

Infrastructure for Growth and Modernization Vision 2031: Kerala

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Outline

- **State of current infrastructure: focus on connectivity**
- Requirements of connectivity infrastructure in 2031
- How do we get there?

Natural Strengths for Connectivity in Kerala

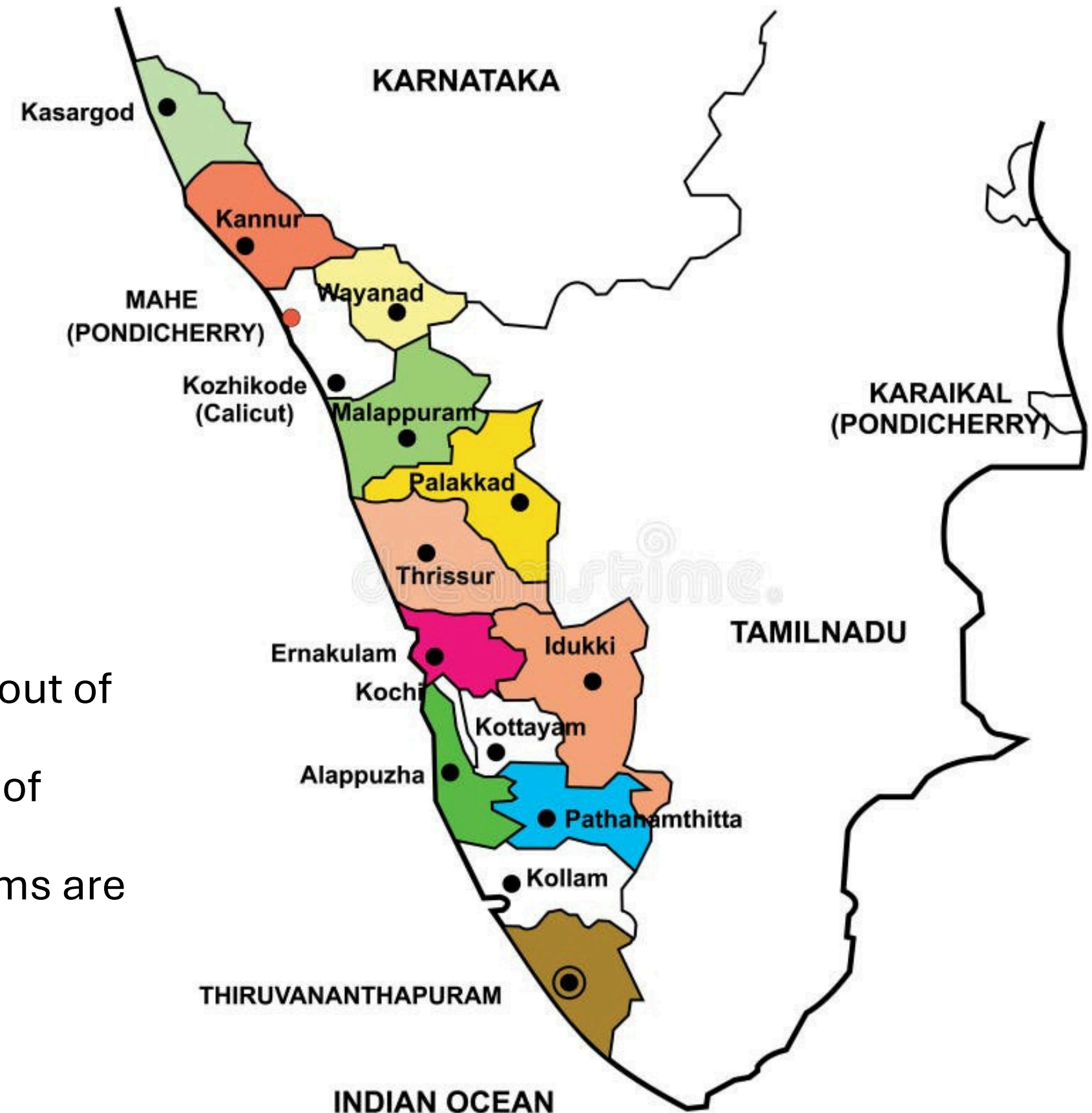
- A connectivity visualiser's dream: A long (570 kms) and narrow (32 to 120 kms, with an average of 70 kms) geography. With an area of 39,000 sqkm, of which 28,000 sqkm are the plains.
- 600 kms of coastline and 1900 kms of inland waterways
- A population of 36 million (79% urban and 21% rural) with a density of about 900 people/sqkm
- Amongst the large states, Kerala is the third highest in population density, but in a cluster of many others states with similar density. In comparison, India's population density is about 500 people/sqkm.

