over the past decade. Total length of roads in the country grew by approximately 21% between FY 2014-15 and FY 2022-23. Length of National Highways increased by approximately 48% on back of sustained investment push by the government over the last decade. Length of State Highways increased by 12% over the same period. Total track kms of Railways increased by approximately 9% between FY 2014-15 and FY 2021-22.

Similarly, between FY 17-18 and FY 21-22, total number of Container Freight Stations (CFS) increased from 171 to 202, registering growth of 18% in absolute terms. Number of Inland Container Depots (ICDs) increased from 70 to 88 during the same period i.e., 26% growth.

Overall, significant work has been done and continues to be done in planning and delivering pathbreaking improvements in Infrastructure reforms. Brick-and-mortar infrastructure reforms coupled with structural and regulatory reforms are enhancing logistics efficiency and Ease of Doing Business in the country.

Road ahead

States and UTs have made commendable progress towards building a vibrant logistics eco-system across the country through **proactive infrastructure, policy, and regulatory reforms.** Improvement in user perception regarding performance of logistics eco-system is a real positive for the sector and probably reflects impact of various initiatives taken by States / UTs to enhance logistics efficiency.

Paving the Way for India's Global Logistics Transformation: Success in this endeavour requires aligning with global progress, addressing pandemic lessons, conflict resolution, and climate change. A robust logistics ecosystem is essential for India's growth and global alignment, necessitating collaboration between the Government of India, States / UTs, and the private sector. The foundation for advancing the logistics sector has been established through a series of reform measures, as evidenced by the LEADS 2023 report, which consolidates data from States and UTs. States/UTs can further enhance logistics efficiency by focusing on areas such as **data-driven planning, City Logistics Plans, bridging infrastructure gaps, optimizing truck parking, RTO efficiency, technology utilization, private sector participation, and green logistics.** The transformation in the logistics sector signifies the positive impact of government infrastructure investments and the sector's growing emphasis on efficiency. With alignment between the Central Government, States, UTs, and the private sector, this is a crucial time to improve logistics efficiency, supported by reforms like PMGS and NLP that enhance infrastructure and competitiveness, benefiting Indian goods' quality and cost-effectiveness. India's transition into a global manufacturing powerhouse is underway, driven by key trends like Investments, sustainability, and digitalization, with the commitment of States/UTs playing a pivotal role in this transformation.

The future of logistics in India is full of possibilities and the journey of discovery, innovation and progress is best travelled by promoting cooperative federalism where all stakeholders cooperate and give Gati and Shakti to new INDIA.

Achievements of LEADS

Align State objective with National priorities

4

Improved perception among stakeholders, enhancing India's LPI score

5

Greater awareness among States on ground feedback from stakeholders for logistics improvement

6

Encouraged competition among States, driving better infrastructure, services, and regulatory environment

1

Raising awareness about logistics efficiency encouraging States to prioritize its improvements

2

Focus on building infrastructure on principle of Area Based approach using PMGS

3

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Evolving Logistics Landscape

Evolving Logistics Landscape

According to the October 2023 global trade outlook of World Trade Organization (WTO), global merchandise trade growth is expected to rebound to 3.3% in 2024 while global GDP growth is likely to remain at 2.5%[2]. The decoupling of United States-China trade relationship and other geo-political factors have significantly shaped key bilateral trade trends since 2022. Decoupling of trade between US and China presents a unique opportunity for India, and India is fully leveraging the opportunity.

According to UNCTAD[3], international seaborne trade and containerised trade volume is expected to grow by ~2% and ~3% respectively between 2024 and 2027. According to IATA, year-to-date industry-wide air cargo demand, measured by cargo tonne-kilometres (CTKs), stood at 157.3 billion in August 2023[4]. Seasonally adjusted CTKs have been consistently rising since March 2023, indicating the stable and resilient trend of the industry.

Logistics sector in India – undergoing rapid transformation

Logistics sector in India is transforming at an unprecedent pace due to key factors like

changing global and local trade dynamics, growing manufacturing industry, expansion of eCommerce market, sustainability pressures, and large-scale digitisation of supply chain. Sector is breaking away from traditional brick and mortar approach to a more technology enabled sector, enabling businesses of all sizes and individuals from diverse backgrounds to take part in this dynamic and economically important sector.

Recognising the strategic importance of Logistics sector and the transformational impact it can have on the overall economy, Government of India has adopted a comprehensive and synergised, 'whole of Government' approach to ensure that both demand and supply side fundamentals of the sector are viewed in their entirety with an end-to-end perspective. Traditional sectoral approach has been replaced by a renewed 'whole of Government' and 'data driven' approach leveraging the power of technology to ensure integrated development of logistics sector in the country.

Significant work has been done and continues to be done in planning and delivering pathbreaking improvements in 'infrastructure reforms' (Bharatmala,

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[2] WTO Global Trade Outlook and Statistics Update, October 2023
[3] Source: 2023 Review of Maritime Transport
[4] Source: IATA Air Cargo Market Analysis - Air Cargo Market Analysis (iata.org)

Sagarmala, National Rail Plan, Dedicated Freight Corridors, Jal Marg Vikas, UDAN, etc) and 'process reforms' (e-SANCHIT, Unified Logistics Interface Platform, Logistics Data Bank, Port Community System, Sagar Setu – National Logistics Portal - Marine etc). Brick-and-mortar infrastructure reforms coupled with structural and regulatory reforms are enhancing logistics efficiency and Ease of Doing Business in the country.

In addition to above measures, Government of India has also prioritized trade facilitation, with regular interventions carried out on the ground. These measures have been recognised in the most recent UN Global Survey on Digital and Sustainable Trade Facilitation, where India has the highest rate of implementation of trade facilitation measures in South Asia - 94% (78.49% in 2019). Various reforms, infrastructural upgrades, digitalization, and automation measures have been at the heart of India's trade and economic ecosystem development in recent years.

Positive results of this strategy have already started to emerge. In the biennial index prepared by World Bank to assess ease of trade across countries (Logistics Performance Index), India's rank improved from 44 in 2018 to 38 in 2023. The report acknowledged Government of India's efforts to improve supply chain efficiency through investments in trade-related soft and hard infrastructure, including investment in technology initiatives like Logistics Data Bank (LDB).

Exhibit 1: Logistics Data Bank

Logistics Data Bank (LDB) *providing visibility for 100% of India's EXIM containers*

LDB is a supply chain visibility platform which has made a remarkable contribution in reducing delays at Indian Ports by providing end to end visibility for 100% of India's containerized EXIM cargo. Till date LDB has provided tracking services for more than 62 million EXIM containers across India.

LDB is an overarching digital solution that integrates information available with various agencies across the supply chain to provide detailed real time information within a single window and a mobile application. It uses RFID technology through Internet of Things (IoT), Big Data and Cloud-based architecture to provide tracking of EXIM container movement in India.

On the back of successful implementation at 27 terminals across 17 ports, coverage of LDB services has been extended to include 407 Container Freight Stations (CFSs)/Inland Container Depots (ICDs)/ Integrated Check Posts (ICPs)/ Empty Yards (EYs) and Parking Plazas (PPs), 93 Toll Plazas (TPs), 37 Special Economic Zones (SEZs), 3 Integrated Check Posts (ICP) and 2600 plus rail and DFC stations. It has been integrated with other digital solutions including FOIS and PCS.

Leveraging the power of data analytics, LDB has been providing operational insights to stakeholders through Dwell Time analysis of Ports/Terminals/CFSs & ICDs, Congestion Analysis, Speed Analysis, Performance Benchmarking, Transit Time Analysis, Heat Map Analysis and Predictive Analysis.

World Bank in its 2023 edition of Connecting to Compete report, acknowledged Government of India's efforts to improve supply chain efficiency through investments in trade-related soft and hard infrastructure, including investment in technology initiatives like LDB. Supply chain visibility provided by LDB has helped in reducing India's average dwell time to just 2.6 days and improve its LPI ranking from 44 in 2018 to 38 in 2023.

With the launch of PM GatiShakti (PMGS) and National Logistics Policy, 2022, logistics sector has got a new direction and the task of integrating these efforts and magnifying their gains through network effect has been set in motion. While PMGS addresses integrated development of hard infrastructure and network planning, the NLP addresses soft infrastructure and logistics sector development aspect, inter alia, including process reforms, improvement in logistics services, digitisation, human resource development and skilling.

Recognising the importance of efficient supply chain for India's development, Government of India has raised the agenda of logistics at a global level now. Logistics for Trade was one of the 5 priority issues discussed by the Trade & Investment Working Group under India's G20 Presidency. Further, the announcement at the G20 Leaders' Summit on the landmark India-Middle East-Europe Economic Corridor (IMEC) has the potential to make India an Asian hub in global supply chains.

Complementing the vision and strategy of Government of India, States and UTs have made significant progress over the past few years in enhancing efficiency of their logistics eco-system. States and UTs have focused on three core enablers of logistics efficiency:

1 **Logistics Infrastructure** – primary focus has been on improving Quality of Road infrastructure within the State / UT. Focused attention is also being given for improving First / Last Mile Connectivity to industrial nodes / terminal / transport infrastructure. Additionally, States / UTs are also focusing on building cargo consolidation centres / MMLPs and warehouses to effect efficiency and improvement in logistics costs.

2 **Logistics Services** – primary focus of States and UTs has been on skill development through various ongoing scheme of the Government and through partnerships with industry e.g., Karnataka Skill Development Corporation has established partnerships with industry leaders like Flipkart and ECom Express for skill development in e-commerce industry.

3 **Operating and Regulatory Environment** – Improved focus to logistics sector has resulted in States/ UTs notifying their State/ UT Logistics Policies. Further, as an impetus to the sector, several States/ UTs have given Industry status to logistics sector. Assam, Gujarat, Kerala, Odisha and Tamil Nadu have given Priority sector status to Logistics.

The shifts in global manufacturing which we are witnessing today presents a tremendous opportunity for India to emerge as a global manufacturing powerhouse. India's logistics sector is rapidly evolving, driven by key trends such as historic capex levels decarbonization, sustainability, and the rise of digitalization. While Government of India has taken decisive steps to bolster the resilience, sustainability, and competitiveness of logistics sector, States/UTs are equally committed and aligned with national priorities, alongside their own unique objectives.

***

2

LEADS 2023 PERFORMANCE

LEADS 2023 PERFORMANCE

Since its launch in 2018, LEADS has become a useful barometer of logistics performance across States / UTs and has helped drive reforms through a model of cooperative federalism. Results of LEADS exercise are being used as an input for preparation of Export Preparedness Index by Niti Aayog. Further, utilisation of GatiShakti component of Special Assistance to States for Capital Investment scheme (2022-23) was aligned with the infrastructure gaps identified in LEADS 2022 report. Over the years, LEADS has gained credibility and has now become an integral part of Government's mission of enhancing logistics efficiency across States and UTs.

This LEADS 2023 report is the fifth edition of the annual LEADS report and presents views on logistics performance across 36 States and UTs in India. Like previous editions, results of LEADS 2023 exercise are best interpreted as a snapshot of where a State / UT stands on logistics with respect to its peers.

The LEADS study involves conducting a comprehensive survey with private stakeholders across the supply chain and State/UT Governments/Administrations, utilizing survey instruments that encompass both objective and subjective (perception) questions.

Objective survey was specifically designed for State Governments/ UT Administrations to understand about the various initiatives undertaken by States and UTs to improve the logistics ecosystem, including the adoption of PM GatiShakti (PMGS) for project planning. Which are detailed out in Exhibit 2.

Exhibit 2: Objective Survey Indicators

Policy and Process improvement Initiatives taken by State / UTs	**1** Utilizing PMGS NMP for Infrastructure Planning	**2** Extent of fund utilization under Scheme for Special Assistance	**3** Mapping of mandatory and additional data layers on PMGS	**4** Studies to assess Infra / Capacity Gaps to resolve logistics inefficiencies
	5 Preparation of City Logistics Plan	**6** Initiatives undertaken to promote skill development in logistics sector	**7** Measures taken towards sustainable logistics and cost effectiveness	**8** Formulation of State Logistics policy

Logistics Infrastructure and enablers	**7 objective parameters related to logistics infrastructure within the State / UT** National Highway, District Roads, Urban Roads, Road Accidents, Number of Registered Drivers, Capital Outlay on Logistics Infrastructure, Business Reforms Action Plan (BRAP) Rankings

Perception survey was designed to measure the improvements in the logistics performance of the States and to gather specific insights on the Logistics Infrastrcuture, Logistics Services and Operating and Regulatory Environment of the States/UTs which are given in Exhibit 3.

Exhibit 3: Perception Survey Indicators
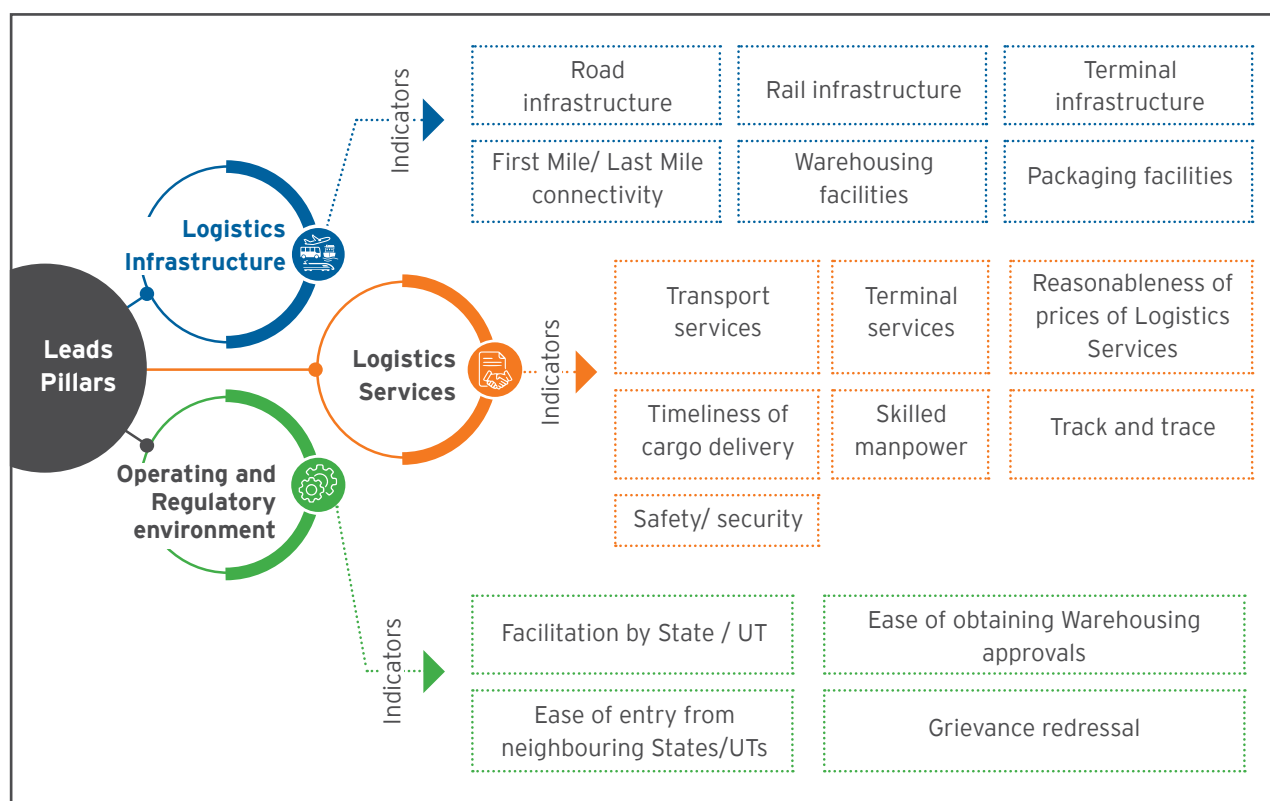
Perception Survey was administered to the following group of stakeholders:

a) Traders and Manufacturers (Exporters/ Importers)

b) Transport Service Provider including Road Haulier, Rail Operator, Shipping Line, Airline, Inland Waterways

c) Terminal Infrastructure Service Provider including surface terminal based operators (ICD, CFS,

PFT, AFS), Air Cargo Terminal, Port Terminal, Warehouse, Cold Store, etc.

d) Logistics Service Provider including Freight forwarder, Customs broker, Carriage and Freight Agents, Air Cargo Agents, 3rd Party Logistics Service Provider (3PL), 4PL, NVOCC, Aggregators/ Consolidators

Exhibit 4: Respondent data sharing percentage
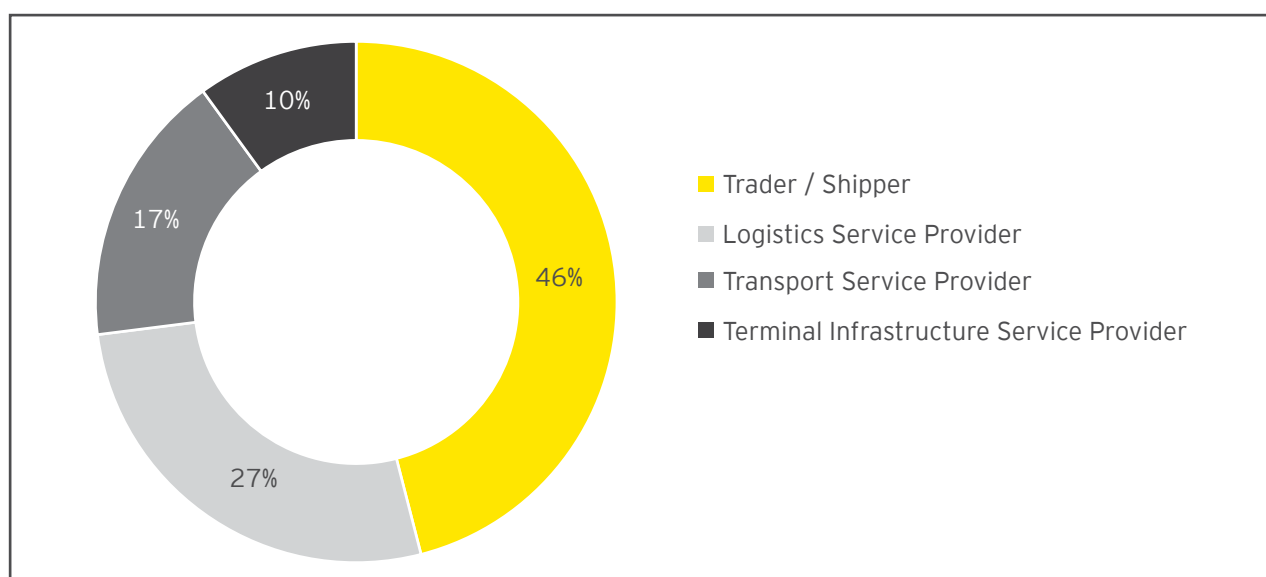
- Trader / Shipper — 46%
- Logistics Service Provider — 27%
- Transport Service Provider — 17%
- Terminal Infrastructure Service Provider — 10%

A total of 7,321 responses spread across 36 States and UTs were received as part of LEADS 2023 survey as presented in the exhibit below. In addition, more than 750 stakeholder consultations were conducted across India.

Given India's diverse demographic landscape, each State/UT exhibits its distinct advantages and opportunities arising from geographical complexities. Thus, conducting an in-depth evaluation aligned with their unique profiles becomes pivotal. The LEADS Report illustrates insights deeply embedded in contextual influences, predominantly shaped by geography, within which stakeholders and States plan seamless logistics services. The importance of integrating this contextual essence into performance

categories is crucial. Continuing with the approach adopted in the 4th edition of LEADS report (2022), States and UTs have been classified into four Groups based on their geography within which the States/ UTs have been categorized based on their performance: -

1. Coastal: States along the country's coastline

2. Landlocked: States that are landlocked and distant from the coast

3. North-East: States the easternmost region of the country representing both a geographic and political-administrative divisions

4. Union Territories: Administrative regions governed by the Union Government of India

Grouping of States and UTs

COASTAL

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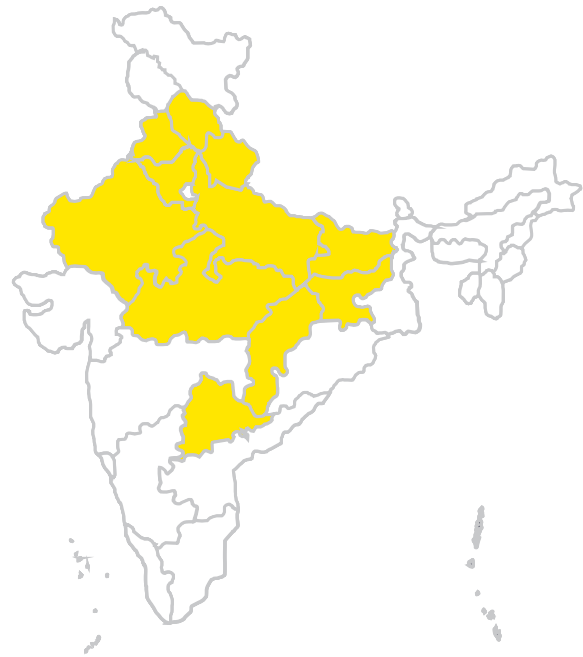
LANDLOCKED

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

NORTH-EAST

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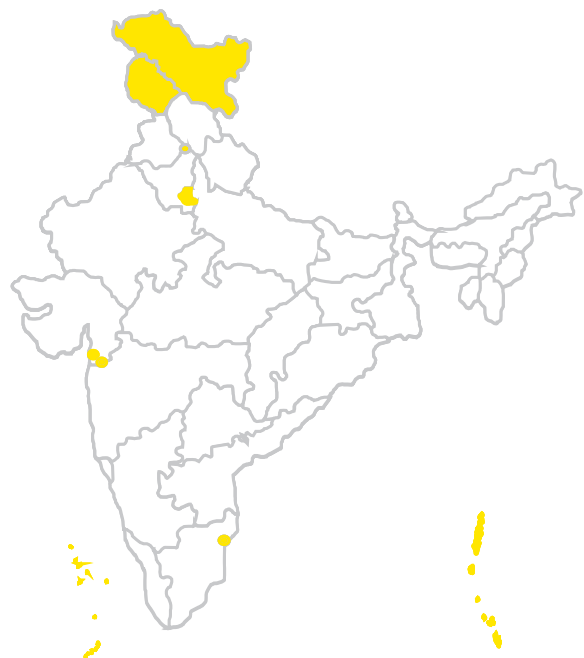
UNION TERRITORY

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

Performance of States / UTs, in each of these Groups, is measured based on the user perception scores (private stakeholder respondents' ratings) for individual indicators under three pillars of logistics performance and the scores of objective data. User perception regarding level of satisfaction for each indicator is measured on scale of 1 to 5 with 5 representing maximum level of satisfaction. Data analysis techniques involved a blend of statistical methodologies, notably Principal Component Analysis (PCA) for Objective Survey Responses and Structural Equation Modelling (SEM) to interpret perception survey results. OECD-recommended approaches were used to derive weights for individual variables within the PCA process. An iterative approach was employed for SEM execution using the Lavaan package in R, further validated through modelling exercises in AMOS. The overall performance categorization for each state was determined via PCA modelling, revealing a weight distribution of 23% for Objective data and 77% for Subjective data

States / UTs were classified into three performance levels – 'Achievers', 'Aspirers' and 'Fast Movers', based on their logistics performance as measured through the LEADS framework. LEADS 2023 framework is documented and explained in the Annexure section of this report.

Table 2 The Achievers, Fast Movers and Aspirers

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

LEADS 2023: Performance Snapshot

* States/ Union Territories within the performance categories are listed in alphabetical order

Key changes within the performance leves of States / UTs in LEADS 2023 as compared to LEADS 2022 report are:

i. Within Coastal States, Andhra Pradesh, Gujarat, Karnataka and Tamil Nadu continue to be Achievers. Maharashtra has moved from Achievers to Fast Movers while Odisha has moved from Achievers to Aspirers. Rest of the States within this Group have retained their 2022 performance category.

ii. Within Landlocked States, Haryana, Punjab, Telangana, and Uttar Pradesh continue to be Achievers. Uttarakhand has moved from Achievers to Fast Movers while Himachal Pradesh has moved from Achievers to Aspirers. Rest of the States within this Group have retained their 2022 performance Category.

iii. In the North-East States, Assam continues to be an Achiever. Sikkim and Tripura have moved from Fast Movers to Achievers while Arunachal Pradesh and Nagaland have moved from Aspirers to Fast Movers. Manipur, Meghalaya, and Mizoram continue to be in Aspirers category.

iv. In the Union Territories, Chandigarh and Delhi continue to be Achievers. Andaman & Nicobar and Lakshadweep have moved from Aspirers to Fast Movers. Rest of the UTs within this Group have retained their 2022 performance Category.

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2.1 Coastal Group Performance

India has a long coastline of 7,516 km. dotted with 12 Major and 200+ Non–Major/intermediate ports. The coastal States namely - Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu and West Bengal govern their respective coastline as well as the Non-Major ports, making them pivotal not only for Exim trade but also for promoting and supplementing Coastal shipping, a complimentary and economical mode of transport for domestic trade. All ports combined handle around 90% of Exim cargo by volume and 70% by value as a result the Coastal States have a dominance of Exim trade as compared to domestic. In 2022-23, Coastal States account for 75% of total exports from the country of which Gujarat accounts for 33% followed by Maharashtra with 16% and Tamil Nadu with 9% share.[5]

Coastal group's logistics performance stable, score variation across States reducing: Group level performance assessment of States/UTs has remained stable with varying degrees of improvement. Despite challenging environment, logistics service providers showcased agility to adapt and deliver to ever demanding supply chain needs supported by robust logistics ecosystem. Not only the average scores across pillars have improved as compared to 2019, there has been a reduction in variation of scores (refer figure below) of States (top v/s bottom) within the Group. Especially the gap in Logistics Infrastructure pillar has reduced significantly when compared to 2019, emphasizing focussed attention by States towards building quality infrastructure, improving service levels across supply chains, facilitated by supporting policies.

Figure 1 Reduction in variation of States performance in Coastal Group

Variation in performance across Coastal Group

Infrastructure - 2023: 34%
Infrastructure - 2019: 46%
Services - 2023: 23%
Services - 2019: 25%
Regulatory - 2023: 25%
Regulatory - 2019: 27%

◆ Min ◆ Max
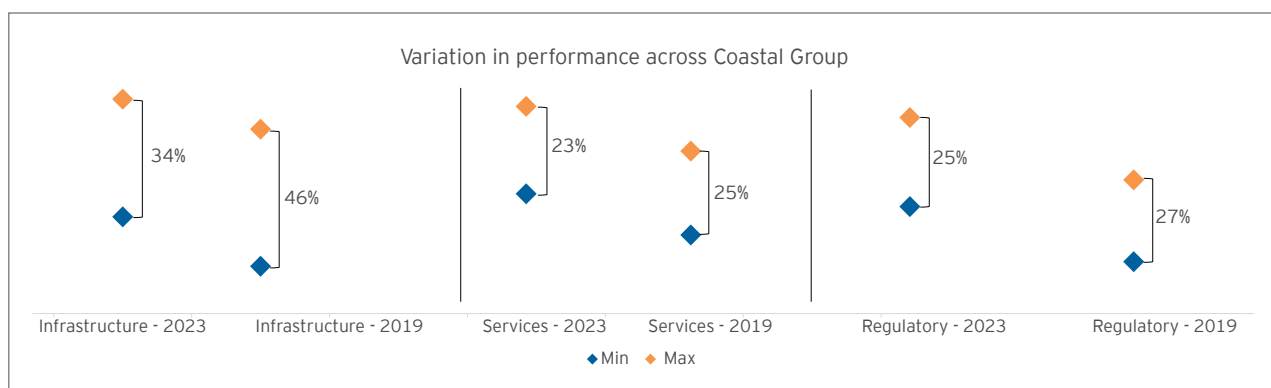
Regulatory pillar driving performance for Coastal Group: overall perceived satisfaction of users regarding logistics ecosystem across Coastal group States has improved vis-à-vis 2019 (figure alongside). While each pillar has registered improvement, Regulatory pillar stands out with 16% growth over the said period. A further testament to the coordinated policy and reform actions undertaken by the Center and States.

Industry interaction have specifically lauded State's efforts on multiple fronts like development of infrastructure, formulation of logistics policies, according "Industry" status and enhancing regulatory ease of doing business.

User perception for Coastal group is driven by Quality of Services. Individual pillar wise analysis further reveals that infrastructure and services are closely linked and that the user feedback is more influenced by

Figure 2 Increase in perception scores across LEADS pillars over 2019

Logistics Infrastructure — 9%
Logistics Services — 9%
Operating & Regulatory Environment — 16%

Growth across LEADS pillars in Coastal group over 2019

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[5] https://dashboard.commerce.gov.in/commercedashboard.aspx
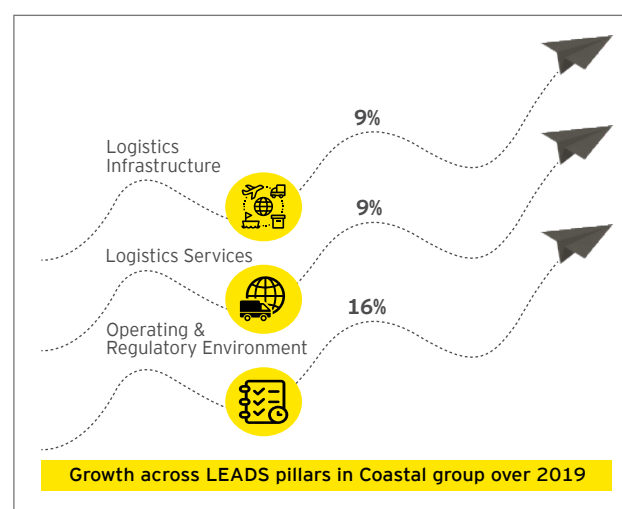
the services pillar in the group (implying infrastructure to be in place). As a result, the user performance assessment across both the pillars moves in tandem (v/s 2019).

Logistics Infrastructure – Quality of Roads and Terminals perceived to be good: As per LEADS 2023 survey, user satisfaction levels are high for Infrastructure and Services followed by Operating & Regulatory Environment. Within the Logistics Infrastructure pillar (refer figure alongside), States endorse varying degrees of improvement as compared to 2019 with Tamil Nadu, Andhra Pradesh and Karnataka leading the Group in terms of absolute user perception scores. Users have indicated a higher level of satisfaction with respect to Road and Terminal Infrastructure in general across the Group. Stakeholder's perception of logistics ecosystem in the Group is mainly driven by access and efficiency of the port's ecosystem. For example, decongestion initiatives at JNPA port (i.e. enhanced road capacity, centralized parking terminal, etc.) has improved user satisfaction. Gujarat in particular has been lauded for

quality infrastructure coupled with business-friendly policies. User satisfaction for logistics ecosystem in Tamil Nadu is high and has been perceived good in the State across indicators. Goa and West Bengal on the other hand have received low perception scores for the pillar, emphasizing need for accelerated reforms and policy push to improve logistics ecosystem.

Analysis of LEADS 2023 survey user data further reveals that across States, majority of the users are satisfied with logistics ecosystem. On a scale of 1 to 5 (1 being Very poor and 5 being Very good), the figure alongside presents percentage of users who have responded 3 or more in LEADS survey. As indicated earlier Quality of Roads and First/Last mile connectivity has received highest satisfaction levels in the survey with nearly 85% users responding positively, followed by Quality of terminal infrastructure with 80% and very closely by Quality of rail with 79%. Comparatively Warehousing and Packaging have received the lowest satisfaction with only 60% and 65% user responses respectively, indicating an area of improvement.

Figure 3 Performance assessment of Coastal Group in Logistics Infrastructure – 2023 v/s 2019
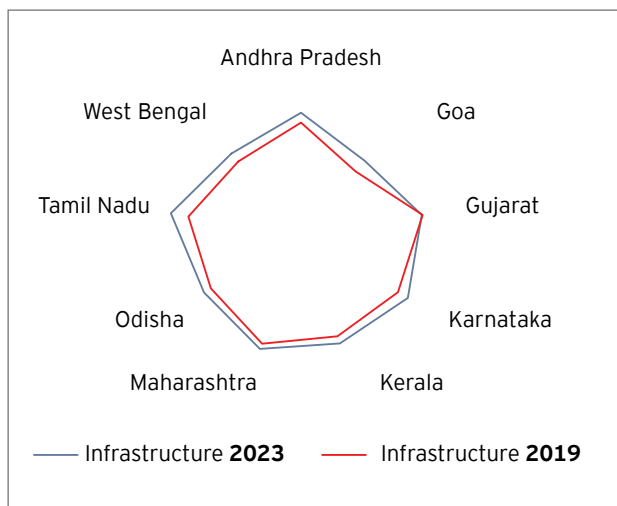
Figure 4 No. of users who perceived Logistics Infra-structure as 3 or more out of 5
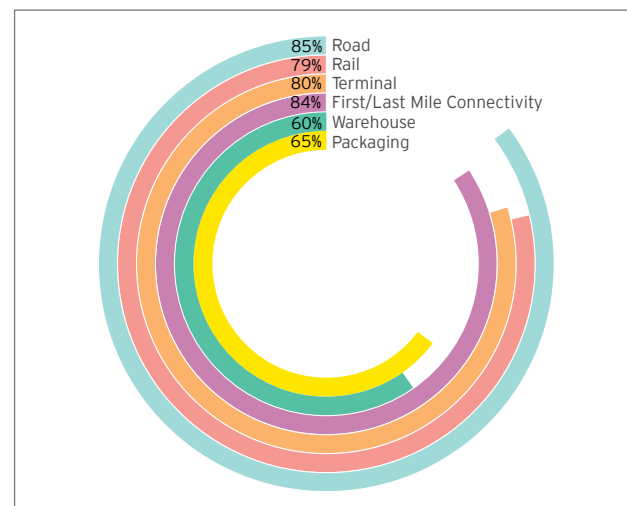
Logistics Services – assessed to be highest v/s other Groups: Stakeholders have assessed Logistics Services pillar as highest not only across State / UT Groups but also within the Coastal group Pillars. This indicates established / strong supply chains and logistics ecosystem with a high degree of adaptability and customization as per customer needs. In Logistics Services pillar too (refer figure alongside), States follow a similar trend as indicated above with Tamil Nadu, Andhra Pradesh and Karnataka leading the group w.r.t. (refer figure alongside). Within Services pillar, users are more satisfied with Safety & Security of Cargo, Track & Trace Services, Transport Services and Terminal Services compared to other Service

indicators. Goa and West Bengal have received low perception scores for the pillar.

Data analysis of LEADS 2023 survey reveals that across States, in Logistics Services too majority of the users are satisfied with logistics ecosystem similar to Logistics Infrastructure. The figure alongside presents percentage of users who have responded 3 or more in LEADS survey. As indicated earlier Safety and Security tops the list of indicators with 88% users, followed by Track & Trace with 85% and Timeliness of Cargo with 83%. Cost/pricing of logistics is the only indicator where less than 50% users are satisfied and thus has been identified as an area of improvement.

Figure 5 Performance assessment of Coastal Group in Logistics Services – 2023 v/s 2019
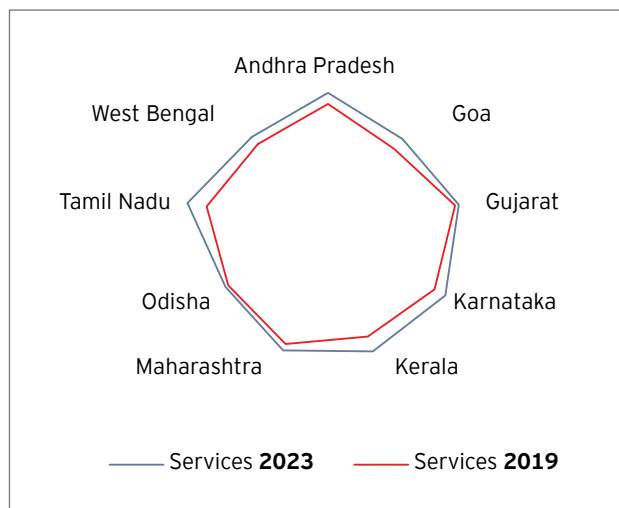
Figure 6 No. of users who perceived Logistics Services as 3 or more out of 5
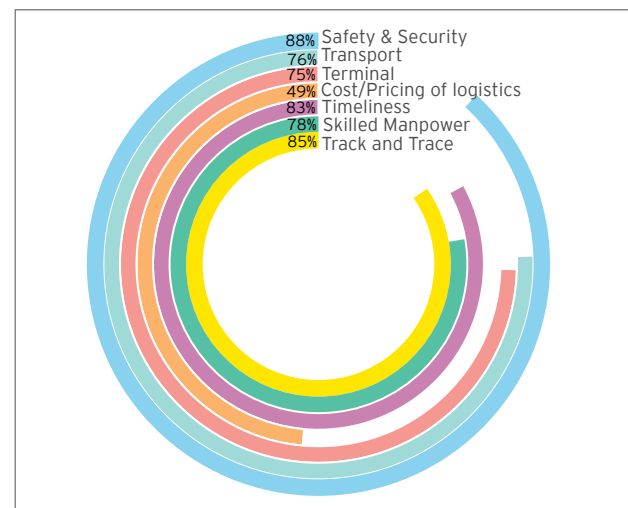
88% Safety & Security
76% Transport
75% Terminal
49% Cost/Pricing of logistics
83% Timeliness
78% Skilled Manpower
85% Track and Trace

Operating & Regulatory Environment – consistent improvement across the States: There has been a positive shift in user perception towards Operating and Regulatory environment across the States within the Group. Industry stakeholders have appreciated concerted policy and reforms actions undertaken for development of logistics ecosystem. Similarly States like Tamil Nadu, Telangana, and Karnataka have been appreciated for their industry connect, reach-out for feedback and policies being aligned to the same. User satisfaction for the Group as a whole has been assessed high w.r.t. 'Safety / Security of Cargo' and 'Ease of Entry' indicators. Tamil Nadu, Karnataka and Andhra continue to lead in terms of absolute user perception scores. Within the Group, users have rated Gujarat as one of the most preferred States from an overall ease of logistics perspective.

Figure 7 Performance assessment of Coastal Group in Operating & Regulatory environment – 2023 v/s 2019
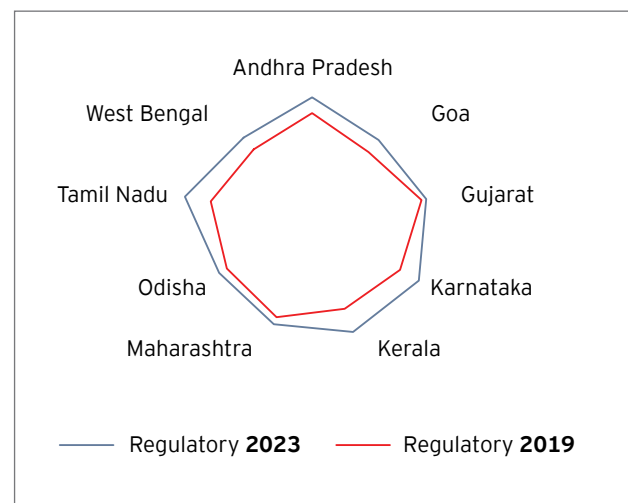
Data analysis of LEADS 2023 survey reveals that across States, in Operating & Regulatory environment majority of the users are satisfied with Ease of Entry, Warehouse Approvals and Government Facilitation. However, Grievance redressal has been identified as an area of improvement. User interactions have also indicated more consultations and industry reach-out required between the State Government and Industry stakeholders to understand issues on ground, identify solutions, disseminate information on key Government policies and initiatives. In terms of warehousing approvals as well, a streamlined system with defined timelines and communication mechanism with investors is required so as to further improve ease of doing business.

Figure 8 No. of users who perceived Operating & Regulatory Environment as 3 or more out of 5

- 68% Govt. Facilitation
- 75% Warehousing Approvals
- 78% Ease of Entry
- 24% Grievance Redressal
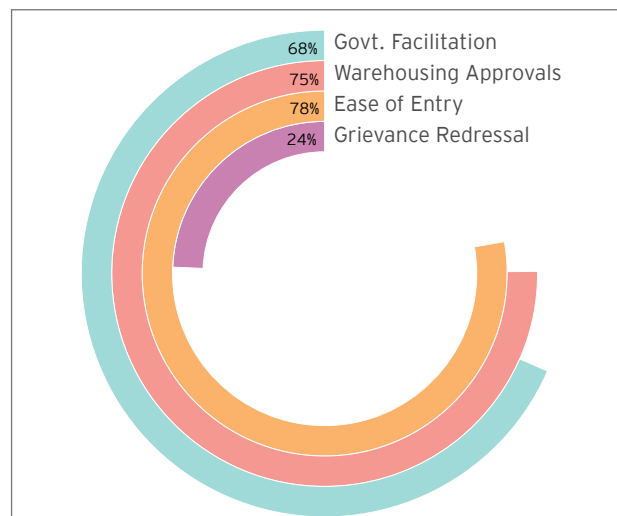
Coastal group performance in LEADS 2023 – pillar wise

Figure 9 Pillar wise logistics performance analysis of Coastal Group

Infrastructure   Services   Regulatory
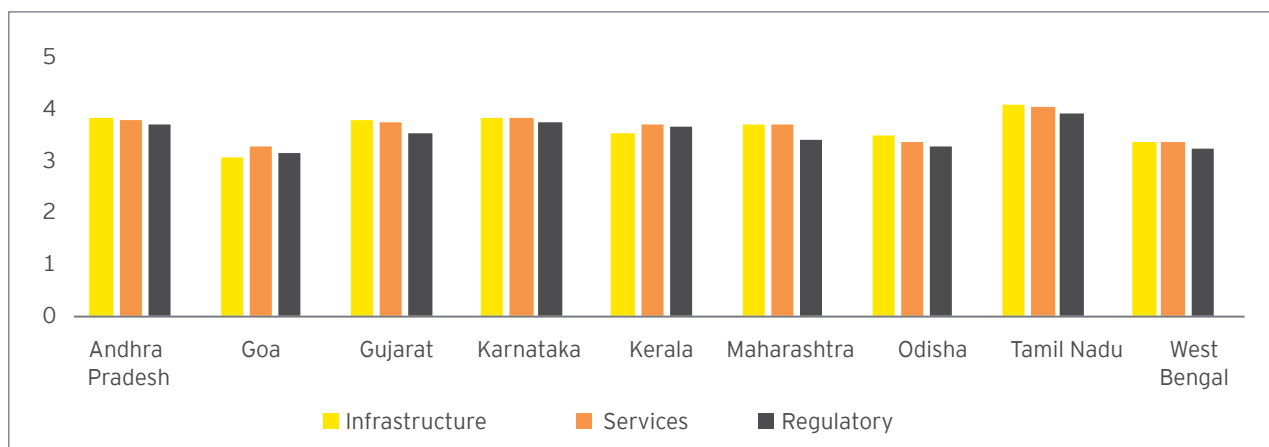
Logistics Infrastructure:

Users have a higher level of satisfaction with Road and Terminal Infrastructure compared to other indicators. User perception regarding Rail Infrastructure, Warehouse Infrastructure and First & Last mile Connectivity is below the average score of Logistics Infrastructure pillar. States may consider this while planning and prioritising their infrastructure interventions.

From an individual State perspective (refer heat map below), user perception scores of all Infrastructure indicators for Andhra Pradesh, Gujarat, Karnataka and Tamil Nadu are above the indicator average score within Coastal States Group while perception scores for one or more indicators are below indicator average score for balance states e.g. in case of Maharashtra, perception scores are above average for all indicators except quality of Road infrastructure.

Satisfaction levels appear to be broadly similar across Coastal and Landlocked states for all the infrastructure indicators except Terminal Infrastructure, where satisfaction level in Coastal states is higher compared to that in Landlocked states.

Table 3 Coastal Group – Logistics Infrastructure indicator wise perception score heatmap

Pillar	Indicators	Andhra Pradesh	Goa	Gujarat	Karnataka	Kerala	Maharashtra	Odisha	Tamil Nadu	West Bengal
Logistics Infrastructure	Road	Above	Below	Above	Above	Above	Below	Below	Above	Below
	Rail	Above	Below	Above	Above	Above	Below	Above	Above	Above
	Terminal	Above	Below	Above	Above	Above	Above	Above	Above	Above
	First/ Last Mile Connectivity	Above	Below	Above	Above	Above	Above	Above	Above	Above
	Warehouse	Above	Below	Above	Above	Below	Above	Below	Above	Below
	Packaging	Above	Below	Above	Above	Above	Above	Below	Above	Below

🟩 Above Average 🟥 Below Average

Logistics Services:

Within Services pillar, users are more satisfied with Safety & Security of Cargo, Track & Trace Services, Transport Services and Terminal Services compared to other Service indicators. Perception regarding availability of Skilled Manpower and Cost / Pricing of Logistics Services is below the average score for Logistics Services pillar

From an individual State perspective (refer heat map below), user perception scores of all Service indicators for Gujarat and Maharashtra are above indicator average score for Coastal States Group while perception scores for one or more indicators are below indicator average for balance states e.g. in case of Tamil Nadu, Karnataka and Andhra Pradesh, perception scores are above indicator average for all indicators except Cost / Pricing of Logistics services.

Satisfaction levels appear to be broadly similar across Coastal and Landlocked states for all Logistics Service indicators except Terminal Services, Track & Trace and Safety & Security of Cargo, where satisfaction level in Coastal states is slightly higher compared to Landlocked states.

Table 4 Coastal Group – Logistics Services indicator wise perception score heatmap

Pillar	Indicators	Andhra Pradesh	Goa	Gujarat	Karnataka	Kerala	Maharashtra	Odisha	Tamil Nadu	West Bengal
Logistics Services	Transport	Above	Below	Above	Above	Below	Above	Below	Above	Below
	Terminal	Above	Below	Above	Above	Below	Above	Below	Above	Above
	Cost/Pricing of logistics	Below	Below	Above	Below	Above	Above	Above	Below	Above
	Timeliness	Above	Below	Above	Above	Above	Above	Below	Above	Below
	Skilled Manpower	Above	Below	Above	Above	Above	Above	Below	Above	Below
	Track and Trace	Above	Below	Above	Above	Above	Above	Below	Above	Above
	Safety & Security	Above	Below	Above	Above	Above	Above	Below	Above	Above

🟩 Above Average 🟥 Below Average

Operating & Regulatory Environment:

Within the Operating & Regulatory Environment pillar, users are more satisfied with Ease of Entry indicator compared to other indicators in this pillar. From an individual State perspective (refer heat map below), user perception scores of all Operating & Regulatory Environment indicators for Karnataka are above indicator average while perception scores for one or more indicators are below indicator average for balance states e.g. in case of Andhra Pradesh, Kerala and Tamil Nadu perception scores are above indicator average for all indicators except Grievance Redressal.

Table 5 Coastal Group – Operating & Regulatory Environment indicator wise perception score heatmap

Pillar	Indicators	Andhra Pradesh	Goa	Gujarat	Karnataka	Kerala	Maharashtra	Odisha	Tamil Nadu	West Bengal
Operating & Regulatory Environment	Govt. Facilitation	Above	Below	Above	Above	Above	Below	Below	Above	Below
	Warehousing Approvals	Above	Below	Above	Above	Above	Below	Below	Above	Below
	Ease of Entry	Above	Below	Below	Above	Above	Below	Below	Above	Below
	Grievance Redressal	Below	Below	Above	Above	Below	Below	Below	Above	Below

🟩 Above Average   🟧 Below Average

Coastal group leads across pillars: Costal group's performance across Infrastructure and Services pillar has been assessed to be high across all Groups (refer figure below). Interactions with stakeholders also highlights that since most of the states are catering directly to Exim trade via established ports and associated ecosystem, it exhibits a matured supply chain and consumer preferences. Further, the user perception / demand from the logistics ecosystem is very high (in terms of quality of service being delivered) and different as compared to other Groups (Landlocked, North-Eastern and Union Territories). On the regulatory front Coastal and Landlocked Group have been assessed equal, implying (irrespective of the existing infrastructure and services) equal efforts have been undertaken by the States on policy and reform front to improve logistics ecosystem which the users have appreciated and envision it to be for betterment of logistics. Specifically, formulation of State Logistics policy, according "industry" status, digital measure to facilitate ease of doing business have helped improve trade efficiency and operations.

Figure 10 Performance assessment of Groups across LEADS pillars

Legend: 🟨 Infrastructure 🟧 Service ⬛ Regulatory
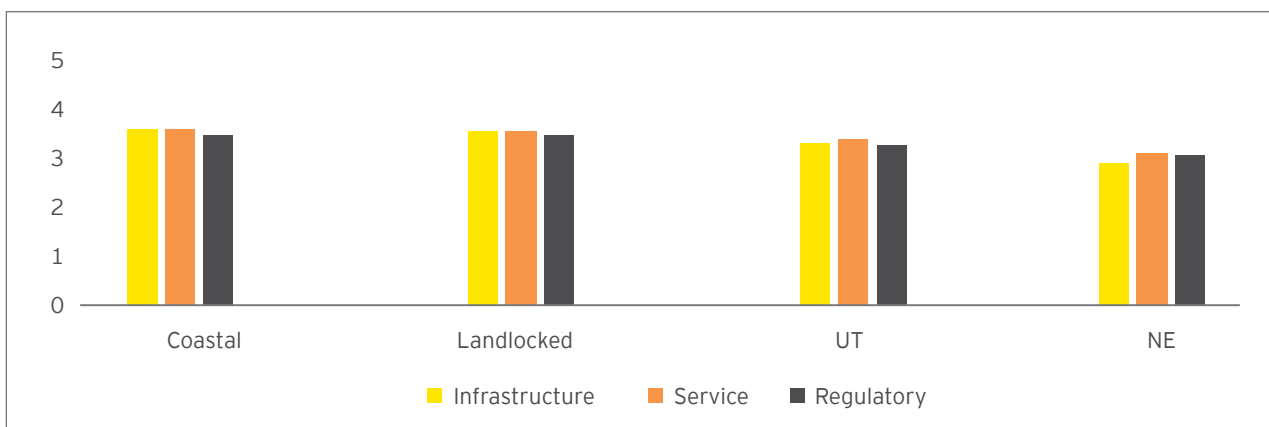
COASTAL STATES

2.1.1 Andhra Pradesh

State Performance Snapshot

2023
ACHIEVER

2022
ACHIEVER

Andhra Pradesh has maintained its **Achiever** category within the Coastal Group.

