

Industrial Corridors for Economic Growth

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August 2015



Outline

- Industrial / Economic Corridor - Concept
- Vizag-Chennai Industrial corridor (VCIC)
- Interventions by ADB in VCIC



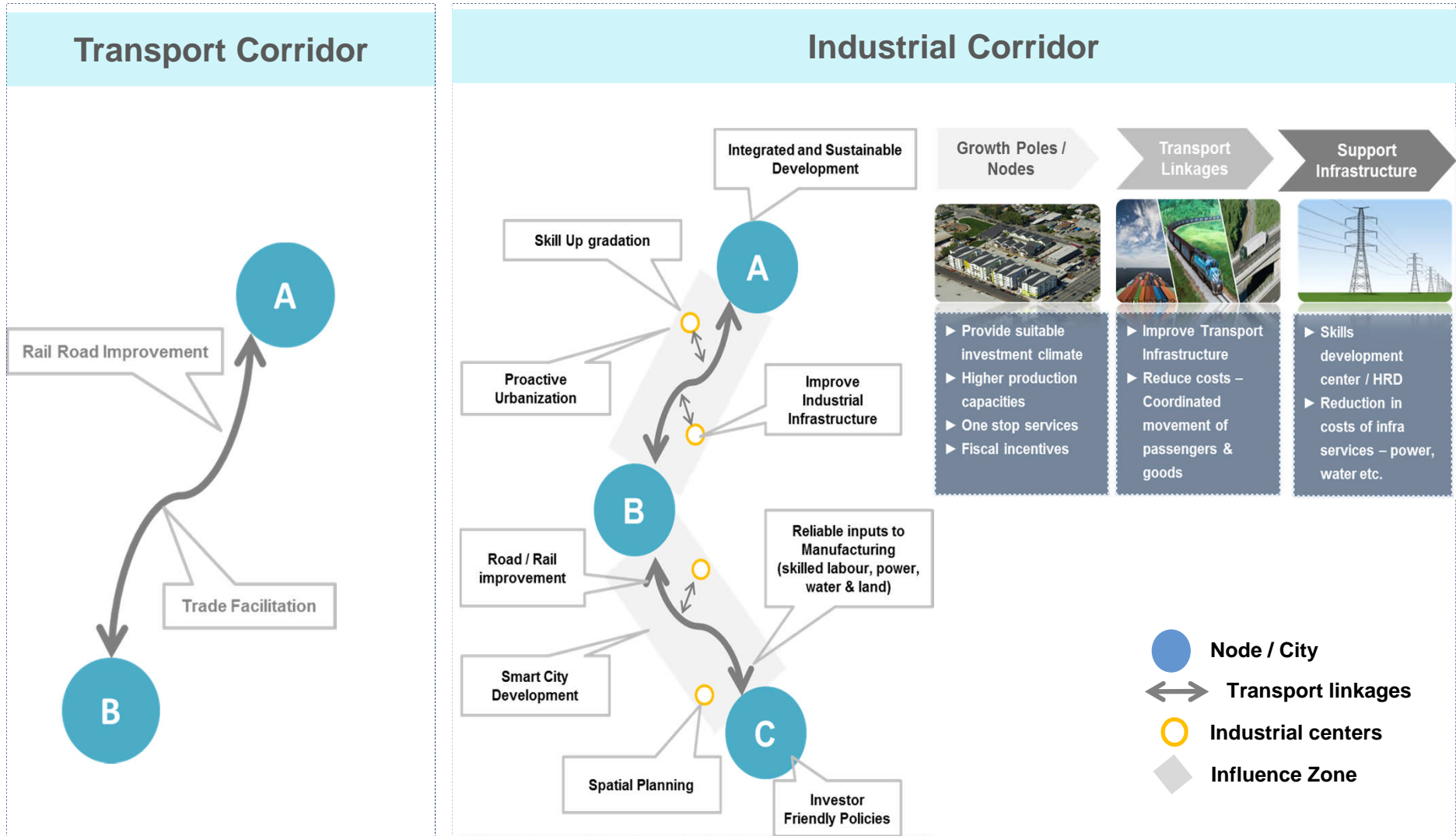


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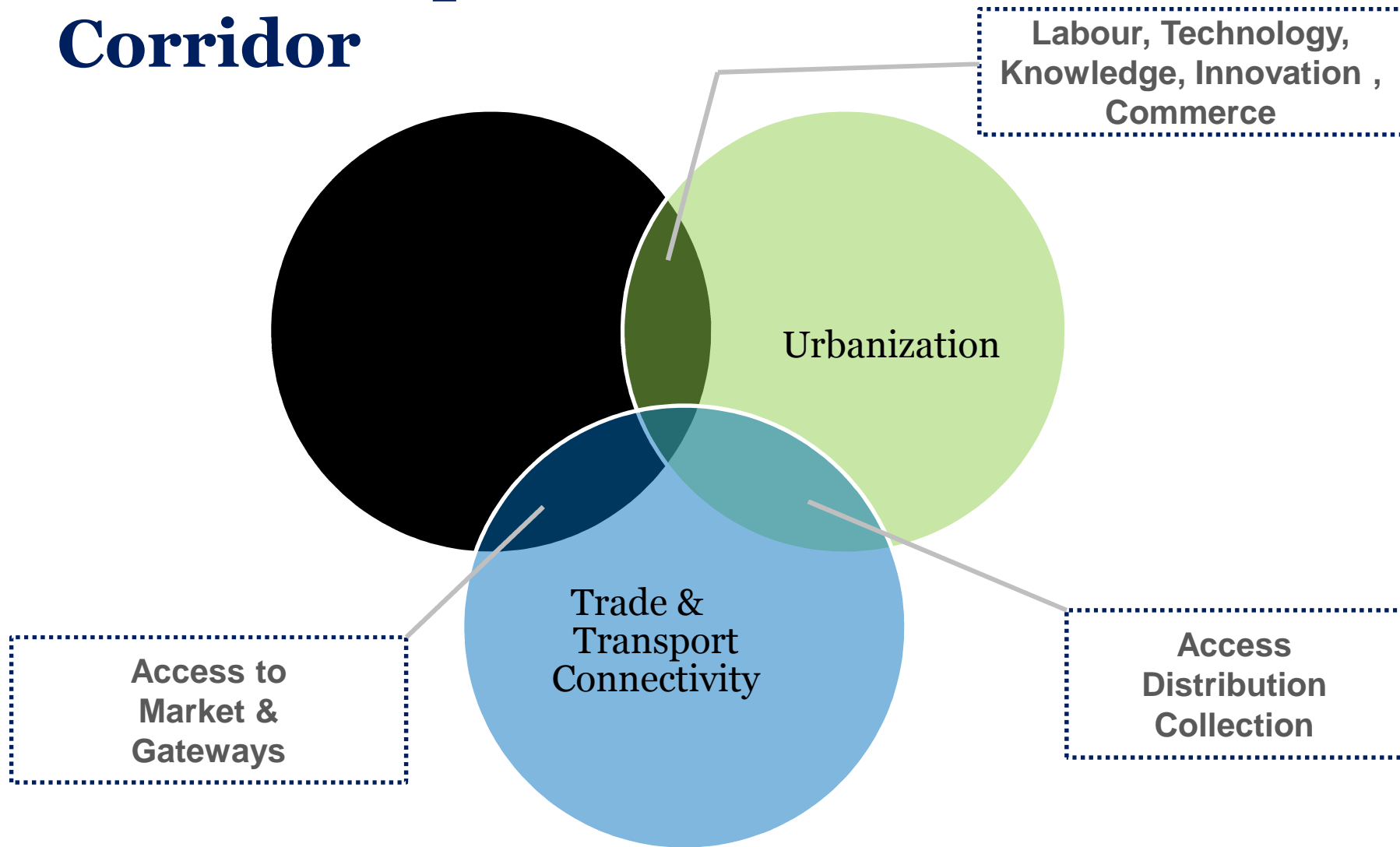
Industrial Corridor Concept