Key Characteristics of Kerala

- Kerala has 14 districts

Urban Agglomeration	Approximate Metro Population (in million)
Thrissur	3.7
Kochi	3.6
Kozhikode	3.3
Thiruvananthapuram	3.1
Kollam	2.8

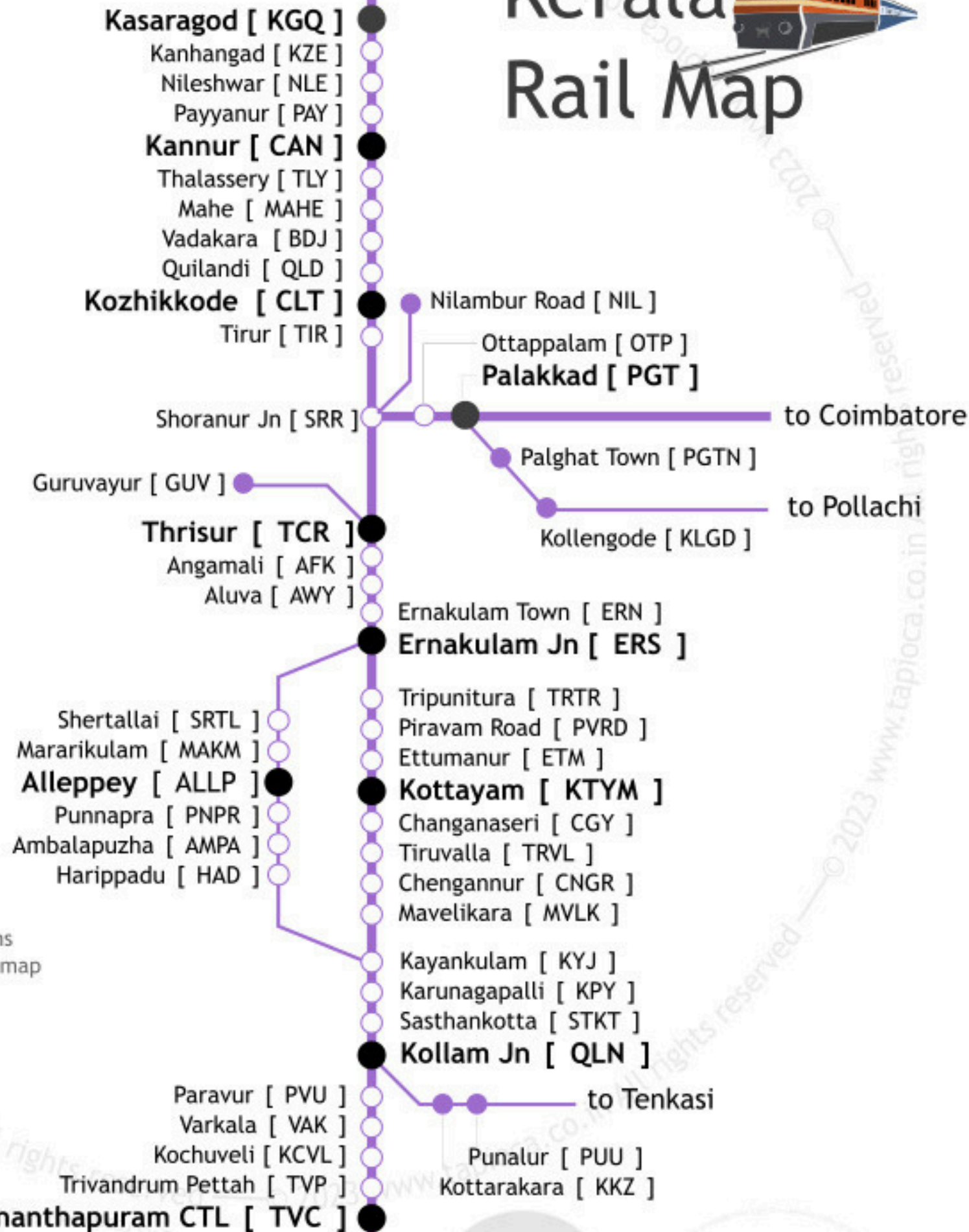
- The above UAs account for a population of 16 m out of 36 m.
- The balance would also be in many urban nodes of population between 0.1 to 1.0 m
- Road length: About 60,000 kms of which 1,800 kms are NH. About 50% are roads within UAs
- Rail length: 1,200 kms



indicative purpose.
rights reserved

to Mangalore

Kerala Rail Map



main stations
in the route map

KGQ]

to Mangalore

Only a few main stations
are shown in the route map



Kerala Road Map



Key Connectivity Infrastructure

- Two large ports: Kochi and Vizhinjam
- Airports: Thiruvananthapuram, Kochi, Kozhikode, Kannur: Three on PPP basis
- Kochi metro
- Six laning of national highway under progress
- Two divisions (Palakkad and Thiruvananthapuram) of railways
- Reasonable warehousing infrastructure