Positive impacts of measures to enhance logistics ecosystem in the State is clearly visible in the performance assessment by the industry stakeholders. These initiatives encompass notification of Logistics Policy, granting "Industry" status to the sector, and launching a unified platform named "SPANDANA" as a single desk portal. These measures are designed to streamline investment processes, handle industry-related inquiries/approvals/clearances, and facilitate the resolution of grievances.

Logistics Infrastructure

As shown in the chart, user perception assessment for all 'Logistics Infrastructure' indicators are above the average of Coastal Group. This positive perception is particularly visible in 'Quality of Road Infrastructure,' 'Rail Infrastructure,' and 'Terminal Infrastructure' compared to 'Quality of First/Last Mile Connectivity' and 'Availability of Warehousing Infrastructure.' Feedback from stakeholders indicates potential for enhancing connectivity to Gangavaram port and

Visakhapatnam port, as well as increasing warehouse and storage capacity across the State.

Stakeholders have further appreciated the State's extensive infrastructure development plans which includes development of MMLPs at Visakhapatnam and Anantapur in partnership with the National Highway Logistics Management Limited (NHLML). Six more MMLPs are proposed at Krishnapatnam, Orvakal, Machilipatnam, Vijayawada/Guntur, Kakinada, and Kopparthy. These MMLPs, once operational, will significantly bolster the State's logistics efficiency. Additionally, the State plans to allocate 2,500 acres (equivalent to 5% of the available industrial land bank, approximately 50,000 acres) for logistics infrastructure development.

Moreover, the State is actively developing multiple greenfield ports along its coastline, enhancing support for maritime trade. Various railway projects, such as the doubling of the railway line between Pakala and Tirupati stations, are also in the pipeline, set to boost rail freight traffic and reduce overall logistics costs within the region. Further, the State has identified and initiated various projects aimed at improving first/last mile connectivity to industrial estates and terminal infrastructure. This includes the development of a six-lane highway from the Port's container terminal to Bhogapuram Junction, facilitating better connectivity to Visakhapatnam port.

Logistics Services

In line with the observations presented above, the user perception assessment for all 'Logistics Service'

Logistics Infrastructure - Indicator-wise performance

Logistics Services - Indicator-wise performance
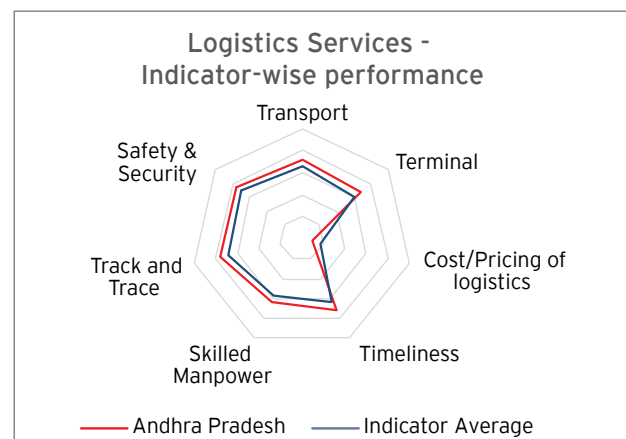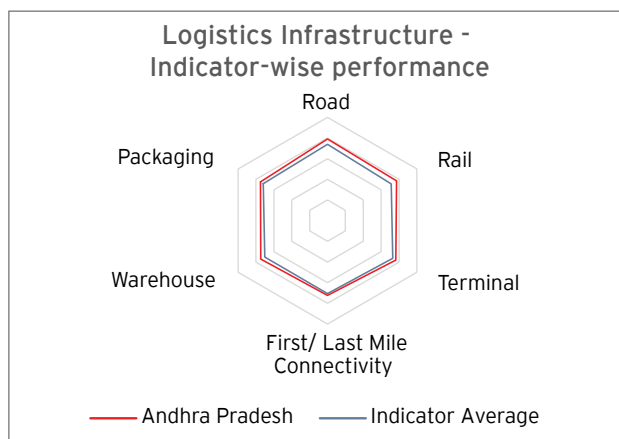
indicators, except for 'Pricing of Logistics Services,' are above the Coastal Group average. However, user satisfaction with Pricing of Logistics Services within the State falls below the Group's average.

To improve Logistics Services and address the skill gaps, State has initiated the efforts to bridge skilling gaps. AP Skill Development Corporation (APSDC) and AP State Road Transport Corporation (APSRTC) are actively delivering logistics sector-specific training programs within the State. Notably, APSDC has introduced seven new courses covering various aspects related to the logistics sector, including packaging, inventory management, and documentation, among others. These initiatives aim to enhance the quality of logistics services and, in particular, address the skilling needs within the sector.

Operating & Regulatory Environment

State has taken multiple initiatives to improve logistics ecosystem including notifying State Logistics policy, creating a Logistics Action Plan, giving 'Industry' status to logistics, and working on various infrastructure projects. User perception assessment (refer chart alongside) for all 'Operating & Regulatory Environment' indicators, with the exception of 'Grievance Redressal,' is above Coastal Group average.

User satisfaction with respect to Grievance Redressal system in the State is below Group's average. State could engage with the industry stakeholders to explore measures to improve effectiveness of 'Industries Spandana', a platform developed by State to act as a one stop-shop for all investment and industry related queries including grievances.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation / Warehousing Approvals / Ease of Entry / Grievance Redressal

—— Andhra Pradesh   —— Indicator Average

Furthermore, the State actively maintains its commitment to advancing the Ease of Doing Business (EoDB) through the SMART port initiative, reaffirming its dedication to fostering a business-friendly environment and enhancing the logistics sector in State.
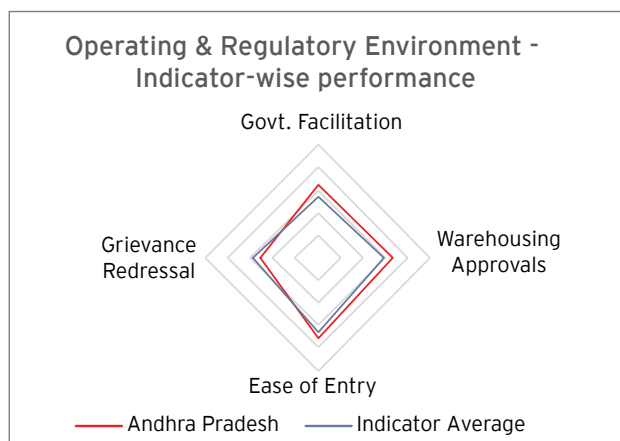
Initiatives undertaken by the State

SMARTPORT: A single-window platform that provides real-time information to all stakeholders, fostering transparency and accountability, establishing a corruption-free environment within port-related services, and enhancing efficiency. SMARTPORT enables online services like requests for entry of ves- sels into Indian waters, furnishing cargo declarations, requests for entry certificates of vessels, furnishing import and export parameters, and requests for a final clearance certificate, etc. In order to have a unified logistic interface to link multiple data sources, the government of Andhra Pradesh is in the process of establishing an Integrated Command and Control Center (ICCC), which will be integrated with all the touch points of cargo containers, such as inland container depots (ICDs), container freight stations (CFS), port areas and customs houses, truck parking bays, check posts, and toll gates. It will also facilitate registration, renewal of an agency or firm, payment of offshore support vessel charges, payments for drawl of seawater, pipeline charges, barge registration, renewal or change of ownership, and fishing harbour permission.

2.1.2 Goa

State Performance Snapshot

2023
ASPIRER

2022
ASPIRER

The State has been categorized as an **Aspirer** within the Coastal Group. There has been improvement in the overall performance of the State's logistics eco-system as compared to LEADS 2019.

Logistics Infrastructure

The user perception performance assessment for all 'Logistics Infrastructure' indicators are below the average for Coastal Group. Insights from stakeholder consultations have highlighted the need for improving connectivity and terminal infrastructure within the State.

Logistics Infrastructure - Indicator-wise performance
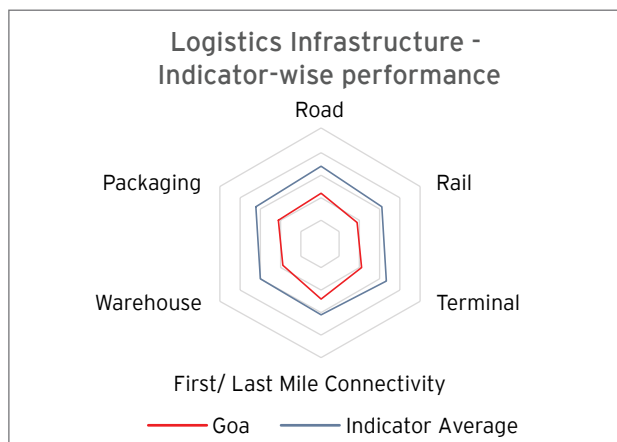
Despite the lower performance assessment by stakeholders, State has proactively identified and initiated multiple projects aimed at enhancing its logistics infrastructure. These projects include:

a) Implementation of multiple road connectivity improvement projects to industrial estates, ports, warehouses, and terminals.

b) Development of an Air Cargo Complex at the new Manohar International Airport.

c) Establishment of a food testing laboratory in Verna Industrial Estate, Panaji.

d) Creation of a logistics park in Dharbandora spanning an area of 130,300 sqm.

e) Construction of cold storage facilities.

f) Development of truck terminals at various locations.

To further improve logistics infrastructure, the Goa Industrial Development Corporation (GIDC) is proposing to allocate 20% of land in industrial estates for logistics-related projects. Additionally, the municipal corporation of Panaji has devised a Low Carbon Action Plan for urban freight management within the capital city. Collectively, these measures aim to address stakeholder observations and enhance the efficiency of Goa's logistics ecosystem. State may also consider developing a data-driven Logistics Master Plan, aligning with the approaches of 'Achievers' State's in the Coastal Group.

Logistics Services

As indicated in the chart below, user perception performance assessment for all 'Logistics Services' indicators are below the average of Coastal Group,

Logistics Services- Indicator-wise performance
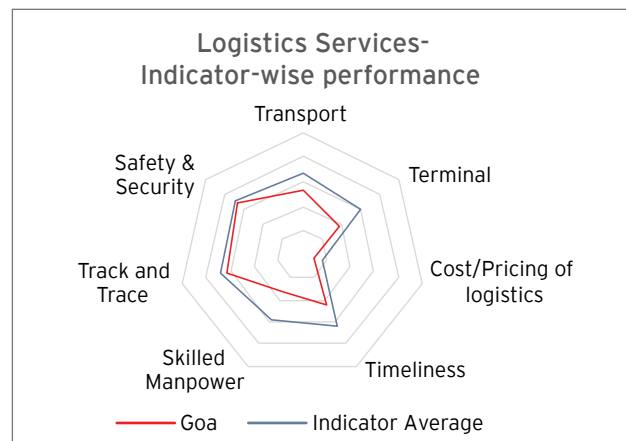
User satisfaction regarding 'Safety/Security of Cargo,' 'Availability of Track & Trace Services,' and 'Quality of Transport Services' is notably higher compared to indicators related to 'Cost/Pricing of Logistics Services,' 'Availability of Skilled Manpower,' 'Quality of Terminal services,' and 'Timeliness of Cargo Delivery.'

State may like to focus on enhancing the infrastructure related to mobile connectivity which will improve track and trace ability and compliment improving the safety and security as well. State has also undertaken initiatives for addressing skill gaps through various government agencies involved in logistics-related training programs. For instance, the Directorate of Technical Education offers courses on in-plant logistics assistant, the Department of Civil Aviation provides training on logistics-related skills, and the Captain of Ports Department offers similar training programs.

Operating & Regulatory Environment

The user perception performance assessment for all 'Operating & Regulatory Environment' indicators are below the average of Coastal Group, as is depicted in the chart provided. The State is actively promoting the development of the logistics sector through policy and regulatory improvements. In June 2023, the State notified its Logistics & Warehousing policy and conferred 'Industry' status on the Logistics and Warehousing Sector. State could also focus on encouraging regular dialogue with private stakeholders to effectively communicate and educate them about the various initiatives undertaken by the State.

The State is also streamlining the approval process for logistics and warehousing units in industrial estates through a Single Window system. Furthermore, multiple digital initiatives are underway to facilitate freight movement within and through the State.

Operating & Regulatory Environment - Indicator-wise performance

- Govt. Facilitation
- Warehousing Approvals
- Ease of Entry
- Grievance Redressal

— Goa   — Indicator Average
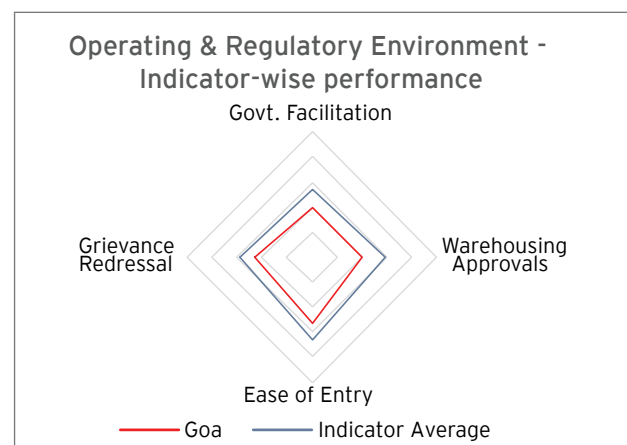
Initiatives undertaken by the State

1. The Goa Logistics and Warehousing Policy 2023 outlines several policy focus areas:

    a) Infrastructure enhancement: A significant emphasis will be placed on improving the state's road network, inland waterways, seaports, and air infrastructure. This includes upgrading existing infrastructure and developing new facilities to support the logistics and warehousing sectors.

    b) Expansion of MMLPs and warehouses: The policy encourages the establishment of new MMLPs and warehouses. To incentivize fresh investments in this area, specific incentives will be provided to investors.

    c) Streamlined regulatory framework: Changes in the regulatory framework are aimed at simplifying and expediting the approval processes. This includes the implementation of an online single-window system for multiple services, making it more efficient for businesses to obtain necessary approvals and permits.

2. Low carbon action plan for urban freight:

    The State Government is taking significant strides toward sustainability by developing framework for a Low Carbon Action Plan for Panaji. The State is undertaking continuous interaction and engagement with stakeholders to ensure awareness, and meetings for consultation on the development of strategies for reducing carbon footprint. Below are the recommendations suggested for enhancing goods transport:

    a) Shift from conventional combustion engines to low-carbon alternatives such as electric vehicles.

    b) Establish local consolidation centers and micro-consolidation centers.

    c) Implement specific times for freight delivery and off-hour or night deliveries.

    d) Develop dedicated urban freight corridors.

2.1.3 Gujarat

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

🏆

Gujarat has maintained its **Achiever** status within the Coastal group. The State's commitment to enhance its logistics ecosystem is evident in positive feedback and assessment provided by stakeholders in LEADS 2023 survey. It garners high performance assessment across LEADS indicators indicating a strong logistics ecosystem. Stakeholder interactions suggest business friendly environment and matured supply chains as the key reason for the State being at the forefront to foster development of trade and economic activities.

Logistics Infrastructure

The user perception performance assessment for 'Logistics Infrastructure' indicators surpasses the average for Coastal Group. Stakeholder feedback suggests opportunities for enhancing First/Last-mile connectivity to select Inland Container Depots (ICDs) and Industrial Estates.

Logistics Infrastructure - Indicator-wise performance
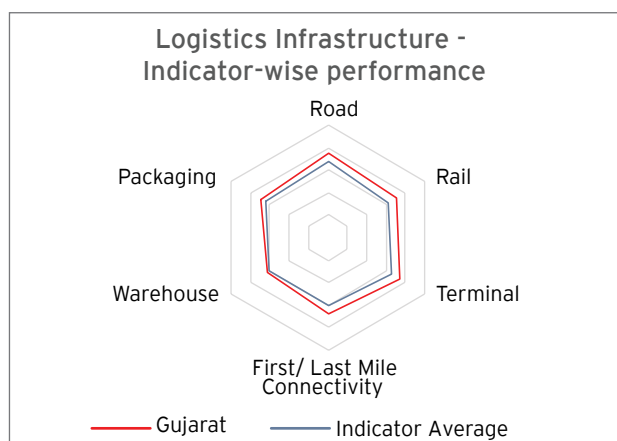
To address this, the State is actively implementing multiple rail connectivity projects, including the Old Bedi port rail connectivity project and the Katosan Road – Becharaji gauge conversion project. These initiatives aim to streamline cargo handling and transport.

The State is in the process of formulating of State Logistics Master Plan and City Logisics Master Plan which would help in devising a comprehensive framework for identifying and executing specific interventions to further enhance the logistics ecosystem.

CONCOR is developing its first GatiShakti Multimodal Cargo Terminal in Varnama village, Vadodara. Additionally, NHLML is exploring the establishment of multi-modal logistics parks at five designated areas in Gujarat along the DMIC & DFC corridor. Moreover, the private sector has shown significant interest in investing in the logistics sector, including investments in warehousing and logistics parks

Furthermore, the State is allocating land for truck parking facilities at various industrial estates and enhancing road infrastructure, such as the four-laning of the Rajkot-Morbi highway. Additionally, guidelines have been issued to reserve 5% of land within industrial parks for logistics and storage facilities.

Logistics Services

The user perception performance assessment for 'Logistics Service' indicators are consistently above the Coastal States' group. Gujarat stands out in the Coastal Group with the highest user satisfaction performance assessment for the 'Pricing of Logistics Services' indicator, reflecting the State's competitive logistics ecosystem.

Logistics Services - Indicator-wise performance
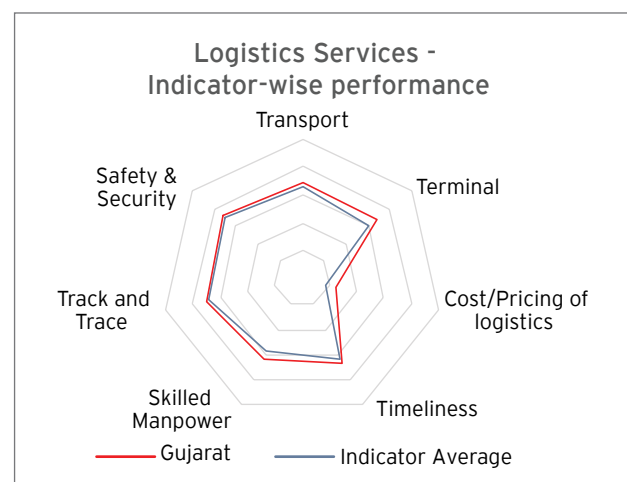
User satisfaction is generally uniform across all Service pillar indicators, except for 'Availability of Skilled Manpower,' where industry interactions suggest there is room for improvement. To address this gap, the State offers logistics sector-specific courses through various institutes, including the Gujarat Council of Vocational Training, Commissionerate of Higher Education, and Directorate of Employment & Training.

The 'Kaushalya' – The Skill University, Ahmedabad, also offers courses related to the logistics sector. Meanwhile, Gujarat Maritime University provides courses related to Maritime Law and an MBA in Shipping & Logistics.

Operating & Regulatory Environment

Across all the indicators of 'Operating & Regulatory Environment', except 'Ease of Entry,' the State, surpasses the Coastal States' average. Gujarat leads in the Coastal Group with the highest user satisfaction performance assessment for the 'Grievance Redressal' indicator, reflecting the state's business-friendly environment.
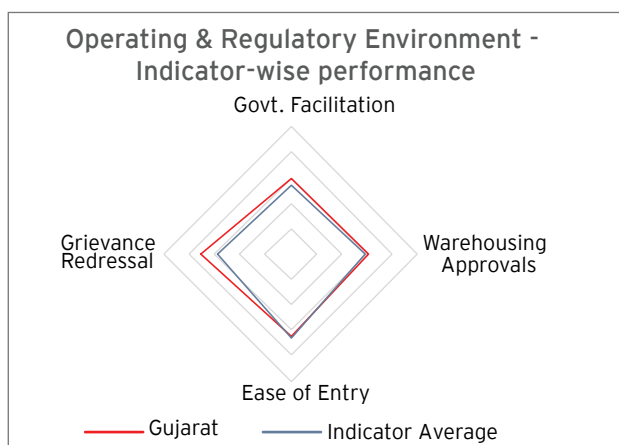
It's observed that the State is actively collaborating with industry partners, emphasizing the significance of comprehending industry requirements, and aligning policies and initiatives accordingly.

The State has taken significant steps to support the logistics sector including notification of the Gujarat Integrated Logistics & Logistics Park Policy in 2021. This policy aims to promote and facilitate logistics development. Additionally, the State has granted "Industry" status to logistics sector.

To improve ease of doing business, the Gujarat Pollution Control Board (GPCB) has categorized certain warehousing activities as 'White' category industries, reducing approval burdens on businesses in this category. This change minimizes the requirement for 'Consent to Operate' approval, only necessitating intimation to the concerned GPCB office.

Operating & Regulatory Environment - Indicator-wise performance

— Gujarat   — Indicator Average

Initiatives undertaken by the State

1. PM Gati Shakti Gujarat: Transforming infrastructure planning

    a) Gujarat has embraced the PM Gati Shakti initiative, taking its State Master Plan to new heights.

    b) Integration of over 1100 data layers and 84 departmental portals facilitates streamlined planning for upcoming infrastructure projects.

    c) Digitization efforts have led to the inclusion of 46 No Objection Certificate (NOC) and approval processes on the portal, with over 3000 Government to Government requests processed.

    d) A mobile app has been provided to stakeholders for mapping freight infrastructure, promoting efficient collaboration and decision-making.

2. Port Operations and Financial Management System (GPOFMS)

    The Gujarat Maritime Board (GMB) is actively digitizing processes for Port Operations Management.

    a) Services offered through this web-based integrated application include requesting services by Vessel/Shipping Agents, online payment for vessel calls, booking vessel stays, generating service bill estimates, issuing No Due Certificates, processing vessel service bills, managing budgets and treasury, making vendor payments for port work, and handling GMB employee payroll.

    b) The portal became operational on April 1, 2023, streamlining financial and operational aspects of port management.

3. Enhancing multimodal connectivity to Gujarat's ports

    a) Gujarat is actively expanding rail connectivity to enhance logistics and transportation capabilities.

    b) Ongoing efforts include the development of connectivity between MBSIR (Maruti Suzuki India Limited) to Katosan and Ranuj villages, which are strategically positioned on the route of Viramgam-Mehsana and Patan-Mehsana. This development aims to connect Maruti Suzuki India Limited to Kandla and the Delhi Mumbai Freight Corridor, potentially facilitating the transport of over 4 lakh cars via rail connectivity.

2.1.4 Karnataka

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

🏆

Karnataka has maintained its **Achiever** Status within the Coastal Group, highlighting the strong performance in various aspects of the logistics sector. Perception performance assessment for the State indicate higher satisfaction levels for Logistics Infrastructure and Logistics Services followed by Operating & Regulatory Environment.

Logistics Infrastructure

State has performed well in Logistics Infrastructure, with above-average performance assessment in all sub-indicators as indicated in the chart below, highlighting State's emphasis on supporting and improving logistics and trade.

Logistics Infrastructure - Indicator-wise performance
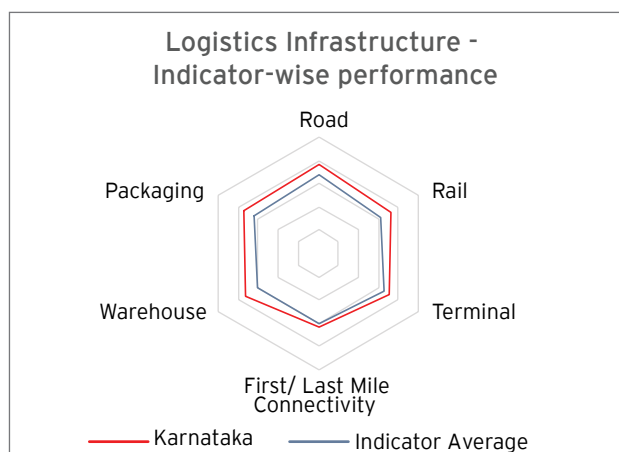
To promote the logistics sector, State has approved the Karnataka Logistics Plan, outlining various infrastructure projects. Initiatives are underway to address these infrastructure concerns and streamline freight movement. These actions involve:

a) Constructing a 4-lane highway from the Karnataka border to the Hoskote junction of NH 648.

b) Establishing three truck parks near the New Mangalore Port in Panambur.

c) Developing an alternative road link to ICD Whitefield.

d) Implementing the Bengaluru Satellite Town Ring Road (STRR).

Additionally, the Karnataka Industrial Area Development Board (KIADB) is developing a Multi-Modal Logistics Park (MMLP) in Oblipura, Bengaluru Rural district. Furthermore, KIADB has reserved land in industrial areas, both new and existing, to facilitate logistics infrastructure development throughout the State. Further, collaboration with GIZ is enabling the development of a City Logistics Plan for urban freight movement in Bengaluru.

Logistics Services

The user perception performance assessment for all 'Logistics Service' indicators, except for 'Cost/Pricing of Logistics Services,' are above average of the Coastal Group. However, stakeholder interactions have identified the need of skilled workforce across entire logistics sector.

Logistics Services - Indicator-wise performance
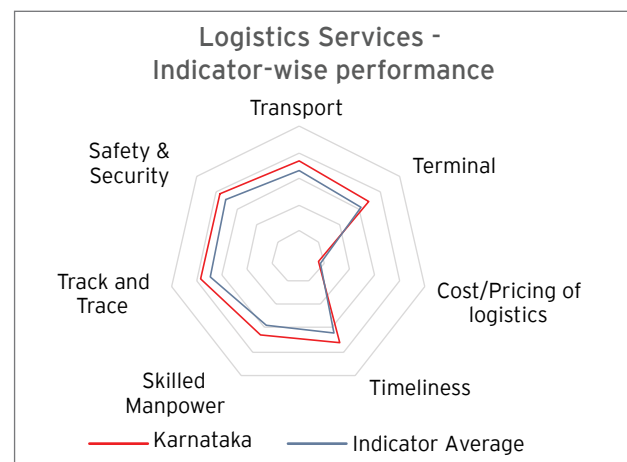
To address this gap, the State has initiated various sector-specific skilling initiatives. In 2022, seven training institutes were established, providing training in various essential skills, such as consignment booking and tracking, packaging, storage, delivery, equipment installation, and repairs. Additionally, the Transport Department has set up four driver training institutes in Dharwad, Bengaluru, Mangalore, and Kalburgi to meet the demand for trained drivers. Karnataka Skill Development Corporation (KSDC) has also forged partnerships with industry leaders like Flipkart and ECom Express to drive skill development in the e-commerce sector. These initiatives will not only enhance the skills of the logistics service providers but also improve the perception of the users.

Operating & Regulatory Environment

As indicated in the chart below, the user perception performance assessment of all 'Operating & Regulatory Environment' indicators are above the average of Coastal Group. However, stakeholder consultations have highlighted room for improvement in its grievance redressal system. Enhancing this system can lead to more effective and efficient resolution of industry-related queries and concerns, contributing to a more favourable business environment.
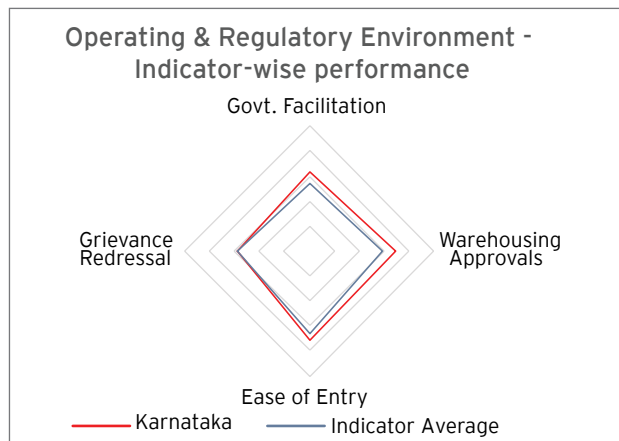
To encourage and facilitate the development of the logistics sector, State has undertaken multiple stakeholder consultations to understand the challenges of the stakeholders and identify key improvement areas. State has operationalized logistics development initiatives listed under the Industrial Policy 2020-2025. The policy offers incentives and facilitation mechanisms for the development of logistics infrastructure projects, including logistics parks, Multi-Modal Logistics Parks (MMLPs), dry ports, cold storages, truck terminals, and warehouses, among others. Furthermore, Logistics & Transportation has been identified as one of the focus sectors, and the State has also accorded 'Industry' status to the Logistics & Warehousing Sector.

Operating & Regulatory Environment - Indicator-wise performance

- Govt. Facilitation
- Warehousing Approvals
- Ease of Entry
- Grievance Redressal

— Karnataka   — Indicator Average

Initiatives undertaken by the State

Karnataka State Logistics Plan 2022

a) The State is actively pursuing various measures to enhance logistics performance by implementing supportive policies. These initiatives encompass the development of rail, water, road, and air infrastructure, coupled with incentives to facilitate the establishment of Warehouses, Multi-Modal Logistics Parks (MMLP), Truck Terminals, and similar logistics infrastructure.

b) In alignment with the State Logistics Plan, the establishment of city-level logistics systems is in progress for eight cities.

c) This comprehensive approach includes the implementation of an Electric Vehicle (EV) Policy, efforts to decarbonize the logistics sector through the promotion of Green Logistics, the adoption of Smart Implementation strategies aimed at eliminating physical checks, and the generation of additional employment opportunities that will contribute to the growth of the logistics sector.

Government of Karnataka, as a part of its commitment to address challenges related to freight movement in the Urban Areas, is in the process of conducting a study to develop a comprehensive city plan for Bengaluru.

2.1.5 Kerala

State Performance Snapshot

2023	2022
FAST MOVER	**FAST MOVER**

🏆

Kerala has been categorized as a **Fast Mover** in LEADS 2023. As per 2023 survey, user satisfaction levels are highest for Logistics Services, followed by Operating & Regulatory Environment and Infrastructure. State is taking multiple initiatives to improve logistics efficiency across all pillars which include categorization of Logistics as a focus sector and granting 'Industry' status to logistics sector.

Logistics Infrastructure

As presented in the chart below, the performance assessment of user perceptions across all 'Logistics Infrastructure' indicators, except for 'Availability of Packaging Facilities,' is below the Coastal Group's average. Inputs from stakeholder consultations indicate that the State could focus on improving road and rail connectivity to industrial estates, enhancing terminal infrastructure, and increasing facilities like Multi-Modal Logistics Parks (MMLPs) and truck terminals.

Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

— Kerala   — Indicator Average
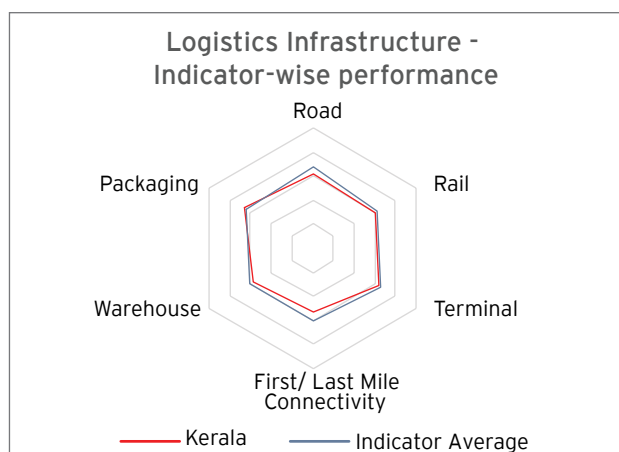
The State has undertaken multiple initiatives to improve the efficiency and competitiveness of the logistics sector, including the notification of the State Logistics Action Plan. It is also pursuing various infrastructure projects in line with this Action Plan. Projects for last-mile connectivity improvement under

the Scheme for Special Assistance to States for Capital Investment (2022-23) include:

a) Last-mile connectivity and support infrastructure for the Petrochemical Park at Kochi.

b) Rail connectivity to Vizhinjam International Seaport from Balaramapuram station.

c) Last-mile connectivity and support infrastructure for the Life Sciences Park at Thiruvananthapuram.

To strengthen the logistics network along the coastal regions, State is constructing a 629-kilometer coastal highway from Thiruvananthapuram to Kasaragod. This highway will connect key areas such as Vallarpadam, Kollam, and Vizhinjam while linking several small ports and harbours.

Furthermore, in line with the State's Industrial Policy, State is promoting the development of Multi-Modal Logistics Parks and truck terminals across the State and a State Logistics Park Policy is being formulated.

With regards to urban freight planning, the Kochi Metropolitan Transport Authority has established an Urban Freight Committee to streamline freight movement in Kochi. Earlier this year, the Water Metro project was inaugurated in Kochi, which will connect multiple islands around the city through battery-operated electric hybrid boats, a one-of-a-kind low carbon transport initiative in the country. This project reflects the State Government's focus on enhancing public transportation sustainably.

Logistics Services

As presented in the chart below, user perception performance assessment for all the 'Service' indicators is above average of Coastal Group, except for 'Quality of Transport Services' and 'Quality of Terminal Services.'

Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

— Kerala   — Indicator Average
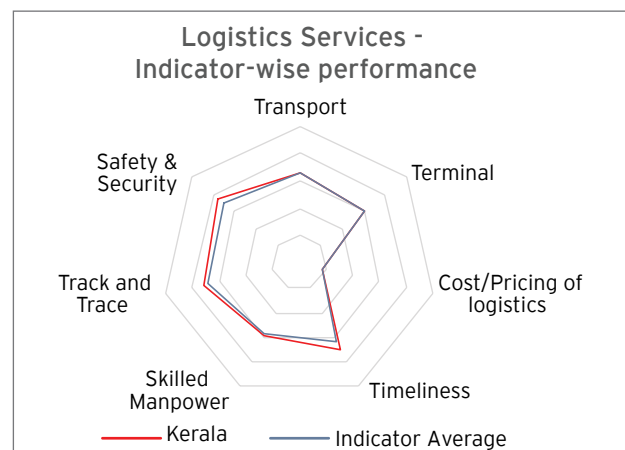
State has received above average performance assessment for 'Safety / Security of Cargo' in the Coastal Group which can be attribute to the 'Suraksha Mitr,' a GPS based vehicle tracking and monitoring system, for ensuring safety of transport vehicles in Kerala. State is formulating Intelligent Transport policy which will cover various aspects on infrastructure creation for skill development of truck drivers and other logistics personnel.

Operating & Regulatory Environment

As presented in the chart, the user perception performance assessment for all 'Operating & Regulatory Environment' indicators, except for 'Grievances Redressal,' is above the average Coastal Group. State has already recognized logistics as a focus sector and taken significant steps by according 'Industry' status to the logistics sector in its Kerala Industrial Policy 2023.
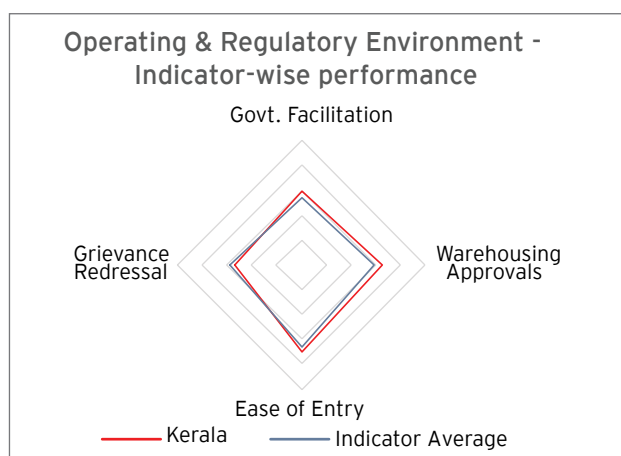
State has been proactive in implementing smart enforcement-related initiatives to facilitate the movement of freight vehicles and minimize unwarranted stoppages. As a result of these initiatives, the performance assessment of user perceptions is above average for the 'Ease of Entry' indicator as compared to Coastal Group average.

State could engage with the industry stakeholders to explore measures to improve effectiveness of existing grievance redressal mechanism and develop a monitoring mechanism for Grievance Redressal to further improve the perception among the stakeholders

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation, Warehousing Approvals, Ease of Entry, Grievance Redressal

— Kerala — Indicator Average

Initiatives undertaken by the State

a) The State of Kerala has recognized logistics as a pivotal sector for industrial development. The Kerala Industrial Policy 2023 has officially classified the logistics sector as an 'Industry.'

b) In alignment with this Industrial Policy, the State Government is actively encouraging the establishment of Multi-Modal Logistics Parks (MMLPs) and mini-Multi-Modal Logistics Parks (mini-MMLPs) across Kerala. This endeavor aims to enhance logistics facilities, including the development of truck terminals, throughout the state. Additionally, the State Logistics Park Policy is in the process of being formulated to further promote infrastructure development and address challenges within the logistics sector.

c) The State has introduced an Artificial Intelligence (AI)-enabled traffic offense detection system, which has led to the revision of speed limits for vehicles operating in the state, with higher limits being effective from July 1, 2023.

d) **Low carbon action plan for urban freight:** Kerala has also implemented a Low Carbon Action Plan for Urban Freight, which seeks to encourage low-carbon urban freight practices and policies. These measures aim to contribute to climate change mitigation and reduce the overall logistics costs in the state.

2.1.6 Maharashtra

State Performance Snapshot

2023	2022
FAST MOVER	**ACHIEVER**

🏆

Maharashtra has been classified as a **Fast Mover** in LEADS 2023. According to the 2023 survey, user satisfaction levels are highest for Infrastructure, followed by Services and the Operating & Regulatory Environment.

Logistics Infrastructure

As shown in the chart below, user performance assessment for all 'Infrastructure' indicators, except for 'Quality of Road Infrastructure,' are above average of the Coastal Group. Notably, the perception regarding the 'Quality & Adequacy of Terminal Infrastructure' is observed to be higher when compared to other Infrastructure indicators.

Logistics Infrastructure - Indicator-wise performance
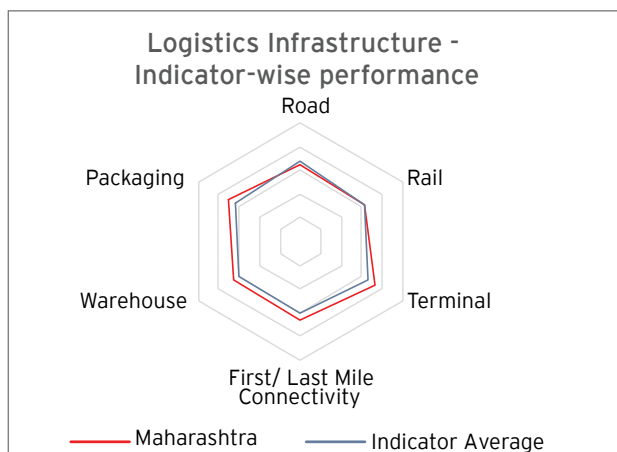
Inputs from stakeholder consultations indicate that there is room for improvement in road infrastructure connecting industrial estates, as well as terminal infrastructure such as warehouses and truck terminals.

The State has proactively initiated multiple logistics infrastructure improvement projects aimed at enhancing logistics efficiency within the region. Key projects include:

a) Development of a Central Parking Plaza by the Jawaharlal Nehru Port Authority (JNPA), which can accommodate more than 2,800 trucks

b) Improvement of first/last mile roads connecting various industrial areas in Pune, Nagpur, and Nashik

c) Development of a truck terminal in Pimpri Chinchwad Industrial Area

d) Establishment of a Multi-Modal Logistics Park (MMLP) near Borkhedi, Nagpur, with warehousing and railway siding facilities

e) Development of an MMLP in Wardha district, adjacent to the Nagpur-Mumbai Samruddhi Expressway

f) Development of several Integrated Logistics Parks (ILP) under the Maharashtra Logistics Policy 2018

To further support the development of the logistics sector beyond the mentioned initiatives, the State could consider developing a comprehensive, data-driven Logistics Master Plan. Such a plan would serve as a foundation for identifying additional interventions and aligning the sector's growth with a strategic vision. Several Achiever States within the Coastal Group, which have received high performance assessments, have already developed such master plans.

Logistics Services

According to the chart below, user performance assessments for all the 'Service' indicators is above average of Coastal Group.

Logistics Services - Indicator-wise performance
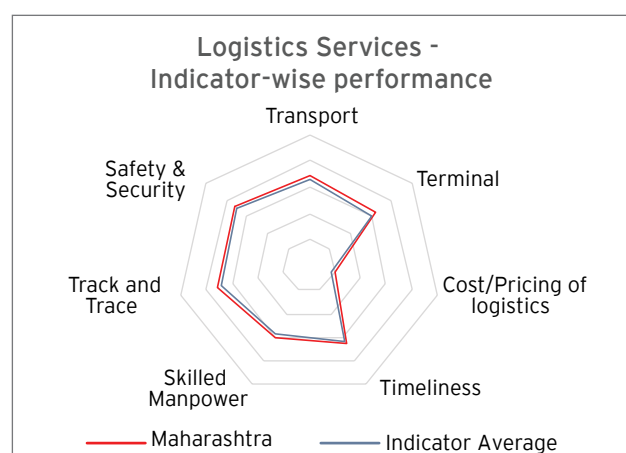
User satisfaction with 'Safety/Security of Cargo,' 'Availability of Track & Trace Services,' and 'Quality of Transport Services' is higher compared to the indicators related to 'Timeliness of Cargo Delivery,' 'Quality of Terminal Services,' 'Availability of Skilled Manpower,' and 'Cost/Pricing of Logistics Services.'

Inputs from stakeholder consultations highlight the need for attention to the availability of skilled manpower, as reflected in the relatively low performance assessment of this indicator within the Services pillar. To address the skill gaps, the State offers over 20 Government-approved certified courses at 23 training centers, contributing to skill development in various fields, including logistics

Operating & Regulatory Environment

According to the chart below, user performance assessments for all the 'Operating & Regulatory Environment' indicators, except for 'Grievances Redressal,' are below the average of Coastal Group.

Operating & Regulatory Environment - Indicator-wise performance

— Maharashtra   — Indicator Average

State could undertake outreach and engagement programmes with the industry stakeholders to promote the initiatives undertaken by the State such as facilitation for issuance of applicable industrial clearances through a single window investor facilitation cell - MAITRI. MAITRI also includes representation from the transport department and assists with liaising with the RTO and addressing grievances. To improve this aspect, State could also explore measures to enhance the overall effectiveness of the investor facilitation mechanism, and focus on encouraging regular dialogue with private stakeholders to effectively communicate and educate them about the various initiatives undertaken by the State
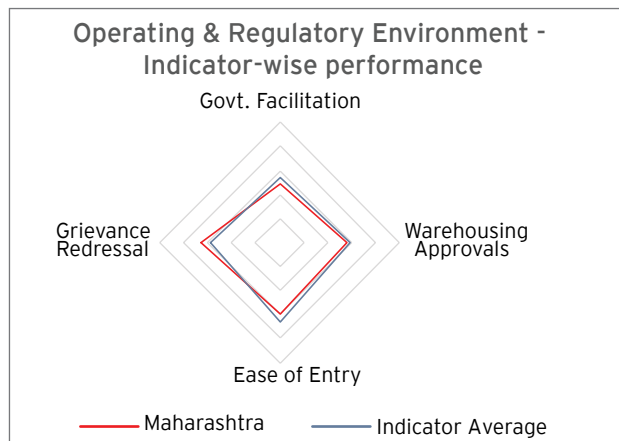
2.1.7 Odisha

State Performance Snapshot

2023	2022
ASPIRER	**ACHIEVER**

In the LEADS 2023 assessment, Odisha has been categorized as an **Aspirer**. Significantly, there has been an improvement in the overall perception of the state's logistics ecosystem since 2019. However, despite this overall improvement, the indicator averages for this year have remained below the Coastal Group average. State is taking multiple proactive measures to enhance overall efficiency of logistics eco-system.

Logistics Infrastructure

As depicted in the chart, the user perception performance assessment across all the 'Logistics Infrastructure' indicators is below the average performance assessment of Coastal Group. Stakeholder inputs suggest potential areas for improvement, specifically in First/Last-mile connectivity, the availability of warehousing infrastructure, and packaging facilities within the State.

Logistics Infrastructure -
Indicator-wise performance

— Odisha   — Indicator Average
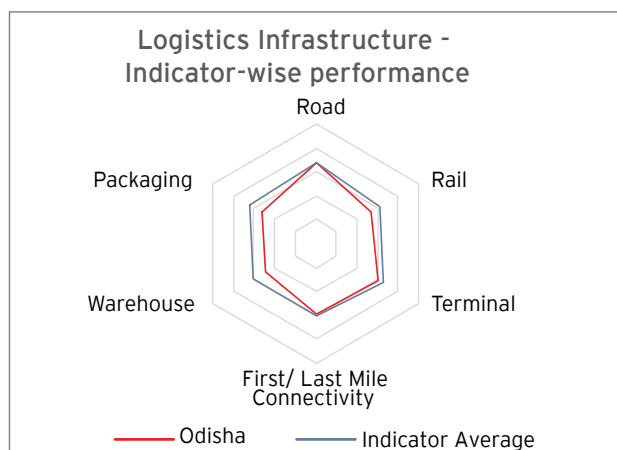
Despite these challenges, the State is taking proactive measures to enhance logistics infrastructure, by undertaking various projects/ initiatives which include developing Sector-specific Industrial Parks, Development of Investment Regions, Establishment of MSME Parks, Biju Economic Corridor, and Port Connectivity Plan. These concerted efforts collectively signal a promising growth towards enhancing the efficiency of the logistics ecosystem within the State

Logistics Services

As presented in the below chart, user perception performance assessment for all the 'Logistics Services' indicators are below the average of Coastal Group. User satisfaction with the 'Quality of Transport' and 'Safety & Security of Cargo' is higher compared to other indicators within the 'Logistics Services' pillar. However, 'Availability of Skilled Manpower' and 'Price/ Cost of Logistics' have been perceived as lower in the State.

Logistics Services -
Indicator-wise performance

— Odisha   — Indicator Average
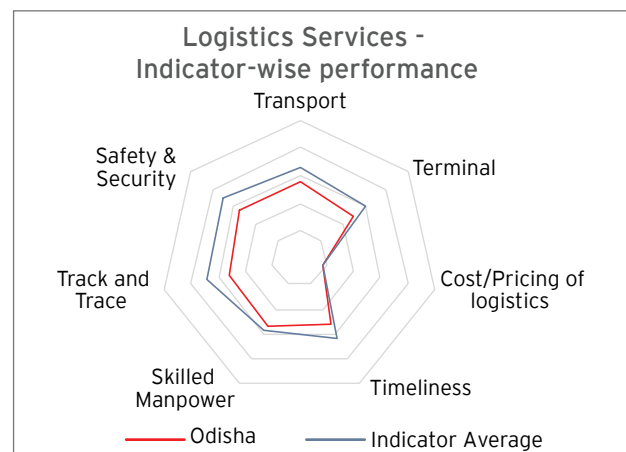
State is taking comprehensive steps to bridge the skill gap by partnering with a network of 142 driver training institutes, establishing 82 Skill Institutes, founding the World Skill Center in collaboration with the Asian Development Bank and ITEES, Singapore, and collaborating with Centurion University in the private sector, thus encouraging development of skilled logistics workforce.

State is also actively implementing various digital initiatives to streamline freight movement within and through the State.

Operating & Regulatory Environment

As indicated in the graph, the 'Grievances Redressal' mechanism has received above average performance

Operating & Regulatory Environment -
Indicator-wise performance

— Odisha   — Indicator Average
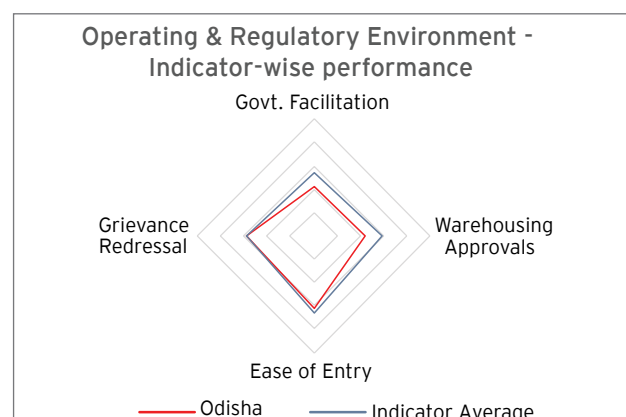
assessment as compared to Coastal Group, while stakeholder consultations have indicated the need for improvement in the overall 'Operating & Regulatory Environment' indicators.

The State has initiated efforts to engage with industry stakeholders in order to explore measures aimed at promoting the logistics sector. It has successfully finalized and notified the Logistics Policy. To enhance

the efficiency of the logistics sector, the State has granted 'Industry' status upon the Logistics and Warehousing Sector and has additionally granted 'Priority Sector' status to logistics.

Furthermore, the State could further enhance its engagement with industry stakeholders and improve the dissemination of information regarding the various initiatives it has undertaken.