ADB

Transport Corridor vs Industrial Corridor

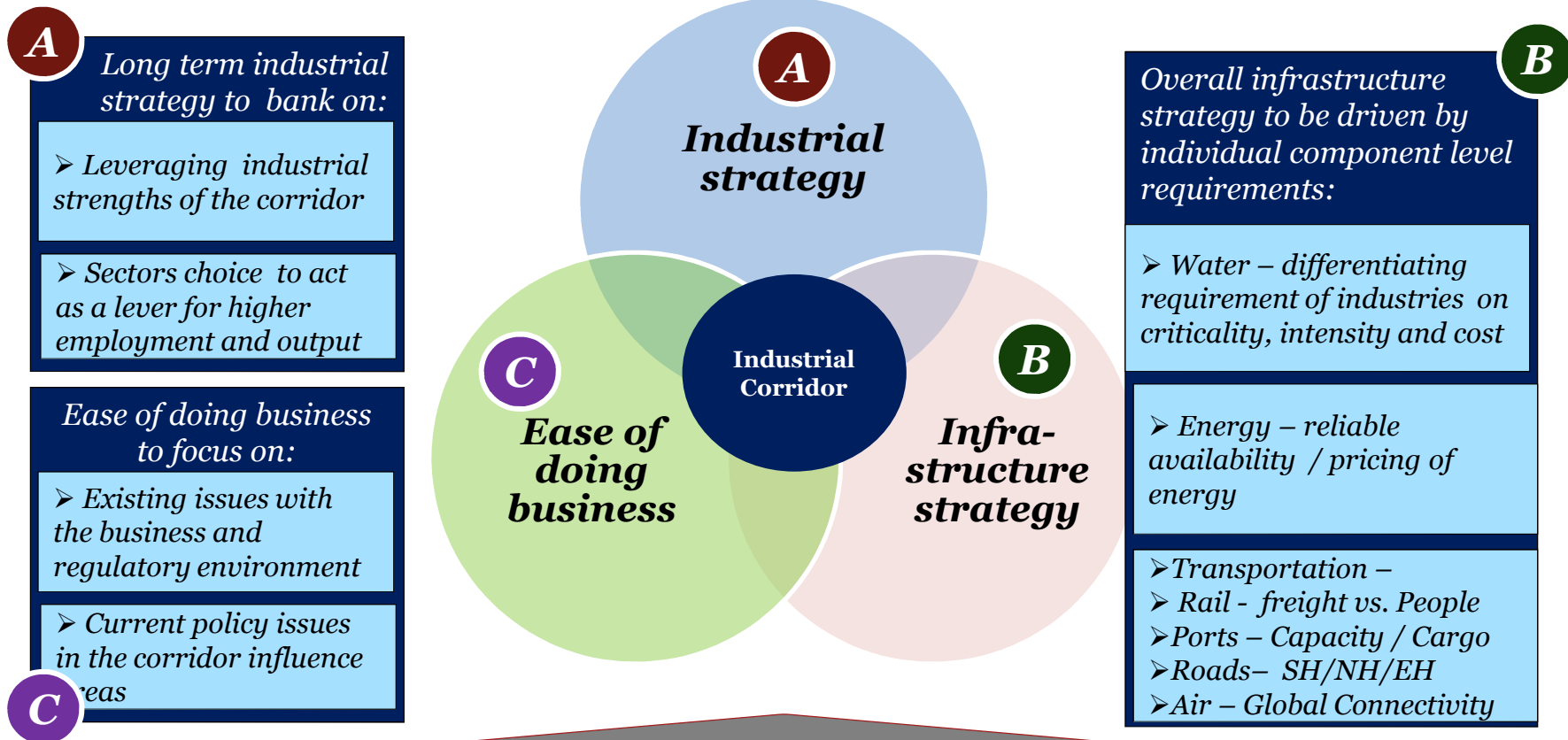


Three Components of Industrial Corridor

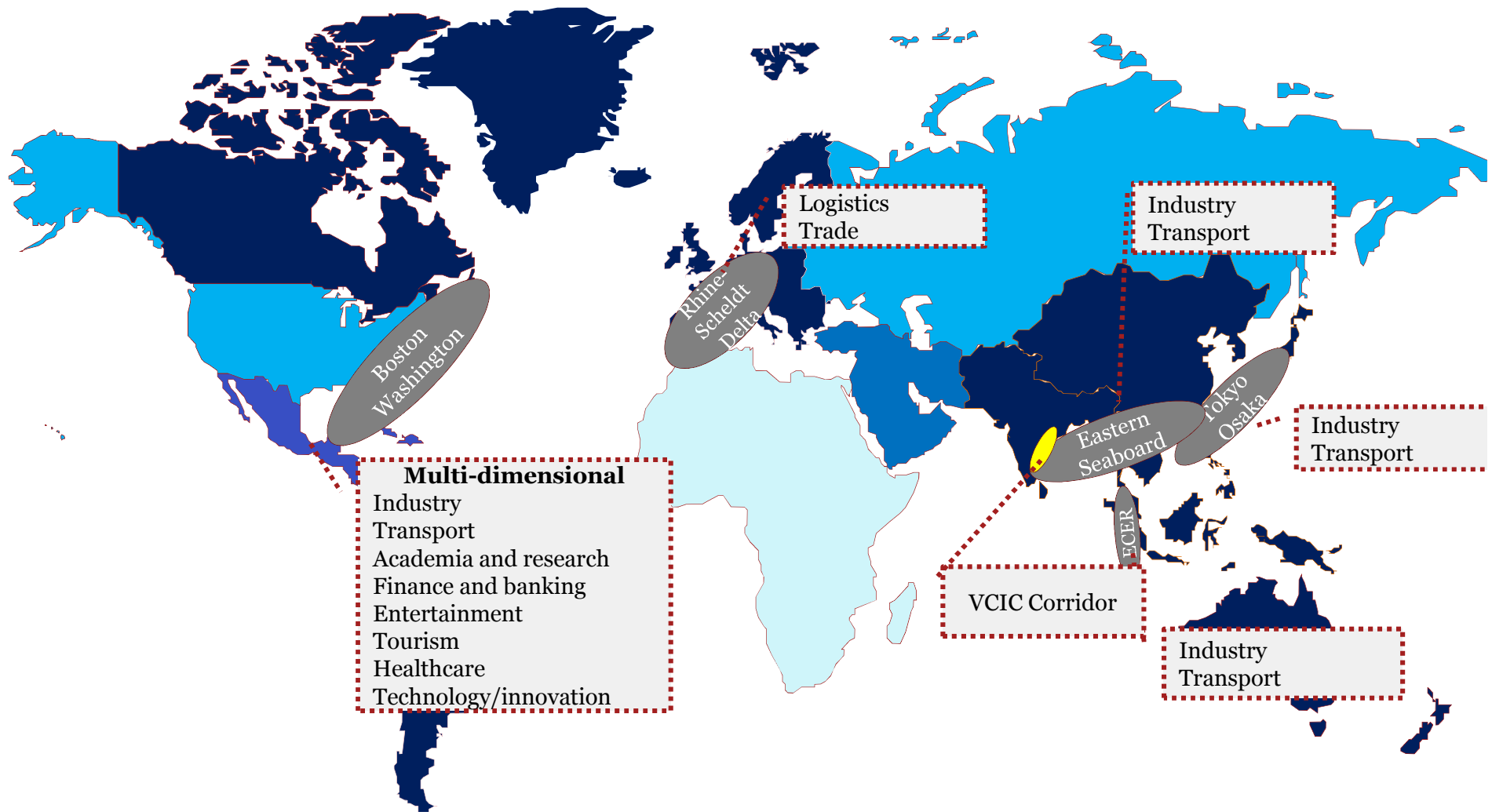


Industrial Corridor Strategy

Policy support from Government



Existing coastal corridors



BosWash : Multi-dimensional coastal corridor



Economic activity - Only 2% of land mass but

- ~53 million population
- ~20% of GDP

Employment

- 24 million jobs, **20% of jobs in the U.S.**

Technology & Innovation

- 3.7 million knowledge industry jobs in 10 core NEC cities
- 39% of U.S. patents since 2000

Finance & Banking

- 6 of top 10 U.S. financial institutions
- 31% of U.S. venture capital deals

Education & Healthcare

- 6 of top 10 ranked U.S. universities