Performance of Kerala in LEADS 2024

- Logistics Ease Across Different States (LEADS)
- Kerala is in the lowest category 'Aspirers' out of nine coastal states



Coastal Group States

Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu

Andhra Pradesh, Goa

Kerala, West Bengal

Achievers

Fast Movers

Aspirers

Performance of Kerala

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







 Above Group Average
  Below Group Average

Performance of Kerala

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

● Above Group Average ● Below Group Average

Performance of Kerala

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

 Above Group Average
  Below Group Average

Performance of Kerala

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

 Above Group Average  Below Group Average

Stakeholders Insights

Stakeholders Insights

“

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

”

“

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

”

“

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

”

“

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

”

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Needs arising out of 'Less than Desirable' Logistics Infrastructure

- Reliability
- Capacity
- Speed
- Sustainability
- Resilience

Questions

- What are the OD flows for passenger and cargo traffic?
- What are the drivers for movement?
 - Kerala as a destination from outside?
 - Kerala as an origin to outside?
 - Within Kerala?
 - Through Kerala?
- What is the profile of traffic in terms of leads?
- An institution to study this continuously

Need for Alternate Rail Corridor

- Except between Ernakulam and Kayankulam, there is only a single rail corridor across the length of Kerala
- Reliability and Resilience would require a second corridor, which can focus on speed for passenger services
- Choices are an RRTS or a Semi-High Speed (Silver Line) or a Bullet Train
- Centre has approved the RRTS style for Kerala (Phase 1 - Thiruvananthapuram to Kannur)
- Estimated cost Rs 1 trillion (or Rs 2 trillion) to be shared between the Centre and State
- Niti Aayog has expressed that the lower cost is an underestimate
- RRTS, with stations 20-25 kms apart, at an average speed of 135 kmph will mostly satisfy short to medium leads of up to 200 kms
- There will be a need for a bullet train like Corridor from north to south Kerala, with stations about 50 kms apart, at an average speed of 200 kmph

Need for Alternate Corridors

- Apart from six laning of NH 66, an expressway across the length of Kerala would be essential
- Coastal movements, networked with inland waterways must be leveraged, especially from the perspective of sustainability
- A port with high growth potential would be required in the northern half of Kerala. Azhikkal or Beypore are possibilities. To improve its viability, a rail based exit to the east would be essential
- To improve the viability Vizhinjam beyond only transshipment, the road and rail connecting segments to the existing through corridors would be critical

Kerala State Logistics Action Plan (2021)

- **INFRASTRUCTURE DEVELOPMENT – TRANSPORT INFRASTRUCTURE**

- Increase tonnage of logistically important roads to support four-axle and six-wheel trucks (28.5 tonnes)
- Develop cargo infrastructure for using rail and water transport
- Green logistics for last-mile delivery
- City level logistics
- Rail freight transport

Kerala State Logistics Action Plan (2021)

- **INFRASTRUCTURE DEVELOPMENT – LOGISTICS FACILITIES**
 - Develop return cargo (recyclable and other cargo) facilities and volumes
(Reverse Logistics)
 - Warehousing as business
 - Exploring feasibility of MMLP

Kerala State Logistics Action Plan (2021)

- **DIGITISATION OF LOGISTICS OPERATIONS**
 - Digitise State logistics
 - Transportation Management Systems

Kerala State Logistics Action Plan (2021)

- **INSTITUTIONAL DEVELOPMENT**

- Mini-MMLPs
- Specialized skilling plan for logistics
- Logistics plan for Disaster Management: Kerala, being prone to multiple natural disasters
- Industry engagement channel for legal, policy and standards setting

Kerala State Logistics Action Plan (2021)

- **POLICY MEASURES (REGULATORY STANDARDS)**

- Industry status for “Logistics Sector”
- 3PL (Third Party Logistics) providers benchmarking framework: To evolve into a matured logistics market
- Drone delivery

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Questions

- How best to deliver the above?
 - Structures/Institutions
 - Processes
 - Regulation/Instruments

Delivery Mechanism

- Public Private Partnerships need to be leveraged, not only for resource additionality, but also for efficient project development and effective service delivery
- Kerala has PPP experience in airports, ports and road segments
- In fact, Kerala was the innovator in developing an airport (CIAL) outside the legacy AAI driven model
- An institution for PPP assessment, approval and oversight is essential
- Kerala Infrastructure Development Board?