Initiatives undertaken by the State

1. Sector-specific industrial parks: The Odisha government is promoting rapid industrialization through investment-friendly policies and infrastructure. State has identified priority sectors, and specialized industrial parks are established across strategic sites. Prominent among them being are Seafood Park at Dera, Electronics Manufacturing Cluster at Bhubaneswar, Plastic Park at Paradeep, Aluminium Park at Angul, Technical Textile Park at Bhadrak, and Biotech Park at Andharua

2. Development of investment regions: IDCO (Industrial Development Corporation of Odisha) has set up industry investment regions in addition to sector-specific parks. Notably, the PCPIR (Petroleum, Chemicals, and Petrochemicals Investment Region) in Paradeep and KNIMZ (Kalinganagar National Investment and Manufacturing Zone) in Kalinganagar stand out as significant initiatives. The PCPIR spread over 284 square kilometres is primarily dedicated to the petroleum, chemicals, and petrochemicals sectors. IDCO has conducted a comprehensive study of the logistics within PCPIR, promptly addressing identified gaps to ensure smoother operations within this vital industrial region.

3. Development of MSME parks: The state is actively establishing MSME (Micro, Small, and Medium Enterprises) Parks in every district, aiming to support and nurture local industries. State funds are allocated to cover the development of these parks, including external infrastructure and utility connectivity, to create a conducive environment for the growth of MSMEs across the state.

4. Metal downstream parks and industrial clusters: As the mineral hub of India, Odisha has ambitious plans to establish two metal downstream parks in Jharsuguda and Kalinganagar. Additionally, the state intends to create three industrial clusters in Bhadrak, Begunia, and Kalahandi. These initiatives are part of Odisha's strategy to leverage its mineral resources & promote downstream metal processing and industrial development in these specific regions.

5. Biju economic corridor: In a bid to promote balanced development across the state, the government of Odisha is actively working on the construction of the Biju Economic Corridor. This corridor serves a dual purpose, functioning as both a road infrastructure and an economic activity corridor. Its primary focus is on fostering economic development, particularly in the less developed western and southern regions of Odisha, contributing to regional balance and growth.

6. SIDBI Cluster Development Fund (SCDF): Under this funding initiative, a total of 28 projects have been sanctioned, representing a significant investment of over INR 30 billion. These projects include upgrading key industrial parks, developing MSME Parks, constructing IDCO Towers at strategic locations, building Workers' Hostels near industrial estates/parks, creating utility corridors, and establishing dedicated water pipelines.

7. The Slurry Pipeline Development Project in Odisha, India, aims to revolutionize the transportation of iron ore by enhancing efficiency, promoting environmental sustainability, and fostering economic benefits for the State while reducing reliance on traditional transportation modes.

8. The Integrated Logistics Master Plan study has been completed for Paradip in the Jagatsinghpur and Kendrapara District, aimed at alleviating traffic congestion, and enhancing commodity/cargo movement.

2.1.8 Tamil Nadu

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

The State has retained its **Achiever** status within the Coastal Group. The State's performance in Coastal Group is evident, particularly in the Logistics Infrastructure Pillar, where State has implemented multiple initiatives like projects relating to improvement of First/ Last mile connectivity especially in industrial clusters and ports, improving MMLP development and studies to enhance various logistics infrastructure components. This performance extends to the Logistics Services and Operating and Regulatory Environment Pillars, where the State has above average performance assessment across most of the indicators as compared to Coastal Group.

Logistics Infrastructure

The user perception performance assessment for all 'Logistics Infrastructure' indicators exceeds the Coastal Group average, as indicated in the graph.

Logistics Infrastructure - Indicator-wise performance
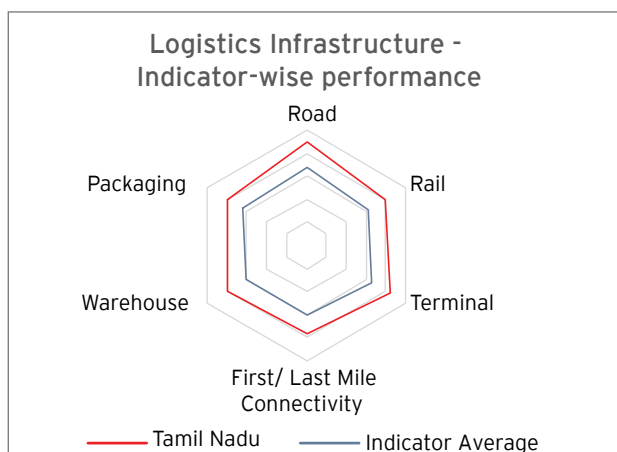
The higher perception performance assessment across the indicators is mainly due to substantial efforts made by State to enhance first and last mile connectivity, particularly in industrial clusters, ports, and logistics service areas. These efforts encompass road expansion (2,016 km under CRIDP), funding for first/last mile road connectivity to industrial clusters (via the Industrial Ecosystem Fund), development of the

Chennai Peripheral Ring Road for improved access to Ennore and Kattupalli Ports, and the establishment of centralized truck terminals/plazas at both Chennai and Tuticorin Ports. However, feedback from stakeholder consultations indicates further opportunities for improving First/Last Mile Connectivity to Chennai and Tuticorin ports.

The State has also proposed a greenfield airport at Parandur near Chennai to augment the capacity of the air cargo complex in the region. Moreover, a new rail connectivity between Guduvancheri and Avadi aims to increase rail freight traffic volume and reduce overall logistics costs that will support the domestic cargo movement for the industrial clusters situated nearby.

Furthermore, the State has initiated the development of Multi-Modal Logistics Parks (MMLPs) in Coimbatore and Mappedu, Chennai, which are expected to streamline trade and logistics operations. State is also investing in cold chain facilities, processing capabilities, and export infrastructure across several districts, including Ramanathapuram, Tuticorin, Dindigul, Theni, Ramanathapuram, Tirunelveli, and five other districts within the State

Logistics Services

As indicated the chart below, the user perception performance assessment for all 'Logistics Services' indicators, except 'Cost / Pricing of Logistics Services,' are above average as compared to Coastal Group.

Logistics Services - Indicator-wise performance
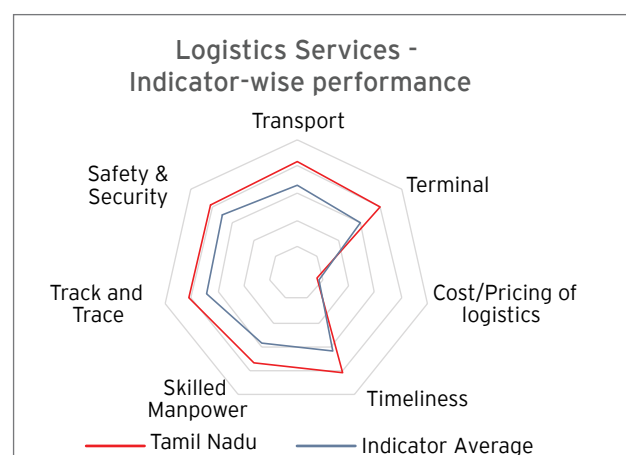
State's flagship scheme, the Naan Mudhalvan Scheme, has provided logistics courses to over 15,000 students to date. Additionally, Tamil Nadu APEX Skill Development Center (Logistics) has offered training to more than 30,000 students on various aspects related to the logistics sector. Both initiatives are

aimed at addressing skill gaps within the sector in the State. Initiatives like these have played a role in the development and improvement of logistics skills in the State which in turn have resulted in good performance assessment from the stakeholders across the indicators.

Operating & Regulatory Environment

User perception performance assessment for all the 'Operating & Regulatory Environment' indicators except for 'Grievance Redressal', is above average the mean performance assessment of Coastal States.

To encourage and facilitate the development of Logistics sector, State has undertaken multiple initiatives after having discussion with the industry stakeholders which include the notification of the Logistics Policy in March 2023. State has further granted "Industry" status to the logistics sector qualifying as per the extent of Harmonized list of infrastructure sub-sectors as approved by the Government of India, which will improve the efficiency of the sector by reducing the operating cost.

The State has extended its single-window clearance and grievance redressal mechanism to the logistics sector as well, which could enhance the perception among stakeholders. Furthermore, the State could explore additional measures to engage with stakeholders regarding the issues faced by the industry.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation / Warehousing Approvals / Ease of Entry / Grievance Redressal

—— Tamil Nadu   —— Indicator Average

<div style="background:yellow">

Initiatives undertaken by the State

Tamil Nadu Logistics Policy and Integrated Logistics Plan, outlines 50 initiatives spread over the short, medium, and long terms within a 10-year timeframe, focusing on six strategic themes.

State in collaboration with TIDCO (the Nodal Agency for Logistics), is actively promoting sustainable logistics and cost-effectiveness through various activities which include: -

1. Developing a Multi-Modal Logistics Park in Mappedu, Chennai which has been awarded to a concessionaire under a DBFOT contract.

2. Another Multi-Modal Logistics Park being developed in Coimbatore. Land has been secured, and essential studies, including the Detailed Project Report, are currently underway.

3. Feasibility study initiated to identify a high-speed rail corridor/Dedicated Freight Corridor in Tamil Nadu, catering to both passenger and freight transportation needs.

4. A Techno-Commercial Study is underway for the development of a greenfield airport in Parandur. This study includes an assessment of the potential for a greenfield air cargo complex.

5. Implementing the development of Solar-Based cold storages on a pilot basis in select districts of Tamil Nadu. These facilities aim to handle perishable commodities effectively.

6. Chennai Peripheral Ring Road project, which is aimed at reducing congestion of port-bound traffic.

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2.1.9 West Bengal

State Performance Snapshot

2023
ASPIRER

2022
ASPIRER

West Bengal is classified as an **Aspirer** in LEADS 2023. There has been an improvement in the overall perception of the state's logistics ecosystem since 2019, however, the user satisfaction levels are generally lower than the average of Coastal Group for all indicators across pillars. Looking ahead, the State could benefit from formulating a State Logistics Master Plan and State Logistics Policy to drive efficiency improvements and facilitate investments within the logistics sector and undertake consultation with the logistics stakeholders for educating and informing them about the initiatives State is undertaking for the development and improvement of logistics sector.

Logistics Infrastructure

User perception performance assessment for all 'Logistics Infrastructure' indicators are below the average of Coastal Group.

Logistics Infrastructure - Indicator-wise performance
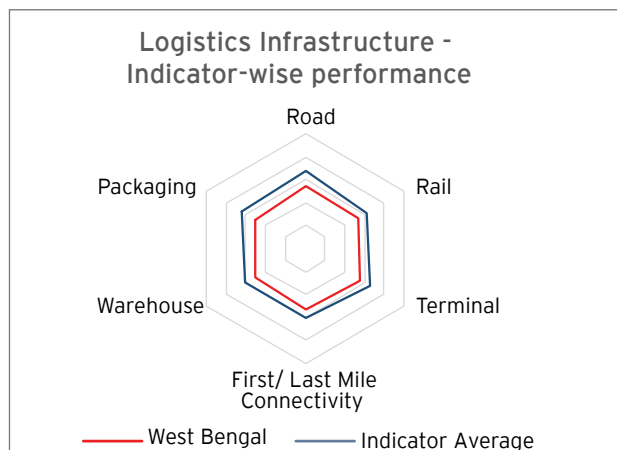
Stakeholder consultations have identified infrastructure-related observations, including the need for improving road connectivity between Kolkata and Petrapole at the Bangladesh border, enhancements in the Kidderpore Dock area, specialized packaging facilities for hazardous cargo, and barge services connecting SH-6 and NH-12 to bypass the need to enter Kolkata city limits.

State has initiative the development of Kidderpore Dock of Syama Prasad Mookerjee Port (SMP) and Tajpur port under the PPP model. Also, West Bengal Inland Water Transport, Logistics, and Spatial Development Project, supported by the World Bank, seeks to improve safety and efficiency for passenger and freight movement across the Hooghly River.

To development of logistic sector, State could also develop a comprehensive data driven Logistics Master Plan based on which further interventions could be identified.

Logistics Services

User perception performance assessment for all 'Logistics Service' indicators, except 'Cost / Pricing of Logistics Services,' are below the average of Coastal Group.

Logistics Services- Indicator-wise performance
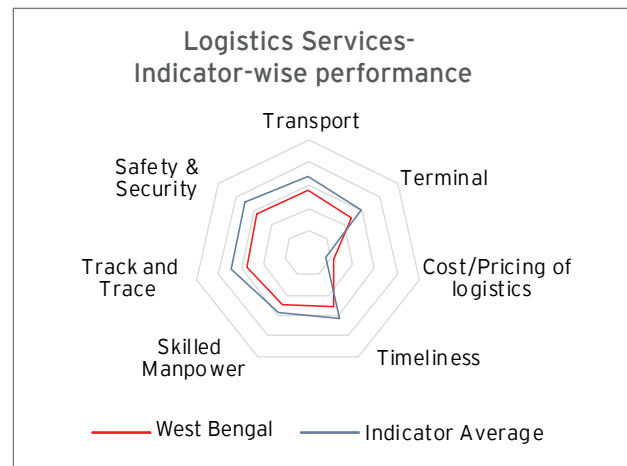
State could focus on improving the existing services by tying up with private stakeholders for devising and imparting logistics skill courses and also focus on improving the mobile connectivity across the State to enhance availability of track and trace services which in turn shall also enhance safety and security. Stakeholder consultations also emphasized the need for in-state packaging facilities for hazardous cargo.
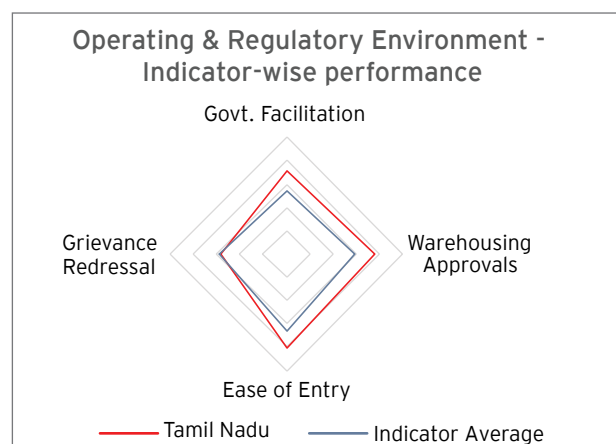
Operating & Regulatory Environment

User perception performance assessment for all 'Operating & Regulatory Environment' indicators are below the average of Coastal Group. User perception regarding ease of doing business in the logistics sector, including ease of obtaining approvals for setting up warehousing infrastructure, is low.

Stakeholder consultations highlighted delays faced by transporters due to unwarranted check-posts and RTO officials, as well as unauthorized markets on highways (SH6), which create problems for freight movement. Going forward, State could also formulate State Logistics Master Plan and State Logistics Policy to drive efficiency improvements and facilitate investment within Logistics sector The State could
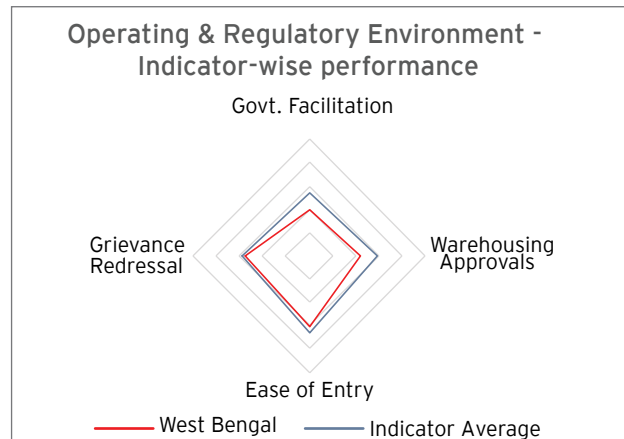
Operating & Regulatory Environment - Indicator-wise performance

West Bengal   Indicator Average

also initiate appropriate steps to enhance regulatory framework for the logistics sector, while examining initiatives implemented by other States.

Result Headlines - Coastal Group
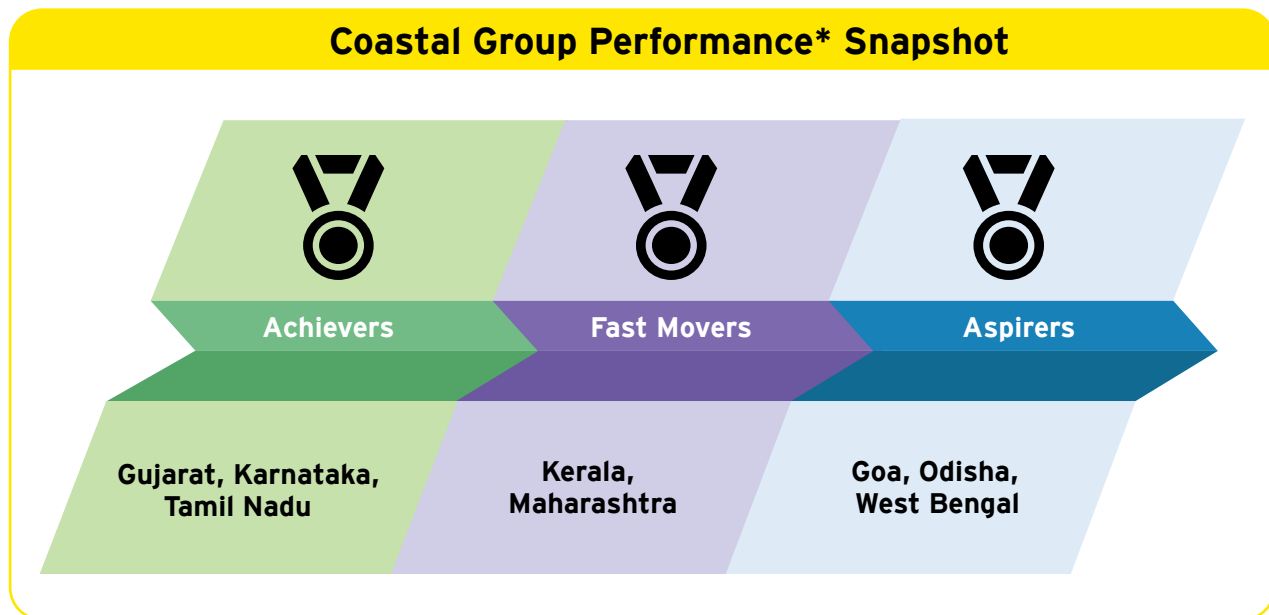
Coastal Group Performance* Snapshot

Achievers

Gujarat, Karnataka, Tamil Nadu

Fast Movers

Kerala, Maharashtra

Aspirers

Goa, Odisha, West Bengal

* States/ Union Territories within the performance categories are listed in alphabetical order.

Key Highlights

1. Operating & Regulatory Environment Pillar drives Coastal Group performance with 16% growth vis-à-vis 2019 LEADS, reflecting effective Government policies.

2. Stakeholders in the Coastal Group have indicated higher stakeholder satisfaction with Logistics Infrastructure followed by Logistics Services and Operating & Regulatory Environment in LEADS 2023.

3. Narrowing Gap between Achievers and Aspirers: Infrastructure shows most significant performance gain.

4. Perception regarding the following indicators is high across the Coastal Group:

   a. Quality of Road, First/ Last Mile Connectivity and Terminal Infrastructure

   b. Safety & Security and Timeliness of cargo delivery

   c. Ease of Entry and Warehousing Approvals

5. High stakeholder satisfaction for Terminal Infrastructure in Coastal States can be attributed to better accessibility to ports.

2.2 Landlocked Group Performance

The Landlocked Group comprises of States such as Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttar Pradesh, and Uttarakhand which together contributes to appx 36% of the country's economy[6]. Within the Landlocked Group, Uttar Pradesh, Rajasthan and Telangana rank among top 3 as per GSDP value. In 2022-23, the Landlocked States contributed to appx ~19% of the total exports from the country[7] of which Uttar Pradesh accounts for ~5% followed by Haryana with 3.5% and Telangana with 2.5% share[8].

Landlocked group's logistics performance stable, score variation across States reducing:

Group level performance assessment of States/ UTs has remained stable with varying degrees of improvement. The States are continuously working in the field of logistics infrastructure development and have introduced various policy and reform measures to support the stakeholders involved. The average scores across pillars have improved as compared to 2019. Also, there has been a reduction in variation of scores (refer figure below) of States (top v/s bottom) within the Group. In particular, the gap in the Logistics Infrastructure pillar has significantly reduced compared to 2019. This underscores the concerted efforts of States to enhance quality of infrastructure and elevate service standards throughout supply chains, all made possible by supportive policies.

Figure 11 Reduction in variation of States performance in Landlocked group

Variation in performance across Landlocked Group

| Infrastructure - 2023 | Infrastructure - 2019 | Services - 2023 | Services - 2019 | Regulatory - 2023 | Regulatory - 2019 |
| 28% | 45% | 24% | 26% | 30% | 31% |

◆ Min ◆ Max
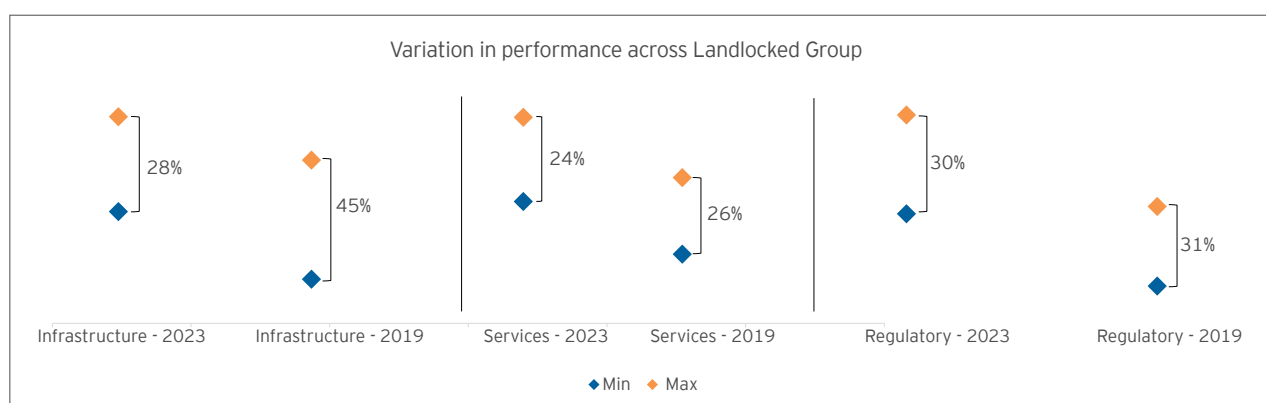
Regulatory pillar driving performance for landlocked Group: overall, perceived satisfaction of users regarding logistics ecosystem across Landlocked group States has improved vis-à-vis 2019 (refer figure alongside). Although each pillar has demonstrated progress, the Regulatory pillar has particularly excelled, exhibiting a remarkable 23% growth over this time frame. This serves as additional evidence of the joint policy and reform measures implemented by both the Central and State authorities.

Industry stakeholders have expressed their appreciation for the various initiatives undertaken by the States, including infrastructure development, the formulation of logistics policies, granting 'industry' or 'priority' status to logistics sector, and enhancing the ease of doing business in terms of regulations.

Figure 12 Increase in perception scores across LEADS pillars over 2019

Logistics Infrastructure — 15%

Logistics Services — 14%

Operating & Regulatory Environment — 23%

Growth across LEADS pillars in Landlocked group over 2019

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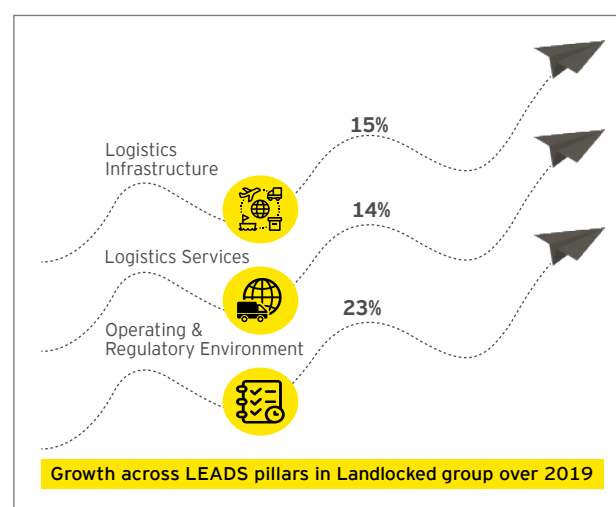
[6] based on 2022-23 or 2021-22 data : RBI Publication and PRS Legislative Research

[7] and [8] : https://dashboard.commerce.gov.in/commercedashboard.aspx

The group exhibits a peculiar characteristic of being away from gateway ports for Exim trade and hence its reliance on ICD's and hinterland logistics to reach a port (in Coastal States) is notable. It is therefore imperative for the States in group to actively consider and implement policies which will help the local manufacturers and traders be cost competitive, logistics cost being a significant composition. Easy access to ports via seamless connectivity (road, rail and waterways), faster clearances, enforcement of RTO rules via technology enabled mechanisms are a few areas the States may consider for immediate implementation. Thus, identifying gaps in existing infrastructure is a priority. Furthermore, States sharing boundaries with other countries also need to emphasize of efficient connectivity to the Land Ports,

provision of required facilities (truck parking terminals, rest areas, feeder road connectivity to the land ports, etc.) and coordinate with Central agencies on efficient functioning of the terminal. A deeper industry connect and reach-out may provide insights and actionable pointers to improve trade facilitation and address market demand.

Similar to the Coastal group, user perception for Landlocked group is also driven by Quality of Logistics Services. Individual pillar wise analysis further reveals that logistics infrastructure and logistics services are closely linked and that the user feedback is more influenced by the services pillar in the group. As a result, the user performance assessment across both the pillars moves in tandem (v/s 2019).

Logistics Infrastructure – Quality of Roads and Terminals perceived to be good: As per LEADS 2023 survey, user satisfaction levels are highest for Services followed by Infrastructure and then comes Operating & Regulatory Environment. Within the Logistics Infrastructure pillar (refer figure alongside), States endorse varying degrees of improvement as compared to 2019 with Telangana, Uttar Pradesh, and Punjab leading the Group in terms of absolute user perception scores. Users have indicated a higher level of satisfaction with respect to Road, Rail and Terminal Infrastructure in general across the Group. Stakeholder's perception of logistics ecosystem in the Group is mainly driven by the availability of Terminal Infrastructure and Adequacy of Rail Infrastructure within the State. For e.g., improvement in the quality of roads and availability of railways and ICD's have helped improve the user satisfaction of Telangana, Uttar

Pradesh, and Punjab. Telangana and Uttar Pradesh in particular has been lauded for quality infrastructure coupled with business-friendly policies. Bihar, Himachal Pradesh, Jharkhand, and Chhattisgarh on the other hand have received low perception scores for the pillar, emphasizing need for accelerated reforms and policy push to improve logistics ecosystem.

Analysis of LEADS 2023 survey user data further reveals that across States, majority of the users are satisfied with logistics ecosystem. On a scale of 1 to 5 (1 being Very poor and 5 being Very good), the figure alongside presents percentage of users who have responded 3 or more in LEADS survey. As indicated earlier First/Last mile connectivity and Quality of Roads have received highest satisfaction levels in the survey with nearly 88% and 86% users responding positively, followed by Quality of Terminal

Figure 13 Performance assessment of Landlocked Group in Logistics Infrastructure – 2023 v/s 2019
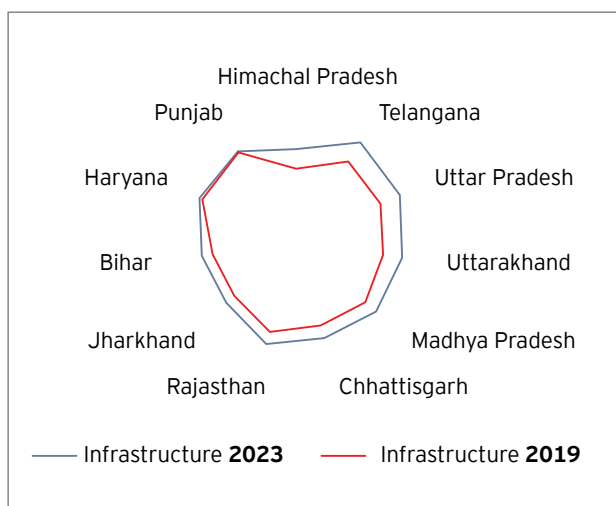
Figure 14 No. of users who perceived Logistics Infrastructure as 3 or more out of 5

86% Road
79% Rail
81% Terminal
88% First/Last Mile Connectivity
63% Warehouse
66% Packaging
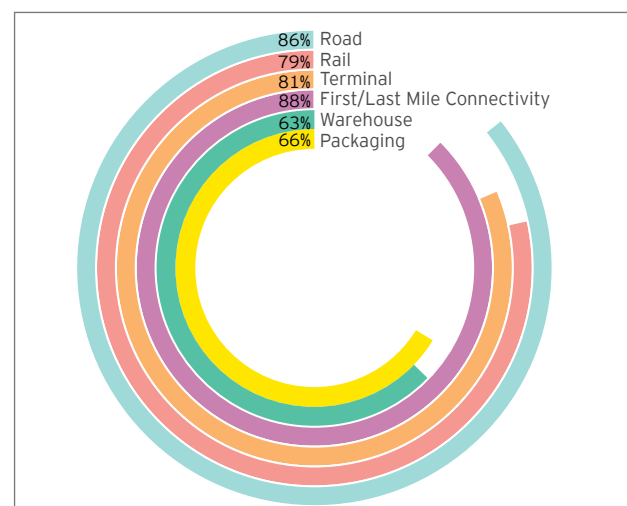
Infrastructure with 81% and very closely by Quality of Rail with 79%. Comparatively Warehousing and Packaging have received the low satisfaction with only

63% and 66% user responses respectively, indicating an area of improvement.

Logistics Services – Safety and Security, Quality of Transport Services, and Availability of Track & Trace Services perceived to be good: Stakeholders have assessed Logistics Services pillar as highest within the Landlocked group pillars with Logistics Infrastructure pillar next to it. This indicates established logistics ecosystem with a high degree of adaptability and customization as per customer needs. Similar to Logistics Infrastructure pillar, Logistics Services pillar (refer figure alongside) also follow the same trend with Telangana, Uttar Pradesh and Punjab leading the

satisfaction levels in the survey with nearly 94% and 93% users respectively responding positively, followed by Timeliness of Cargo Delivery with 92% users and Skilled Manpower with 90% user satisfaction. Scope of improvement in the Quality of Transport Services and Quality of Terminal Services is required within the Group as the satisfaction levels have been reported at 74% and 77% respectively. Cost/pricing of logistics is the only indicator wherein less than 60% users are satisfied and thus has been identified as an area of improvement.

Figure 15 Performance assessment of Landlocked Group in Logistics Services – 2023 v/s 2019

Figure 16 No. of users who perceived Logistics Services as 3 or more out of 5
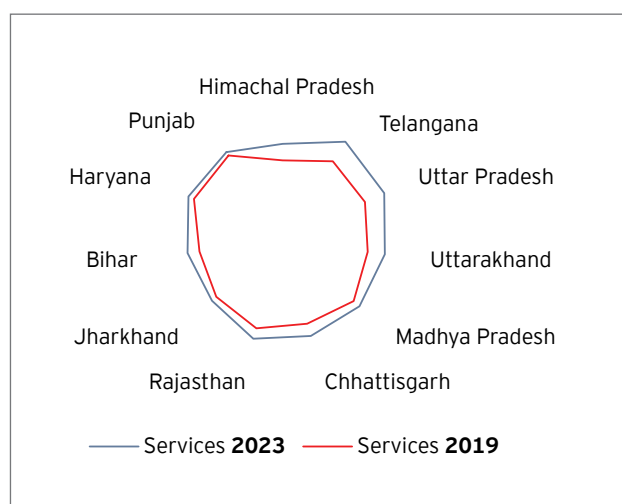
group followed by Haryana. Within Services pillar, users are more satisfied with Safety & Security of Cargo, Track & Trace Services, Quality of Transport Services, and Timeliness of Cargo Delivery compared to other Service indicators. Himachal Pradesh, Chhattisgarh, Jharkhand, and Bihar have received low perception scores for the Logistics Services pillar within the Landlocked group.

Data analysis of LEADS 2023 survey reveals that across States, in Logistics Services too majority of the users are satisfied with logistics ecosystem similar to Logistics Infrastructure. The figure alongside presents percentage of users who have responded 3 or more in LEADS survey. As shown in the chart, Safety & Security and Track & Trace has received highest

Operating & Regulatory Environment – improvement across the States: There has been a noticeable positive shift in user perception regarding the Operating and Regulatory environment across the States within the group. User perception in 2023 has improved by 23% compared to 2019. Industry stakeholders have expressed their appreciation for various policies and initiatives undertaken by the State Governments. States like Telangana and Uttar Pradesh have received recognition for their industry engagement, feedback outreach, and alignment of policies with industry needs. However, the average user satisfaction regarding the Operating and Regulatory Environment within the Landlocked group as a whole is perceived to be lower compared to Logistics Infrastructure and Logistics Services within the group.

Telangana and Uttar Pradesh have received high assessments in the Grievance Redressal mechanism. Overall, Telangana leads in this pillar, followed by Uttar Pradesh and Punjab. Rajasthan and Haryana have also been rated favourably by stakeholders, with room for improvement in their Grievance Redressal mechanism. Within the group, users have rated Telangana as one of the most preferred states from an overall logistics ease perspective.

The data analysis of the LEADS 2023 survey reveals that, across States, in the Operating & Regulatory environment, the while majority of users are satisfied with aspects such as Ease of Entry, Warehouse Approvals, and Government Facilitation, grievance redressal is an area of improvement.Ease of entry,

Warehouse Approvals and Government Facilitation have received satisfaction levels of nearly 84%, 72%, and 68%, respectively from users. Grievance Redressal similar to the Coastal group has been identified as an area in need of improvement, with only 24% of users responding positively in terms of satisfaction.

States such as Chhattisgarh, Bihar, Jharkhand, Himachal Pradesh, and Uttarakhand have highlighted the need for increased consultations and outreach between the State Government and industry stakeholders. This is necessary to better understand on-the-ground issues, identify solutions, and effectively communicate key government policies and initiatives.

Figure 17 Performance assessment of Landlocked Group in Operating and Regulatory Environment– 2023 v/s 2019
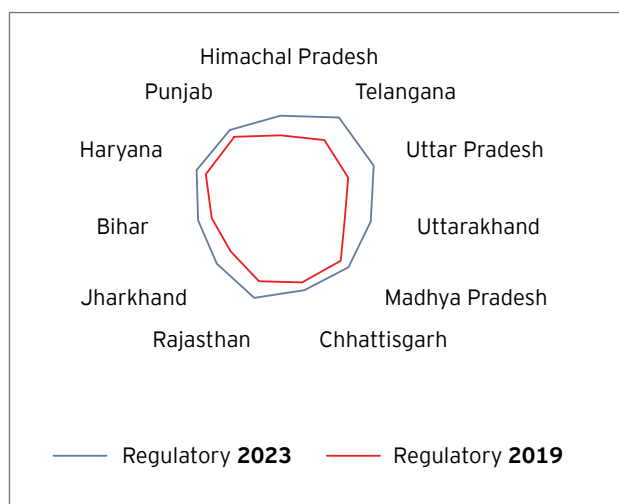
Figure 18 No. of users who perceived Operating & Regulatory Environment as 3 or more out of 5
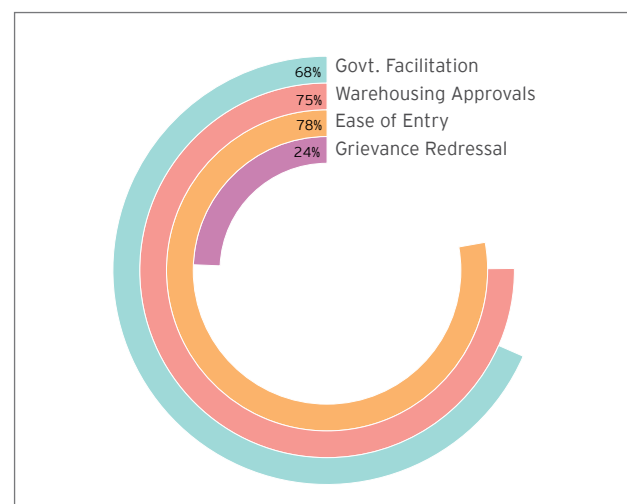
Landlocked group performance in LEADS 2023 – pillar wise

Figure 19 Pillar wise logistics performance analysis of Landlocked Group
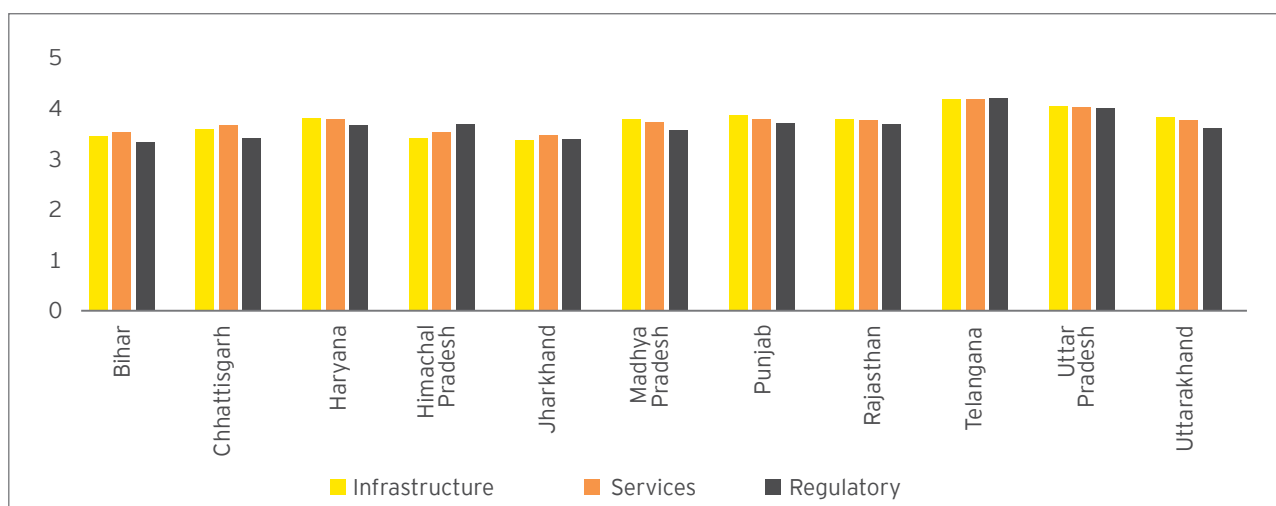
Logistics Infrastructure:

Users have a higher level of satisfaction with Road and Rail Infrastructure compared to other infrastructure indicators listed in the table above. User perception regarding Warehousing Infrastructure, First / Last Mile Connectivity and Terminal Infrastructure is below average score of Logistics Infrastructure pillar (refer heat map below).

From an individual State perspective, user perception scores of all Infrastructure indicators for UP, Telangana and Punjab are above the indicator average score within Landlocked States Group while perception scores for one or more indicators are below indicator average score for balance states e.g., in case of Haryana, perception scores are above average for all indicators except quality of First / Last mile Connectivity.

As mentioned in Coastal State Group commentary, overall user satisfaction level with quality of Terminal Infrastructure within Landlocked State Group lower compared to Coastal States Group. Additionally, Landlocked States Group has a higher incidence of States with below average score for Warehousing Infrastructure.

Table 6 Landlocked Group – Logistics Infrastructure indicator wise perception score heatmap

Pillar	Indicators	Bihar	Chhattisgarh	Haryana	Himachal Pradesh	Jharkhand	Madhya Pradesh	Punjab	Rajasthan	Telangana	Uttarakhand	Uttar Pradesh
Logistics Infrastructure	Road	Below	Below	Above	Below	Below	Above	Above	Above	Above	Above	Above
	Rail	Below	Below	Above	Above	Below	Below	Above	Above	Above	Above	Above
	Terminal	Below	Below	Above	Above	Below	Above	Above	Above	Above	Above	Above
	First/ Last Mile Connectivity	Below	Below	Below	Below	Below	Above	Above	Below	Above	Above	Above
	Warehouse	Below	Below	Above	Below	Below	Below	Above	Below	Above	Below	Above
	Packaging	Below	Below	Below	Below	Below	Above	Above	Below	Above	Above	Above

              ■ Above Average ■ Below Average

Logistics Services:

Within Services pillar, users are more satisfied with Track & Trace Services, Transport Services and Safety & Security of Cargo compared to other Service indicators. Perception regarding availability of Skilled Manpower, Terminal Services and Cost / Pricing of Logistics Services is below the average score for Logistics Services pillar (refer heat map below).

From an individual State perspective, user perception scores of all Service indicators for Uttar Pradesh is above indicator average score for Landlocked States Group while perception scores for one or more indicators are below indicator average for balance states e.g. in case of Telangana, perception scores are above indicator average for all indicators except Cost / Pricing of Logistics services.

Table 7 Landlocked Group – Logistics Services indicator wise perception score heatmap

Pillar	Indicators	Bihar	Chhattisgarh	Haryana	Himachal Pradesh	Jharkhand	Madhya Pradesh	Punjab	Rajasthan	Telangana	Uttarakhand	Uttar Pradesh
Logistics Services	Transport	Below	Above	Above	Above	Above	Above	Above	Above	Above	Below	Above
	Terminal	Below	Above	Above	Above	Above	Above	Below	Above	Above	Above	Above
	Cost/Pricing of logistics	Above	Below	Above	Above	Above	Above	Above	Above	Above	Below	Above
	Timeliness	Below	Above	Above	Above	Above	Above	Above	Above	Above	Above	Above
	Skilled Manpower	Below	Above	Above	Above	Above	Above	Above	Below	Above	Above	Above
	Track and Trace	Below	Above	Above	Above	Above	Below	Above	Below	Above	Below	Above
	Safety & Security	Below	Above	Above	Above	Above	Below	Above	Above	Above	Below	Above

Above Average ▢   Below Average ▢

Operating & Regulatory Environment:

Within the Operating & Regulatory Environment pillar, users are more satisfied with Ease of Entry and warehousing approvals indicators compared to other indicators in this pillar (refer heat map below). From an individual State perspective, user perception scores of all Operating & Regulatory Environment indicators for Telangana, UP and Punjab are above indicator average while perception scores for one or more indicators are below indicator average for balance states e.g. in case of Haryana, perception scores are above indicator average for all indicators except Grievance Redressal.

Table 8 Landlocked Group – Operating & Regulatory Environment indicator wise perception score heatmap

Pillar	Indicators	Bihar	Chhattisgarh	Haryana	Himachal Pradesh	Jharkhand	Madhya Pradesh	Punjab	Rajasthan	Telangana	Uttarakhand	Uttar Pradesh
Operating & Regulatory Environment	Govt. Facilitation	Below	Below	Above	Above	Below	Above	Above	Above	Above	Below	Above
	Warehousing Approvals	Below	Below	Above	Below	Above	Above	Above	Above	Above	Below	Above
	Ease of Entry	Below	Above	Above	Below	Above	Below	Above	Above	Above	Above	Above
	Grievance Redressal	Below	Above	Below	Above	Above	Above	Above	Below	Above	Above	Above

Above Average ▢   Below Average ▢

LANDLOCKED STATES

2.2.1 Bihar

State Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Bihar has been categorized as an **Aspirer** in LEADS 2023.

The State has undertaken multiple initiatives to improve its logistics eco-system which include preparation of logistics policy which is in finalization stage. Further to improve the existing infrastructure, the State has also commenced preparation of a Logistics Master Plan.

Logistics Infrastructure

As shown in the chart, the user perception assessment for all 'Logistics Infrastructure' indicators is below the Landlocked States' average mean assessment.

Logistics Infrastructure - Indicator-wise performance
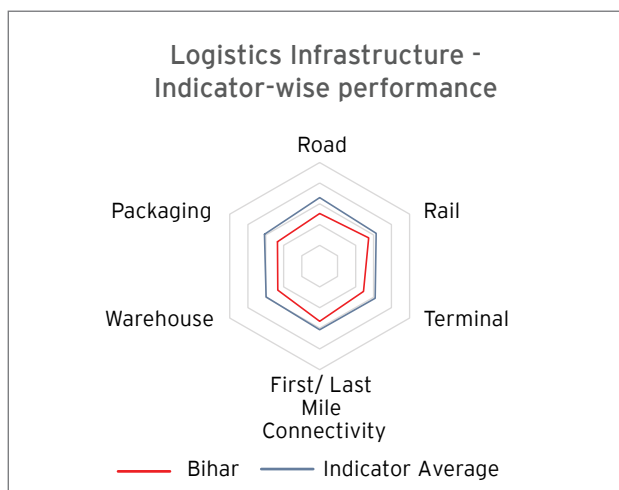
To address logistics infrastructure related challenges, the State has already prepared a draft Logistics Masterplan identifying gaps and finalise strategies to mitigate them. Further, the State has launched several projects aimed at enhancing infrastructure, including

proposal for establishing two new ICDs in Muzaffarpur and Bhagalpur, planning for development of a new air cargo facility at Gaya airport and strengthening road infrastructure throughout the state to improve connectivity.

These measures should collectively address concerns raised by stakeholders and shall significantly enhance the efficiency of the State's logistics ecosystem.

Logistics Services

As presented in the chart below, user perception assessment for all the 'Logistics Service' indicators, except for 'Cost / Pricing of Logistics Services' is below the average of Landlocked Group.

Logistics Services - Indicator-wise performance
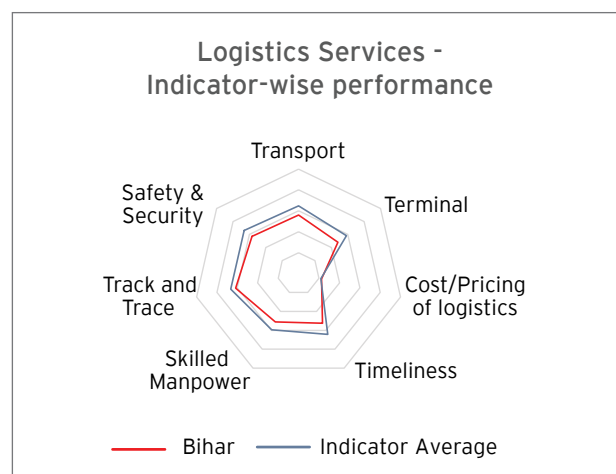
Stakeholder interactions have identified the need for Availability of Skilled Manpower as an area of immediate attention, To address this gap, Bihar Skill Development Mission (BSDM) has already undertaken training programmes related to logistics domain. Department is also providing training on a variety of logistics sector related skills which may help bridge skilling gaps.

The State may explore possibility of engaging private partners in creating and offering logistics skill courses that align with industry needs, aiming to enhance services across the sector.

Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicator is below the average performance assessment of Landlocked Group. User satisfaction regarding 'Grievances Redressal', and 'Ease of Entry' is higher compared to 'Governments Role' and 'Ease of Obtaining Approvals'.

The State Government is taking multiple initiatives to streamline freight movement within and through the state. To encourage and facilitate the development of the logistics sector, State has undertaken multiple stakeholder consultations to understand the challenges of the stakeholders and identify key improvement areas and is in the process of finalizing it logistics policy. State could also focus on effectively communicating and educating the stakeholders about the various initiatives undertaken by the State.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation
Warehousing Approvals
Ease of Entry
Grievance Redressal

—— Bihar   —— Indicator Average
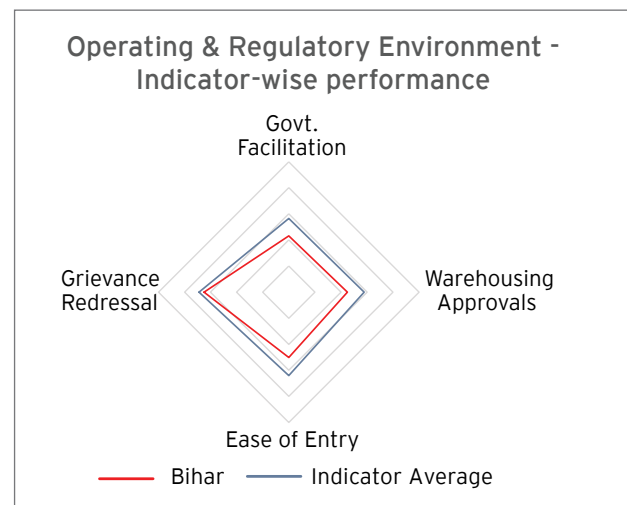
Initiatives undertaken by the State

Dedicated Department for Logistics

As per the Draft Logistics Policy, State shall establish a specialized logistics division led by a Director level or Higher Officer within the Department of Industries. This logistics division will play a crucial role in enhancing coordination among various departments, including civil aviation, transport, power, food and agriculture, and related sectors, to facilitate the development of Logistics infrastructure within the State.

2.2.2 Chhattisgarh

State Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Chhattisgarh has been categorized as an **Aspirer** in LEADS 2023.

There has been significant improvement in the overall perception of the State when compared to LEADS 2019. To improve and enhance logistics efficiency State has notified its logistics policy and has initiated operationalization of various initiatives under State's 'Industrial Policy 2019-2024'.

Logistics Infrastructure

As presented in the chart, user perception assessment across all the 'Logistics Infrastructure' indicators is below the average performance assessment of Landlocked Group.

Logistics Infrastructure - Indicator-wise Performance
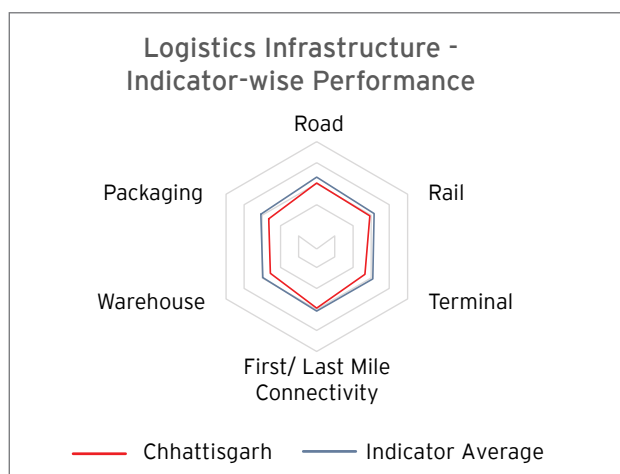
Insights from stakeholder consultations have highlighted the need for improving connectivity and terminal infrastructure within the State. To address this and further identify infrastructural gaps across logistics sector the State may deepen its industry reachout program in collaboration with releavant stakeholders and formulate a Logistics Master Plan. The plan would be helpful in devising a comprehensive framework for identifying and executing specific interventions for an efficient logsitics ecosystem.

Logistics Services

As presented in the chart, user perception assessment for all the 'Service' indicators is below the average Landlocked Group.

The State has potential to improve its current services by exploring possibilities of partnering with private stakeholders to design and offer logistics skill courses to meet the existing industry demand. Additionally, improving mobile connectivity throughout the state will boost the availability of track and trace services, ultimately enhancing safety and security.

Logistics Services - Indicator-wise performance
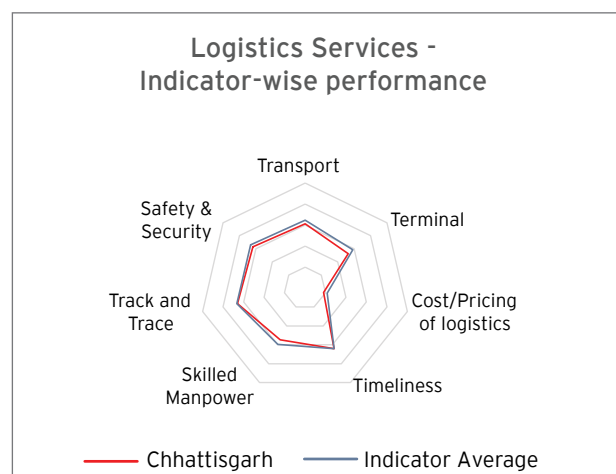
Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators, except 'Grievances Redressal' is below average of Landlocked states. User satisfaction regarding 'Grievances Redressal', and 'Ease of Entry' is higher compared to 'Governments Role' and 'Ease of Obtaining Approvals'.

Operating & Regulatory Environment - Indicator-wise performance
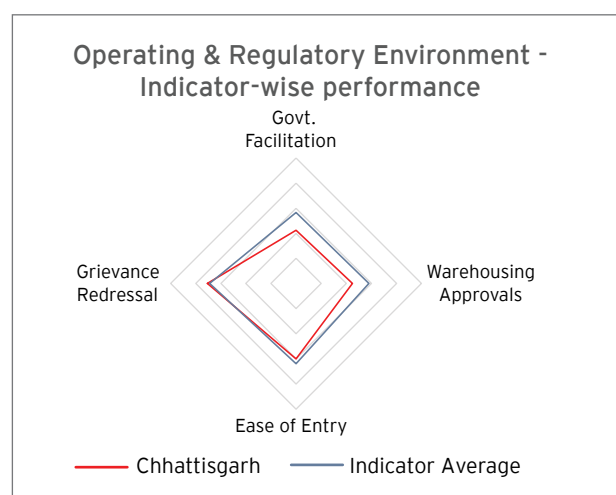
The State could also initiate appropriate steps to enhance regulatory framework for the logistics sector, while examining initiatives implemented by other States. State could also focus on effectively communicating and educating the stakeholders about the various initiatives undertaken by the State including the provisions provided in the logistics policy.

2.2.3 Haryana

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

Haryana has maintained its **Achiever** category within the Landlocked Group.

The State has demonstrated above average performance across all infrastructure indicators within the Landlocked Group. Haryana has initiated multiple initiatives to enhance its logistics efficiency including notification of State Logistics policy, 'Industry' status to logistics and implementation of multiple infrastructure projects, the effect of which has been reflected in the State's overall performance.

Logistics Infrastructure

As presented in the chart, user perception assessment across all the 'Logistics Infrastructure' indicators except 'First / Last mile connecitvity' and 'Availability of Packaging Services' is above the average of Landlocked Group.

Logistics Infrastructure - Indicator-wise performance
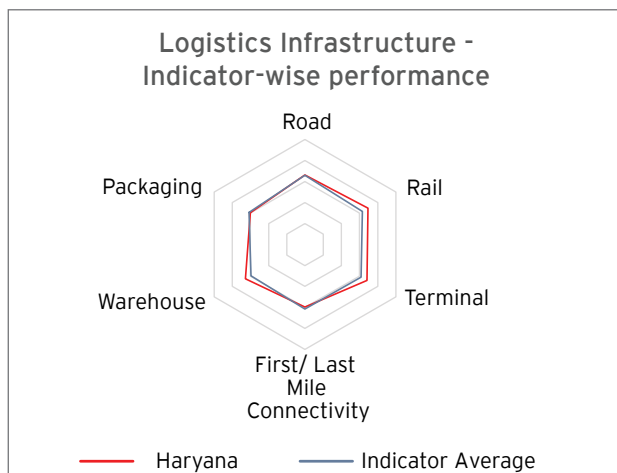
Inputs received from stakeholder discussions indicate a potential for enhancing the quality of First/Last-Mile Connectivity, especially to industrial zones like Gurugram, and ICD Pali.

To further improve the logistics infrastructure within the State, several projects related to road resurfacing and repairs connecting multiple ICDs and industrial areas have been initiated. Additionally, the section from Rewari to Narnaul outer bypass, linking Rewari and Bawal, is now operational. These developments will further improve the quality of roads within the State.

In collaboration with relevant stakeholders, the State could also develop a Logistics Master Plan to comprehensively address infrastructural gaps within the logistics sector. This plan will serve as a roadmap for implementing targeted interventions identified in the masterplan.

Logistics Services

As presented in the chart, user perception assessment for all the 'Logistics Services' indicators, except for 'Availability of Track & Trace Services' and 'Safety / Security of Cargo'', is above average of Landlocked Group. Stakeholder interactions indicated scope of improvement in Skilled Manpower sector.

Logistics Services - Indicator-wise performance
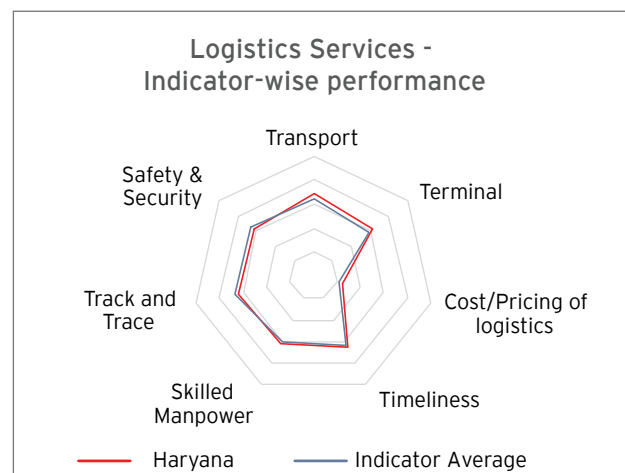
To address the gaps identified by the stakeholders, State Government has devised a plan to increase safety measures by implementing facial recognition cameras throughout the State. In addition, CCTV cameras have already been set up along all major routes to enhance security.

Further, to improve Logistics Services and address the skill gaps, State has initiated the efforts to bridge skilling gaps. State Government has tied up with various institutions and has adopted a PPP model for skilling within the State.

Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators, except for 'Grievances Redressal', is above the mean of Landlocked States.

User satisfaction regarding 'Grievances Redressal' system within the State is below the Group average.

To enhance the regulatory framework for the logistics sector, the State should examine initiatives from other states. Additionally, prioritizing effective communication and stakeholder education is crucial to ensure that stakeholders are well-informed about the State's various initiatives, including those detailed in the logistics policy.

Operating & Regulatory Environment - Indicator-wise performance

Legend: Haryana | Indicator Average

Axes: Govt. Facilitation, Warehousing Approvals, Ease of Entry, Grievance Redressal
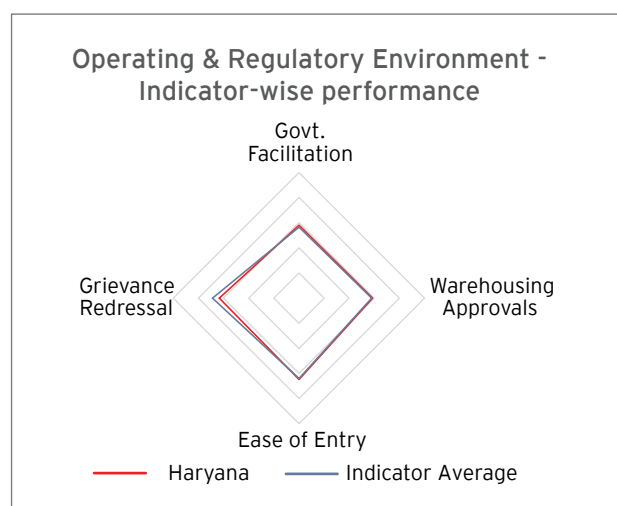
2.2.4 Himachal Pradesh

State Performance Snapshot

| 2023 **ASPIRER** | 2022 **ACHIEVER** |

Himachal Pradesh has been categorized as an **Aspirer** in LEADS 2023.

State has initiated multiple initiatives for overall improvement in the logistics sector which include the notification of its logistics policy. To further enhance logistics and warehousing efficiency, State has granted 'Industry' status to the Logistics and Warehousing sector.

Logistics Infrastructure

As presented in the chart, user perception assessment across all the 'Logistics Infrastructure' indicators is below the average mean performance assessment of Landlocked States. Inputs received from stakeholder consultations indicate that there may be scope for improving quality of Rail connectivity, quality of Road infrastructure and Terminal infrastructure within the State.

Logistics Infrastructure - Indicator-wise performance
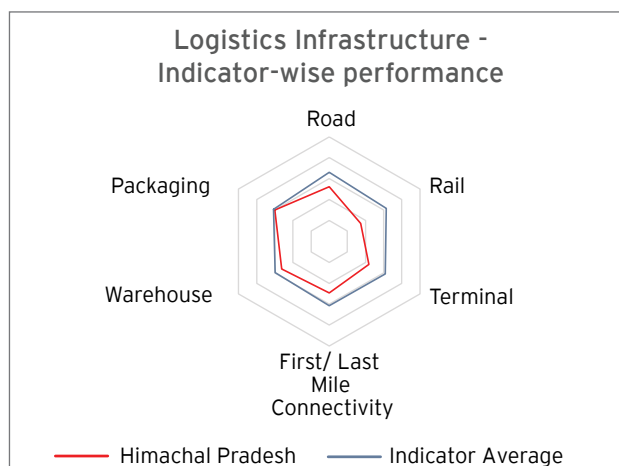
To address these challenges, the State Government has proactively identified and initiated multiple projects aimed at improving logistics infrastructure. These initiatives include:

i. Expansion of Gaggal airport, which will incorporate an Air Cargo complex.

ii. Development of transport nagar/truck terminals throughout the State.

iii. Establishment of a dedicated land bank for logistics infrastructure to facilitate the setup of transportation and warehousing facilities.

iv. Construction of Cold Storage facilities and promotion of reefer vehicles for transporting horticulture produce.

v. Development of City Logistics plans for key cities including Shimla, Dharmshala, Baddi, Barotiwala, and Nalagarh.

Furthermore, to support the development of logistics infrastructure in the capital city of Shimla, the city's municipal corporation has prepared a Low Carbon Action Plan for managing urban freight movement within the city.

Logistics Services

As presented in the chart, user perception assessment for all the 'Logistics Service' indicators, is below the mean performance assessment of Landlocked States.

Logistics Services - Indicator-wise performance
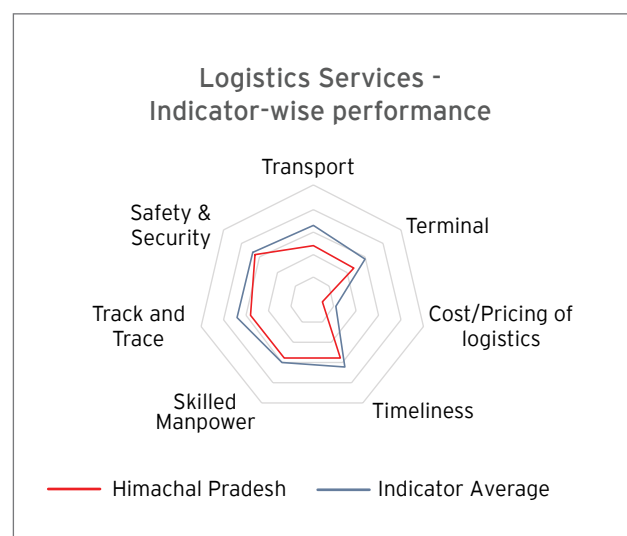
Stakeholder consultation identified 'Quality of Terminal Services', 'Quality of Transport Services', 'Availability of Skilled Manpower' as areas of improvement.

To address skilling gaps, various agencies of the State Government are involved in undertaking training programmes related to logistics domain under Himachal Pradesh Kaushal Vikas Nigam. Additionally, the State has undertaken a route optimization study for warehouses of Food Civil Supplies and Consumer Affairs Department across the State to optimise delivery time to the destination and reduce logistics costs.

Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators, except for 'Government Facilitation' are below the average of Landlocked Group.

Operating & Regulatory Environment - Indicator-wise performance

— Himachal Pradesh   — Indicator Average
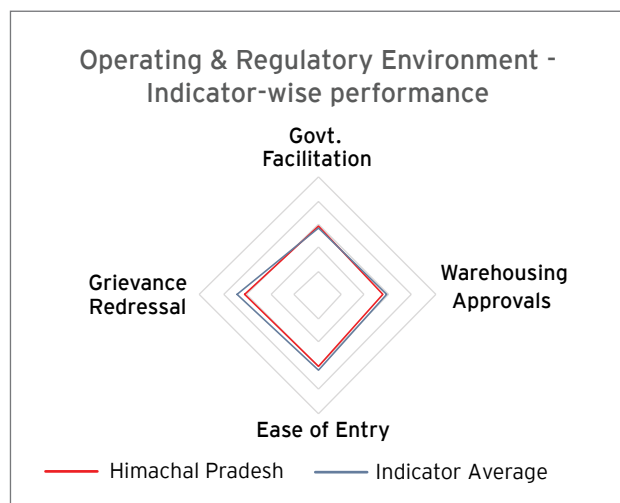
State Government has established Himachal Pradesh Single Window System ('Emerging Himachal') for all types of Approvals / NoC's and as well as a grievance redressal mechanism on the Himachal Pradesh Single Window System.

The State could collaborate with industry stakeholders to enhance the effectiveness of the existing grievance redressal mechanism. It should also work on the development of a monitoring system for grievance redressal to further enhance stakeholder perceptions.

State could conduct consultations with stakeholders to gain on-the-ground feedback and assess the effectiveness of policy initiatives. These measures, collectively, could not only address stakeholders' observations but also contribute to enhancing the efficiency of the logistics ecosystem within the State.

Initiatives undertaken by the State

1. **Low carbon action plan for urban freight:** The Himachal Pradesh Government is taking significant strides toward its goal of transforming the state into an environmentally friendly destination. They have embarked on an ambitious mission to establish Himachal Pradesh as a 'Model State for Electric Vehicles' through a carefully phased approach. This initiative aims to encourage the adoption of electric vehicles (EVs) by offering incentives for their purchase and establishing a robust EV charging infrastructure.

2. **Logistics cost assessment for Baddi:** The overarching goal of evaluating export logistics costs is closely tied to the broader vision outlined in the National Logistics Policy. This vision seeks to lower logistics expenses in India, ultimately making them competitive with global benchmarks by the year 2030. One of the key strategies to realize this vision involves enhancing transportation methods by transitioning toward a more cost-effective and sustainable mix of modalities. Additionally, improving the efficiency of transportation systems will be pursued through the development of interconnected multimodal infrastructure networks.

3. **Dedicated land bank for logistics Infrastructure:** The state government has placed a particular emphasis on the development of logistics infrastructure. These incentives and efforts align with the Himachal Pradesh Industrial Investment Policy of 2019. In addition, the establishment of transportation and warehousing zones at strategic locations is part of a comprehensive strategy aimed at improving the overall logistics landscape within the state.

4. **Develop Himachal Pradesh as a Green Energy State by March 2026:** The State of Himachal Pradesh is committed to transforming into a Green Energy State by March 2026. In the initial phase of this endeavour, the state has identified six National and State Highways to be developed into Green Corridors specially designed for electric vehicles (EVs).

5. Route optimization for food distribution to warehouses across the state: The implementation of route optimization techniques is a crucial step in simplifying the intricate process of food distribution to warehouses and fair price shops situated in the challenging hilly terrains of the state. The state has strategically identified key logistics assets, including warehouses and transport hubs, which will play a pivotal role in storing and transporting essential commodities, including food. This approach will enable the efficient utilization of the Hub and Spoke model, guaranteeing not only timely deliveries to major cities and towns but also extending to remote regions of the state. Moreover, this system can prove to be invaluable during periods of natural disasters and emergencies.

6. Formation of Controlled Atmosphere (CA) and Cold Storage facilities and promotion of reefer vehicles for transporting horticulture produce in the state: This initiative has been instrumental in creating comprehensive cold chain infrastructure, spanning from the farm gate to the end consumer. This holistic approach aims to minimize the wastage of perishable items such as fruits and vegetables while ensuring their punctual delivery through a well-equipped supply chain. This development empowers farmers, entrepreneurs, and businesses to plan their operations more effectively. Both the central and state governments have introduced several funding schemes to support this endeavour. The expansion of CA and cold storage facilities has been particularly beneficial to apple farmers, enabling them to preserve the quality of their produce, thus reducing wastage and damage.

2.2.5 Jharkhand

State Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Jharkhand has been categorized as an **Aspirer** in LEADS 2023.

The State has achieved below-average scores across all indicators, encompassing infrastructure, services, and operating and regulatory categories. However, perception regarding overall performance of logistics eco-system within the State has consistently improved since LEADS 2019 across all three pillars.

To further improve the logistics ecosystem, State has taken various proactive measures to which include notification of its State Logistics & Warehousing policy in October 2022.

Logistics Infrastructure

As presented in the chart, user perception assessment across all the 'Logistics Infrastructure' indicators is below the average of the Landlocked Group. Inputs received from stakeholder consultations indicate that there may be scope for improving connectivity to major seaports of the country by developing required terminal infrastructure within the State.

Logistics Infrastructure -
Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

— Jharkhand   — Indicator Average
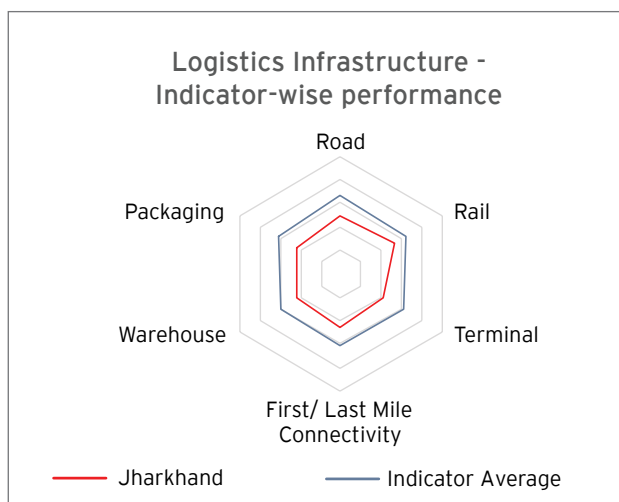
To mitigate the issues faced by stakeholders, State has proactively identified and / or initiated multiple projects for improving logistics infrastructure which include construction of Logistics Park at Nirsa in Dhanbad, development of Transport Nagar in Ranchi, and construction of road development work from State highway to Industrial compound Kulhi, Ranchi to support development of logistics infrastructure across the State.

Moreover, Jharkhand is in process of setting up a dedicated hub/parking terminal at Sukurhutu.

Further, to support the comprehensive development of logistic sector beyond above mentioned developments, State may develop a data driven Logistics Master Plan based on which further interventions could be identified.

Logistics Services

As presented in the chart, user perception assessment for all the 'Logistics Services' indicators, is below the average performance of Landlocked States.

Logistics Services -
Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

— Jharkhand   — Indicator Average
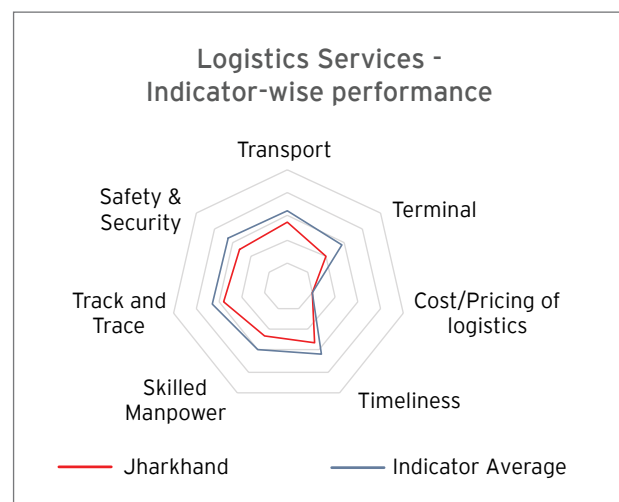
Stakeholder interactions identified 'Cost/Pricing of Logistics Services', 'Availability of Skilled Manpower' and 'Quality of Terminal services' where improvements can be made.

To address skilling gaps as highlighted by the stakeholders, State Government has involved various agencies in undertaking training programmes related to logistics domain. As on date, 108 motor driving courses have been instituted in last 1 year in Jharkhand to improve the quality of drivers in the State.

Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators, is below the average score of Landlocked States.

To encourage and facilitate development of logistics sector, State has notified its Logistics & Warehousing policy in October 2022. The State should consider enhancing the regulatory framework for the logistics sector by studying successful initiatives in other states. It should also prioritize clear communication and education for stakeholders, ensuring they are well-informed about various State initiatives, including the provisions outlined in the logistics policy.

Operating & Regulatory Environment - Indicator-wise performance

— Jharkhand   — Indicator Average
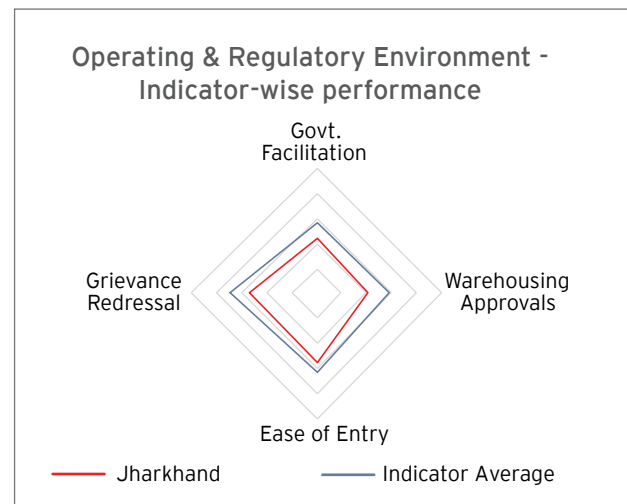
Initiatives undertaken by the State

1. **Green energy initiative:** To establish India's first cutting-edge manufacturing facility for producing hydrogen internal combustion engines and related technologies, including battery systems and fuel-agnostic engines. This project is designed to reduce carbon emissions and facilitate India's transition toward achieving net-zero emissions.

   The initiative also highlights Jharkhand's unwavering pledge to realize the nation's 2070 net-zero aspiration and lead in climate change mitigation and green energy, India will be among the first markets to receive Cummins' H2-ICE engine, which will significantly contribute to the adoption of hydrogen-powered vehicles in India, particularly within the heavy trucking sector.

   Expected outcomes

   1. With an investment exceeding INR 3500 million in the pipeline, Tata Motors and Cummins India will focus on producing innovative fuel-agnostic powertrain solutions. This investment reflects a substantial stride towards embracing future-oriented clean energy technologies.

   2. As a non-toxic element, hydrogen emits no harmful pollutants when burned, generating only water as a clean by-product.

   3. This effort establishes India as a key player in adopting hydrogen technology for transportation, aligning with global climate change mitigation and sustainable mobility goals.

2.2.6 Madhya Pradesh

State Performance Snapshot

2023	2022
FAST MOVER	**FAST MOVER**

Madhya Pradesh has been categorized as a **Fast Mover** in LEADS 2023.

The State has an existing logistics policy, which is undergoing revision to align with the evolving logistics landscape. In addition, the Investment Promotion Assistance (IPA) scheme is offering incentives to subsidize hinterland cost of logistics for exports, while multiple infrastructure projects are being implemented.

Logistics Infrastructure

As presented in the chart user perception assessment across all 'Logistics Infrastructure' indicators, except for 'Quality & Adequacy of Rail Infrastructure' and 'Availability of Warehouse Infrastructure' is above the average performance of landlocked States.

Logistics Infrastructure - Indicator-wise performance
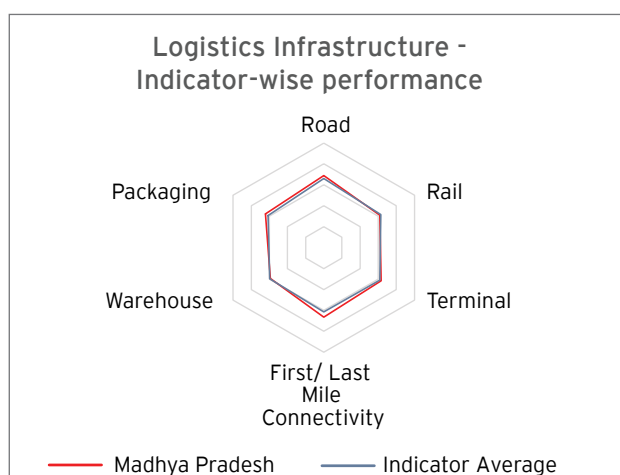
Stakeholders' feedback from consultations highlights opportunities for improvement in warehouse quality and the establishment of trucking parking facilities. There is also a need for enhanced road quality, particularly for access to ICD Mandideep

and the Malanpur Industrial Estate. To address these challenges and meet stakeholder demands, the State has sanctioned projects to upgrade internal roads in the Malanpur Industrial Area and widen the approach road to ICD Mandideep. Furthermore, plans are in place to add approximately 7 million metric tons of warehouse capacity in 2023-24. The State has also identified designated zones in the Bhopal Master Plan and the development of the Pithampur Investment Region through Land Pooling.

State could also explore the possibility of developing a comprehensive data-driven Logistics Master Plan to identify the gaps.

Logistics Services

As presented in the chart, user perception assessment for majority of the indicators under 'Logistics Services', except for except for 'Quality of Terminal Services', 'Availability of Track & Trace Services' and 'Safety / Security of Cargo', is below Landlocked States average.

Logistics Services - Indicator-wise performance
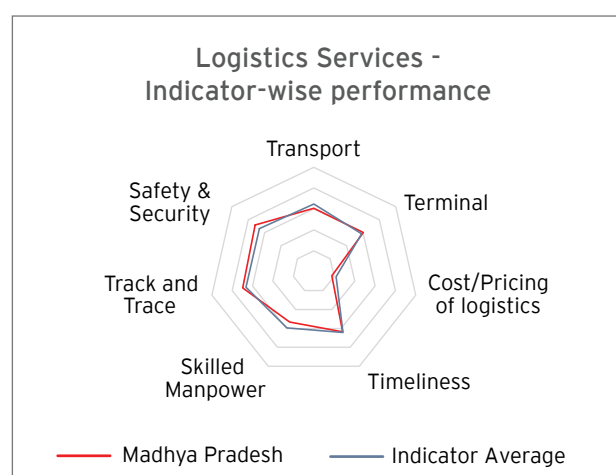
State is actively collaborating with Industry Associations like FICCI, CII, ASSOCHAM and undertaking interactions with Industry representatives. State could also look at undertaking multiple workshops / interactions at District and State Level and explore collaborating with private partners to develop and provide logistics skill courses tailored to industry requirements, with the goal of improving services within the sector.

Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators, except for 'Ease of Obtaining Warehousing Approvals', is below the mean score of Landlocked States.

State is in the process of finalising the revised logistics policy which will provide impetus to the sector. State has already granted "Industry" status to the logistics sector which will improve the efficiency of the sector by reducing the operating cost.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation
Grievance Redressal
Warehousing Approvals
Ease of Entry

— Madhya Pradesh   — Indicator Average
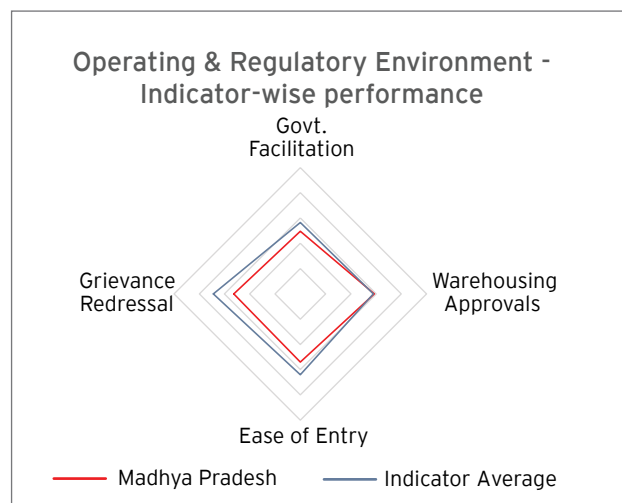
Initiatives undertaken by the State

1. Bhopal Master Plan 2031: The draft Bhopal Master Plan 2031 has been published to encourage logistics operations, warehousing, and wholesale activities within the region. As part of this plan, the area of Kokta has been designated as a Transport Nagar. In the map provided, the locations marked in Dark Blue represent the areas where this infrastructure will be established. The Draft Development Plan 2031 outlines the allocation of approximately 929.92 hectares of land for the development of rail and road-based logistic parks within the commercial and logistic zone.

2.2.7 Punjab

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

Punjab has maintained its **Achiever** Status within the Landlocked Group, demonstrating strong logistics performance. The positive impacts of measures aimed at enhancing the State's logistics ecosystem are evident in the performance assessment. These initiatives include notification of Logistics policy, preparation of Logistics Action Plan, establishing a single-window mechanism to provide information and assistance on investment opportunities through the Punjab Bureau of Investment Promotion (PBIP), the introduction of an online Grievance Module to address stakeholder issues, and other measures.

Logistics Infrastructure

As shown in the chart, the user perception assessment across all 'Logistics Infrastructure' indicators surpasses the Landlocked States' average. The State has received above average ratings, particularly in the areas of 'Quality of Road Infrastructure,' 'Quality and Adequacy of Rail Infrastructure,' and 'Quality and Adequacy of Terminal Infrastructure,' indicating a good logistics ecosystem within the State. Furthermore, presence of good warehouse network in the State has been appreciated by stakeholders and has contributed positively to improving overall user satisfaction.

Logistics Infrastructure - Indicator-wise performance

— Punjab   — Indicator Average
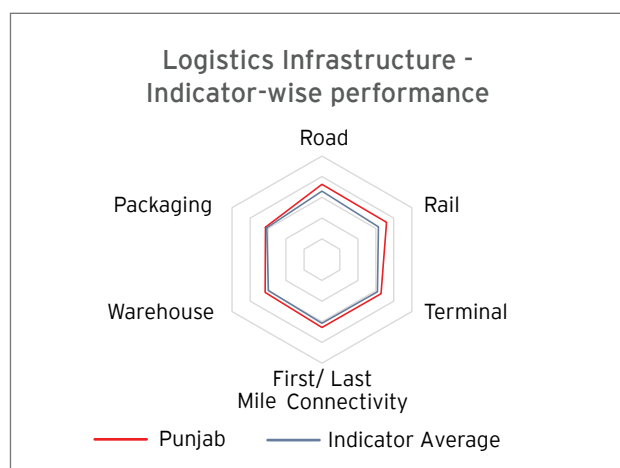
However, feedback received from stakeholder consultations indicates potential opportunities to enhance connectivity to the Rajgarh focal point (phases 1 to 8) and the Dhandari Kalan Industrial Area. Stakeholder input also highlights the need for truck lay-bys along key State and National Highways.

As per the State, various initiatives/ projects have been identified under its Logistics Action Plan to improve logistics infrastructure, which includes upgrading roads in phases 1 to 8 and in parts of IFP Dhandari Kalan. Additionally, to further promote development of truck lay-bys, the state has introduced an incentive scheme offering 100% exemption from Change of Land Use (CLU) and 100% exemption/reimbursement of stamp duty, among other benefits which shall further improve the logistics ecosystem of the State.

Logistics Services

As shown in the chart, user perception regarding all 'Logistics Service' indicators, except for 'Quality of Terminal Services' and 'Availability of Track & Trace Services,' is above the average performance assessment of Landlocked Group. However, stakeholder consultations have identified areas with potential for improvement in skill development and the maintenance of truck parking lay-bys.

Logistics Services - Indicator-wise performance

— Punjab   — Indicator Average
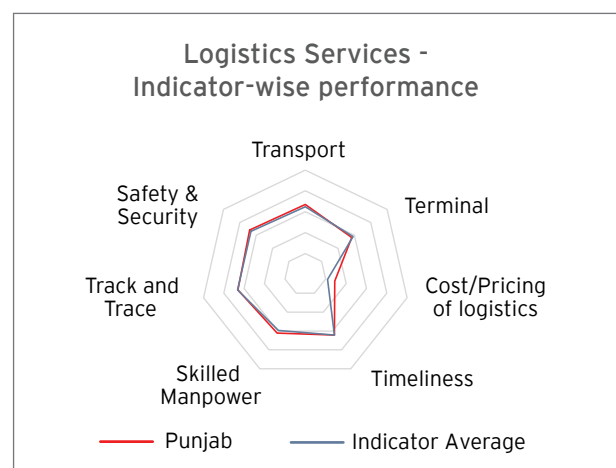
To address skilling gaps, State in collaboration with IIM Amritsar has introduced courses for capacity building in the field of logistics and supply chain management. Further, courses under Punjab Skill Development Mission conducted by the Department of Employment Generation, Skill Development, and Training, Government of Punjab offer training to workforce. Also, the Transport Department has initiated refresher courses at various locations, including RDTC Malerkotla and Red Cross centres in Hoshiarpur and Ropar.

Operating & Regulatory Environment

As illustrated in the chart, user perception of all 'Operating & Regulatory Environment' indicators is above the average for the Landlocked Group. Stakeholder interactions have highlighted the need for extensive outreach to industry bodies and associations to raise awareness of Government initiatives and policies, as well as grievance redressal mechanisms within the state.

Operating & Regulatory Environment - Indicator-wise performance

— Punjab   — Indicator Average
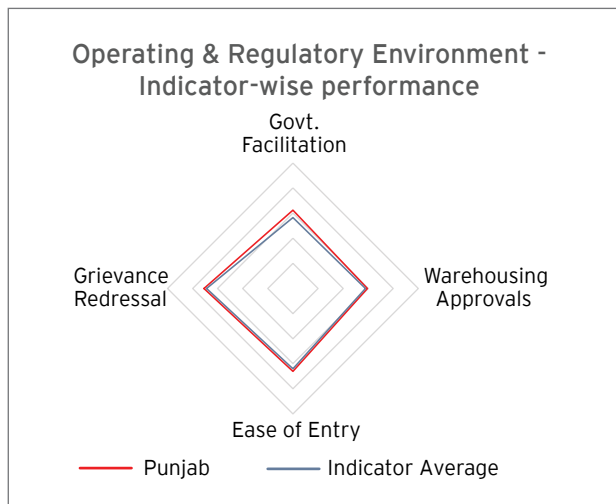
State could focus on strengthening its existing feedback channels which are employed to disseminate information related to initiatives and policies which may include official website, press releases, social media platforms, and direct outreach activities, with communication focused on stakeholders such as businesses and investors. Additionally, State could also develop a monitoring mechanism for its existing grievance redressal mechanism established on the Invest Punjab Business First portal, ensuring timely resolution.

Further, State has launched special incentive scheme to develop modern warehouses in border districts to promote the sector. Various other measures related to City Freight Logistics plans (Amritsar & Ludhiana) are in progress. The Logistics Policy 2023 includes specific provisions to enhance the logistics ecosystem, such as allocating land for logistics at 10% (capped at 10 acres) of New Industrial Areas, introducing color-coded stamp papers to simplify clearance processes for industrial projects, and relaxing criteria for the development of Multi-Modal Logistics Parks, among other initiatives.

Initiatives undertaken by the State

- Earmarked land for logistics: To promote holistic and integrated development of Logistics sector, under the Integrated Logistics and Logistics Park Policy, 10% (capped at 10 acres) of New Industrial Areas to be earmarked for logistics activities only

- Green colour-coded stamp papers for the industry sector: This initiative aims to facilitate the early clearance of projects for industrialists. The cost will be relatively high due to the inclusion of all necessary permissions, such as Change of Land Use, Forest Department clearance, Pollution and Fire Department fees, and NoCs within the stamp papers.

▸ Promotion of Green mobility by earmarking INR 3 billion approx. to encourage adoption of electric vehicles in Punjab over the next three years

- Skill Development in Logistics: IIM Amritsar to introduce courses for capacity building in the field of logistics and supply chain management

▸ Right to business offering a streamlined self-declaration process for newly incorporated MSMEs. This provision allows MSMEs to obtaining certain approvals and inspections within 3.5 years after establishment and operation of business

- Business first portal: A unified and transparent interface to the industry and businesses which offers access to all regulatory and fiscal services throughout the investment lifecycle

▸ The Government of Punjab is unwavering in its commitment to establishing trucker parks and wayside amenities, each encompassing a minimum of 10 acres, strategically located within a 2-kilometer radius on both sides of national and state highways.

2.2.8 Rajasthan

Rajasthan has been categorized as a **Fast Mover** in LEADS 2023.

Perceptions regarding the overall performance of the logistics ecosystem within the State have consistently improved since LEADS 2019.

State has initiated multiple initiatives to enhance logistics efficiency in the State, such as preparation of State Logistics Policy (in finalization stage) and implementation of multiple infrastructure projects.

Logistics Infrastructure

As shown in the chart below, user perception assessment across few indicators, namely 'Quality of Road Infrastructure', 'Quality & Adequacy of Rail Infrastructure', and 'Quality & Adequacy of Terminal Infrastructure' under 'Logistics Infrastructure' pillar is above the Landlocked States average.

Logistics Infrastructure - Indicator-wise performance
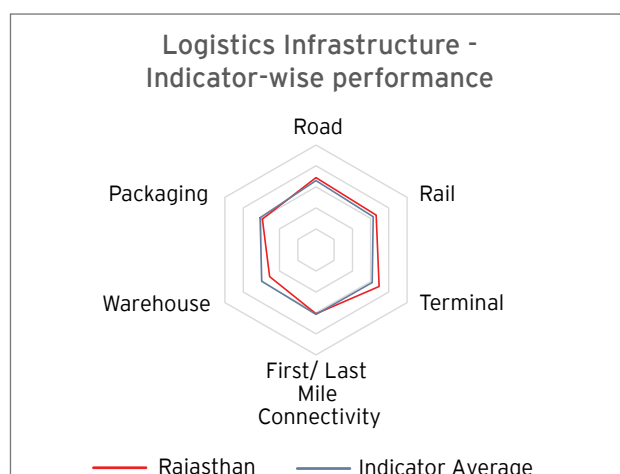
To address the issue of warehousing and cold storage the State has introduced Investment Promotion Incentives for Logistics Parks, Warehouses & Cold Chain which shall act as a driver for enhancing the overall logistics infrastructure eco-system by building a distribution support with logistics warehouses, and cold chains.

Further, to promote the development of the logistics sector, State could formulate a Logistics Master Plan in consultation with relevant stakeholders which would serve as a comprehensive framework for identifying and implementing targeted interventions.

Logistics Services

User perception for all the 'Logistics Services' indicators, except for 'Availability of Track & Trace Services' and 'Availability of Skilled Manpower', is above Landlocked States average. However, stakeholder consultations pointed towards high 'Cost of Logistics' services within the State and a need for intervention.

Logistics Services - Indicator-wise performance
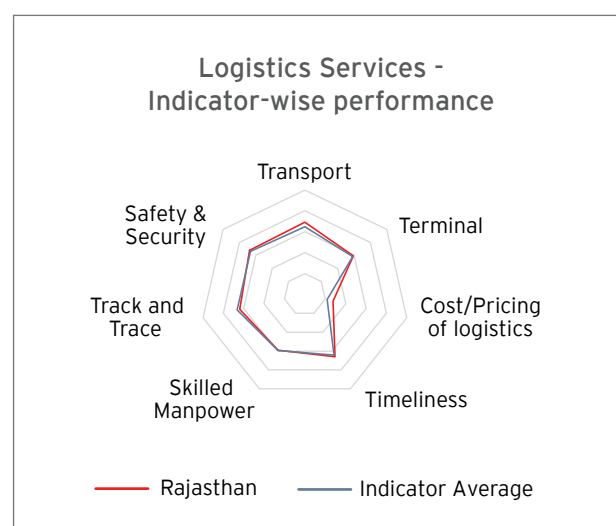
State has already initiated measures to improve the Logistics Services and to address the issue of skill gap, which include introduction of 8 logistics specific courses in last 1 year (till Dec 2022) along with establishment of new skill development institutes by Rajasthan Skill & Livelihoods Development Corporation (RSLDC). State could also explore the possibilities of partnering with private stakeholders to develop and deliver logistics skill courses, in line with the industry demand to improve the overall services across the sector.

Operating & Regulatory Environment

As shown in the chart below, user perception assessment for all 'Operating & Regulatory Environment' indicators, except for 'Grievances Redressal,' is above the mean score of Landlocked Group.

The State is in the process of formulating a logistics policy to promote sector development. It should also focus on encouraging regular dialogue with private stakeholders to communicate and educate them about the State's initiatives. Additionally, the State should take steps to enhance the regulatory framework for the logistics sector while studying initiatives from other states.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation · Warehousing Approvals · Ease of Entry · Grievance Redressal

— Rajasthan   — Indicator Average
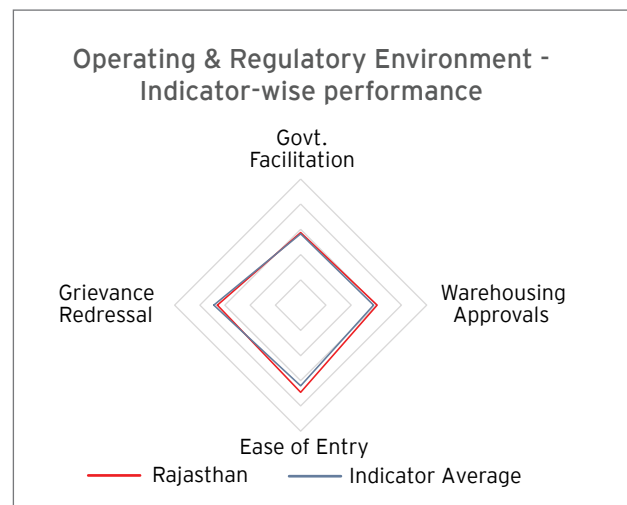
2.2.9 Telangana

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

Telangana has maintained its **Achiever** category within the Landlocked Group.

Government's initiative such as consultations with stakeholders for feedback and improvement, drive to create awareness about initiatives under ease of doing business have been well appreciated by users. Provision of a dedicated Grievance Committee for State Exporters has helped improve perception. Initiatives such as 'Industry' status to logistics, notification of Logistics Policy have further enhanced logistics efficiency in the State

Logistics Infrastructure

User perception assessment across all the 'Logistics Infrastructure' indicators are above average of Landlocked Group. This positive perception is particularly visible in 'Quality of Road Infrastructure', 'Quality & Adequacy of Terminal Infrastructure', 'Availability of Warehousing Infrastructure', and 'Quality & Adequacy of Rail Infrastructure'

Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

— Telangana   — Indicator Average
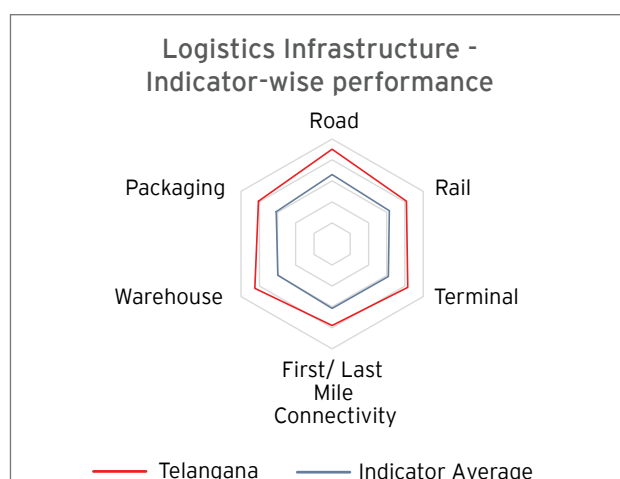
To improve the logistics ecosystem, multiple initiatives have been identified and / or initiated for improving

First and Last Mile Connectivity, e.g., the Missing Links Projects (Phase-III) for development of link roads where 135 projects with a total length of 126 km have been identified. Apart from the above, State has initiated development of multiple cold storage facilities e.g., 12 new projects have been sanctioned on PPP basis along with the State Food Corporation. Further, the State Cold Storage Development Policy aims to add another 5,00,000 metric tons of cold storage capacity by 2025.

To further support the development of logistic sector beyond above mentioned developments, the State may develop a comprehensive data driven Logistics Master Plan based on which further interventions could be identified.

Logistics Services

User perception assessment for all the 'Service' indicators except for 'Cost/Pricing of Logistics Services', is above the average performance assessment of the Landlocked Group. However, stakeholder consultations suggested a shortage of 'Skilled Manpower' and truck drivers within the State.

Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

— Telangana   — Indicator Average
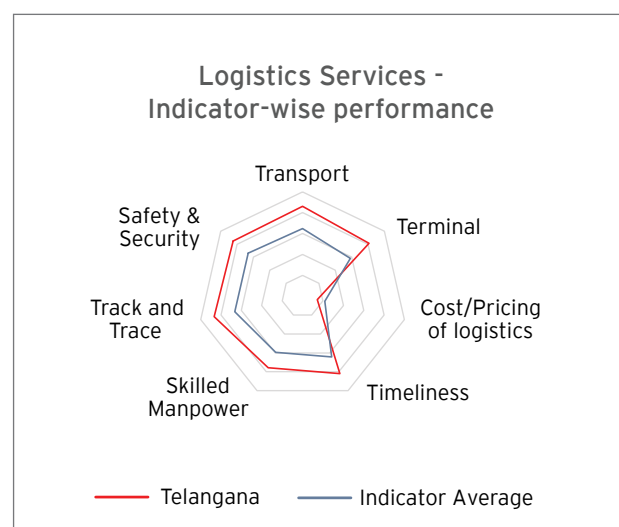
The State has taken significant steps in promoting skill development of the logistics sector which has resulted in a large pool of industry-relevant workforce. Collaborating with industry partners, State has also formulated an action plan aimed at enhancing sector capacity, thus improving its position in the logistics sector.

Operating & Regulatory Environment

As indicated in the chart below, user perception assessment for all the 'Operating & Regulatory Environment' indicators is above the average of the Landlocked Group.

State has notified its logistics policies wherein various subsidies/Incentives have been notified for the overall development of the logistics sector. Further, to expedite approvals for new logistics infrastructure projects in the State, all proposals can be conveniently submitted through the TS-iPASS Single Window Clearance system, streamlining the process. These initiatives have made a positive impact among the stakeholders

Operating & Regulatory Environment - Indicator-wise performance

— Telangana   — Indicator Average
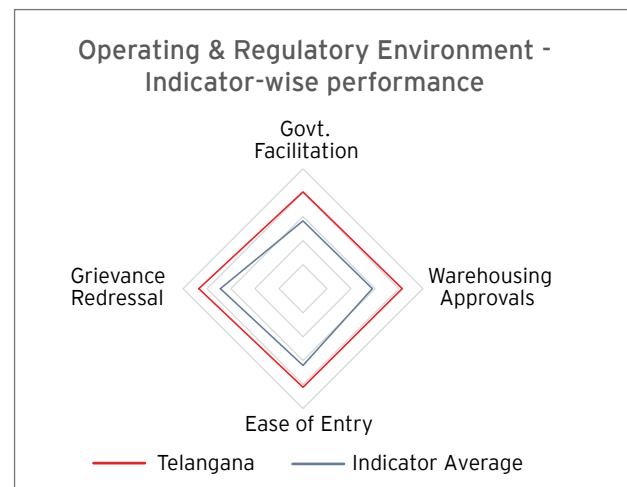
Initiatives undertaken by the State

1. **Cold Storage supply chain efficiency:** The Telangana Centre of Excellence for Sustainable Cooling and Cold Chain aims to facilitate the promotion of rapid deployment of demand-driven, equitable cooling solutions in Telangana and help India meet the current and future needs of "cooling for all". The Center is a joint initiative between the Government of Telangana (Telangana State Trade Promotion Corporation), the Centre for Sustainable Cooling (CSC), the University of Birmingham, the United Nations Environment Programme (UNEP), and the GMR Group.