Issues in Agreements

- Clear specification
- Bid criteria
- Time frames
- Review triggers
- Termination conditions
- Consistency

Issues in Agreements

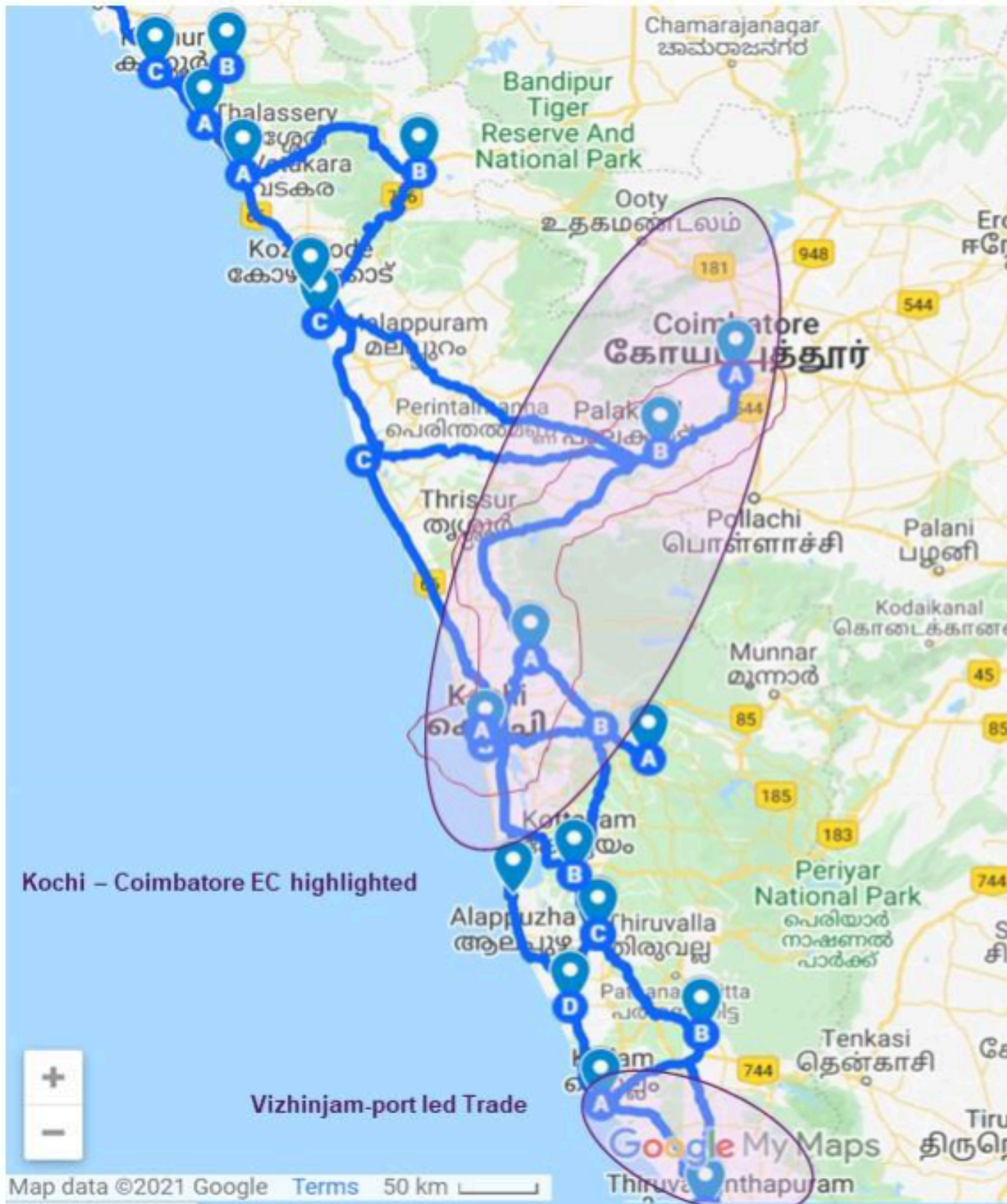
- Competition
- Scope Increase
- Other Revenue Sources/Viability Gap Funding
- Tariff Setting
- Ownership
- Common Use Vs Captive
- Targeting the BoP/Non-Viability
- Step In/Termination/Transfer

Infrastructure Development

- **Has both technological and managerial concerns – in fact mostly techno-managerial**
- Project Structuring
- Risk Identification, Assessment and Management
- Financial Appraisal and Sourcing
- Tendering and Bidding
- Concession/Contractual Agreements
- Project Management
- Post Project Activities
- Dispute Resolution

THANK YOU

Kerala – Key Logistics Clusters



Key Logistics Clusters/ potential mini-MMLP's
Kasaragod
Azhikode & Kannur
Thalassery
Vadakara
Kozhikode
Bey pore-Feroke
Kanjikode-Walayar
Angamali
Kochi
Kottayam
Alappuzha
Thodupuzha
Adoor-Kottarakkara
Changanassery-Tiruvalla
Kayamkulam
Kollam
Kazhakkootam
Vizhinjam