   The anticipated outcomes of the initiative include:

   a) Accelerate setting up effective and environmentally sustainable cooling systems for food and medicinal storage, helping to reduce costs.

   b) Elevate farmers' income by increasing the value of their products, expanding market access, and reducing food losses.

   c) Improve access to essential health services like vaccines, blood, and insulin, enhancing overall public health.

   d) Optimize temperature-controlled supply chains, facilitating increased imports and exports in the food and health sectors while simultaneously cutting investment and operational costs.

   e) Developing and demonstrating cooling technologies tailored to the State's needs with the potential for global scalability.

   f) Seeks to enhance the resilience of food and health systems, making them more robust in the face of unexpected shocks and disturbances.

2.2.10 Uttar Pradesh

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

🏆

Uttar Pradesh has maintained its **Achiever** status within the Landlocked Group. The positive impacts of initiatives aimed at improving the logistics ecosystem in the state are evident in the performance assessments conducted by industry stakeholders. These initiatives include granting 'Industry status' to logistics, classifying warehouse and logistics projects under the 'White category' (for non-polluting industrial sectors, eliminating the need for environmental clearance), introducing the Warehousing and Logistics Policy of 2022, launching the Atal Industrial Infrastructure Mission (which identifies infrastructure gaps and provides funding), and planning projects under PMGS and Srishti 2.0 to ensure seamless facilitation, efficient planning, and the removal of bottlenecks in critical infrastructure in the state. This has led to both time and cost savings.

Notably, Uttar Pradesh has significantly improved its scores in the 'Ease of Entry' and 'Grievance Redressal Mechanism' indicators compared to the previous year, demonstrating its commitment to enhancing the logistics environment.

Logistics Infrastructure

As depicted in the chart, the user perception assessment for all 'Logistics Infrastructure' indicators surpasses the Landlocked States' average, highlighting a robust logistics ecosystem. Stakeholder feedback has identified areas for improvement, such as enhancing First/Last Mile Connectivity to Inland Container Depots (ICDs) and creating truck parking zones/lay-bys along critical freight corridors.

State is proactively addressing these concerns with various initiatives, including multiple projects to reduce First/Last Mile Connectivity challenges, and identifying over 100 locations for truck lay-bys. Moreover, the State is leveraging its GIS-based platform, Srishti 2.0, to enhance and upgrade greenfield roads and bridges.

Additionally, Uttar Pradesh is developing City Logistics Plans for seven cities to optimize seamless freight movement. Beyond these efforts, the state is also

Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

— Uttar Pradesh — Indicator Average
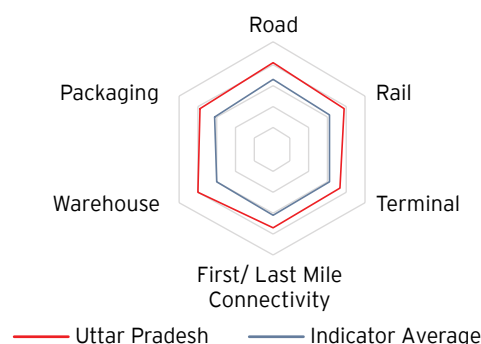
focusing on establishing a network of controlled atmosphere infrastructure, incorporating robotic and automation solutions to meet industry demands. The construction of air cargo complexes throughout the state further contributes to the growth of the ecosystem.

Logistics Services

Consistent with the observations mentioned earlier, the user perception of all 'Logistics Service' indicators indicates above-average performance compared to the Landlocked Group average.

Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

— Uttar Pradesh — Indicator Average
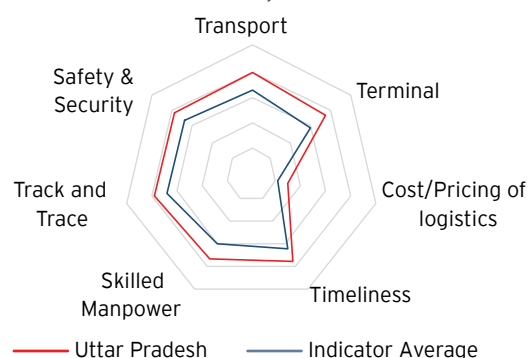
User satisfaction across the 'Logistics Services' pillar's indicators is generally uniform, with the exception of 'Cost/Pricing of Logistics Services,' where user satisfaction appears relatively lower. Furthermore, stakeholder interactions have highlighted a shortage of drivers and emphasized the need for improved availability of skilled manpower in the state.

Uttar Pradesh is proactively addressing the demand for skilled labour through initiatives like the Uttar Pradesh Skill Development Mission (UPSDM) and the establishment of 688 Motor Driving Training Schools,

with the goal of training over 3,000 candidates in the sector this year. The state is also leveraging technology, including the Advanced Traffic Management System (ATMS), license plate recognition, CCTV cameras, and more, to enhance the safety and security of cargo during transit

Operating & Regulatory Environment

The user perception scores for all 'Operating & Regulatory Environment' indicators surpass the average performance assessment of Landlocked Group. This exceptional performance extends to the 'Operating & Regulatory Environment' Pillar, where user perception across all sub-indicators ranks among the best.

Through stakeholder consultations, several areas for improvement have been identified, including the online settlement of challans, streamlining freight subsidies for exporters, and addressing unwarranted road tax demands at the UP-MP border.

Uttar Pradesh has introduced initiatives like 'Nivesh Mitra' to enhance the ease of doing business by providing over 450 services online. Furthermore, the provision of freight subsidies through schemes like 'Twarit Niryat Vikas Protsahan Yojna' and the Air Freight Rationalization Scheme has given the much-needed flexibility to the MSME sector, enabling them to compete effectively in global markets.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation · Warehousing Approvals · Ease of Entry · Grievance Redressal

— Uttar Pradesh   — Indicator Average

Initiatives undertaken by State

1. Preparation of city logistics plan: To address the issues and challenges in the movement of freight, State is in the process of undertaking study for preparation of City Logistics Plan for 7 cities, namely Varanasi, Kanpur, Lucknow, Prayagraj, Meerut, Agra, and Ghaziabad

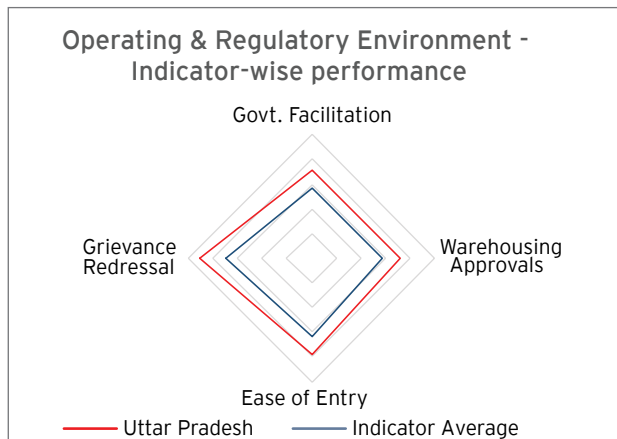2. The State Logistics Masterplan outlines strategies for smooth urban freight movement, including the removal of congestion points, development of road networks, parking spaces, and transport zones. It also guides the preparation of Urban Mobility Plans for identified cities to ensure last-mile connectivity and efficient logistics. Provided below are city plans –

   a) The Noida Authority Master Plan 2031 includes provisions for a bus terminal, transport Nagar, and DFCC corridor, with allocated spaces for logistics facilities, e-commerce, and warehousing. Multi-Modal Logistics Hubs are being developed in Dadri/Boraki

   b) Similarly, MMLP's are also planned at Kanpur, Gorakhpur, and Tappal Bajna, offering handling facilities with components such as warehousing, cold storage, and rail platforms

   c) The Varanasi Multi-Modal Terminal is being developed as an Inland River port, providing a direct link with the Haldia Port. Additionally, India's first "freight village" is being established, to serve as a trans-shipment hub for inbound and outbound cargo, connecting exporting hubs to the eastern ports

   d) IWAI has taken initiative for the development of Inland Waterways Connectivity by developing Multimodal Modal Terminal (MMT) and Freight Village at Varanasi and 15 Community Jetties under Arth Ganga, also initiated action for developing 2 IWT jetties at Prayagraj on National Waterway- 1 (river Ganga), 11 IWT jetties at Mathura- Vrindavan on National Waterway-110 (river Yamuna) in phased manner and 2 IWT jetties on National Waterway-40 (river Ghaghra) at Ayodhya in the State of Uttar Pradesh

3. The State has established a new budget head with a primary budget layout of Rs. 50 crores in FY 2023-24 to upgrade active infrastructure. Projects worth Rs. 200 crores have already been identified and are in various stages of development, Integrated Manufacturing Clusters are being developed in Agra and Prayagraj along the Amritsar Kolkata Industrial Corridor (AKIC) and the Eastern Dedicated Freight Corridor (EDFC)

2.2.11 Uttarakhand

State Performance Snapshot

2023	2022
FAST MOVER	**ACHIEVER**

Uttarakhand has been categorized as a **Fast Mover** in LEADS 2023. Furthermore, the perception of the overall performance of the logistics ecosystem within the state has consistently improved as compared to LEADS 2019. User perception has shown improvement across all three pillars used to measure logistics performance: Logistics Infrastructure, Logistics Services, and Operating & Regulatory Environment. State has launched multiple initiatives to enhance logistics efficiency throughout the State. These initiatives include the notification of its State Logistics policy, granting 'Industry status' to logistics, and the implementation of various infrastructure projects

Logistics Infrastructure

As shown in the chart, user perception assessment across all the 'Logistics Infrastructure' indicators, except 'Availability of Warehouse Infrastructure,' is above the Landlocked Group average. User perception regarding 'Availability of Packaging Facilities' and 'Quality & Adequacy of Terminal Infrastructure' is

Logistics Infrastructure - Indicator-wise performance
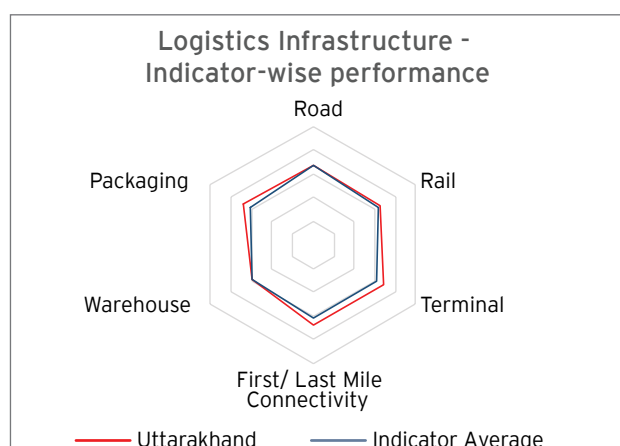
good, whereas there is room for improvement in the 'Quality of Road Infrastructure' and 'Quality of First/ Last Mile Connectivity' within the State.

Stakeholder consultations suggested the need for truck parking lay-bys within the State. To foster the development of the logistics sector, the state could formulate a data-driven Logistics Master Plan. This plan would serve as a comprehensive framework for identifying and implementing targeted interventions. Furthermore, State could also look at the upgaration of higways connecting Moradabad to Kashipur and roads within the SIDCUL industrial area.

Logistics Services

As shown in the chart, user perception assessmet for 'Logistics Services' indicators, except for 'Availability of Track & Trace Services', 'Safety/ Security of Cargo' and 'Quality of Transport Services', is above average as compared to Landlocked group.

Logistics Services - Indicator-wise performance
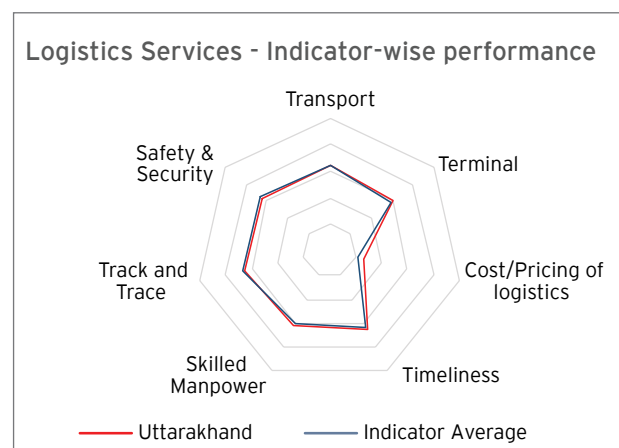
However, stakeholder consultations indicates scope of improvement in 'Quality of Terminal Services', 'Timeliness of Cargo Delivery', and 'Availability of Skilled manpower'.

State Government has initiated several skill development institutes where courses regarding sector specific skills is imparted which will help in providing the required skilled manpower to the sector. Further, State has devised several financial incentives to promote skill development initiatitives.

Operating & Regulatory Environment

User perception assessment for 'Ease of Entry' and 'Grievances Redressal' in the 'Operating & Regulatory Environment' indicator is above average Landlocked group. Stakeholder consultations suggest scope of improvement in 'Ease of Obtaining Approvals for warehousing' within the State. Moreover, users suggested removal of various check posts on the highway that delays the movement of goods within the State.

The State could focus on promoting regular dialogue with private stakeholders to effectively communicate and educate them about the various initiatives undertaken by the state. Additionally, it could take appropriate steps to enhance the regulatory framework for the logistics sector while studying initiatives implemented by other States

Operating & Regulatory Environment - Indicator-wise performance

— Uttarakhand   — Indicator Average

Initiatives undertaken by the State

1. **Facilitation and development of an integrated logistics ecosystem in Uttarakhand:** The State of Uttarakhand is actively working towards facilitating and developing an integrated logistics ecosystem with the aim of simplifying, proactively addressing challenges, and ensuring a responsive institutional mechanism. This initiative is geared towards fostering the rapid growth of the logistics sector within the State. By creating a well-structured and efficient logistics ecosystem, Uttarakhand aims to enhance its po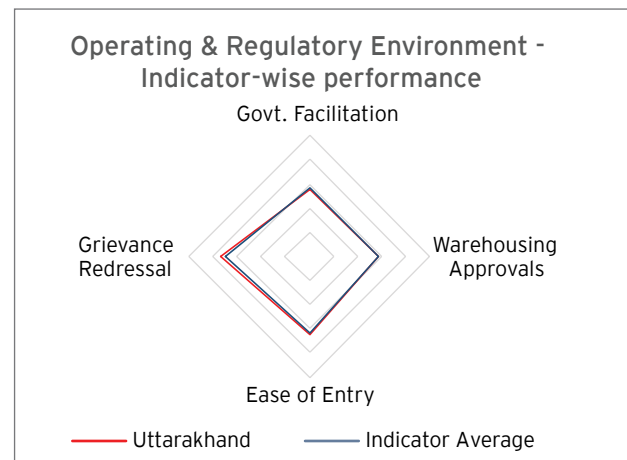sition as a logistics hub and promote economic growth within the State. This proactive approach will enable the State to meet the logistical needs of various industries and businesses, ultimately contributing to its overall development and competitiveness.

2. **Promote green and innovative practices to develop competitive logistics infrastructure:** The Uttarakhand Government is committed to establishing an environmentally friendly and sustainable logistics and transportation system in the State. This initiative encompasses several key components:

    a) **Green Logistics:** The State's approach to green logistics involves the adoption of technologies and practices aimed at minimizing the ecological impact of logistics activities. This includes Eco-Friendly Transportation, Reducing Carbon Emissions, Waste Management, Use of Bio-Degradable Goods, Recycling Technique, and Renewable Energy

    b) **Smart Systems and Green Channels:** The State will introduce smart systems to enhance the efficiency of cargo movement through checkpoints. Additionally, special "Green Channels" will be designated for vehicles carrying export-import or defence cargo. These dedicated lanes will facilitate the swift and efficient passage of such vehicles, contributing to smoother logistics operations.

3. **Promoting private investment in setting up of logistics facilities with forward and backward linkages in the State:** The Government of Uttarakhand will promote Public-Private Partnerships for the establishment of modern logistics facilities, including storage and handling facilities, air freight stations, air cargo complexes at strategic locations, support for e-commerce development, and the creation of truck terminals, driver rest areas, and parking spaces.

Result Headlines - Landlocked Group

Landlocked Group Performance* Snapshot
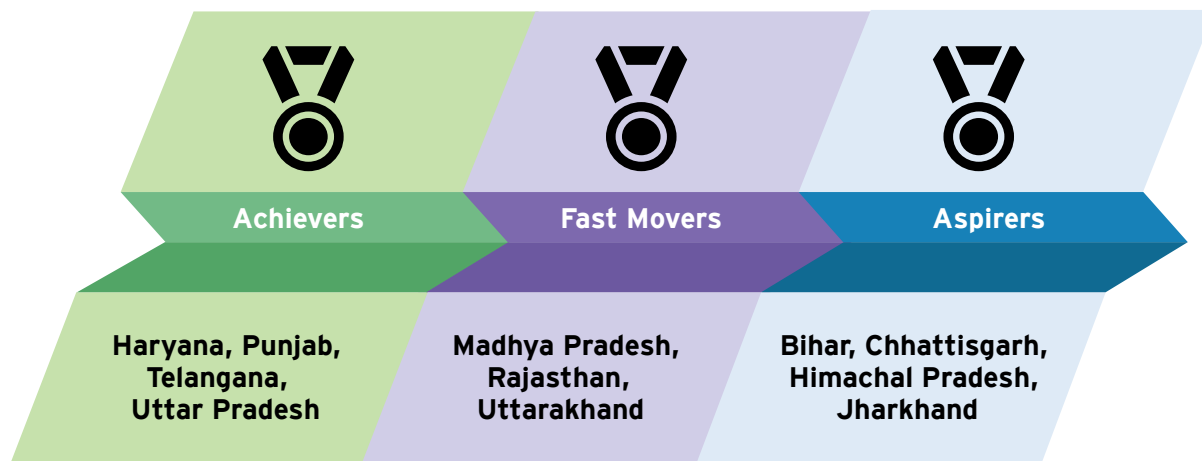
Achievers	Fast Movers	Aspirers
Haryana, Punjab, Telangana, Uttar Pradesh	Madhya Pradesh, Rajasthan, Uttarakhand	Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand

* States/ Union Territories within the performance categories are listed in alphabetical order.

Key Highlights

1. Operating & Regulatory Environment Pillar drives Landlocked Group's performance with 23% growth vis-à-vis 2019 LEADS, reflecting effective Government policies.

2. Equal stakeholder satisfaction levels observed in Operating & Regulatory Environment and Logistics Infrastructure followed by Logistics Services in LEADS 2023.

3. Narrowing Gap between Achievers and Aspirers: Infrastructure shows most significant performance gain.

4. Perception regarding the following indicators is high across the Landlocked Group:

   a. Quality of Road, First/Last Mile Connectivity and Terminals Infrastructure

   b. Track & Trace Services, Timeliness, Skilled Manpower, and Safety & Security of Cargo

   c. Ease of Entry and Warehousing Approvals

2.3 North-East Group Performance

The North-Eastern States, including Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura, possess significant potential for both EXIM and domestic trade. Recognizing this, the Government has undertaken proactive initiatives to enhance the logistics ecosystem, including the development of crucial railway projects. Examples include the Jiribam-Imphal Railway Development in Manipur, Bhairabi Sairang Railway Project in Mizoram, Dimapur-Kohima Railway Project in Nagaland, and Teteliya Byrnihat Railway Project in Shillong. Additionally, efforts are being made to improve electricity access through micro-hydel projects in remote villages of Arunachal Pradesh, as well as the construction of aggregation centers and warehouses in Nagaland. These endeavours contribute significantly to the growth and development of the North-East region.

North-East group's logistics performance stable, score variation across States reducing:

Group level performance assessment of States / UTs has remained stable with varying degrees of improvement. The LEADS 2023 survey findings reflect stakeholders' confidence in the logistics ecosystem of the North-East region. Not only the average scores across pillars have improved as compared to 2019, but there has also been a reduction in variation of scores (refer figure below) of States (top v/s bottom) within the Group. Especially the gap in Logistics Infrastructure pillar has reduced significantly when compared to 2019, emphasizing focussed attention by States towards focusing on quality terminal services, improving pricing of logistics services levels across supply chains, facilitated by supporting policies.

Figure 20 Reduction in variation of States performance in North-East group
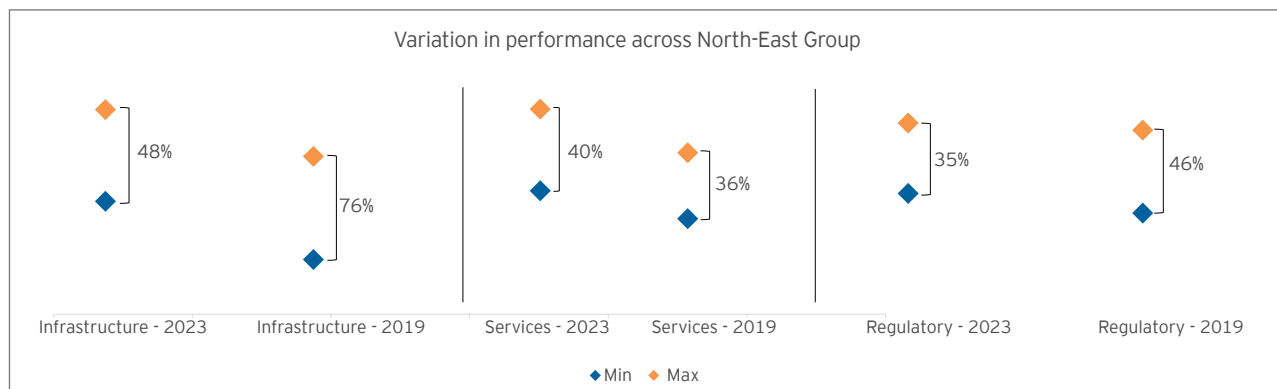
User perception for North-East group is driven by Logistics Infrastructure. Individual pillar wise analysis further reveals that Logistics Services and Operating and Regulatory Environment are closely linked and that the user feedback is more influenced by the Logistics Services pillar in the group (implying Services to be in place). As a result, the user performance assessment across both the pillars moves in tandem (v/s 2019).

Logistics Infrastructure pillar driving performance for North-East Group: Overall perceived satisfaction of users regarding logistics ecosystem across North-East group States has improved vis-à-vis 2019 (figure alongside). While each pillar has registered improvement, Logistics Infrastructure pillar stands out with 21% growth over the said period. A further testament to the coordinated efforts for development of infrastructure in North-East by the Center and States.

Figure 21 Increase in perception scores across LEADS pillars over 2019
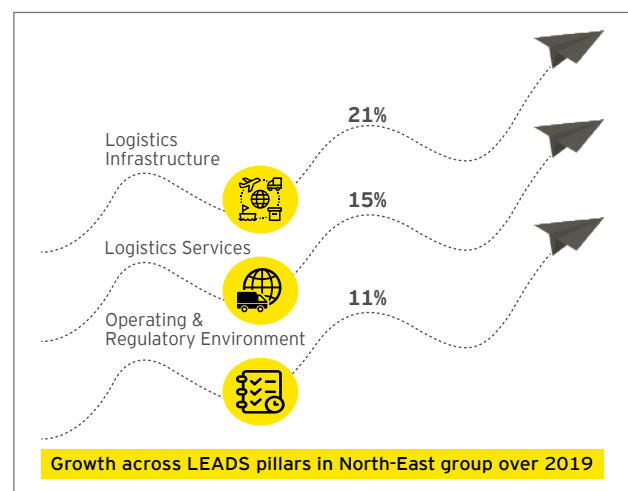
Industry interactions have specifically appreciated the efforts of States such as Assam, Tripura, Sikkim, Arunachal Pradesh, and Nagaland on multiple fronts including development of infrastructure, formulation of logistics policies, enhancing regulatory ease of doing business. Among all the States, Assam has been granted with "industry" status.

Assam being the logistics gateway to North-East region, the State is progressing ahead with development of transport and logistics infrastructure and also has an enabling policy environment. Assam Logistics and Warehousing Policy, 2022, aims to transform the State into a regional logistics hub by incentivizing private investments, encouraging sustainability and climate resilience in the region. Assam been the largest manufacturer of Tea; few improvisations in the warehouse facility and improvement in ICD facilities will bring a strong logistics coverage in the vicinity.

An MoU has been signed between Assam Industrial Development Corporation and Adani Guwahati International Airport Limited for operationalization of Perishable Air Cargo Complex in Guwahati Airport. The State is also creating a dedicated land bank for logistics infrastructure – 15% land in each industrial park shall be earmarked for logistics/storage infrastructure within the State; this shall result in improvement of infrastructure in the State.

Logistics Infrastructure – Quality of Roads and Terminals perceived to be good: LEADS 2023 survey, user satisfaction levels are high for Logistics Infrastructure and Logistics Services followed by Operating & Regulatory Environment. Within the Logistics Infrastructure pillar (refer figure alongside), States endorse varying degrees of improvement as compared to 2019 with Assam, Tripura and Sikkim leading the Group in terms of absolute user perception scores. Users have indicated a higher level of satisfaction with respect to Road and Terminal Infrastructure in general across the Group. Assam is in developing MMLP at Jogighopa, Bogibeel Inland Waterway Terminal and operationalization of Pandu and Dubri IWT terminals will also boost trade not only for the State but also for the SASEC and BBIN Corridors. User satisfaction for logistics ecosystem in Assam is high and has been perceived good in the State across indicators.

Analysis of LEADS 2023 survey user data further reveals that across States, majority of the users are satisfied with logistics ecosystem. On a scale of 1 to 5 (1 being Very poor and 5 being Very good), the figure below presents percentage of users who have responded 3 or more in LEADS survey. As shown in the chart First/Last Mile connectivity has received highest satisfaction levels in the survey with nearly 85% users responding positively, followed by Quality of Terminal 81% and very closely by Quality of Road with 80%. Furthermore, the satisfaction levels for Rail Services, Availability of Warehousing and Packaging stand at 77%, 66%, and 67% respectively, which is relatively satisfactory. However, this also indicates the potential for improvement in these areas.

Figure 22 Performance assessment of North-East Group in Logistics Infrastructure – 2023 v/s 2019
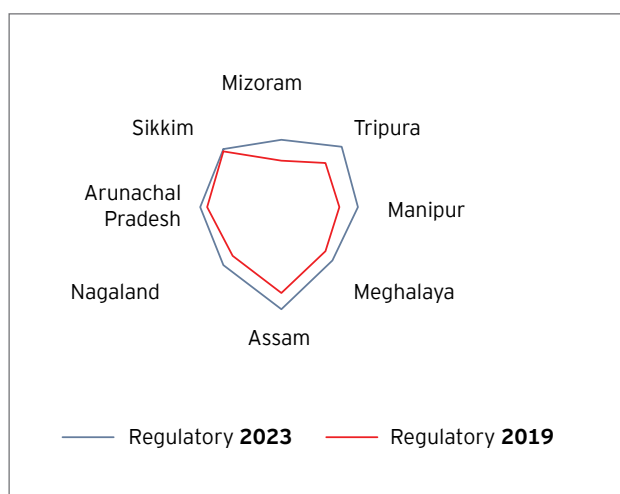
Figure 23 No. of users who perceived Logistics Infrastructure as 3 or more out of 5
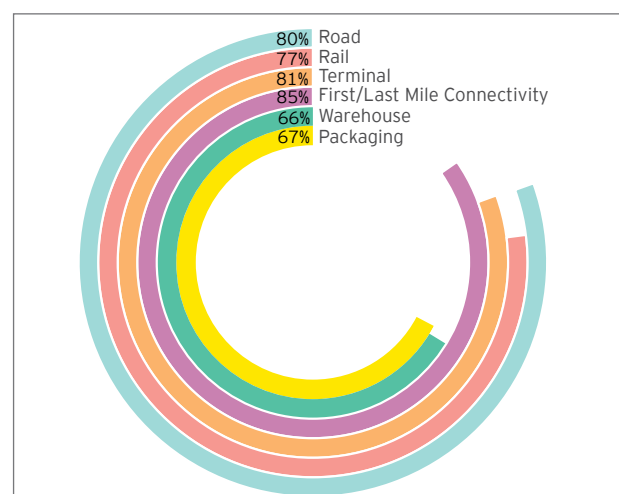
Logistics Services – assessed to be highest v/s other Groups: Stakeholders have assessed Logistics Service pillar as the highest in the North-East group pillar. This indicates established/ strong supply chain and logistics ecosystem with a high perception of the Stakeholders. Logistics Service pillar, as shown in the chart, State follows a similar trend as indicated above with Assam, Arunachal Pradesh and Tripura leading the group w.r.t (as shown in the chart). Within Service pillar, users are more satisfied with Safety & Security of Cargo, Track & Trace Services, Transport Services and Terminal Services, Skilled manpower, Timeliness compared to other Service indicators. Mizoram and Meghalaya have received relatively low perception score for this pillar.

Data analysis of LEADS 2023 survey conditions that across States in Logistics services, majority of users are satisfied with logistics ecosystem like Logistics Infrastructure. The chart signifies percentage of users who have responded 3 or more in LEADS survey. As shown earlier Track and Trace max the list of indicators with 85%, followed by Skilled manpower 84%, Timeliness 83% and Safety and Security 83%. Transport and Terminal lands at margin with 79% and 73% respectively. Cost/Pricing of the logistics is the only indicator where 54% of users are satisfied and thus has been identified as an area of improvement.

Figure 24 Performance assessment of North-East Group in Logistics Services – 2023 v/s 2019

Figure 25 No. of users who perceived Logistics Services as 3 or more out of 5
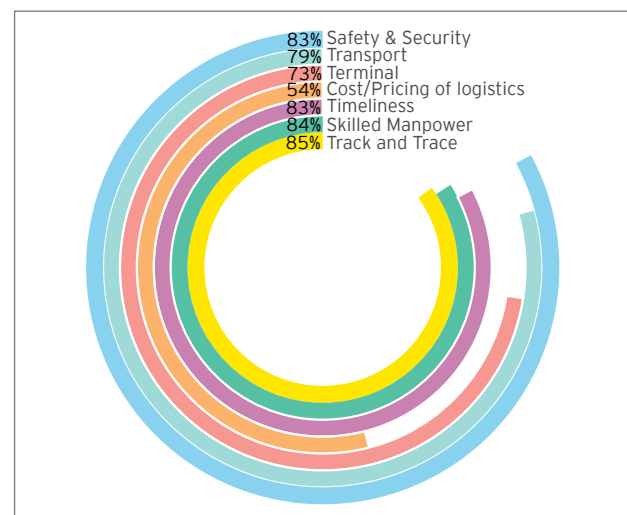
Operating & Regulatory Environment – consistent improvement across the States: There has been a slight confident change in user perception towards Operating and Regulatory environment across the States within the Group. Industry stakeholders have appreciated concerted policy and reforms actions undertaken for development of logistics ecosystem. Similarly, States like Assam, Nagaland, Tripura, and Arunachal Pradesh have been appreciated for their industry connect, reach-out for feedback and policies being aligned to the same. User satisfaction for the Group has been assessed exceptional w.r.t. 'Safety / Security of Cargo' and 'Ease of Entry' indicators. Assam and Nagaland continue to lead in terms of absolute user perception scores. Within the Group, users have rated Assam as one of the most preferred States from an overall ease of logistics perspective.

Figure 26 Performance assessment of North-East Group in Operating & Regulatory environment
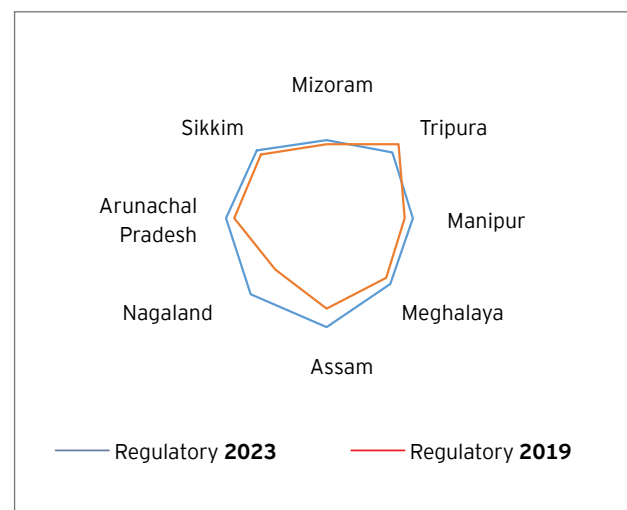
Data analysis of LEADS 2023 survey reveals that across States, in Operating & Regulatory Environment majority of the users are satisfied with Ease of Entry and Government Facilitation along with Warehousing approvals. With reference to Grievance redressal, it has been identified as an area of improvement. While having interactions with the stakeholders it has been identified more consultations and industry reach-out required between the State Government and Industry stakeholders to understand issues on ground, identify solutions, disseminate information on key Government policies and initiatives.

Figure 27 No. of users who perceived Operating & Regulatory Environment as 3 or more out of 5

- 76% Govt. Facilitation
- 72% Warehousing Approvals
- 76% Ease of Entry
- 21% Grievance Redressal
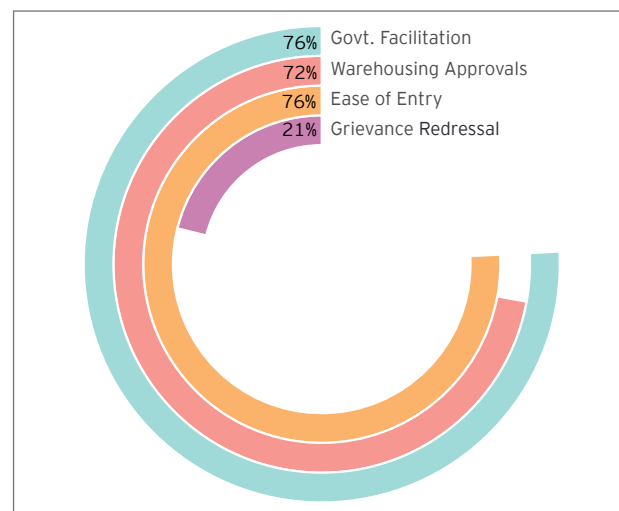
North-East group performance in LEADS 2023 – pillar wise

Figure 28 Pillar wise logistics performance analysis of North-East Group
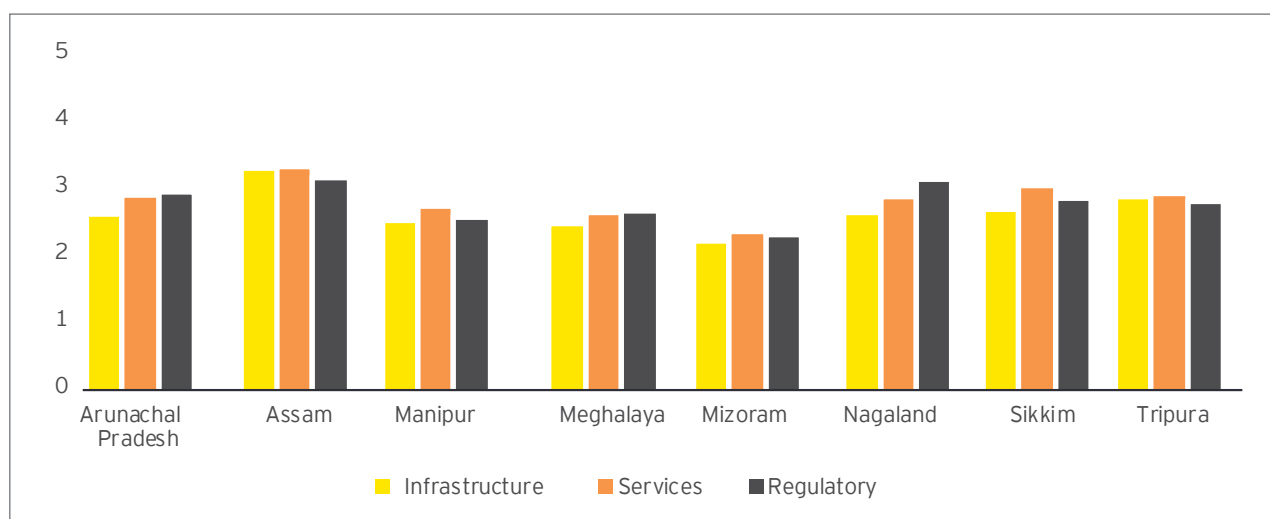
Infrastructure   Services   Regulatory

Logistics Infrastructure:

Users have a higher level of satisfaction with First / Last mile Connectivity and Warehousing Infrastructure compared to other Logistics Infrastructure indicators listed in the table below.

From an individual State perspective, user perception scores of all Logistics Infrastructure indicators for Assam is above the indicator average score within North-East Group while perception scores for one or more indicators are below indicator average score for balance States

Table 9 North-East Group – Logistics Infrastructure indicator wise perception score heatmap

Pillar	Indicators	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
Logistics Infrastructure	Road	Below	Above	Below	Below	Below	Below	Above	Above
	Rail	Above	Above	Below	Below	Below	Below	Above	Below
	Terminal	Below	Above	Below	Below	Below	Below	Above	Above
	First/ Last Mile Connectivity	Above	Above	Below	Below	Below	Above	Above	Above
	Warehouse	Above	Above	Below	Below	Below	Below	Above	Above
	Packaging	Above	Above	Below	Above	Below	Below	Above	Above

■ Above Average   ■ Below Average

Logistics Services:

Within Logistics Services pillar, user perception is higher than indicator average for all indicators except Quality of Terminal Services and Cost / Pricing of Logistics services. From an individual State perspective (as shown in table below), user perception scores of all Logistics Services indicators for Assam are above indicator average score for North-East Group while perception scores for one or more indicators are below indicator average for balance states.

Table 10 North-East Group – Logistics Services indicator wise perception score heatmap

Pillar	Indicators	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
Logistics Services	Transport	Above	Above	Below	Above	Above	Below	Below	Above
	Terminal	Above	Above	Below	Below	Below	Below	Above	Below
	Cost/Pricing of logistics	Above	Above	Below	Below	Below	Above	Above	Above
	Timeliness	Above	Above	Below	Below	Below	Above	Below	Above
	Skilled Manpower	Above	Above	Below	Below	Below	Above	Below	Above
	Track and Trace	Above	Above	Below	Below	Below	Above	Above	Above
	Safety & Security	Below	Above	Below	Above	Above	Above	Above	Above

■ Above Average   ■ Below Average

Operating & Regulatory Environment:

Within the Operating & Regulatory Environment pillar, users are more satisfied with Grievance Redressal mechanism compared to other indicators in this pillar. From an individual State perspective (refer table below), user perception scores of all Operating & Regulatory Environment indicators for Assam and Nagaland are above indicator average while perception scores for one or more indicators are below indicator average for balance States.

Table 11 North-East Group – Operating & Regulatory Environment indicator wise perception score heatmap

Pillar	Indicators	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
Operating & Regulatory Environment	Govt. Facilitation	Below Average	Above Average	Below Average	Below Average	Below Average	Above Average	Above Average	Below Average
	Warehousing Approvals	Above Average	Above Average	Above Average	Below Average	Above Average	Above Average	Below Average	Below Average
	Ease of Entry	Above Average	Above Average	Below Average	Below Average	Below Average	Above Average	Above Average	Above Average
	Grievance Redressal	Above Average	Above Average	Below Average	Above Average	Below Average	Above Average	Below Average	Above Average

Legend: Above Average / Below Average

NORTH-EAST STATES

2.3.1 Arunachal Pradesh

State Performance Snapshot

2023
FAST MOVER

2022
ASPIRER

Arunachal Pradesh has been categorized as a **Fast Mover** in LEADS 2023.

The user satisfaction levels for State are generally above average of North-East Group for various indicators across pillars. State is actively implementing multiple measures to enhance the overall efficiency of the logistics ecosystem, which include preparation of Logistics policy and development of road and other infrastructure in addition to proactively reaching out to the stakeholders.

Logistics Infrastructure

User perception performance assessment for 'Quality and Adequacy of Rail Infrastructure', 'Availability of Warehousing Infrastructure' and 'Availability of Packaging Facilities' is perceived to be good by the stakeholders, whereas the stakeholders have indicated some scope of improvement in 'Quality of
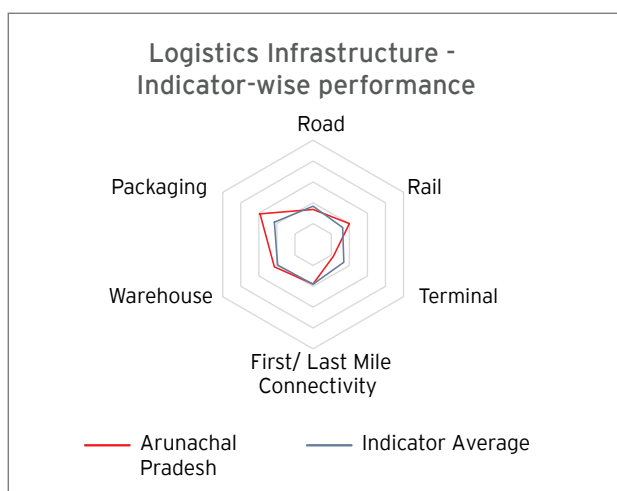
Road Infrastructure', 'Quality & Adequacy of Terminal Infrastructure', and 'Quality of First / Last Mile Connectivity'.

State has already signed an MoU with National Highway Logistics Management Limited (NHLML) in 2022 for infrastructure development across the State.

State in consultation with stakeholders could also develop a comprehensive logistics master plan and city logistics plans. Through these plans, State can identify and implement interventions that align with the evolving needs and demands of the logistics industry, ensuring sustained progress and efficiency.

Logistics Services

User perception assessment for all the 'Logistics Service' indicators, except 'Safety / Security of Cargo' is above the average performance assessment of North-East Group. Stakeholder consultations have identified scope of improvement in the 'Safety / Security of Cargo', and 'Availability of Skilled Manpower' within the State.
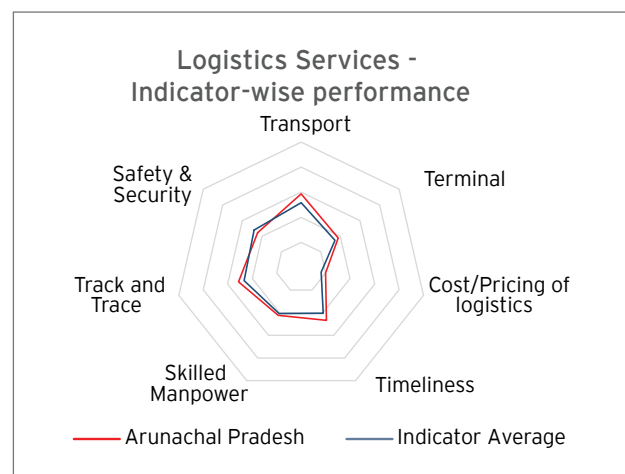
Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

— Arunachal Pradesh — Indicator Average

Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

— Arunachal Pradesh — Indicator Average

State could focus on improving the existing services by tying up with private stakeholders for devising and imparting logistics skill courses. Additionally, there could be a focus on enhancing mobile connectivity across the State to improve the availability of track and trace services, ultimately enhancing safety and security

Operating & Regulatory Environment

As shown in the chart, user perception assessment for the 'Operating & Regulatory Environment' indicators i.e., 'Grievances redressal', 'Ease of Entry', and 'Ease of Obtaining Approvals' are above the average North-East Group.

The State is proactively engaging with the Stakeholders and is in the process of finalization of Logistics policy State could also focus on promoting outreach and education regarding the State initiatives. Furthermore, State can also explore the possibilities of examining and implementing initiatives undertaken by other States to enhance regulatory framework for the logistics sector.

Operating & Regulatory Environment - Indicator-wise performance

— Arunachal Pradesh   — Indicator Average
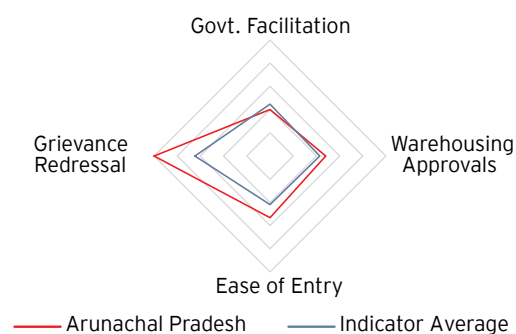
2.3.2 Assam

State Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

🏆

The State has retained its **Achiever** status within the North-East Group.

The State, serving as the logistics gateway to the North-East region, is making significant progress in developing its transport and logistics infrastructure through various initiatives. These initiatives include the notification of a logistics policy and giving priority sector status to logistics.

Logistics Infrastructure

As shown in the chart user perception assessment across all the 'Logistics Infrastructure' indicators is above the average performance assessment of North-East Group.

Logistics Infrastructure - Indicator-wise performance

— Assam   — Indicator Average
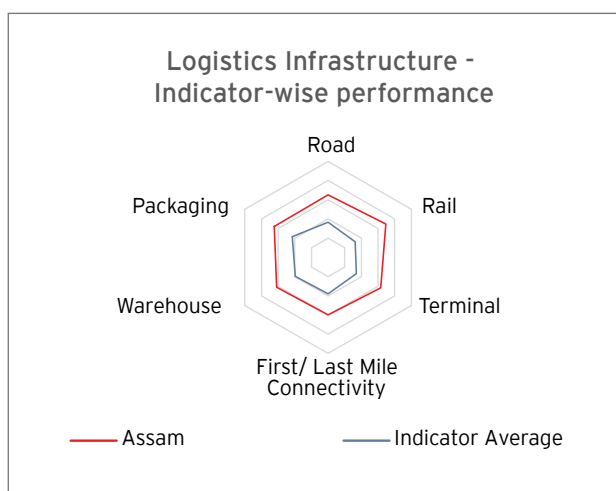
However, inputs received from stakeholder consultations indicate that temperature-controlled storage facilities for Tea should be developed and last mile connectivity to ICD Amingaon should be improved.

State has taken several significant steps to address the challenges of faster evacuation of perishable cargo from the region which include the signing of an MoU between the Assam Industrial Development Corporation and Guwahati International Airport for the operationalization of a Perishable Air Cargo Complex at Guwahati Airport. Additionally, the State is proactively creating a dedicated land bank for logistics infrastructure, reserving 15% of land in each industrial park for logistics and storage facilities within the State.

Furthermore, the development of the Multimodal Logistics Park (MMLP) at Jogighopa, the Bogibeel Inland Waterway Terminal, and the operationalization of the Pandu and Dubri Inland Waterway Terminals will significantly enhance trade, not only within the State but also for the South Asia Subregional Economic Cooperation (SASEC) and Bangladesh, Bhutan, India, Nepal (BBIN) Corridors.

State has also initiated the process for the preparation of State logistics Master plan to identify the gaps and plan interventions to improve the logistics sector.

Logistics Services

As shown in the chart, user perception score for all the 'Logistics Service' indicators, is above the average as compared to the North-East Group.

Logistics Services - Indicator-wise performance

— Assam   — Indicator Average
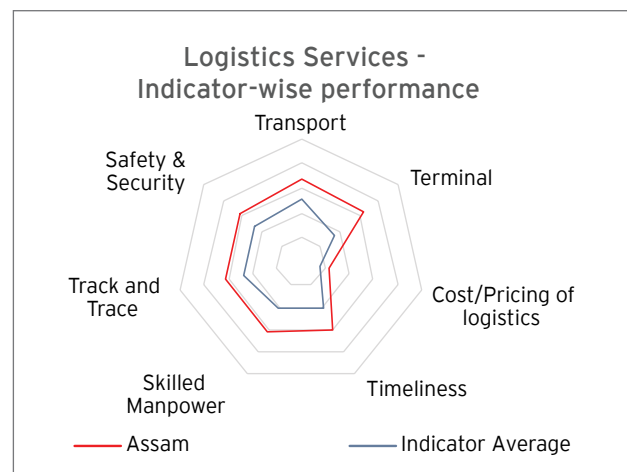
State has established Drivers and Conductors Training School at Betkuchi, Guwahati and there is an upcoming Skill University at Mangaldai. State could also study and examine the measure undertaken by other states to improve the logistics services across the State.

Operating & Regulatory Environment

As shown in the chart user perception assessment for all the 'Operating & Regulatory Environment' indicators is above the average mean score of North-East Group.

Several initiatives have been taken targeting improvements within the 'Operating and Regulatory Environment' pillar which include the notification of Assam Logistics and Warehousing Policy 2022. Further State has set up a dedicated Logistics Division which shall aid in coordination among various logistics stakeholders. State has undertaken awareness and training campaigns with industry stakeholders. As a result of the above initiatives performance assessment has seen positive upward movement is above average within the Group.

Operating & Regulatory Environment - Indicator-wise performance

- Govt. Facilitation
- Warehousing Approvals
- Ease of Entry
- Grievance Redressal

—— Assam   —— Indicator Average
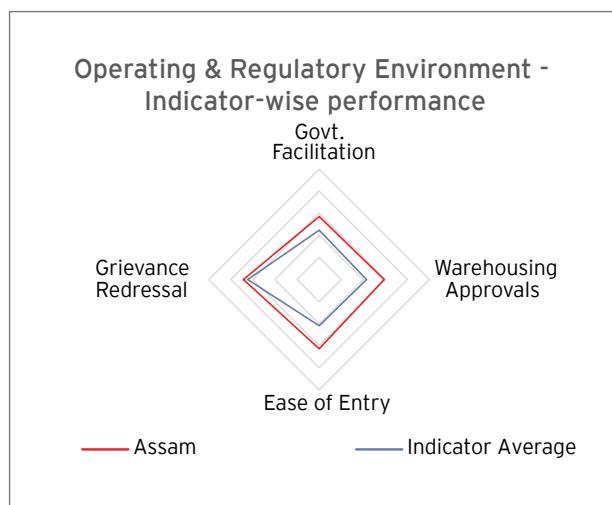
2.3.3 Manipur

State Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Manipur is categorized as an **Aspirer** in LEADS 2023.

The user satisfaction levels for Manipur are generally lower than the average of North-East Group for all indicators across pillars. However, there has been an improvement in the overall perception of the State's logistics ecosystem since 2019.

Looking ahead, the State could benefit from formulating a State Logistics Master Plan to drive efficiency improvements and facilitate investments within the logistics sector and undertake consultation with the logistics stakeholders for educating and informing them about the initiatives State is undertaking for the development and improvement of logistics sector.

Logistics Infrastructure

User perception assessment across all the 'Logistics Infrastructure' indicators is below the average of the North-East Group.

Logistics Infrastructure - Indicator-wise performance
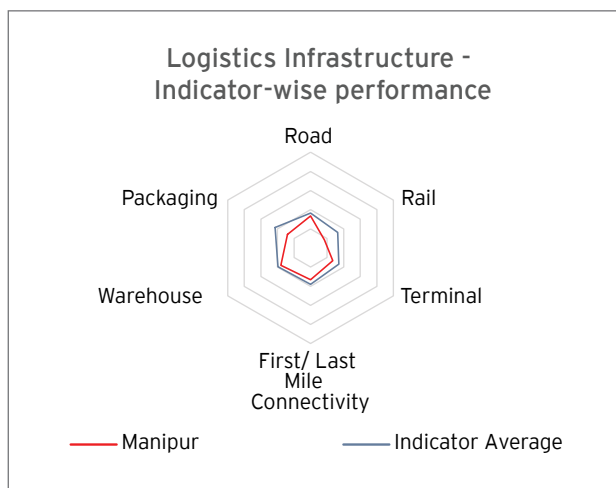
To enhance the logistics infrastructure, the State could study successful initiatives implemented by other states which include creation of a data-driven Logistics Master Plan, which would serve as a comprehensive framework for identifying and implementing targeted interventions.

Logistics Services

User perception assessment across all the 'Logistics Services' indicators, is below the average of North-East Group.

Logistics Services - Indicator-wise performance
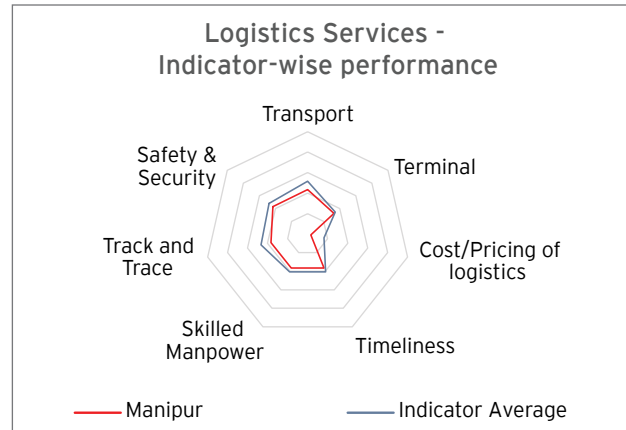
State should prioritize addressing skill gaps by collaborating with both government agencies involved in logistics-related training programs and private stakeholders to develop and deliver logistics skill courses. Additionally, the State should enhance mobile connectivity across the region to improve the availability of track and trace services.

Operating & Regulatory Environment

User perception assessment for all the 'Operating & Regulatory Environment' indicators except for 'Ease of Obtaining Approvals', are below the performance assessment of North-East States.

The State has already notified its logistics policy. State should also consider enhancing communication and education efforts with private stakeholders to keep them informed about various initiatives undertaken by the State for improvement of logistics sector. Furthermore, State should explore successful initiatives implemented by other states.

Operating & Regulatory Environment - Indicator-wise performance
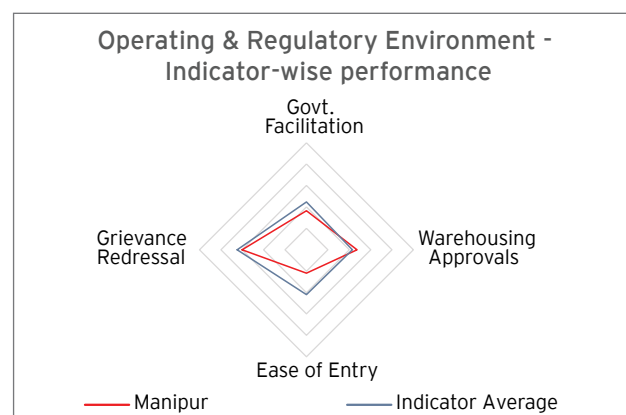
2.3.4 Meghalaya

State Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Meghalaya is categorized as an **Aspirer** in LEADS 2023.

The user performance assessment is below the average of North-East Group for most of the indicators across pillars. However, there has been an improvement in the overall perception of the state's logistics ecosystem since LEADS 2019.

Looking ahead, the State could benefit from having a logistics policy and taking steps for preparation of Logistics Master Plan to drive efficiency improvements and facilitate investments within the logistics sector.

Logistics Infrastructure

User perception assessment across all the 'Infrastructure' indicators is below the performance assessment of North-East group, except 'Availability of Packaging Facilities' indicator.

Logistics Infrastructure -
Indicator-wise performance

— Meghalaya   — Indicator Average
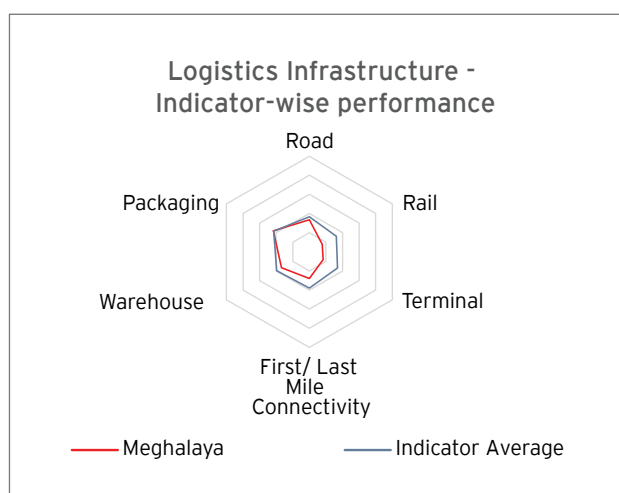
To enhance infrastructure across the state, State could collaborate with industry stakeholders to develop a comprehensive, data-driven Logistics Master Plan. This plan would serve as a framework for identifying existing gaps and strategies to implement the proposed interventions. State may also undertake an evaluation of the feasibility and demand for developing logistics infrastructure at Mahendraganj to facilitate EXIM cargo transportation to Bangladesh which could help reduce traffic congestion at ICP Tetrapole

Logistics Services

User perception assessment for all the 'Logistics Service' indicators, except 'Quality of Transport Services', is below the average performance assessment of North-East Group.
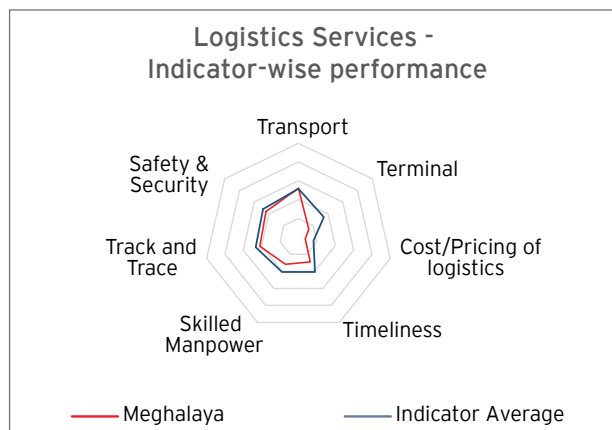
Logistics Services -
Indicator-wise performance

— Meghalaya   — Indicator Average

The State should enhance mobile connectivity across the region to improve the availability of track and trace services. Additionally, State should prioritize addressing skill gaps by collaborating with private stakeholders to devise and develop logistics-related training programs and courses to provide industry ready manpower.

Operating & Regulatory Environment

User perception assessment for all the 'Operating & Regulatory Environment' indicators except grievance redressal are below the average of the North-East group.

State is in the process of finalization its logistics policy. Further, to enhance the logistics sector, the State could explore measures to encourage regular dialogues with private stakeholders, ensuring effective communication and education about the various initiatives undertaken by the State. Additionally, examining successful initiatives implemented by other states can provide valuable insights for further improvements in the logistics sector

Operating & Regulatory Environment -
Indicator-wise performance

— Meghalaya   — Indicator Average
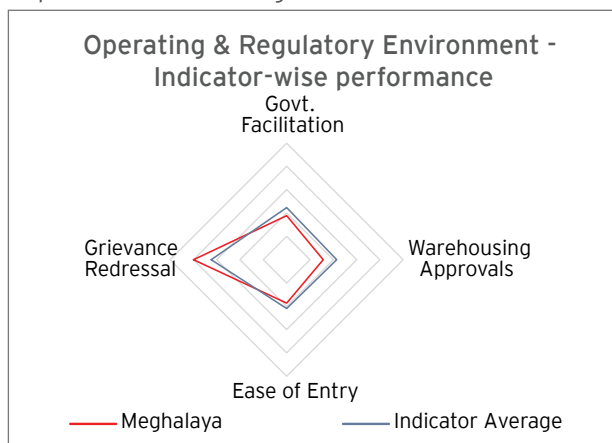
2.3.5 Mizoram

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State Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

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Mizoram is categorized as an **Aspirer** in LEADS 2023.

The user performance assessment of most indicators across various pillars is below the North-East Group's average. There has been a noticeable improvement in the overall perception of the State's logistics ecosystem since LEADS 2019.

The State has already taken a significant step by notifying its logistics policy, which lays the foundation for improvements in the sector. To further enhance its logistics capabilities, the State should consider preparing a comprehensive Logistics Master Plan to guide strategic interventions, engaging in stakeholder consultations to better understand the challenges faced by the industry, studying successful initiatives from similar states to drive efficiency improvements and actively facilitating investments within the logistics sector, which will play a pivotal role in enhancing the state's logistics ecosystem.

Logistics Infrastructure

User perception assessment across all the 'Logistics Infrastructure' indicators is below the average performance assessment of North-East Group.

To improve logistics infrastructure, State should

Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

—— Mizoram —— Indicator Average
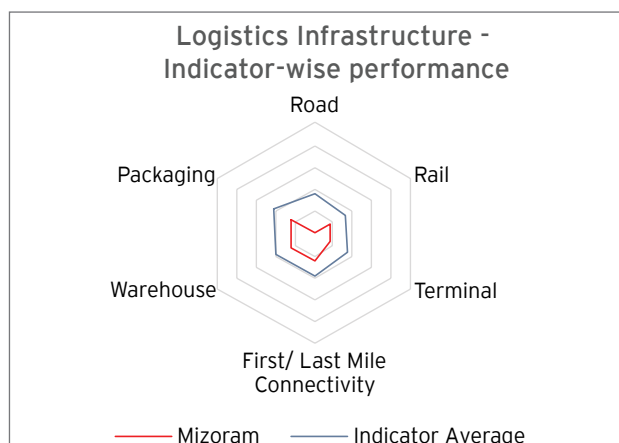
collaborate with industry stakeholders to develop an all-encompassing, data-driven Logistics Master Plan. This plan shall serve as a guide for implementing strategies to minimize the gaps identifies in the plan. This collaborative effort shall not only streamline infrastructure development but also benefit from the industry's invaluable expertise and insights, leading to a positive impact on the State's logistics landscape.

Logistics Services

As indicated in the chart, the user perception assessment for all the 'Logistics Service' indicators are below the North-East Group's average.

State should explore opportunities for collaborating with private stakeholders to conceptualize and implement logistics-focused training programs and courses. These initiatives will ensure a skilled workforce that meets the industry's demands and improves State's logistics capabilities. Furthermore, State could also focus on improving mobile connectivity across the region which is critical in ensuring the availability of efficient track and trace services and facilitating the smooth movement of goods.
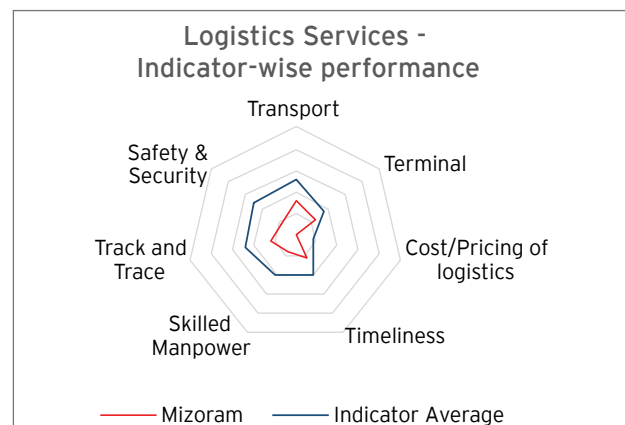
Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

—— Mizoram —— Indicator Average

Operating & Regulatory Environment

User perception assessment for all the 'Operating & Regulatory Environment' indicators is below the average performance assessment of North-East Group.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation, Warehousing Approvals, Ease of Entry, Grievance Redressal

—— Mizoram —— Indicator Average
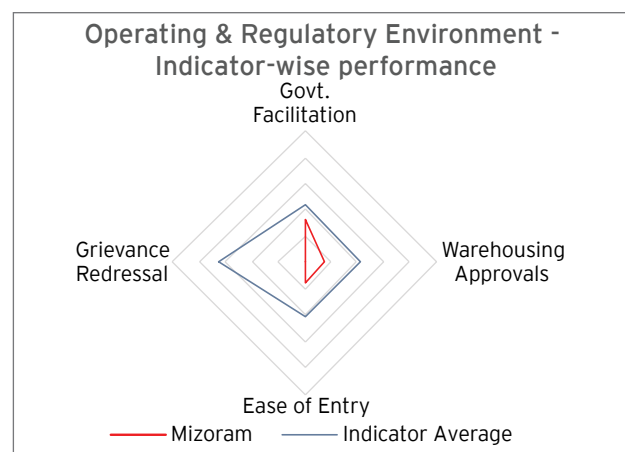
The State has already notified its logistics policy. State should also consider enhancing communication and education efforts with private stakeholders to keep them informed about various initiatives undertaken by the State to improve the logistics sector. The State could explore measures to improve the effectiveness of the existing grievance redressal mechanism and develop a monitoring mechanism for grievance redressal to further enhance the perception among stakeholders. Furthermore, the State should explore successful initiatives implemented by other States as well.

2.3.6 Nagaland

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State Performance Snapshot

2023	2022
FAST MOVER	**ASPIRER**

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Nagaland has been categorized as a **Fast Mover** in LEADS 2023, indicating a substantial enhancement in the overall perception of the State's logistics environment since LEADS 2019. The State has been proactively undertaking a range of initiatives to boost the efficiency of its logistics ecosystem.

Logistics Infrastructure

As shown in the chart, user perception assessment for all the 'Logistics Infrastructure' indicators except for 'Quality & Adequacy of Terminal Infrastructure' and 'Availability of Warehouse Infrastructure' is below the average performance assessment of North-East Group.

Logistics Infrastructure - Indicator-wise performance
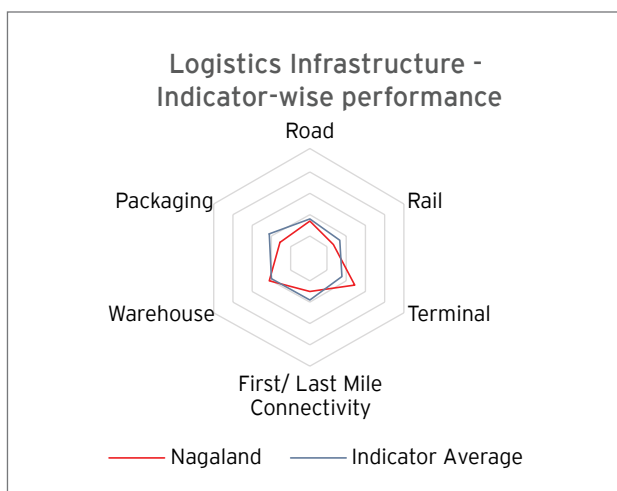
State has undertaken various projects aimed at addressing the infrastructure gap in the logistics sector, which include the Modern Aggregation Centre at Longnak and Changtongya, and a Warehouse at Meluri, which are presently under implementation. To further enhance the logistics infrastructure, the State could benefit from examining successful initiatives adopted by other similar states such as the development of a data-driven Logistics Master Plan, which would serve as a comprehensive framework for identifying and implementing identified interventions.

Logistics Services

As shown in the chart, user perception for 'Cost / Pricing of Logistics Services', 'Availability of Track and Trace Services', and 'Safety / Security of Cargo' are above the North-East Group's average.
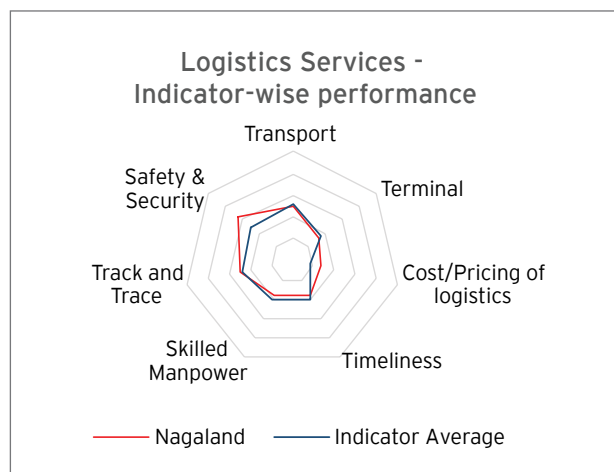
Logistics Services - Indicator-wise performance

Operating & Regulatory Environment

As shown in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators is above average of the North-East Group.

Operating & Regulatory Environment - Indicator-wise performance
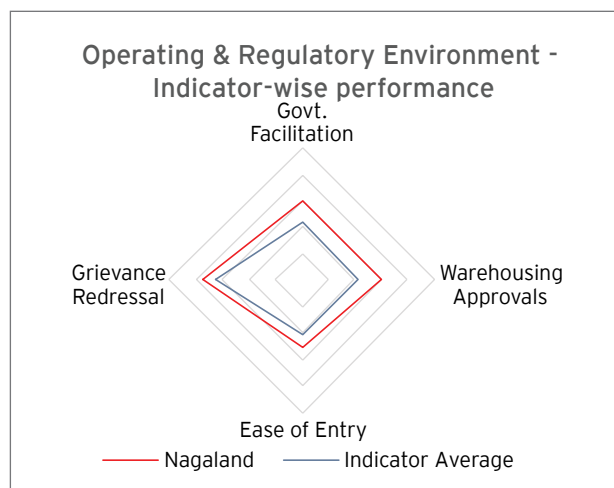
The State is currently in the process of finalizing the logistics policy which is aimed at promoting the development of the sector, which shall contribute to the State's overall performance improvement. Furthermore, the State has been actively engaging in ongoing dialogues with private stakeholders to effectively communicate and educate them about the State's initiatives. This proactive engagement has positively impacted the State's performance assessment.

2.3.7 Sikkim

State Performance Snapshot

2023	2022
ACHIEVER	**FAST MOVER**

🏆

Sikkim has been categorized as an **Achiever** as most of the indicators across various pillars are above average in LEADS 2023.

The State is currently in the process of formulating its State Logistics Policy. This policy is designed to strengthen the State's standing in the manufacturing sector by implementing regulatory reforms, streamlining procedures, and fostering export-related activities.

Logistics Infrastructure

User perception assessment for indicators relating to 'Quality of Road Infrastructure', 'Quality & Adequacy of Terminal Infrastructure' and 'Quality of First / Last Mile Connectivity' in the 'Infrastructure' pillar is above the average performance assessment of North-East Group.

Logistics Infrastructure - Indicator-wise performance
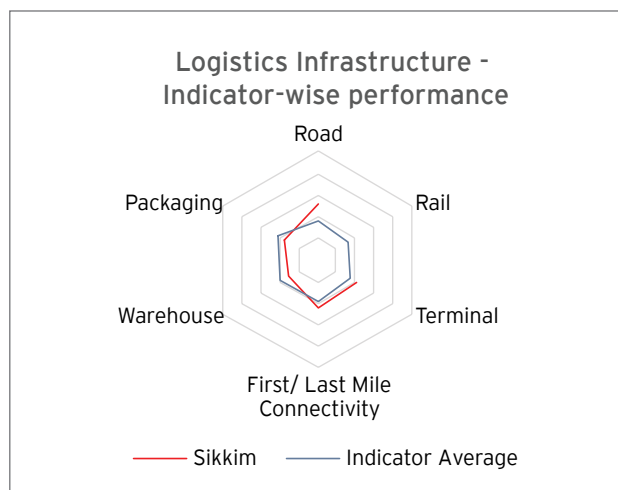
The State Government may take steps and initiate planning exercises to address stakeholder concerns impacting the pillar indicators, including the preparation of a logistics masterplan. This masterplan will serve as a guiding document for undertaking the proposed initiatives.

Logistics Services

User perception assessment for all the 'Logistics Service' indicators, except 'Quality of Transport Services' is above the average performance assessment of North-East Group.

Logistics Services - Indicator-wise performance
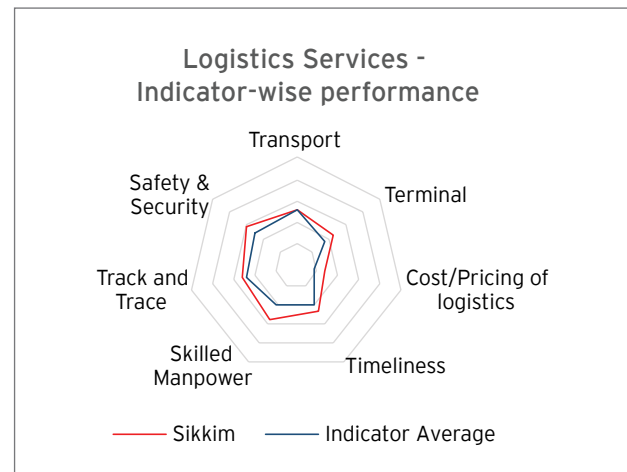
User perception regarding Availability of Skilled Manpower', and 'Safety & Security' is higher compared to that for 'Quality of Terminal Services', and 'Availability of Track & Trace Services'.

Operating & Regulatory Environment

User perception assessment for 'Governments Facilitation is above the average performance assessment of North-East Group.

Operating & Regulatory Environment - Indicator-wise performance
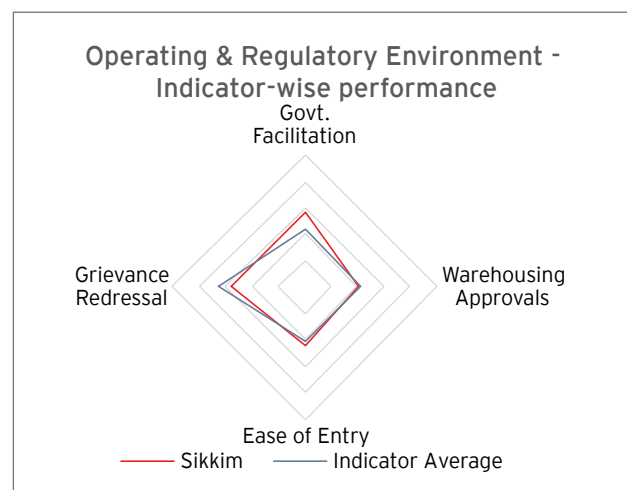
The State is currently finalising its logistics policy which shall promote the sector's development and enhance the State's overall performance. The State should also focus on engaging with stakeholder to inform them about improvement initiatives taken by State.

2.3.8 Tripura

State Performance Snapshot

2023	2022
ACHIEVER	**FAST MOVER**

Tripura has been categorized as an **Achiever** LEADS 2023.

The State has been proactively undertaking a range of initiatives to boost the efficiency of its logistics ecosystem. State has notified its Integrated Logistics Policy, 2022 which has created positive impact on the performance assessment of the State. The policy focusses on creation of aggregation hubs as a centre for storage of perishable and non-perishable commodities, development of truck terminals and driver resting facilities; the policy lays emphasis on the thrust sectors like tea, rubber, agro & allied products, healthcare, education, and skill development.

Logistics Infrastructure

As shown in the chart, user perception assessment for all the 'Logistics Infrastructure' indicators is almost same as or above the average performance assessment of North-Eastern States. Perception regarding 'Availability of Packaging Facilities', 'Quality

Logistics Infrastructure - Indicator-wise performance

— Tripura   — Indicator Average
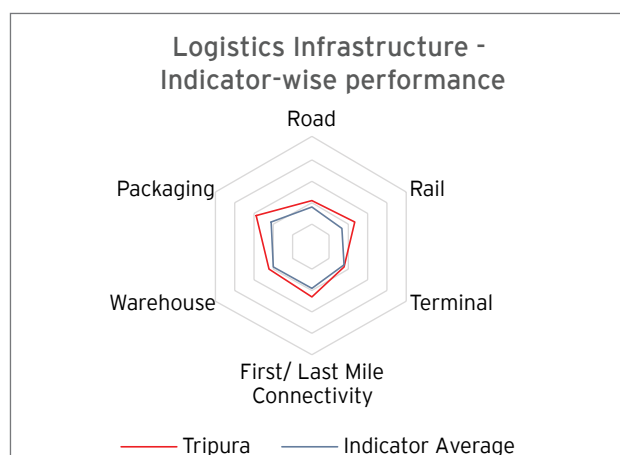
of Fist / Last Mile Connectivity', and 'Quality and Adequacy of Rail Infrastructure' is higher when compared to 'Quality of Road Infrastructure', 'Quality & Adequacy of Terminal Infrastructure', and 'Availability of Warehouse Infrastructure'.

To further improve the performance, State could focus on undertaking a detailed assessment of the logistics sector and identification of gaps through preparation of a logistics masterplan and identify strategies to implement the identified projects.

Logistics Services

As shown in the chart, user perception assessment for all the 'Logistics Service' indicators except 'Quality of Terminal Services' are above the average performance assessment of the North-East Group.

Logistics Services - Indicator-wise performance

— Tripura   — Indicator Average
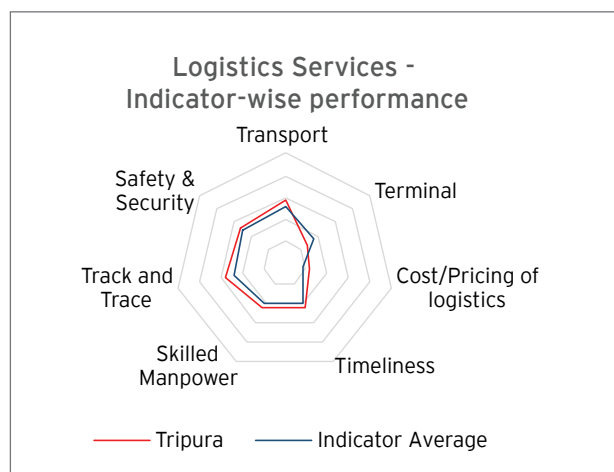
The State could further focus on improving current services by collaborating with private stakeholders to devise and offer logistics skill courses. Furthermore, it could also explore replicating successful initiatives from other states.

Operating & Regulatory Environment

As shown in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators are either the same as or below the average performance assessment of North-East Group.

The State has actively engaged with stakeholders and notified its logistics policy following extensive discussions with industry stakeholders. Additionally, awareness and training campaigns have been conducted in collaboration with industry stakeholders. As a result of these initiatives, the performance assessment has significantly improved, surpassing the group's average

Operating & Regulatory Environment - Indicator-wise performance

— Tripura   — Indicator Average
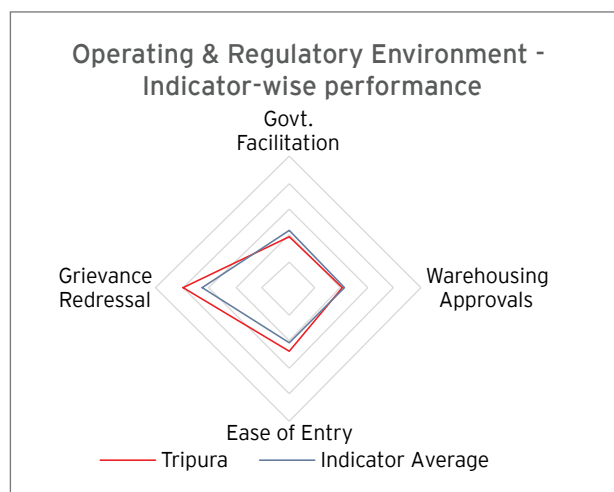
Initiatives undertaken by the State

1. Human Resources Development and Capacity Building for Logistics Sector - To unlock the promised economic potential of the North-East, India's first School of Logistics, Waterways, and Communication was inaugurated in January 2023, in Agartala with the aim of delivering exceptional education and training to the skilled individuals of the North-East region. This education will empower them to thrive within the transportation and logistics industry. The school's primary objective is to leverage the economic opportunities present in the North-East by utilizing the human resources within the region's waterways and transportation sector. To unlock the promised economic potential of the North-East, this school will play an important role.

Result Headlines - North-East Group

North-East Group Performance* Snapshot
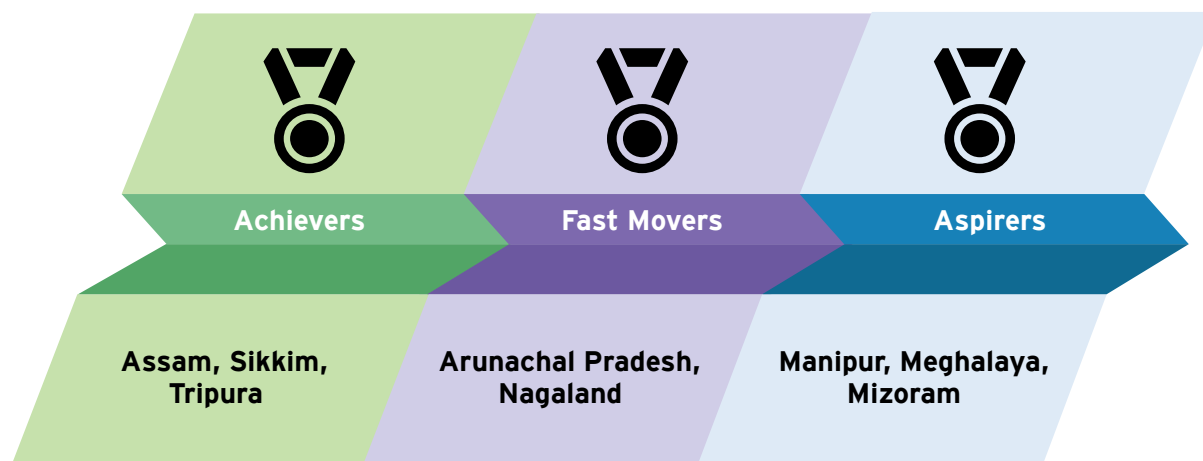
Achievers	Fast Movers	Aspirers
Assam, Sikkim, Tripura	Arunachal Pradesh, Nagaland	Manipur, Meghalaya, Mizoram

* States/ Union Territories within the performance categories are listed in alphabetical order.

Key Highlights

1. North-East Group's performance driven by Logistics Infrastructure pillar with 21% growth vis-à-vis 2019 LEADS, highlighting the impact of coordinated development efforts by Center and States.

2. Stakeholders have a higher satisfaction level with Operating & Regulatory Environment followed by Logistics Infrastructure and Logistics Services pillars.

3. Narrowing Gap between Achievers and Aspirers across all pillars: Infrastructure shows most significant performance gain.

4. Perception regarding the following indicators is high across the North-East Group:

   a. Quality of Road and First/Last Mile Connectivity

   b. Track & Trace Services and Timeliness of Cargo

   c. Government Facilitation

3.4 Union Territories Group Performance

There are 8 Union Territories in India which are federal regions governed in varying degrees by the Central Government and respective UT Governments. Some of the UTs are industrialized like Delhi, Chandigarh, due to the influence of their neighbouring Industrialized states and consumption centres. These UTs are dependent on neighbouring states for supply chain and logistics ecosystem efficiency.

Union Territories group's logistics performance stable: Group level performance assessment shows that user satisfaction across services and regulatory has improved as compared to 2019 while that in infrastructure has remained stable. The variation performance assessment of Union Territories in Logistics Infrastructure and Logistics Services (difference between top and bottom performing states) has reduced, while Operating & Regulatory Environment it has increased. Focused efforts are being made by the Central Government and UTs administrations to reduce this gap.

Figure 29 Variation of Union Territories performance in UT group
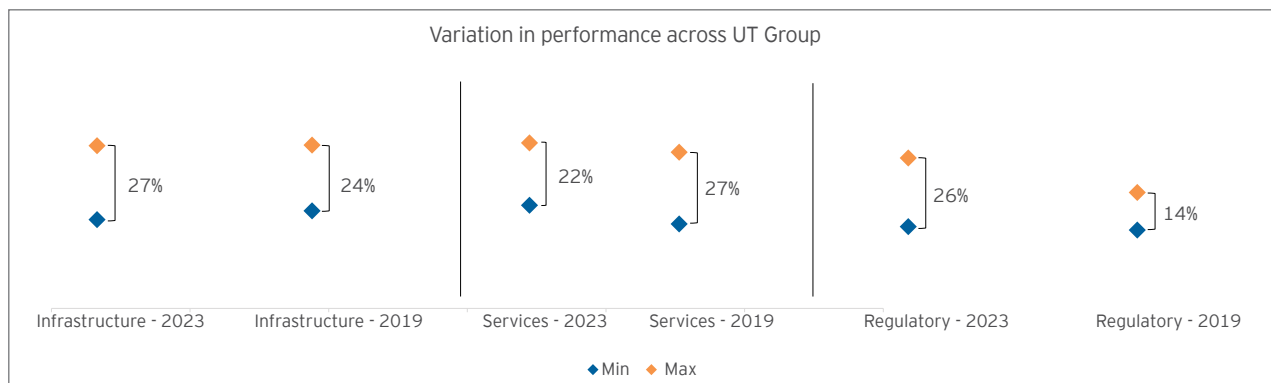
Disclaimer: the above comparison is for UT's excluding Andaman & Nicobar, Ladakh and Lakshadweep as in LEADS 2019 data was not available.

Regulatory pillar driving performance for Union Territories Group: *User perception for Union Territories group is driven by Operating and Regulatory Environment and Logistics Services pillar. This shows that UTs administration efforts in developing City / UT Logistics masterplan is garnering positive feedback in the survey. Individual pillar wise analysis further reveals that Safety and Security of Cargo can be attributed to good Track and Trace Facilities. The overall Logistics Infrastructure pillar has remained stable and efforts to improve further will lead to competitive costing of cargo movement and better services offered. Emphasis to develop of Rail, Terminals & Warehouse Infrastructure will ensure smooth of flow of cargo in UTs.*

Disclaimer: In LEADS 2019, data for Andaman & Nicobar, Ladakh and Lakshadweep was not available.

Logistics Infrastructure – Quality of Roads and Terminals perceived to be good: As per LEADS 2023 survey, user have indicated stable Logistics Infrastructure. Within the pillar (refer figure alongside), UTs endorse varying degrees of improvement as compared to 2019 with Jammu & Kashmir, Puducherry and Delhi leading the Group in terms of absolute user perception scores. Users have

indicated a higher level of satisfaction with respect to Quality of Road and Last Mile Connectivity in general across the Group. Stakeholder's perception regarding Quality of Warehouses & Quality of Rail services of UTs in mainland India has needs improvement. Daman & Diu Dadra Nagar Haveli needs improvement in each and every indicator of Infrastructure Pillar except for availability of Packaging Facilities.

Figure 30 Performance assessment of UT Group in Logistics Infrastructure – 2023 v/s 2019
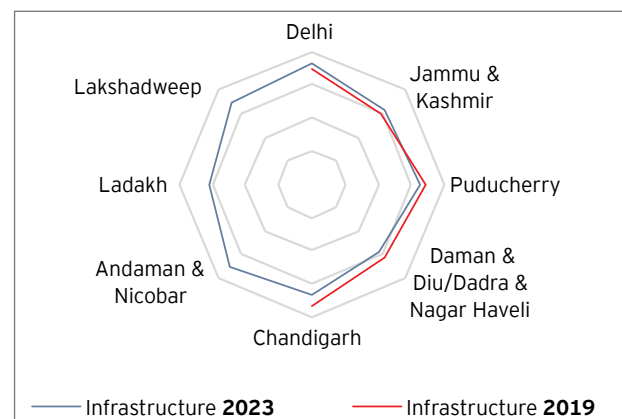
Disclaimer: In LEADS 2019, data for Andaman & Nicobar, Ladakh and Lakshadweep was not available.

Analysis of LEADS 2023 survey user data further reveals that across UTs, As indicated earlier Quality of Roads - 93% First/Last mile connectivity & Quality of Terminal Infrastructure – 91% & Quality of Rail Infrastructure – 90% has received highest satisfaction levels in the survey with users responding positively Comparatively Warehousing and Packaging have received the lowest satisfaction with only 68% and 67% user responses respectively, indicating an area of improvement.

was available in 2019). In Logistics Services pillar, UTs like Delhi, Chandigarh & Puducherry have received favorable responses in respect to services offered. Indicator wise assesment shows Safety & Security of Cargo, Track & Trace Services, and Quality of Transport Services is better compared to other Service indicators by the Users. Ladakh has received low perception in the services pillar due its remote geographical location but efforts are being made to connect the UT with other parts of the country.

Figure 31 No. of users who perceived Logistics Infrastructure as 3 or more out of 5

Figure 33 No. of users who perceived Logistics Services as 3 or more out of 5
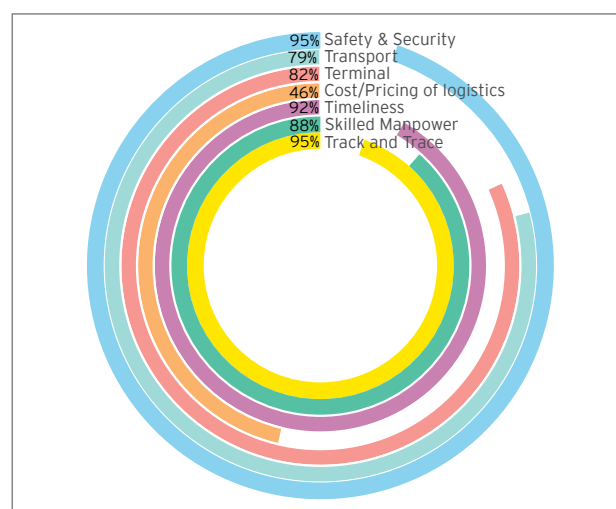
Logistics Services – Efficient Track & Trace leads to Timely Movement & Safety of Cargo: Stakeholders have expressed satisfaction with respect to Logistics Services in the region. The pillar has witnessed growth of 7% in comparison to 2019 showing improvement in the overall quality of services (select UTs whose data

Data analysis of LEADS 2023 survey reveals Users have rated 3 or more for Safety & Security – 95%, Track & Trace – 95% and Timeliness of Cargo Delivery – 92 % stating strong User satisfaction amongst the Users. Cost/pricing of logistics is the only indicator where 46% users are satisfied and thus has been identified as an area of improvement.

Figure 32 Performance assessment of UT Group in Logistics Services – 2023 v/s 2019
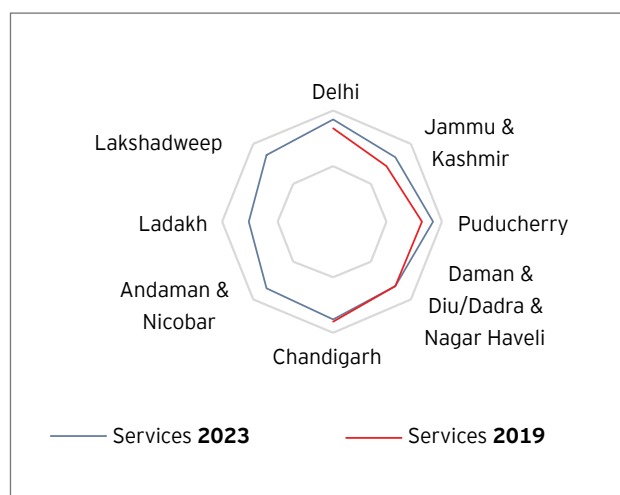
Disclaimer: In LEADS 2019, data for Andaman & Nicobar, Ladakh and Lakshadweep was not available.

Operating & Regulatory Environment – consistent improvement across the States: There has been a positive shift in user perception towards Operating and Regulatory environment across the UTs within the Group. Industry stakeholders have appreciated concerted policy and reforms actions undertaken by the Center and respective administrations for development of logistics ecosystem. UTs like Delhi, Daman Diu & Dadra Nagar Haveli and Chandigarh have been appreciated for their industry connect, reach-out for feedback and policies being aligned to the same. Andaman & Nicobar Islands formulation and notification of their Logistics Policy has had positive feedbacks and is seen in their performance assessment score. User satisfaction for the Group as a whole has been assessed high w.r.t. Governments Role

in Facilitating, Incentivizing & Promotion of Logistics of Logistics Infrastructure in the UTs. Delhi, Andaman & Nicobar Islands and Chandigarh lead in terms of absolute user perception scores.

Data analysis of LEADS 2023 survey reveals that across UTs, in Operating & Regulatory environment majority of the users are satisfied with Ease of Entry – 82%, Warehouse Approvals – 75% and Government Facilitation – 72% having received 3 or more rating. However, Grievance redressal has been identified as an area of improvement. User interactions have also indicated more consultations and industry reach-out required between the UT's and Industry stakeholders to understand issues on ground, identify solutions, disseminate information on key Government policies and initiatives

Figure 34 Performance assessment of UT Group in Operating & Regulatory environment – 2023 v/s 2019

Figure 35 No. of users who perceived Operating & Regulatory Environment as 3 or more out of 5

Disclaimer: In LEADS 2019, data for Andaman & Nicobar, Ladakh and Lakshadweep was not available.
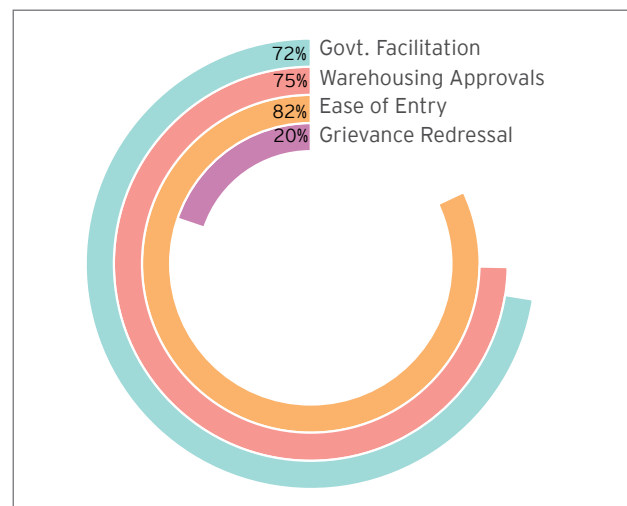
Union Territories group performance in LEADS 2023 – pillar wise

Figure 36 Pillar wise logistics performance analysis of Union Territories Group
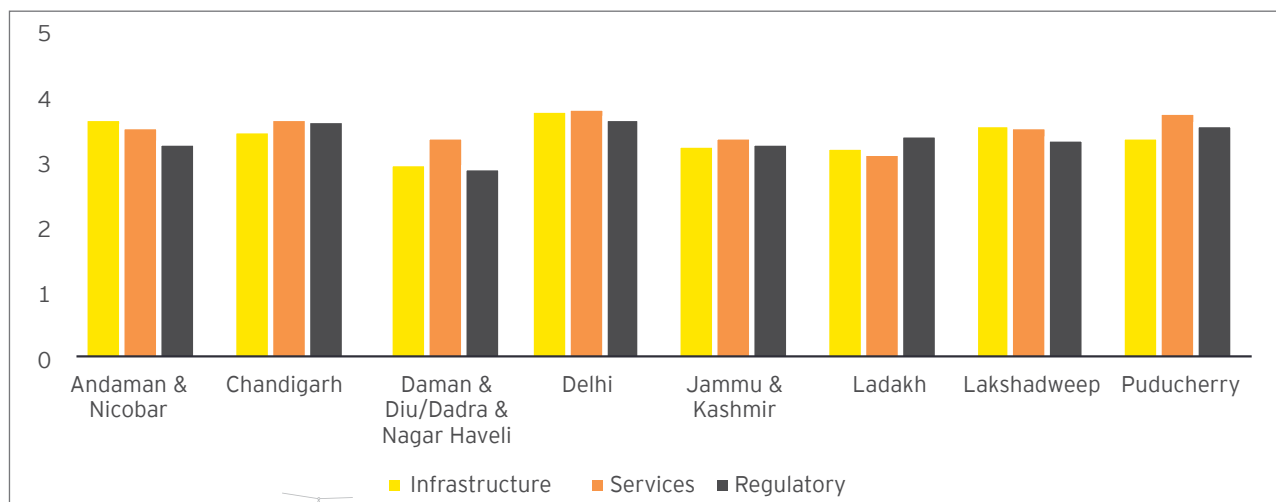
Logistics Infrastructure:

Users have a higher level of satisfaction with Road Infrastructure and First / Last mile Connectivity compared to other Logistics Infrastructure indicators listed in the table above. User perception regarding Rail Infrastructure, Warehousing Infrastructure and Terminal Infrastructure is below average score of Logistics Infrastructure pillar.

From an individual UT perspective, user perception scores of all Logistics Infrastructure indicators for

Delhi is above the indicator average score within Union Territories Group while perception scores for one or more indicators are below indicator average score for balance UTs.

Satisfaction levels appear to be broadly similar across Coastal and Landlocked States for all the Logistics Infrastructure indicators except Terminal Infrastructure, where satisfaction level in Coastal states is higher compared to that in Landlocked states.

Table 12 Union Territories Group – Logistics Infrastructure indicator wise perception score heatmap

Pillar	Indicators	Andaman & Nicobar	Chandigarh	Daman & Diu/ Dadra & Nagar Haveli	Delhi	Jammu & Kashmir	Ladakh	Lakshadweep	Puducherry
Logistics Infrastructure	Road	Above	Above	Below	Above	Above	Above	Above	Above
	Rail	Above	Below	Above	Above	Above	Below	Above	Below
	Terminal	Above	Above	Above	Above	Below	Below	Above	Above
	First/ Last Mile Connectivity	Above	Above	Below	Above	Above	Above	Above	Below
	Warehouse	Below	Above	Below	Above	Above	Above	Above	Above
	Packaging	Below	Below	Above	Above	Below	Below	Below	Above

■ Above Average   ■ Below Average

Logistics Services:

Within Logistics Services pillar, users are more satisfied with Track & Trace Services, Transport Services, Safety & Security of Cargo and Timeliness of Cargo compared to other Service indicators. Perception regarding availability of Skilled Manpower, Terminal Services and Cost / Pricing of Logistics Services is below the average score for Logistics Services pillar.

From an individual UT perspective, user perception scores of all Logistics Services indicators for Delhi are above indicator average score for Union Territories Group while perception scores for one or more indicators are below indicator average for balance UTs e.g. in case of Chandigarh, perception scores are above indicator average for all indicators except Cost / Pricing of Logistics services.

Table 13 Union Territories Group – Logistics Services indicator wise perception score heatmap

Pillar	Indicators	Andaman & Nicobar	Chandigarh	Daman & Diu/ Dadra & Nagar Haveli	Delhi	Jammu & Kashmir	Ladakh	Lakshadweep	Puducherry
Logistics Services	Transport	Above	Above	Below	Above	Below	Below	Above	Below
	Terminal	Below	Below	Below	Above	Below	Above	Above	Above
	Cost/Pricing of logistics	Below	Above	Above	Above	Above	Above	Below	Above
	Timeliness	Below	Above	Below	Above	Below	Above	Above	Above
	Skilled Manpower	Below	Above	Below	Above	Below	Below	Above	Above
	Track and Trace	Below	Above	Above	Above	Below	Below	Above	Above
	Safety & Security	Below	Above	Below	Above	Above	Below	Above	Above

■ Above Average   ■ Below Average

Operating & Regulatory Environment:

Within the Operating & Regulatory Environment pillar, users are more satisfied with Ease of Entry indicator compared to other indicators in this pillar. From an individual UT perspective, user perception scores of all Operating & Regulatory Environment indicators for Delhi, Chandigarh and Puducherry are above indicator average while perception scores for one or more indicators are below indicator average for balance UTs.

Table 14 Union Territories Group – Operating & Regulatory Environment indicator wise perception score heatmap

Pillar	Indicators	Andaman & Nicobar	Chandigarh	Daman & Diu/ Dadra & Nagar Haveli	Delhi	Jammu & Kashmir	Ladakh	Lakshadweep	Puducherry
Operating & Regulatory Environment	Govt. Facilitation	Above	Above	Below	Above	Above	Above	Below	Above
	Warehousing Approvals	Above	Above	Below	Above	Below	Below	Above	Above
	Ease of Entry	Below	Above	Below	Above	Below	Above	Below	Above
	Grievance Redressal	Above	Above	Below	Above	Above	Below	Below	Above

■ Above Average   ■ Below Average

Union Territories

2.4.1 Andaman & Nicobar Islands

UT Performance Snapshot

2023	2022
FAST MOVER	**ASPIRER**

Andaman & Nicobar has been categorized as a **Fast Mover** in LEADS 2023 Union Territories (UT) Group.

UT is actively implementing multiple measures to enhance the overall efficiency of the logistics ecosystem. Andaman and Nicobar Islands is the only UT that has notified its Logistics policy.

Logistics Infrastructure

As presented in the chart, the performance assessment of the user perception for all 'Logistics Infrastructure' indicators, except for 'Availability of Warehouse Infrastructure' and 'Availability of Packaging Facilities' is above the performance assessment of Union Territories Group.

Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

—— Andaman & Nicobar   —— Indicator Average
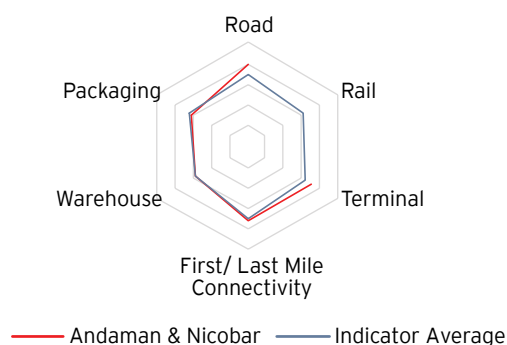
An international greenfield container transhipment port is being proposed at Great Nicobar Island which shall be strategically located on the International Trade Route and is envisaged to capture potential transhipment cargo, reduce cost, and enhance trade security.

Logistics Services

As presented in the chart, the user perception performance assessment for all the 'Logistics Services' indicators, except for 'Quality of Transport Services' are below the average of the UT's.

UT could focus on improving mobility services that will enhance track and trace facilities and also improve timeliness and safety & security of cargo. UT could also foster partnerships with private stakeholders for developing courses for logistics sector that can complement the demand for skilled for manpower for local export manufacturing industry.

Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

—— Andaman & Nicobar   —— Indicator Average

Operating & Regulatory Environment

As presented in the chart, user perception assessment for all the 'Operating & Regulatory Environment' indicators except for 'Ease of Entry' are above the average mean performance assessment of UT's.

UT has proactively engaged with the Stakeholders during the finalization of logistics policy. Further, UT logistics policy designates Logistics and Warehousing-related activities as having 'Industry Status'. This policy is focused on establishing and enhancing logistics and infrastructure facilities, implementing an efficient regulatory and support system, promoting the adoption of new technologies by private players, and providing training and upskilling opportunities for professionals in the logistics sector.

Operating & Regulatory Environment - Indicator-wise performance

Govt. Facilitation, Warehousing Approvals, Ease of Entry, Grievance Redressal

—— Andaman & Nicobar   —— Indicator Average

2.4.2 Chandigarh

UT Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

Chandigarh has maintained its **Achiever** category within the Union Territories group.

Positive impacts of measures to enhance the logistics ecosystem is the UT is being reflected in the performance assessment by the industry stake holders. The perception performance assessment for majority of the indicators across the pillars of assessment are above the Group average.

Logistics Infrastructure

As presented in the below chart, user perception assessment for 'Logistics Infrastructure' indicators, except for 'Quality and Adequacy of Rail Infrastructure', 'Quality and Adequacy of Terminal Infrastructure', and 'Availability of Packaging Facilities' are above the average of Union Territories Group.

Logistics Infrastructure - Indicator-wise performance

— Chandigarh   — Indicator Average
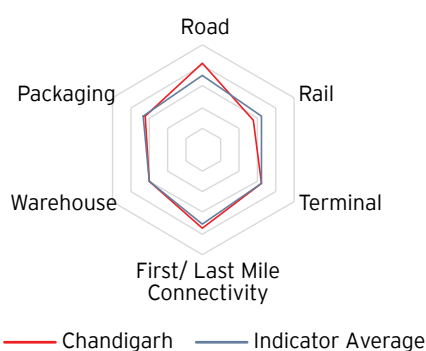
As indicated form the stakeholder feedback UT could consider developing dedicated parking laybys in the peri-urban zones of the city to ease out congestion. Further, UT could consider preparing a detailed logistics master plan to identify the existing gaps and develop strategies to implement the plan.

Logistics Services

As presented in the chart, the user perception assessment for all the 'Logistics Service' indicators, except for 'Quality of Terminal Services' are above the mean performance assessment of the UT's.

The establishment of driver training institute at Raipur Khurd is expected to tackle the skill gaps identified by industry stakeholders. UT could further enhance its current services by considering collaboration with private stakeholders to develop and offer logistics skill courses.

Logistics Services - Indicator-wise performance

— Chandigarh   — Indicator Average
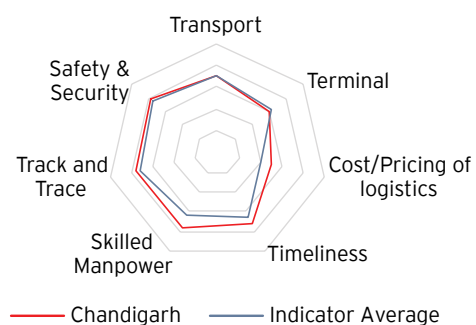
Operating & Regulatory Environment

As presented in the chart, user perception for all the 'Operating & Regulatory Environment' indicators is above the average performance of UT's.

Operating & Regulatory Environment - Indicator-wise performance

— Chandigarh   — Indicator Average
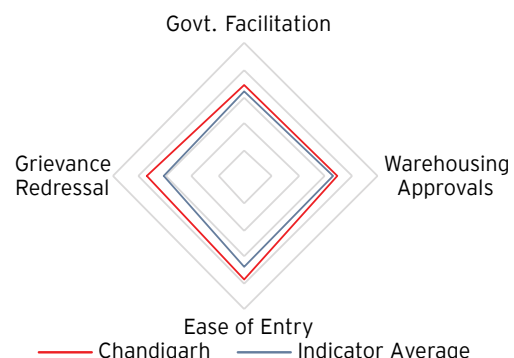
The UT is actively collaborating with stakeholders and is in the process of finalizing its Logistics policy. Further, UT Engineering Department is developing an Inspection and Certification Center to further streamline the inspection of national permit service vehicles.

2.4.3 Daman & Diu / Dadra & Nagar Haveli

UT Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Daman & Diu / Dadra & Nagar Haveli has maintained its position as **Aspirer** within the Union Territories group.

There has been an overall improvement in user perception across all the 3 pillars used to measure logistics performance i.e., Logistics Infrastructure, Logistics Services and Operating & Regulatory Environment with respect to LEADS 2019.

Logistics Infrastructure

As presented in the adjacent chart, user perception performance assessment across all the 'Logistics Infrastructure' indicators, except for 'Availability of Packaging Facilities' is below the average of Union Territories group.
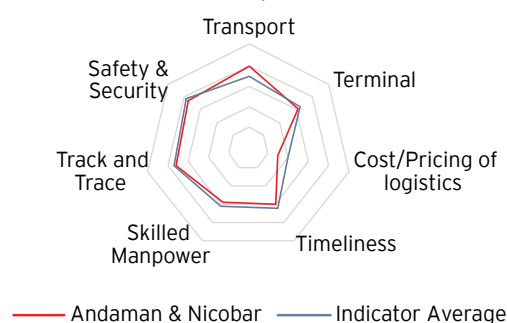
Logistics Infrastructure - Indicator-wise performance

— Daman & Diu/Dadra & Nagar Haveli
— Indicator Average
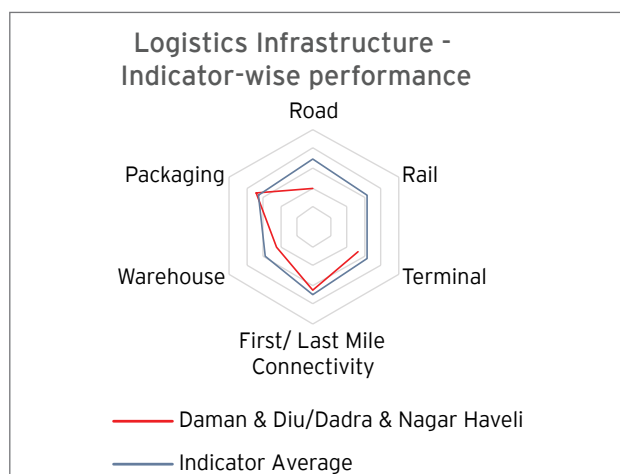
The heavily industrialized Silvassa industrial area experiences a substantial movement of cargo trucks due to its strategic location between Gujarat and Maharashtra. UT could undertake a detailed exercise to identify the challenges and way forward for improving the logistics ecosystem by preparing a logistics master plan which could also include interventions to improve road infrastructure and development of truck parking bays among other initiatives.

Logistics Services

As presented in the chart, user perception performance assessment for 'Logistics Service' indicators except for 'Timeliness of Cargo Delivery' is below the average of Union Territories group.

Logistics Services - Indicator-wise performance

— Daman & Diu/Dadra & Nagar Haveli
— Indicator Average
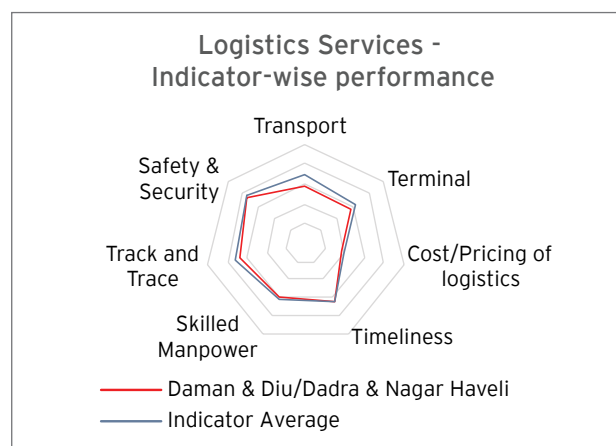
A study may be initiated to assess logistics costs and identify ways to reduce them. The UT can introduce logistics courses in consultation with private stakeholders to meet industry demands.
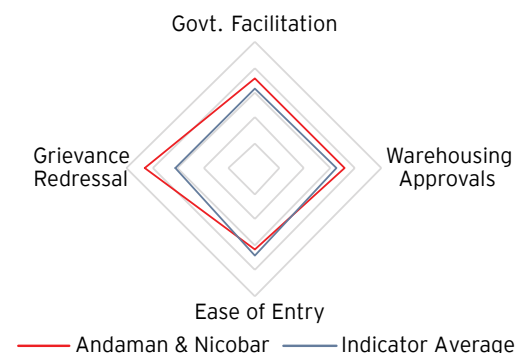
Operating & Regulatory Environment

As presented in the chart, user perception performance assessment for all the 'Operating & Regulatory Environment' indicators are below the average of Union Territories Group which may need further improvement.

Operating & Regulatory Environment - Indicator-wise performance

— Daman & Diu/Dadra & Nagar Haveli
— Indicator Average
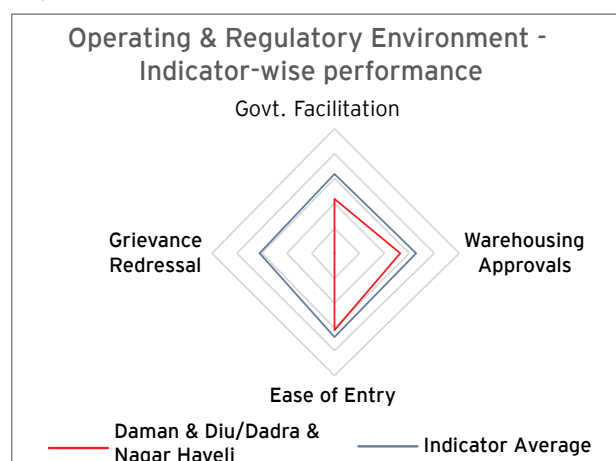
The UT is taking multiple initiatives to streamline freight movement within and through the region. To encourage and facilitate the development of the logistics sector, UT is in the process of finalizing it logistics policy after deliberating with the stakeholders.

2.4.4 Delhi

UT Performance Snapshot

2023	2022
ACHIEVER	**ACHIEVER**

Delhi has been categorized as an **Achiever** in LEADS 2023.

The UTs commitment in enhancing the logistics system has had a positive impact on user satisfaction levels which are the highest for Logistics Services, followed by Logistics Infrastructure and then Operating & Regulatory Environment. While perception assessment for majority of the indicators is above the Group average, Delhi may focus on enhancing 'Availability of Warehouse Infrastructure', 'Availability of Packaging Facilities', and 'Cost/ Pricing of logistics Services'.

Logistics Infrastructure

As presented in the chart, user perception performance

Logistics Infrastructure - Indicator-wise performance

Road, Rail, Terminal, First/ Last Mile Connectivity, Warehouse, Packaging

— Delhi — Indicator Average
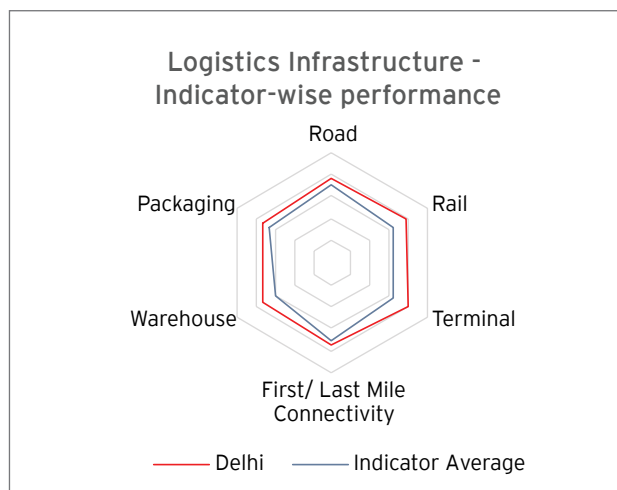
assessment across all the 'Logistics Infrastructure' indicators is above the average Union Territories group.

The Union Territory is in the process of formulating the City Logistics Plan to identify and implement interventions around streamlined vehicular movement, parking, 24X7 warehouse operations and first and last mile connectivity. Based on stakeholder feedback, UT could also look into first and last mile connectivity to Narela, Patparganj, Mayapuri, and Najafgarh industrial zones.

Logistics Services

As presented in the chart, user perception performance assessment for all the 'Logistics Services' indicators is above the average of other Union Territories.

Logistics Services - Indicator-wise performance

Transport, Terminal, Cost/Pricing of logistics, Timeliness, Skilled Manpower, Track and Trace, Safety & Security

— Delhi — Indicator Average
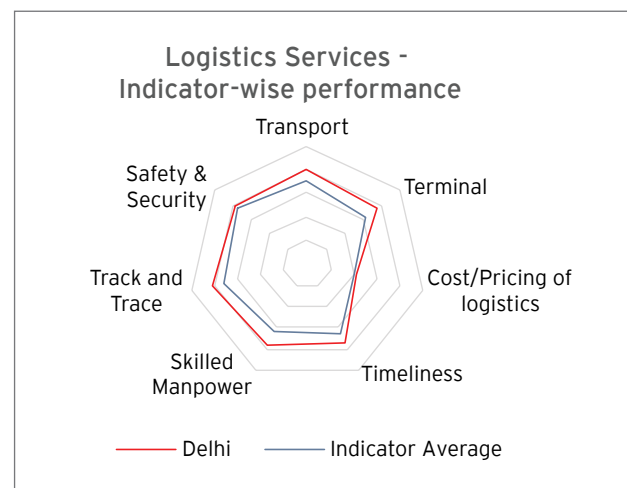
The Delhi Skill and Entrepreneurship University (DSEU) in collaboration with key industry partners, are designing and enhancing the DSEU's logistics sector skill development programs for enhancing Skills for Logistics Industry. The industry has responded positively to the initiative, which is reflected in the performance assessment of the UT.

Operating & Regulatory Environment

As presented in the chart, user perception performance assessment for all the 'Operating & Regulatory Environment' indicators is above the average of Union Territories.

UT is in the process of formulating its Logistics and Warehousing Policy incorporating the leading practices to promote unified logistics interface, ease of doing business in the logistics sector, the action plans addressing skill development and capacity building challenges. Further, to address congestion and traffic violations, UT has identified various chokepoints across the city and deployed officials for monitoring & enforcement, thereby easing transit points.

Operating & Regulatory Environment - Indicator-wise performance
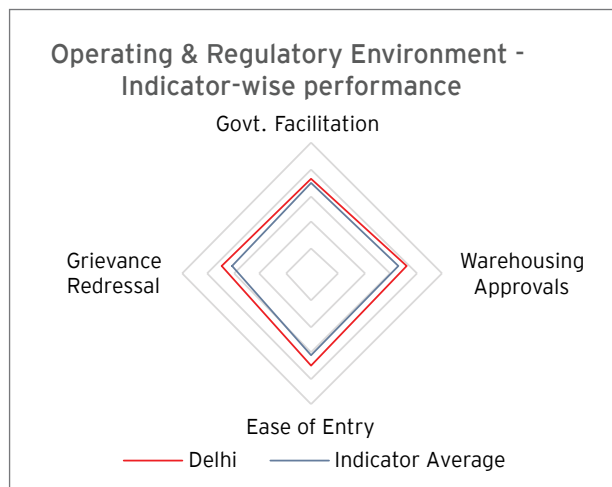
Initiatives undertaken by the Union Territory

a) Formulation of City Logistics Plan: Government of Delhi, as a part of its commitment to address challenges related to freight movement in the Urban Areas, is in the process of conducting a study to develop a comprehensive city plan for Delhi.

b) Promotion of Green mobility: Delhi Government has mandated all its Departments, Autonomous Bodies, and Grantee Institution to shift their existing hired petrol/diesel/CNG vehicles to Electric Vehicles (EVs). By 2024, Delhi also aims to have 1 out of every 4 vehicles sold to be an EV.

2.4.5 Jammu & Kashmir

UT Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Jammu & Kashmir has been categorized as an **Aspirer** in LEADS 2023.

As per LEADS 2023 survey, user satisfaction levels are highest for Services followed by Operating & Regulatory Environment and then Infrastructure.

Logistics Infrastructure

As presented in the chart, user perception performance assessment for all the 'Logistics Infrastructure' indicators, except 'Quality & Adequacy of Rail Infrastructure', and 'Availability of Warehouse Infrastructure' is below the average of Union Territories.

Logistics Infrastructure - Indicator-wise performance
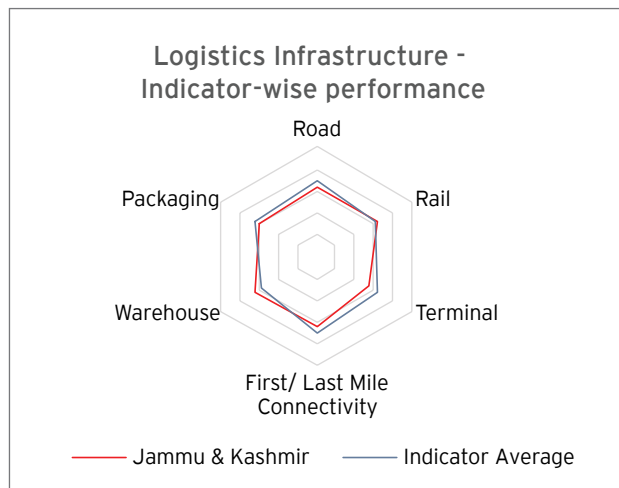
Inputs from stakeholder consultations indicate the potential for enhancing last-mile connectivity to the Aglar industrial area and the Lassipora cluster. Additionally, the Union Territory can derive benefits from the finalization of the logistics master plan, currently under development in consultation with stakeholders, which will serve as a guiding document for improving the logistics sector across the Union Territory.

Development of Peerah-Kunfer Tunnel and Panthyal tunnels on NH-44 in Ramban district, are envisaged to improve the overall connectivity within the UT.

Furthermore, the UT administration is expanding controlled atmosphere storage facilities across the UT and constructed an Air Cargo Terminal Facility at Srinagar Airport. Both measures aim to provide sufficient storage and expedite the evacuation of perishable as well as non-perishable produce.

Logistics Services

As presented in the chart, the user perception performance assessment for all the 'Logistics Services' indicators, except for 'Cost / Pricing of Logistics Services' are below the average of the Services pillar within the Union Territories.

Logistics Services - Indicator-wise performance
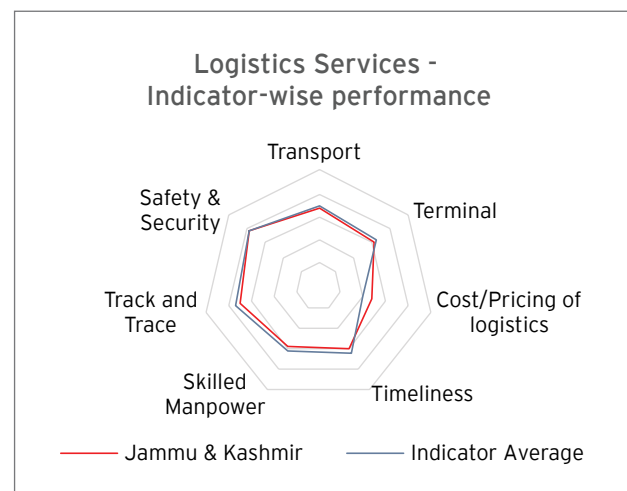
To address the skill gap, the UT offers logistics sector-specific courses through University of Kashmir which has introduced 6 logistics specific courses in 2022. Further, UT under it's Back to Village Program (B2V4), are selecting 20 individuals from each Panchayat to provide sector-specific skills training in the UT. UT could also address skill gaps by collaborating with private stakeholders to develop and deliver logistics skill courses.

Operating & Regulatory Environment

As presented in the chart, user perception performance assessment for all the 'Operating & Regulatory Environment' indicators, except 'Grievance Redressal' is below the average of Union Territories.

UT has been actively engaging with stakeholders to address their concerns. UT could further benefit from the finalization of a logistics policy, which will promote sector development and contribute to UT's overall performance. Furthermore, UT can explore the possibility of examining and implementing successful initiatives from other states to enhance the regulatory framework for the logistics sector

Operating & Regulatory Environment - Indicator-wise performance

— Jammu & Kashmir   — Indicator Average
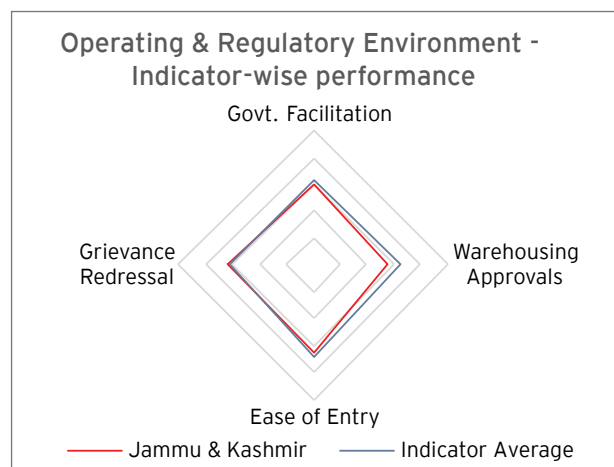
Initiatives undertaken by the Union Territory

a) Development of Air Cargo Terminal at Srinagar Airport: To boost EXIM trade, a cargo terminal has been established to facilitate direct import and export of goods from Srinagar. This facility will reduce transportation time and decrease transportation costs for exporting horticultural produce, handicrafts, and other goods from Kashmir.

b) Development/Augmentation of Controlled Atmosphere (CA) Storage Facilities: To provide optimal storage facilities in the Union Territory (UT) to cater to annual Horticulture and agriculture production and maintain the quality of produce, UT is facilitating the development of CA Storage Facilities across the UT. These facilities ensure to maintain the quality and increase the shelf life of the horticulture/ agriculture produce stored so that the farmers can receive better rates for their products.

c) Focus on improving connectivity to Kashmir region: To reduce distances and avoid landslide prone areas, and provide all weather seamless connectivity to Kashmir Region, various infrastructure development initiatives such as the development of Panthyal and Peerah Tunnel/Peerah-Kunfer Tunnel on NH-44 in Ramban District have been undertaken by Government of India with support from UT in facilitating the execution of projects.

2.4.6 Ladakh

UT Performance Snapshot

2023	2022
ASPIRER	**ASPIRER**

Ladakh has been categorized as an **Aspirer** in **LEADS** 2023.

Perceptions performance assessment on most of the Infrastructure and Services pillar are below the average of UT Group.

Logistics Infrastructure

As presented in the chart, user perception performance assessment for all the 'Logistics Infrastructure' indicators, except for 'Quality of First/Last Mile Connectivity' is below the average of Union Territories.
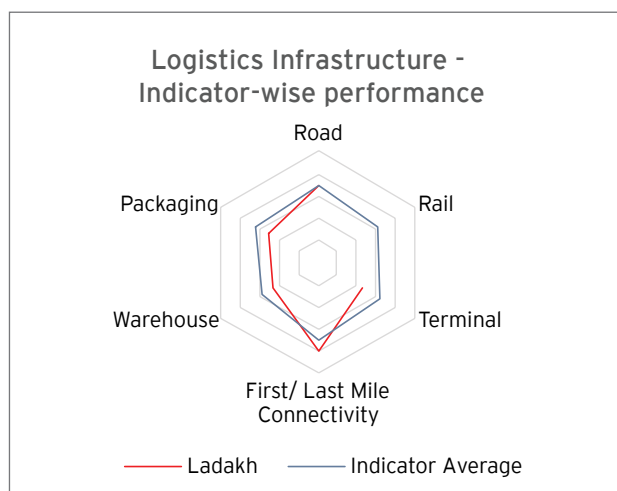
Logistics Infrastructure - Indicator-wise performance

The UT administration may consider development of truck layby areas and restrooms for truck drivers along the highway from Zojilla to Drass to enhance the overall transportation network and contribute to safer and more comfortable long-haul journeys for truck drivers. Commissioning of more weighbridges at Sonamarg shall ease the congestion before Zojilla Pass. To further enhance its performance, the UT could focus on undertaking a comprehensive evaluation of the logistics sector and the preparation of a logistics masterplan.

Logistics Services

As depicted in the following chart, the user perception performance assessment for all the 'Logistics Services' indicators, except for 'Safety/ Security of Cargo' is below the average of the Logistics Services pillar within the Union Territories.

Improving mobile connectivity throughout the UT will boost the availability of track and trace services. Additionally, UT can explore possibilities of partnering with private stakeholders to design and offer logistics skill courses to meet the existing industry demand.

Logistics Services - Indicator-wise performance
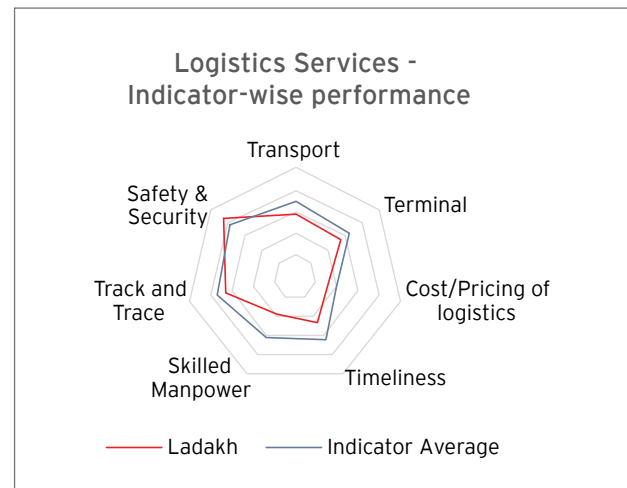
Operating & Regulatory Environment

As presented in the chart, user perception performance assessment for all the 'Operating & Regulatory Environment' indicators, except for 'Governments Role' is below the mean perception assessment of Union Territories.

UT can improve its operating and regulatory environment through formulation of logistics policy in consultation with the private stakeholders. Additionally, UT can explore initiatives from other states to improve logistics sector regulations. Based on stakeholder feedback, there is a lack of awareness about the grievance redressal system. The UT should consider enhancing communication and education efforts with private stakeholders to keep them informed about the various initiatives undertaken by the UT to improve the logistics sector.

Operating & Regulatory Environment - Indicator-wise performance
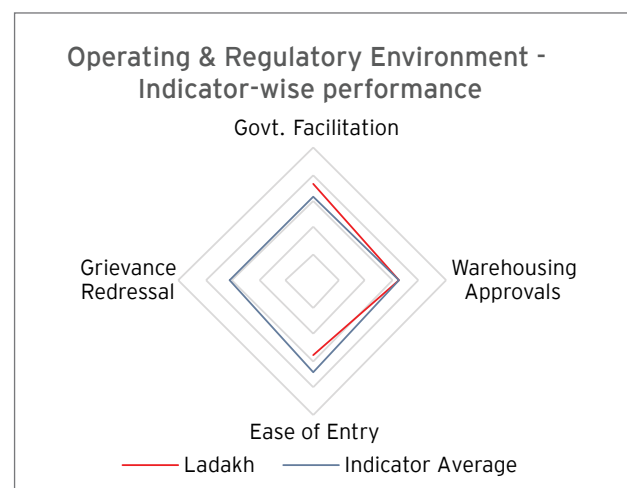
2.4.7 Lakshadweep

UT Performance Snapshot

2023	2022
FAST MOVER	**ASPIRER**

Lakshadweep has been categorized as a **Fast Mover** in LEADS 2023.

User performance assessments based on perceptions for many indicators within the pillars are below the UT Group average. However, as compared with LEADS 2019, there has been a significant improvement in the overall perception of the Union Territory logistics ecosystem.

Logistics Infrastructure

As presented in the chart, user perception performance assessment across all the 'Logistics Infrastructure' indicators, except 'Availability of Packaging Facilities'.

Logistics Infrastructure - Indicator-wise performance
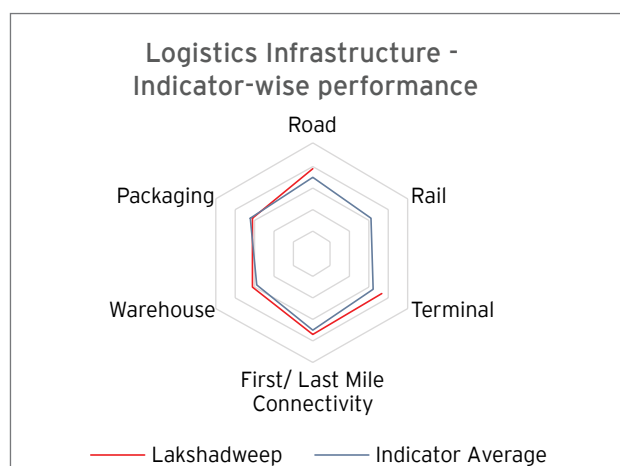
UT could consider conducting a thorough assessment of the logistics sector and developing a logistics masterplan

Logistics Services

As presented in the chart, user perception performance assessment for 'Quality of Transport Services', 'Quality of Terminal Services', and 'Availability of Skilled Manpower' is above the average of Union Territories Group.

Logistics Services - Indicator-wise performance

UT can explore options in developing Mobile Connectivity to improve Track & Trace Service in addition to collaborating with private stakeholders to develop and deliver logistics skill courses.

Operating & Regulatory Environment

As presented in the chart, user perception perfromance assessment for all the 'Operating & Regulatory Environment' indicators, except for 'Ease of Obtaining Approvals' is below the average of Union Terrritories.

Operating & Regulatory Environment - Indicator-wise performance
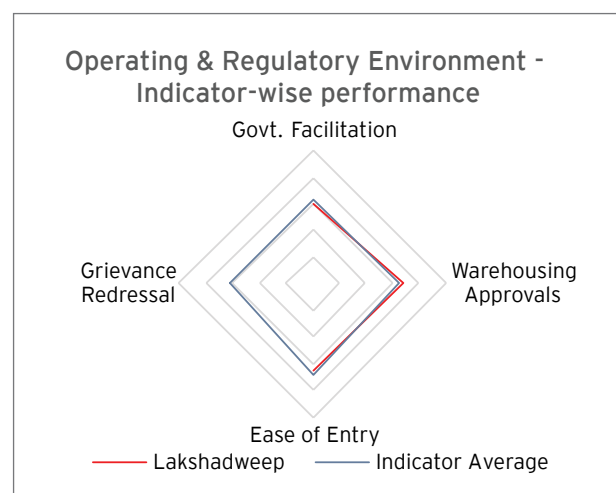
UT, in consultation with local stakeholders, could focus on preparing a logistics policy that will pave the way for the overall development of the logistics sector in the UT. UT can also examine & implement successful initiatives from other states to improve the regulatory framework for the logistics sector.

2.4.8 Puducherry

UT Performance Snapshot

2023	2022
FAST MOVER	**FAST MOVER**

🏆

Puducherry has been categorized as a **Fast Mover** in LEADS 2023.

The user assessment of performance perceptions for most indicators are above the of UT Group. The UT is actively implementing several measures to enhance the efficiency of its logistics ecosystem. UT has notified its Integrated Logistics Infrastructure, Multi-Modal Logistics Park and Ware House -2023.

Logistics Infrastructure

As presented in the chart, user performance assessment for all the 'Logistics Infrastructure' indicators except for 'Quality and adequacy of Rail Infrastructure' and 'Quality of First/Last Mile Connectivity is above the average of Union Territories Group.
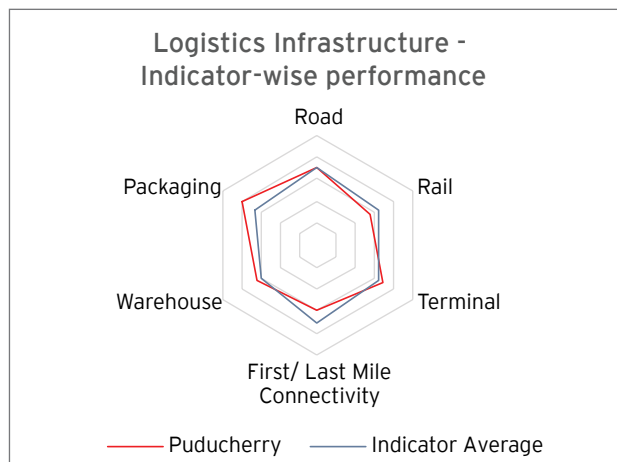
Logistics Infrastructure - Indicator-wise performance

The UT administration may consider development of truck layby areas and restrooms for truck drivers to enhance the overall transportation network and contribute to safer and more comfortable long-haul journeys for truck drivers. Also, the Union Territory can benefit from preparing a logistics master plan, which shall guide improvements in the logistics sector.

Logistics Services

As presented in the chart, user perception performance assessment for all the 'Logistics Services' indicators, except for 'Quality of Transport Services' is above the average of Union Territories.UT can explore options in developing Mobile Connectivity to improve Track & Trace Service in addition to collaborating with private stakeholders to develop and deliver logistics skill courses.

Logistics Services - Indicator-wise performance
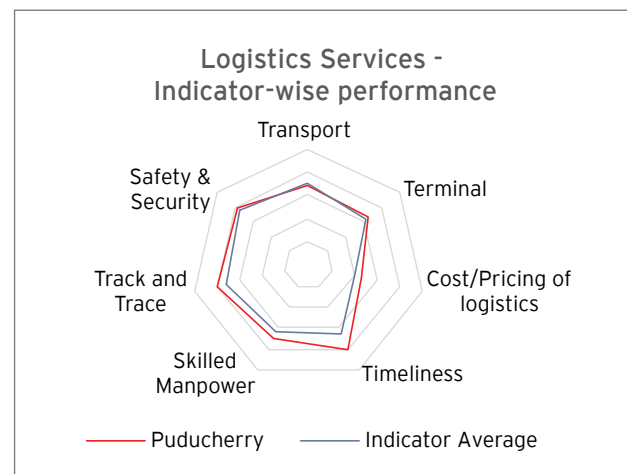
Operating & Regulatory Environment

As presented in the chart, user perception performance assessment for all the 'Operating & Regulatory Environment' indicators is above the average of Union Territories.

The UT has actively involved the stakeholders in shaping its logistics policy which aims to focus on improving infrastructure, regulations, technology adoption, and skill development for professionals in the sector

Operating & Regulatory Environment - Indicator-wise performance
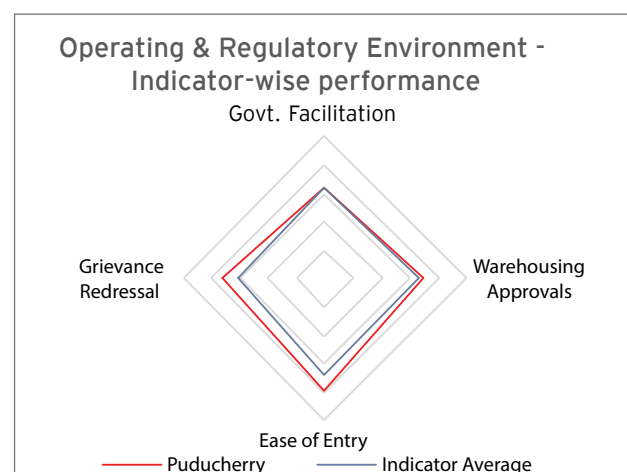
Result Headlines – Union Territories Group

Union Territories Group Performance* Snapshot
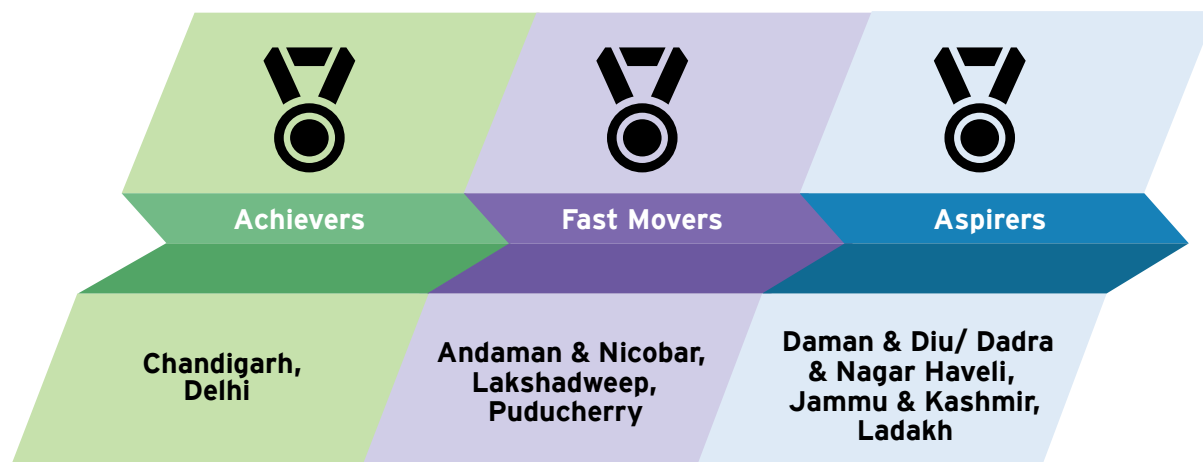
Achievers	Fast Movers	Aspirers
Chandigarh, Delhi	Andaman & Nicobar, Lakshadweep, Puducherry	Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

* States/ Union Territories within the performance categories are listed in alphabetical order.

Key Highlights

1. Perception regarding the following indicators is high across the Union Territories Group:

   a. Quality of Road, Rail, First/Last Mile Connectivity and Terminals Infrastructure

   b. Track & Trace Services, Terminal, Timeliness, Skilled Manpower, and Safety & Security of Cargo

   c. Warehousing Approvals and Ease of Entry

2. Stakeholders in Union Territories exhibit similar satisfaction levels across all three pillars.

3. Narrowing Gap between Achievers and Aspirers across Logistics Infrastructure and Logistics Services pillars: Services shows most significant performance gain.

2.5 Analysis of Objective Indicators

This section analyses data collected for all the objective indicators forming part of LEADS 2023 exercise. Objective indicators comprised of two categories:

A. Section I consisted of 8 binary indicators which consider various initiatives undertaken by States / UTs to improve logistics ecosystem. These 8 indicators were focused on the following aspects:

    i. Adoption of PMGS SMP for project planning.

    ii. Number of mandatory layers mapped on PMGS SMP.

    iii. Utilisation of funds released under Scheme for Special Assistance to States for Capital Investment (2022-23).

    iv. Data driven initiatives designed to identify inefficiencies in the current logistics eco-system and solutions for the same e.g., logistics master plan / action plan.

    v. Development of city logistics plan to address urban freight and related aspects.

    vi. Skilling initiatives.

    vii. Greening of logistics ecosystem.

    viii. Formulation of logistics policy.

B. Section II consisted of 22 parameters related to logistics infrastructure available within each State / UT. Out of the 22 parameters, 7 parameters were considered as information for them was consistently available across all States / UTs.

Results of objective data analysis are presented below.

2.5.1 Adoption of PMGS SMP by States / UTs for infrastructure planning

PMGS is revolutionising infrastructure development in the country through a 'whole of the government' approach. Based on information provided by States and UTs, mandatory layers relevant to them have been uploaded on the portal. Out of these, 25 States / UTs (23 States and 2 UTs) have started adopting PMGS SMP

for infrastructure planning. This reflects that State / UTs have moved to the next stage of PMGS which involves adopting the SMP for planning of projects.

Adoption of PMGS SMP is helping States / UTs de-risk projects. Implementation risk, to the extent foreseen at the planning stage, is being minimized through PMGS. PMGS SMP will also help States / UT enhance commercial viability of network projects given its emphasis on multimodal connectivity to economic nodes and cargo hubs. De-risking of projects and enhancement of commercial viability through network effect are likely to boost investor confidence and attract further investments, laying the foundation for a more efficient and resilient logistics ecosystem.

Adoption of PMGS SMP is extending beyond traditional infrastructure sector. Few use cases for which States are leveraging PMGS SMP are listed in Exhibit 5 below:

Exhibit 5: Heatmap of PMGS SMP adoption
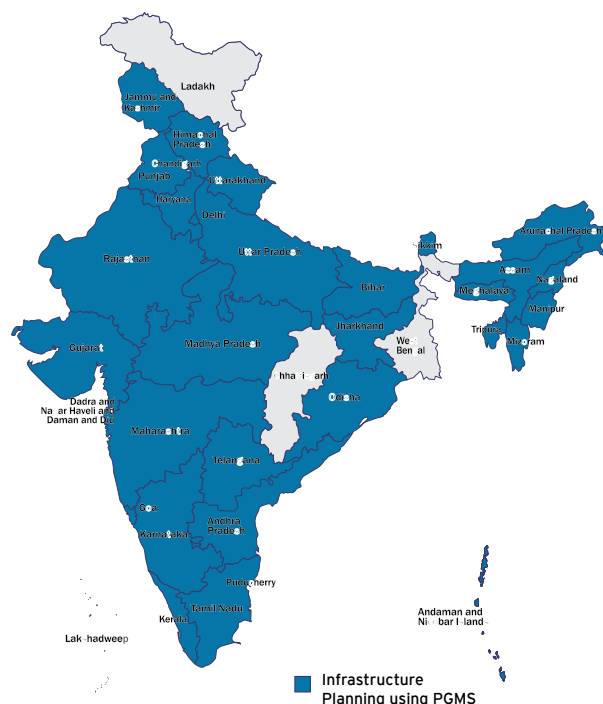
Exhibit 6: Select PMGS SMP Use Cases

a) **Disaster Management Plan:** Using NMP/SMP platform, Goa developed a disaster management plan for flood-prone areas of Sanquelim and Amona along Amona river.

b) **Pahunch Portal:** The State of Uttar Pradesh has utilized the SMP portal to identify locations for building new High Schools and Intermediate Colleges in the unserved habitations.

c) **Gujarat Coastal Corridor:** Planning Gujarat Coastal corridor (300km) using NMP has reduced NoC permission required for clearance (like from forest, CRZ, mining etc) from 28 to 13. This project will provide connectivity to Bharuch, Surat, Navsari and Valsad districts covering tourist places like Dandi, Ubhrat and Tithal etc.

2.5.2 Formulation of Logistics Policy

21 States and 2 UTs have notified their respective Logistics Policy. Remaining States / UTs are in the process of finalising and / or notifying their logistics policy.

Exhibit 7: Formulation of Logistics Policy by States / UTs

Legend: Policy notified | Policy in draft stage | Not available
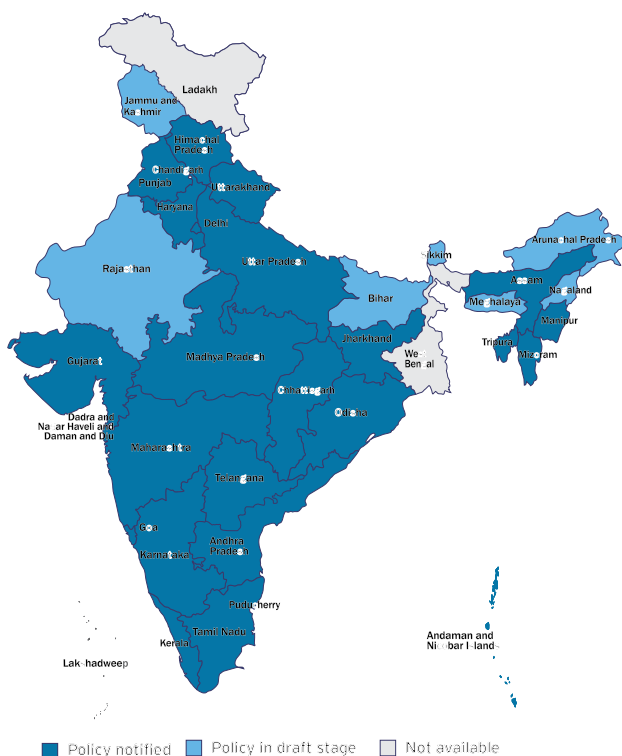
Further, to provide impetus to this sector, 15 States and 1 UT, have given Industry status to logistics sector. Industry status will enable logistics industry to secure funding from financial institutions at better terms apart from becoming eligible for other fiscal and non-fiscal benefits provided to traditional industrial sectors. Assam, Gujarat, Kerala, Odisha and Tamil Nadu have given Priority sector status to Logistics.

These measures will help improve commercial viability of logistics projects and improve cost competitiveness of the industry. This reflects deep commitment of States / UTs towards development and growth of logistics sector in country.

2.5.3 Formulation of State Logistics Master Plan / Action Plan

11 States and 2 UTs have undertaken the initiative of preparation of Logistics Master Plan / Action Plan out of which 7 States viz. Andhra Pradesh, Karnataka, Kerala, Odisha, Punjab, Tamil Nadu and Uttar Pradesh

have finalised their Master Plans. The remaining States/ UTs which include Assam, Bihar, Delhi (UT), Gujarat, Himachal Pradesh, and Jammu and Kashmir (UT) are in the process of preparing the same. Through this planning exercise, States / UTs are developing data-backed plans to address physical and non-physical barriers to logistics efficiency in the State / UT. States / UTs are proactively engaging with stakeholders to gain a comprehensive understanding of challenges being faced at the grassroot level.

Primary goal is to develop State Logistics Masterplan which not only incorporates valuable feedback from stakeholders but also serves as a strategic roadmap for achieving overall vision of developing logistics sector.

Coastal States have taken the lead in spearheading formulation of Logistics Master Plan / Action Plan, which if planned and implemented efficiently, can help improve country's EXIM competitiveness including LPI rank in the future. In parallel, landlocked States like Uttar Pradesh, Punjab, Himachal Pradesh, and the Union Territory of Jammu & Kashmir have also either developed or are developing their master plan / action plan.

2.5.4 Formulation of City Logistics Plan

Inadequate last-mile connectivity and lack of planning for logistics infrastructure within city periphery, accentuates congestion and impedes quality of life and economic development. Considering the same, improving city logistics is critical for efficient freight movement, bringing down logistics costs and making our cities safer and more liveable.

Recognising importance of managing urban freight, 6 States and 2 UTs which are Chandigarh (1), Delhi (1), Gujarat (8), Himachal Pradesh (3), Karnataka (1), Punjab (2), Tamil Nadu (2) and Uttar Pradesh (7), have started preparing City Logistics Plan covering 25 cities. City Logistics Plans for Delhi and Bengaluru are being prepared with support from DPIIT, Ministry of Commerce and Industry, Government of India.

2.5.5 Transport & Logistics infrastructure

Based on information available in previous editions of LEADS report and information available in secondary domain, change in quantum of select physical transport & logistics infrastructure has been assessed.

Highways: Change in length of road infrastructure available within the country between FY 14-15 and FY 22-23 is presented in the table below.

Table 15 Road Infrastructure Summary - FY 2014-15 to FY 2022-23

Details	2014-15	2018-19	2022-23	Growth (km / 2014-15 to 2022-23)	Growth (% / 2014-15 to 2022-23)
National Highways (km)	97,991	1,26,350	1,44,634	46,643	48%
State Highways (km)	1,67,109	1,86,908	1,86,908	19,799	12%
Other Roads (km)	49,05,539	55,54,992	59,02,539	9,97,000	20%
Total (km)	51,70,639	58,68,250	62,34,081	10,63,442	21%

Source: MoRTH Annual Reports, Basic Road Statistics

Total length of roads in the country grew by approximately 21% between FY 2014-15 and FY 2022-23. Length of National Highways increased by approximately 48% on back of sustained investment push by the government over the last decade. Length of State Highways increased by 12% over the same period.

Rail: Total track km of Railways increased by approximately 9% between FY 2014-15 and FY 2021-22. Like roads, there has been sustained push to augment and modernise rail infrastructure in the country. In parallel, Indian Railways has brought in a slew of measures to improve attractiveness of freight operations. With operationalisation of Dedicated Freight Corridor, EXIM cargo movement is getting faster and predictable, giving much needed certainty for trade.

Table 16 Rail Track km Summary - FY 2014-15 and FY 2021-22

Details	2014-15	2018-19	2022-23	Growth (km / 2014-15 to 2022-23)	Growth (% / 2014-15 to 2022-23)
Track km (all gauges)	1,17,996	1,23,542	1,28,305	10,309	9%

Source: Indian Railways Yearbook 2021-22

2.5.6 Logistics infrastructure – CFS and ICD

Between FY 17-18 and FY 21-22, total number of CFS increased from 171 to 202, registering growth of 18% in absolute terms. Similarly, ICDs have increased from 70 to 88 during the same period i.e., 26% growth. Healthy growth in terminal infrastructure is a positive for EXIM trade while gaps still exist in landlocked States.

Overall, significant work has been done and continues to be done in planning and delivering pathbreaking improvements in Infrastructure reforms. Brick-and-mortar infrastructure reforms coupled with structural and regulatory reforms are enhancing logistics efficiency and Ease of Doing Business in the country.

3

Way Forward

CHAPTER

3

Way forward

India's success holds immense significance for the global landscape. The next decade presents a unique opportunity for India to proactively shape its own path while extending its influence globally. An efficient, effective, and optimally functioning logistics eco-system is a critical requirement for improving India's growth perspective, along with alignment with global scenario.

A strong foundation has been established for propelling logistics sector into a new era of growth through series of reform measures. Findings of LEADS 2023 reflect that States and UTs are fully committed and recognize the importance of creating a resilient, reliable, sustainable, and competitive logistics eco-system.

This chapter highlights select enablers of logistics efficiency which States and UTs may consider for adoption to further strengthen their logistics eco-system and thereby enable improvement in India's overall logistics sector performance. Suggestions are aligned with the priorities highlighted by stakeholders during LEADS 2023 survey. Some suggested steps in this regard are discussed below:

A. Data-Driven Demand Analysis for Strategic Planning

States and UTs have taken numerous measures to build trade infrastructure within their respective jurisdictions. While these supply side interventions continue, States / UTs may start mapping demand side aspects of their logistics eco-system. Mapping demand side would involve measuring current trade flows, both in terms of volumes and origin-destination, mapping logistics and transport infrastructure, identifying physical and non-physical barriers to logistics efficiency, estimating trade flows over long-term horizon, and finally identifying interventions to enable an efficient logistics eco-system. As part of this exercise, States / UTs may assess logistics cost across key freight routes and for key commodities moving within/ through the State / UT.

B. Planning for Urban Freight

Urban freight is experiencing rapid growth due to multiple enablers like accelerating urbanization, increasing per capita consumption, and growing penetration of internet, amongst other factors. In this context, enhancing city logistics can facilitate efficient urban freight movement, reduce logistics costs, and create safer and more liveable cities. States/ UTs should choose target cities and start the planning process while adhering to the guidelines issued by the Ministry of Housing and Urban Affairs (MoHUA), Government of India, regarding the National Sustainable Urban Freight Transport System.

Urban freight planning focuses on key components for efficient and sustainable goods movement which include:

i. Infrastructure Development: This involves identifying and designing appropriate infrastructure to facilitate smooth freight flow.

ii. Freight Demand Management: Strategies like time-based restrictions and consolidation centers help control freight demand in urban areas.

iii. Last-Mile Delivery Optimization: Finding innovative solutions like electric vehicles and alternative delivery methods for efficient delivery.

iv. Collaboration and Partnerships: Stakeholder cooperation streamlines efforts and resources.

v. Sustainability: Prioritizing cleaner vehicles and packaging materials to reduce environmental impact for a greener urban freight system.

vi. Development of City Logistics Plan: Preparing strategies for managing freight within urban areas.

C. Bridging Infrastructure Gaps – First / Last Mile Connectivity:

While perception regarding quality of Logistics Infrastructure has improved over the years, user perception recorded as part of LEADS 2023 survey indicates that further interventions may be required for provision of first / last mile connectivity (road and rail) to ports, industrial parks, and other terminal facilities.

States may identify various connectivity gaps through the strategic planning exercise discussed in point (a) above and take up first / last mile connectivity gaps as deemed necessary. Considering that efficient connectivity is a key driver for trade competitiveness, addressing these gaps would not only enhance logistics efficiency of States / UTs, it would also enhance overall competitiveness of the State / UT and India as a whole.

D. Optimizing Truck Parking

Establishment of organised truck parking facilities along highways and along periphery of city limits has been identified as an important intervention by stakeholders across the country. In this regard, States / UTs may develop truck parking facilities along key freight routes and around periphery of urban areas / industrial areas / large transport facilities like ports and rail terminals.

E. Smart Enforcement for efficient freight movement

Efficient movement of goods across State borders can significantly improve truck transit times and reduce logistics costs. Insights from LEADS 2023 survey indicate that there is scope for easing inter-state movement of freight and increasing turnaround time of trucks by reducing in-transit stoppages.

States / UTs can implement range of interventions including process simplification of existing practices, training of enforcement officials to ensure reduction in physical stoppages and better targeting, elimination of physical barriers at state borders. It could also include adoption of technology that enables remote enforcement with much less dependence on personnel on ground like the use of Advanced Traffic Management Systems (ATMS), cameras, Weigh in Motion sensor systems, Automated Number Plate Readers (ANPR) or RFID readers sensors for automated on-road enforcement.

Such adoption of technology-based remote enforcement can be further improved through the use of data about goods being carried from the GSTN E-waybill database or data associated with truck and transporter available from VAHAN database of MoRTH. Integration of technology with such databases can support the development of risk based intelligent enforcement that leads to efficient targeting of potential violators.

Select states are already using technology for smart enforcement States / UTs are also introducing procedural and administrative reforms aimed at minimizing inspections and stoppages, while simultaneously improving quality of enforcement outcomes.

A gradual shift towards smart road enforcement could help States / UTs alleviate congestion issues at RTO checkpoints and reduce dependence on discretionary measures for on-ground enforcement. States / UTs may study successful examples of smart enforcement and leverage technology to enhance efficiency of freight movement in addition to implementing non-technology solutions involving procedural reforms and capacity building.

A comprehensive study may be undertaken to identify key enablers for easing inter-state freight movement and formulate potential solutions which State / UTs could adopt.

F. Empowering Efficiency through Operational and Regulatory Enhancement:

From 2019 to 2022, LEADS assessment has shown potential for improvement in all indicators related to Operational & Regulatory Environment. This observation is again supported by feedback received from stakeholders during LEADS 2023.

Government of India has introduced an innovative digital platform called 'Ease of Logistics Services (e-logs)' to engage with the industry and collaboratively drive development of logistics sector in the country. Additionally, the Government has established Services Improvement Group (SIG), comprising representatives from 13 Ministries/Departments, to ensure application of 'whole of government' approach to this initiative.

States and UTs may consider establishing similar digital platform and institutional setup to engage and collaborate with stakeholders to enhance the effectiveness of logistics eco-system. Furthermore, they may actively raise awareness about their logistics policy and associated benefits amongst industry Groups using such digital and other platforms.

G. Private sector participation

Given the rapid expansion of the logistics sector, there is an increasing need for the development of logistics infrastructure within the country. States and UTs have a crucial role to play in accelerating the development of logistics infrastructure within their jurisdiction. This can be achieved by reducing delays in processes such as land acquisition and clearances, aligning their planning with the PM GatiShakti National Master Plan (PMGS-NMP), and promoting infrastructure development in collaboration with the private sector.

One effective approach is the adoption of a Public-Private Partnership (PPP) model for infrastructure development. This model involves efficient cooperation and coordination between the public and private sectors, with a focus on task division and project risk sharing. It also entails clear contractual agreements regarding project planning, project finance, and the construction, operation, and ownership of the facility.

By embracing the PPP model, States and UTs can leverage the expertise and resources of the private sector to expedite the development of logistics infrastructure. This collaborative approach can lead to more efficient and timely development, ensuring that the growing demands of the logistics sector are met effectively.

H. Green logistics

States and UTs may promote initiatives that shall help reduce carbon footprint and build a more sustainable and resilient logistics network within the State / UT. Some of the initiatives which States and UTs could support / encourage include:

i. Coastal cargo movement by building and / or operating support infrastructure (applicable to coastal states).

ii. Modal shift to more sustainable means of transport i.e., rail/inland water transport, by developing cargo aggregation centres / multi-modal logistics parks.

iii. Electrification of fleet used for last-mile delivery and intracity transportation along with setting up of infrastructure that supports movement of electric vehicles like freight electrification corridors, EV stations on highways etc.

iv. Adoption of alternative energy sources, such as solar power and biofuels, for transportation and warehouse operations.

As mentioned earlier, LEADS 2023 results reflect a marked improvement in the level of stakeholder satisfaction with regard to ease of logistics across the country. This shift in stakeholder satisfaction emphasizes two critical points:

a) Logistics sector acknowledges the positive impact of Government's sustained investment in logistics infrastructure development, leading to an increased focus on enhancing logistics services.

b) The logistics sector in India is advancing and maturing, embracing greater efficiency in its service delivery.

The coming years, mark India's opportunity to usher in a new era on the global stage. States and UTs are firmly aligned with Government of India, working hand in hand to lead the transformation of logistics sector and bring our shared vision for India to fruition.

Annexures

Annexures

A. Framework

For LEADS 2023, specific activities related to statistical analysis were done. The same are illustrated in the below figure.

Figure 37 Statistical Analysis approach for LEADS 2023
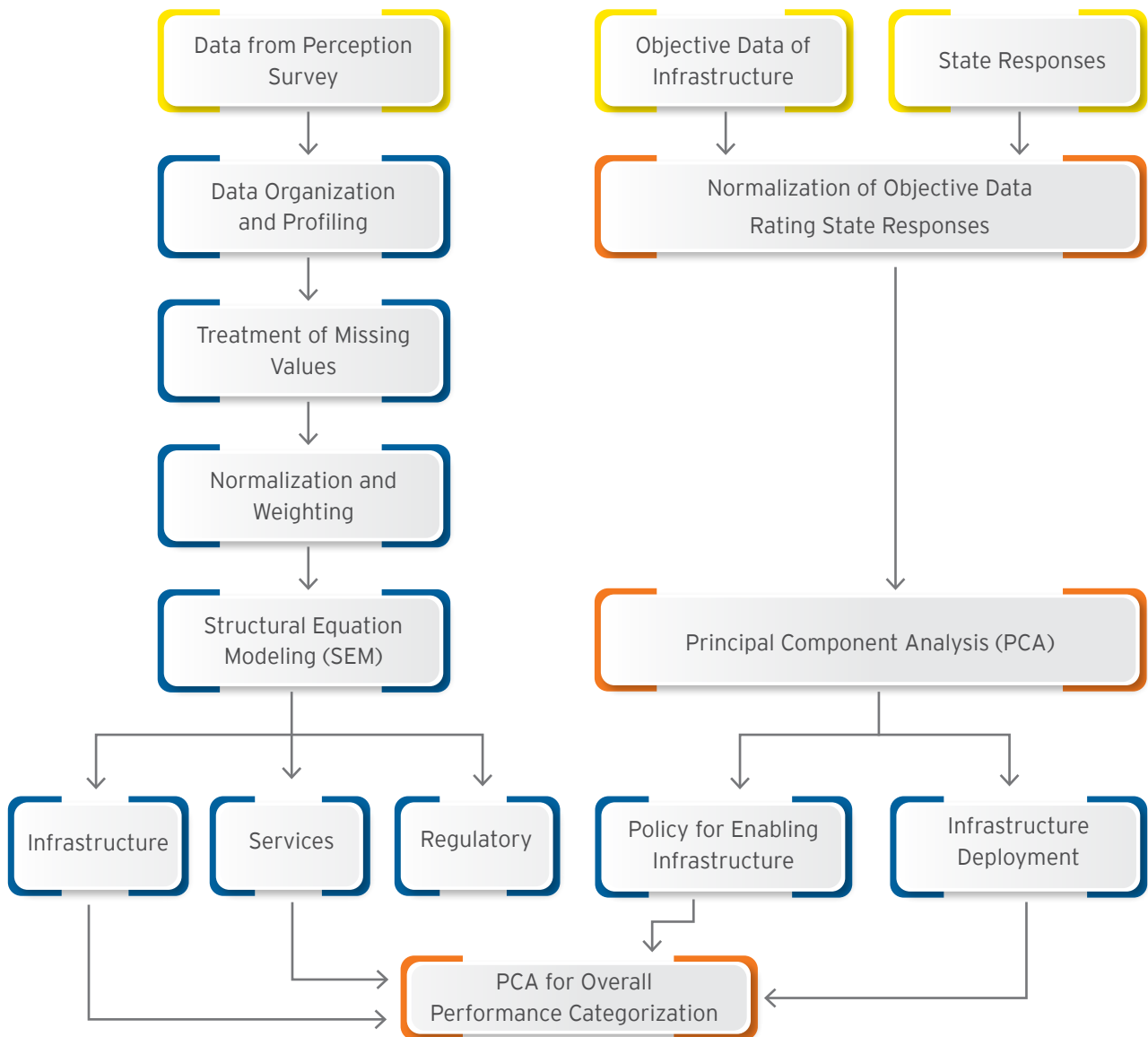
The details for each of the steps are provided below.

1. Data Organization

Before conducting any statistical analyses, it is imperative to ensure that the data is organized in a manner that would allow for analyses of various kinds. The organizational tasks were undertaken for Perception Survey Responses, Objective Data including Responses of State Officials to questions related to progress of policy and process initiatives (henceforth, referred as State Responses).

Perception Survey Responses

In collecting perception-related data through Tele-facilitation or self-filled online questionnaire, details regarding their nature of involvement (i.e., type of stakeholders) and the State they reside in were collected among other details. Further, Groups were derived based on the State they have responded for. The table, below, provides details which were coded for every response received in the perception survey.

Table 17 Coding Categories

Sr. No.	Coding Category	Description	Values*
1	Segments	Referring to Q8 in Perception Survey (Nature of Involvement)	a. LSP: Logistics Service Provider b. TISP: Terminal Infrastructure Service Provider c. TM: Trader/Manufacturer d. FF: Freight Forwarders e. TSP: Transport Service Provider
2	Groups	Based on responses for the States that have been received	a. Coastal: Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, West Bengal b. Landlocked: Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Telangana, Uttarakhand, Uttar Pradesh c. NE: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura d. UT: Andaman & Nicobar, Chandigarh, Daman & Diu/ Dadra & Nagar Haveli, Delhi, Jammu & Kashmir, Ladakh, Lakshadweep, Puducherry
3	Home and Away	Based on the State they reside in and the States they perform logistics operations	a. Home: State in which the respondent resides in b. Away: State with which the respondent performs logistics operations and does not reside in

*: The details that are Bold and Underlined were updated for each of the responses.

Collation of Objective Data

To ensure the States are evaluated based on prevailing perception of stakeholders as well as concrete developments on ground, objective data about logistics infrastructure and States' responses on the progress of policy and process improvement initiatives were collected for every State.

For objective data related to logistics, a broad set of parameters such as road network including national highways, district roads and other parameters were decided. However, many States did not provide information for all the parameters. Consequently, certain parameters were dropped from further analyses since inclusion of parameters with large number of missing data would have compromised the overall statistical model. Before utilizing the objective data for further analyses, a just and fair comparison had to be made across States. All the objective data was normalized using Gross State Value Added (GSVA) for the year 2019-2020 or Geographical Area (GA). These various stages of evaluation are illustrated in the below table:

Table 18 Stages in Objective Data

Sr. No.	Variables	Stage 1	Stage 2	Stage 3 (Normalized with GSVA or GA)
1	National Highway Surfaced	✔	✔	Geographical Area
2	District Highway Surfaced	✔	✔	Geographical Area
3	Urban Road Surfaced	✔	✔	Geographical Area
4	Road Accidents	✔	✔	Gross State Value Added
5	Number of Registered Drivers	✔	✔	Gross State Value Added
6	Capital Outlay	✔	✔	Gross State Value Added
7	Business Reforms Action Plan (BRAP) Rankings	✔	✔	-
8	Goods Commercial Vehicles	✔		
9	Port Terminals and Air Cargo Freight Terminals	✔		
10	Number of Training Centers	✔		
11	Number of Trained Professionals	✔	Dropped from further analyses due to absence of data	
12	Container Freight Stations (CFS), Inland Container Depot (ICD), Port Freight Terminals (PFT)	✔		
13	Railway Good Sheds	✔		
14	Cold Storage	✔		
15	Warehouses			
16	Trade Infrastructure Export Subsidy (TIES)	✔		

For Business Reform Action Plan (BRAP) ratings, 2020 rankings were considered.[9] The States are ranked and categorized in 4 Groups (Top Achievers, Achievers, Aspirers and Emerging). States within each of the categories were ranked based on these Groups – 4 for Top Achievers, 3 for Achievers, 2 for Aspirers and 1 for Emerging. Such ranks were assigned so that the data can be used for detailed analysis.

Responses of State Officials towards progress under of policy and process improvement initiatives

State officials were asked specific questions regarding of policy and process improvement initiatives well as logistics-related implementation. The table, below, lists the questions that were asked.

Table 19 State Responses

Code	Questions for State Officials
State 1	Whether the State/UT is using PM GatiShakti in planning infrastructure in the State/ UT?
State 2	To what extent have the funds released under Scheme for Special Assistance to States for Capital Investments (2022-23) been utilized?
State 3	Whether State/UT has mapped mandatory as well as other data layers. Please mention the number of total layers and mandatory layers mapped
State 4	Whether State/UT has taken initiatives for assessment of infrastructure gaps/ capacity deficit and/ or development of future studies/ plans that help to resolve logistics inefficiencies
State 5	Whether State/UT has initiated preparation of City Logistics Plan

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[9] The BRAP rankings were taken from the URL: https://pib.gov.in/PressReleasePage.aspx?PRID=1838178

Code	Questions for State Officials
State 6	Whether State/UT has taken initiative to promote skill development in logistics sector across the State/UT?
State 7	Whether State/UT has taken measures towards sustainable logistics to increase cost effectiveness?
State 8	Whether State/UT has formulated a logistics policy/ action plan? If yes, does it cover the following aspects: - ‣ Development of a unified logistics interface to link multiple data sources ‣ Enhancing ease of doing business - Whether the approval processes have been rationalized for single window clearance for all kind of approvals related to setting up of warehouses (Digital/Manual) ‣ Action plans to address skill development related and internal capacity building challenges in the logistics sector ‣ Facilitation and guidelines for development of logistics park

Based on the responses received from the State officials of all the States, the responses were rated on the scale of 1-5. 5 being top-ranked and 1 being bottom-ranked – the ranking was based on the progress of the implementation and relevant evidence/ data/ information provided by the State officials.

2. Weighting of the Responses to Perception Survey

After data categorization of the perception variables, a detailed descriptive analysis of data was conducted. For each of the questions in perception survey, comparisons were done based on the Segments and Home/ Away coding categories. We realized that there is a more than acceptable difference in average values for all the perception questions when responses for Home are compared with Away responses. Below table presents a summary:

Table 20 Mean Differences in Home and Away

Home or Away	Sample (n)	Mean	Standard Deviation	Std. Error
Home	1879 (33%)	3.6250	0.65266	0.01505
Away	3822 (67%)	3.5290	0.54839	0.00887
Total	5701			

Source: LEADS 2023 Survey response

The mean difference was found to be 0.10. There was a significant difference in perception questions between Home (M = 3.6250, SD = 0.65266) and Away (M = 3.5290, SD = 0.54839); t(5699) = 5.828, p = 0.000. Since the difference was found to be statistically significant, the assumption of equal variances had to be rejected.

The data was weighed based on Home and Away responses. On an overall basis, Home and Away representation was found to be 33% and 67%. Weighting was done to ensure that this representation is maintained for all the States. The table, below, illustrates the distribution of responses, across segments, at data collection and weighting stages.

Table 21 Results of Weighting

Sr. No.	Segments	Collected Responses	Weighted Responses
1	LSP	1225	1266
2	TISP	541	572
3	FF	338	381
4	TM	2641	2566
5	TSP	956	916
	Total	**5701**	**5701**
	Home (%)	**33%**	**33%**
	Away (%)	**67%**	**67%**

Source: LEADS 2023 Survey response

3. Treatment of Missing Values

Total of 7,321 responses spread across 36 States and UTs were received as part of LEADS 2023 survey. In evaluating the perception data, the very first step was to consider only those responses that had values for at least 50% of the questions. After adopting this condition, the analyses were done for 5,701 responses. The weighting, imputation and modelling process were done for these number of responses.

Post weighting of the data, as described above, a detailed process for imputation of missing values was undertaken. After evaluating the patterns of missing data, it was concluded that the values were either missing at random (MAR) or had certain patterns (MNAR).

For MAR, we examined the missing values across all the segments (LSP, TISP, FF, TM, and TSP). We considered a 10% cut-off – if for a segment there were more than 10% of responses that were missing, it was decided not to impute the data since that would result in major changes in the responses. However, in such a condition, if the sample for such a State was low, imputation were still undertaken. The relevant cells are marked in pink in the below table.

For the values that were not missing at random (MNAR), it was found that the questions were not relevant for certain segments. To elaborate, for TSP segment questions such as Availability of Warehouses, Availability of Packaging Facilities, Quality of Transport Services, Government's Role, and Obtaining Approvals were not found to be relevant. For TISP, questions such as Availability of Warehouses, Availability of Packaging Facilities, Quality of Terminal Services and Ease of Entry were not found to be relevant.

For question related to Satisfaction with Grievance Redressal, only 31% of the respondents were aware of the mechanism – as a result the proportion of missing data was extremely high. This question was dropped from further statistical analyses.

Table 22 Missing Data Evaluation across Segments

Sr. No.	Questions	LSP	TISP	FF	TM	TSP
1	Quality of Road Infrastructure	0.4%	0.0%	1.1%	1.8%	0.5%
2	Quality and adequacy of Rail Infrastructure	2.1%	7.0%	6.0%	6.4%	16.2%
3	Quality and adequacy of Terminal Infra.	2.5%	5.8%	8.4%	3.9%	12.3%
4	Quality of connectivity	2.1%	0.8%	4.1%	4.0%	1.1%
5	Availability of Warehouses	4.5%		8.9%	6.0%	
6	Availability of Packaging Facilities	4.6%		8.8%	3.5%	
7	Quality of Transport Services	0.8%	0.6%	1.8%	0.3%	
8	Quality of Terminal Services	3.0%		9.7%	1.2%	13.1%
9	Cost of Logistics Services	2.5%	1.3%	3.9%	0.9%	0.4%
10	Timeliness of Cargo Delivery	1.9%	1.6%	3.6%	0.5%	1.1%

Sr. No.	Questions	LSP	TISP	FF	TM	TSP
11	Availability of Skilled Manpower	1.5%	1.6%	3.4%	0.3%	0.9%
12	Ability of Track and Trace Services	2.8%	1.8%	4.3%	3.9%	1.6%
13	Safety and Security of Cargo	2.3%	0.5%	3.3%	0.2%	0.6%
14	Government's Role	4.7%	5.3%	3.6%	1.4%	
15	Obtaining Approvals	4.8%	4.1%	8.1%	5.5%	
16	Ease of Entry	2.9%		4.3%	2.3%	2.0%
17	Satisfaction with Grievance Redressal Mechanism	64.7%	75.7%	75.4%	64.8%	75.3%
18	Overall Experience	3.8%	2.9%	4.3%	4.7%	0.5%
19	Recommend Peers	5.2%	2.1%	5.8%	4.4%	2.0%

Source: LEADS 2023 Survey response

Legend for the above table:

Sr. No.	Questions	LSP
1		Questions that are not applicable to the segments were not included for further analyses
2		Due to low awareness of Government Grievances redressal mechanism (Only 31% aware), this variable was dropped from the model
3		Questions with missing values beyond 10% imputation levels were not imputed. However, for States with low samples the values were still imputed.

By using 5 iterations, we imputed using Multiple Imputations procedure available in IBM SPSS.[10] All perception variables were used in linear regression to impute missing values.

4. Structural Equation Modelling (SEM) for Perception Survey Responses

The overall model had 4 constructs: Logistics Infrastructure, Logistics Services, Operating & Regulatory Environment and Stakeholder Satisfaction. The questions or indicators under these constructs were reflective in nature. The Stakeholder Satisfaction construct, in turn, had a formative relationship with the other constructs.

An iterative approach was adopted to execute SEM using Lavaan[11] package through R and confirmed with the modelling exercise in AMOS[12]. For every iteration, following parameters were examined:

Table 23 Parameters used for SEM evaluation

Sr. No.	Segments	Collected Responses
1	CMIN/DF (Chi-Square Minimum / Degrees of Freedom)	Between 1 and 3
2	Comparative Fit Index (CFI)	> 0.95
3	Standardized root-mean square residual (SRMR)	< 0.08
4	Root-mean square error approximation (RMSEA)	< 0.06
5	PClose (p of Close fit)	> 0.05

These parameters were examined to ensure that the model was statistically valid. It was ensured that of the 5, at least 3 conditions were met before finalizing the model.

For LSP, it was found that satisfaction with the Logistics Infrastructure within a State is influenced by Logistics Services (43%), Logistics Infrastructure (42%) and Operating and Regulatory Environment (15%).

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[10] https://www.ibm.com/spss

[11] https://lavaan.ugent.be/tutorial/sem.html

[12] https://www.ibm.com/products/structural-equation-modeling-sem

Logistics Infrastructure and Logistics Services seem to be highly dependent on each other, indicating that LSP do not tend to recognize Logistics Infrastructure as being separate from Logistics Services.

For TISP, it was found that satisfaction with the Logistics Infrastructure within a State is influenced by Logistics Services (52%) and Logistics Infrastructure (48%). Variables under Operating and Regulatory Environment do not seem to have a sizeable impact on satisfaction experienced by TISP for a State they operate in.

For TM, it was found that satisfaction with the Logistics Infrastructure within a State is influenced by Logistics Services (41%), Logistics Infrastructure (39%) and Operating and Regulatory Environment (20%). Like LSP, Logistics Infrastructure and Logistics Services seem to

be highly dependent on each other, indicating that TM do not tend to recognize Logistics Infrastructure as being separate from Logistics Services.

For FF, it was found that satisfaction with the Logistics Infrastructure within a State is influenced by Operating and Regulatory Environment (39%), Logistics Infrastructure (31%) and Logistics Services (30%). This stakeholder group seems to be highly influenced by the Operating and Regulatory environment.

For TSP, it was found that satisfaction with the Logistics Infrastructure within a State is influenced by Logistics Services (54%) and Logistics Infrastructure (46%). Variables under Operating and Regulatory Environment do not seem to have a sizeable impact on satisfaction experienced by TSP for a State they operate in.

Figure 38 Results of SEM Execution across Segments - Logistics Service Provider

Source: LEADS 2023 Survey response

Figure 39 Results of SEM Execution across Segments - Terminal Infrastructure Service Provider

Perception of Terminal Infrastructure Service Provider

Quality of Road Infrastructure (0.63)
Quality & Adequacy of Rail Infrastructure (0.66)
Quality & Adequacy of Terminal Infrastructure (0.69)
Quality of First/Last Mile Connectivity (0.75)

Infrastructure

0.92***

Quality of Transport Services (0.76)
Timeliness of Cargo Delivery (0.69)
Availability of Skilled Manpower (0.66)
Availability of Track and Trace Services (0.61)
Safety/Security of Cargo (0.60)
State Government role as enabler (0.67)
Ease of Obtaining Approvals (0.70)

Services

0.64***

Stakeholder Satisfaction

Overall Experience with state (0.87)
Would recommend state (0.67)

Relative Importance of Drivers of Satisfaction

48% Infrastructure

52% Services

Paths :
→► Reflective Measurement Paths
➡ Structural Equation Path
SEM Equation: Satisfaction = 0.59*Infra+0.64*Service

Annotations:
*Indicates P value < 0.05 , ** < 0.01 & *** < 0.001 (More the stars, greater the significance of result)

Source: LEADS 2023 Survey response

Figure 40 Results of SEM Execution across Segments - Trader/Manufacturer

Perception of Trader/Manufacturer

Quality of Road Infrastructure (0.71)
Quality & Adequacy of Rail Infrastructure (0.71)
Quality & Adequacy of Terminal Infrastructure (0.76)
Quality of First/Last Mile Connectivity (0.80)
Availability of Warehouse Infrastructure (0.81)
Availability of Packaging Facilities (0.76)

Infrastructure

0.95***

Quality of Transport Services (0.82)
Quality of Terminal Services (0.79)
Timeliness of Cargo Delivery (0.75)
Availability of Skilled Manpower (0.77)
Availability of Track and Trace Services (0.73)
Safety/Security of Cargo (0.70)

Services

0.51***

State Government role as enabler (0.81)
Ease of Obtaining Approvals (0.85)
Ease of Entry (0.73)

Regulatory Environment

0.25***

Stakeholder Satisfaction

Overall Experience with state (0.87)
Would recommend state (0.78)

Relative Importance of Drivers of Satisfaction

39% Infrastructure

41% Services

20% Regulatory Environment

Paths :
→► Reflective Measurement Paths
➡ Structural Equation Path
SEM Equation: Satisfaction = 0.48*Infra+0.51*Service+0.25*Reg

Annotations:
* Indicates P value < 0.05 , ** < 0.01 & *** < 0.001 (More the stars, greater the significance of result)

Source: LEADS 2023 Survey response

Figure 41 Results of SEM Execution across Segments - Freight Forwarders

Perception of Freight Forwarders

Quality of Road Infrastructure (0.63)
Quality & Adequacy of Rail Infrastructure (0.63)
Quality & Adequacy of Terminal Infrastructure (0.75)
Quality of First/Last Mile Connectivity (0.80)
Availability of Warehouse Infrastructure (0.85)
Availability of Packaging Facilities (0.88)

Infrastructure

Quality of Transport Services (0.83)
Quality of Terminal Services (0.70)
Timeliness of Cargo Delivery (0.67)
Availability of Skilled Manpower (0.75)
Availability of Track and Trace Services (0.66)
Safety/Security of Cargo (0.71)

Services

State Government role as enabler (0.70)
Ease of Obtaining Approvals (0.81)
Ease of Entry (0.79)

Regulatory Environment

0.94***

0.42***

0.51***

Stakeholder Satisfaction

Overall Experience with state (0.87)
Would recommend state (0.77)

Relative Importance of Drivers of Satisfaction

31% Infrastructure

30% Services

39% Regulatory Environment

Paths :
→► Reflective Measurement Paths
➤ Structural Equation Path
SEM Equation: Satisfaction = 0.42*Infra+0.39*Service+0.51*Reg

Annotations:
* Indicates P value < 0.05 , ** < 0.01 & *** < 0.001 (More the stars, greater the significance of result)

Source: LEADS 2023 Survey response

Figure 42 Results of SEM Execution across Segments - Transport Service Provider

Perception of Transport Service Provider

Quality of Road Infrastructure (0.81)
Quality & Adequacy of Rail Infrastructure (0.75)
Quality & Adequacy of Terminal Infrastructure (0.77)
Quality of First/Last Mile Connectivity (0.76)

Infrastructure

Quality of Transport Services (0.71)
Timeliness of Cargo Delivery (0.67)
Availability of Skilled Manpower (0.64)
Availability of Track and Trace Services (0.57)
Safety/Security of Cargo (0.61)
Ease of Entry (0.68)

Services

0.86***

0.69***

Stakeholder Satisfaction

Overall Experience with state (0.87)
Would recommend state (0.75)

Relative Importance of Drivers of Satisfaction

46% Infrastructure

54% Services

Paths :
→► Reflective Measurement Paths
➤ Structural Equation Path
SEM Equation: Satisfaction = 0.59*Infra+0.69*

Annotations:
* Indicates P value < 0.05 , ** < 0.01 & *** < 0.001 (More the stars, greater the significance of result)

Source: LEADS 2023 Survey response

5. Principal Component Analysis (PCA) for Objective Survey Responses

Principal Component Analysis (PCA) was conducted for the objective data and the State Responses. To arrive at weights for individual variables within the PCA execution, approaches recommended by OECD were adopted[13]. Results of the PCA are provided below:

Table 24 PCA results for Objective Data

Sr. No.	Variables	Policy for Enabling Infrastructure (Factor Loadings)	Infrastructure Deployment (Factor Loadings)	Weights
1	GatiShakti Planning	0.71		5.79%
2	Utilization of Funds Released	0.62		4.44%
3	Mapping of Data Layers	0.74		6.43%
4	Assessment of Infrastructure	0.78		7.15%
5	City Logistics Plan	0.78		6.34%
6	Number of Courses Offered	0.82		7.88%
7	Cost Effectiveness	0.86		8.67%
8	Formulation of Logistics Policy	0.78		7.17%
9	BRAP Rankings	0.77		6.93%
10	National Highway Surfaced		0.69	5.51%
11	District Highway Surfaced		0.61	4.28%
12	Urban Road Surfaced		0.77	6.83%
13	Road Accidents		0.94	10.45%
14	Number of Registered Drivers		0.65	4.92%
15	Capital Outlay		0.79	7.22%
	Explained Variance	5.249	3.741	
	Explained / Total	0.58	0.42	

Source: LEADS 2023 Survey response

6. PCA for Overall performance level

To arrive at the overall performance level for each State, 2 factors from objective data (illustrated in Table 25) and 3 independent constructs (Logistics Infrastructure, Logistics Services, Operating and Regulatory Environment) from subjective data were used to arrive at the State performance level. Based on the PCA results using OECD model, the distribution of weights was found to be 23% for Objective and 77% for Subjective data.

7. Performance Assessment within Groups

In LEADS 2023, within each of the Groups (Landlocked, Coastal, North-Eastern Region and Union Territories), States have been categorized based on the percentile rank of their overall score (which has been derived by combining subjective and objective scores). The number of categories has been decided based on the sampling error (SE) calculated at 90% confidence interval:

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[13] https://www.oecd.org/sdd/42495745.pdf

Table 25 Performance Assessment within Groups

Group	Sample (n)	Std. Dev	SE at 90% CI (Z=1.645)
Coastal	2803	1.702747	0.05
Landlocked	2127	2.657676	0.09
North-East (NE)	211	2.140722	0.24
Union Territories (UT)	560	3.199227	0.22
Total	5701	2.786744	0.06

Source: LEADS 2023 Survey response

B. Perception Questionnaire

For each question, please select the option that best describes your current work. All the questions are mandatory for beginning the survey.

(Disclaimer- Identity of all respondents will not be published anywhere, and all responses will be kept anonymous)

1. Name of Respondent:

....

....

....

2. Name of the Company:

....

....

....

3. Location:

Town/ Village: ....

City: ....

State: ....

Pin code: ....

4. Nature of market you primarily deal with:

EXIM ....

Domestic ....

Both ....

5. Your position in your company / firm:

☐ Senior Management

☐ Middle Management
(Manager and above)

Supervisor

☐ Operations Executive

☐ Other

6. Transport mode you typically deal with:

☐ Road   ☐ Rail

☐ Airways   ☐ Waterway (Sea, Inland)

7. Cargo type you primarily deal with:

☐ Bulk/Break Bulk

☐ Containerized Cargo
(Reefer Cargo, Dry Cargo, Special Cargo)

☐ Non-Containerized (Perishable/
Non-perishable Cargo)

☐ Parcel (Express/Non-Express) Cargo

☐ Liquid cargo

☐ Others: Please specify

....

....

8. Please indicate the predominant nature of your involvement in the logistics chain:

☐ Trader/Manufacturer

☐ Freight Forwarder (including freight agents)

☐ Transport Service Provider (including Road Hauler, Rail Operator, Shipping Line, Airline, Inland Waterways)

☐ Terminal Infrastructure Service Provider (including ICD, CFS, PFT, AFS, Air Cargo Terminal, Port Terminal, Warehouse, Cold Store, etc.)

☐ Logistics Service Provider
(Customs broker, Air Cargo Agents, 3rd Party Logistics Service Provider (3PL),4PL, NVOCC, Aggregators/Consolidators, Digital Service Providers)

Please select top three (3) States/UTs where you perform logistics operations and/or are familiar with ground realities of logistics

State/UT 1	
State/UT 2	
State/UT 2	

Survey comprises of three main sections covering 3 pillars of logistics ecosystem – infrastructure, Services and Regulatory. Please provide responses based on your perception of the entire logistics ecosystem for your chosen States/UTs.

Section 1: Logistics Infrastructure

1. Rate the quality of road infrastructure available in your chosen States/UTs
   (*Road Infrastructure* here refers to the road network and associated quality such as road condition, easy vehicle movement, average speed, adequate road width (wide/narrow roads), traffic congestion etc.)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

2. Rate the quality and adequacy of rail infrastructure available in your chosen States/UTs
   (*Rail Infrastructure here refers to the sufficiency of rail tracks, utilization of Railway Line Capacity, etc.*)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

3. Rate the quality and adequacy of terminal infrastructure in your chosen States/UTs
   (*Terminal Infrastructure refers to ICDs, CFSs, Dry Ports, Land Customs Stations, AFSs, PFTs, MMLPs, Port terminals, Airport terminals, Inland Waterway Terminals, Good Sheds and Truck Terminals.*)

	Very Poor	Poor	Average	Good	Very Good	Please tick the terminal infrastructure in state where you face major issues			
						EXIM Infrastructure		Domestic Infrastructure	
State/ UT 1						ICD / CFS / Dry Ports / MMLPs / Land Customs Stations etc.	Air freight Terminal	Ports	PFT/Railway Good Sheds/ Truck Terminals / Inland Waterway Terminals
State/ UT 2						ICD / CFS / Dry Ports / MMLPs / Land Customs Stations etc.	Air freight Terminal	Ports	PFT/Railway Good Sheds/ Truck Terminals / Inland Waterway Terminals
State/ UT 3						ICD / CFS / Dry Ports / MMLPs / Land Customs Stations etc.	Air freight Terminal	Ports	PFT/Railway Good Sheds/ Truck Terminals / Inland Waterway Terminals

Feedback/ Suggestions:

4. Rate the quality of first / last mile connectivity (rail, road) to Industrial Parks / Economic Zones / Terminal Infrastructure in your chosen States/UTs

(Industrial Infrastructure refers to Industrial Parks, Special Economic Zones, Special Investment Regions, Industrial Zone, etc.)

(Terminal Infrastructure refers to ICDs, CFSs, Dry Ports, Land Customs Stations, AFSs, PFTs, MMLPs, Port terminals, Airport terminals, Inland Waterway Terminals, Good Sheds, Truck Terminals)

	Very Poor	Poor	Average	Good	Very Good	Please tick the terminal infrastructure in state where you face major issues				
						EXIM Infrastructure			Domestic Infrastructure	Industrial Infrastructure
State/ UT 1						ICD / CFS / Dry Ports / MMLPs / Land Customs Stations etc.	Air freight Terminal	Ports	PFT/Railway Good Sheds/ Truck Terminals / Inland Waterway Terminals	Industrial Parks, Special Economic Zones, Special Investment Regions, Industrial Zone, etc.)
State/ UT 2						ICD / CFS / Dry Ports / MMLPs / Land Customs Stations etc.	Air freight Terminal	Ports	PFT/Railway Good Sheds/ Truck Terminals / Inland Waterway Terminals	Industrial Parks, Special Economic Zones, Special Investment Regions, Industrial Zone, etc.)
State/ UT 3						ICD / CFS / Dry Ports / MMLPs / Land Customs Stations etc.	Air freight Terminal	Ports	PFT/Railway Good Sheds/ Truck Terminals / Inland Waterway Terminals	Industrial Parks, Special Economic Zones, Special Investment Regions, Industrial Zone, etc.)

5. Rate the availability of Warehousing, cold storages, pack-houses, etc. in your chosen States/UTs
   (Warehousing Infrastructure refers to warehouses including silos/bulk storage, consolidation centres, cold storages, etc.)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

Feedback/ Suggestions:

6. Rate the **availability of packaging facilities** for the products you are handling in your chosen States/UTs

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

Section 2: Logistics Services

7. Rate the **quality of transport services** in your chosen States/UTs

(Transport services here refers to-haulage/transportation by different modes of transportation i.e., road, rail, air, and waterways)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

8. Based upon experience, please provide your opinion regarding the preferred mode of **transport** in your chosen States/UTs

State/ UT 1

	Very High	High	Average	Low	Very Low
Railways					
Roadways					
Airways					
Waterways					
Multiple modes					

State/ UT 2

	Very High	High	Average	Low	Very Low
Railways					
Roadways					
Airways					
Waterways					
Multiple modes					

State/ UT 3

	Very High	High	Average	Low	Very Low
Railways					
Roadways					
Airways					
Waterways					
Multiple modes					

9. Rate the **quality of terminal services** in your chosen States/UTs

(Terminal Services refers to handling and storage of cargo, customs examination, freight forwarding and value-added services like consolidation, repackaging, labelling, etc. at Terminals as defined in Q.No.3 above)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

10. Rate the **Cost/ Pricing of logistics services** in your chosen States/UTs

(Logistics services here refer to haulage/transportation by different modes, and all terminal services defined in Question 6 above)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

11. Rate the **timeliness of cargo delivery**, in terms of how often do they reach the consignee within scheduled or expected delivery time?

(Timeliness here refers to delivery within expected time within a State/ UT)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

12. Rate the **availability of skilled manpower** involved in delivery of logistics services?

(Logistics services as defined in Q7 above. Manpower here refers to drivers, equipment operators, Terminal Labour. Quality refers to personnel's knowledge/skills (suitability for the job), etc.)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

13. Rate the **availability of track and trace services** for cargo movement in your chosen States/UTs

(This refers to mobile/internet connectivity along with an institutional mechanism to track and trace cargo movement, as also the condition of cargo and/or container)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

Feedback/ Suggestions:

14. Rate the safety/ security of cargo within your chosen States/UTs

(Safety/ Security refers to consistency in delivery without damage/ deterioration/ pilferage/ loss of cargo due to logistics inefficiencies or accidents or thefts during transportation of goods)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

Section 3: Operating and Regulatory Environment impacting logistics infrastructure and service provision

15. Rate the State Government/UT Administration's role in promoting, incentivising, facilitating development of logistics infrastructure, management and operation of logistics infrastructure and encouraging efficient logistics services in your chosen States/UTs

(State Government/UT's role here refers to ease of obtaining regulatory approvals and efficiency/ effectiveness of policies related to single window clearances, labour laws, ease of land use and related ancillary facilities, maintenance of law and order, and provision of tax breaks/subsidies/access to credit, grievance redressal and dispute resolution, etc.)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

16. Rate the ease of obtaining all approvals (in terms of time and cost) from the States/UTs for setting up warehouse infrastructure in your chosen States/UTs

(Warehousing Infrastructure includes silos/bulk storage, consolidation centres, cold storages, packhouses, etc.

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

17. Rate the State/UT based on the ease of entry in the selected State/UT from a neighbouring State/UT.

(Ease of entry refers to, unwarranted checks and stoppages across transport network)

	Very Poor	Poor	Average	Good	Very Good
State/ UT 1					
State/ UT 2					
State/ UT 3					

Feedback/ Suggestions:

18. Are you aware of any grievance redressal mechanism system for logistics in the selected State/UT?

	YES
	NO

- If yes, rate the State/UT based on your satisfaction with the logistics issues related grievance redressal mechanism of the selected State/UT.

	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied
State/ UT 1					
State/ UT 2					
State/ UT 3					

Overall Feedback\

A. Thinking about all aspects discussed so far, how would you rate your overall experience with logistics in your chosen States/UTs?

	Completely dissatisfied	Somewhat dissatisfied	Neutral	Somewhat satisfied	Completely satisfied
State/ UT 1					
State/ UT 2					
State/ UT 3					

B. In case your industry peers ask you for advice, how likely are you to recommend to them to switch to using logistics in your chosen states/UTs?

	Extremely Unlikely	Unlikely	Neutral	Likely	Extremely Likely
State/ UT 1					
State/ UT 2					
State/ UT 3					

C. Based on your experience, please rate the quality of services with respect to the cost of services?

	Very High	High	Average	Low	Very Low
Port					
Airport					
Rail Transport					
Freight forwarders/ Agents					
Warehousing/ Transloading Service					
Road Transport					

19. Select the top five (5) issues/challenges being faced in the logistics sector in each chosen States/UT's separately

Sn.	Key Issues	State/UT-1	State/UT-2	State/UT-3
1.	Lack of first/last mile connectivity to economic zones/Industrial areas/Terminals			
2.	Long haulage choke points/multiple checking points in transit			
3.	Congestion at terminals (Terminals include Ports/ CFS/ ICD/ AFS/ Intermodal stations/Good sheds/Warehouses etc.)			
4.	Shortage of warehouses/cold storages/packhouses			
5.	Non-Availability of suitable Parking spaces/Public utilities along key freight routes (Public utilities include driver restrooms, medical facilities, truck repair facilities, 24X7 emergency helpline)			
6.	Delays in obtaining/renewing commercial permits for vehicles/ drivers			
7.	Lack of transparency and outdated laws leading to multiple enforcement checks and discretionary challans/fines, stoppages by Regional Transport Officer (RTO)			
8.	Lack of Single Window (including unified grievance redressal, notified landbanks) Mechanism for logistics at State/UT level			
9.	Transport and labour Unions monopolizing, levying illegal charges			
10.	Shortage of trained professionals and operators such as truck drivers			

C. Objective Questionnaire

Please provide the details of the respondent:

Name of State:	
Name of Nodal Office/ Designated State Representative:	
Designation of Nodal Office/ Designated State Representative:	
Mobile Number:	
Email Address:	

This survey comprises 2 sections related to the Logistics sector in States/UTs. All the questions are mandatory.

Section 1: Regulatory & Institutional Support for Enabling Logistics

	Question
Q1	Whether the State/UT is using PM GatiShakti in planning infrastructure in the State/ UT?
	If yes, State/UT to share the use cases where PMGS was used for project planning
	Number of projects discussed in NPG meetings
	a) 1 - 5 Projects
	b) 6 - 10 Projects
	c) 11 - 15 Projects
	d) 16 - 20 Projects
	e) 20 & above Projects
	(Proof: Minutes of NPG meetings)
Q2	To what extent have the funds released under Scheme for Special Assistance to States for Capital Investments (2022-23) been utilized?
	(% utilization)
Q3	Whether State/UT has mapped mandatory as well as other data layers
	Mandatory layers:
	Total layers:
	(Proof: Snapshot of SMP portal)
Q4	Whether State/UT has taken initiatives for assessment of infrastructure gaps/ capacity deficit and/or development of future studies/ plans that help to resolve logistics inefficiencies
	(If yes, copy of State Logistics Masterplan or Draft State Logistics Masterplan and the details of the organization assigned to undertake the assignment/ study)
Q5	Whether State/UT has initiated preparation of City Logistics Plan
	(If yes, a copy of City Logistics Plan or draft City Logistics Plan and the details of the organization assigned to undertake the assessment)
Q6	Whether State/UT has taken initiative to promote skill development in logistics sector across the State/UT
	If yes, number of logistics specific courses instituted in last 1 year (Jan. 2022 to Dec. 2022)
Q7	Whether State/UT has taken measures towards sustainable logistics to increase cost effectiveness?
	If yes, list down the measures
Q8	Whether State/UT has formulated a logistics policy/ action plan?
	If yes, does it cover the following aspects: -
	1. Development of a unified logistics interface to link multiple data sources
	2. Enhancing ease of doing business – Whether the approval processes have been rationalised for single window clearance for all kind of approvals related to setting up of warehouses (Digital/Manual)
	3. Action plans to address skill development related and internal capacity building challenges in the logistics sector
	4. Facilitation/ enabling mechanism for development of logistics park

If the answer to any of the above question is 'Yes', please provide the Government notification(s) /Supporting documentary evidence(s)/Minutes of the Meeting(s), wherever applicable for the same.

Section 2: Information on Enablers of Logistics

Please provide the data on the following parameters for the financial years mentioned

#	Key Issues	Source	Unit	Financial Year		
				2019-20	2020-21	2021-22
1	Total length of National Highways	MoRTH	Surfaced (Km)			
			Unsurfaced (Km)			
2	Total length of State Highways	State	Surfaced (Km)			
			Unsurfaced (Km)			
3	Total length of District Roads	State	Surfaced (Km)			
			Unsurfaced (Km)			
4	Total length of Urban Roads	State	Surfaced (Km)			
			Unsurfaced (Km)			
5	Total length of Rural Roads	State	Surfaced (Km)			
			Unsurfaced (Km)			
6	Total length of Village Roads	State	Surfaced (Km)			
			Unsurfaced (Km)			
7	Total number of registered Goods Commercial Vehicles (GCVs)	State	(in number)			
8	Number of road accidents during the year of Goods Commercial Vehicles	State	(in number)			
9	Total number of registered drivers for Goods Commercial Vehicles (GCVs)	State	(in number)			
10	Container Freight Stations	CBIC	(in number)			
11	Inland Container Depots	CBIC	(in number)			
12	Private Freight Terminal	MoR	(in number)			
13	Railway goods shed	MoR	(in number)			
14	Port Terminals	State	(in number)			
15	Air Cargo Terminals/Air Freight Stations	MoCA	(in number)			
16	Cold Storages (including state owned, central owned, private owned)	State	Capacity (MT)			
17	Warehouses (including state owned, central owned, private owned) (Agri/ Food Grain & non-Agri/ general purpose warehouses)	State	Capacity (MT)			
18	Number of training centres for skilling of logistics sector professionals	State	(in number)			
19	Number of individuals, trained in logistics training centres during the year	State	(in number)			

#	Key Issues	Source	Unit	Financial Year		
				2019-20	2020-21	2021-22
20	Investment (as percentage of total budgetary allocation) made by the State/UT (Public + Private investment) in:					
a)	Road connectivity	RBI	(in INR)			
b)	Rail Connectivity	RBI	(in INR)			
c)	Transport and logistics infrastructure	RBI	(in INR)			
d)	Transport and logistics sector skilling	RBI	(in INR)			
21 a)	Number of Industrial Parks & SEZs in the State/UT	State	(in number)			
b)	Number of Industrial Parks & SEZs in the State/UT which have occupancy of 25% or above	State	(in number)			
c)	Number of Industrial Parks & SEZs which the State/UT nominated in Industrial Park Rating System (IPRS) 2.0	State	(in number)			
22	Please State the actions taken by the State on the recommendations of the LEADS 2022 Index? (Please refer chapter 5 – Way forward and conclusion of the LEADS 2022 Report)					

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