- 7 of top 18 nationally ranked hospitals

Tourism & Entertainment

- 7 of top 20 most visited museums in the world
- 4 of top 15 U.S. cities for international visitors

Transport Services

- Electrified rail line carrying most of the rail passenger traffic in the US
- Various commuter rail services to the major urban centers along the corridor
- Interstate 95 6-8 lane highway

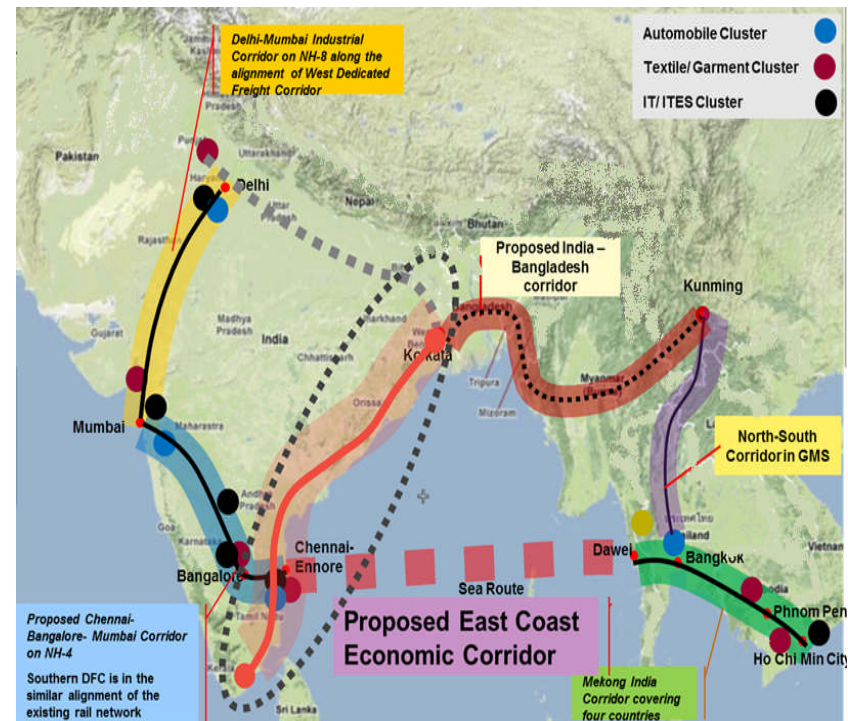
Greater Mekong Sub Region (GMS) Corridor

- ▶ Transport corridors connecting nodes in the GMS region
- ▶ Development thrusts (i) strengthen infrastructure linkages (ii) facilitate cross-border trade and investment, (iii) enhance private sector participation (iv) develop human resources and skill competencies, and (v) protect the environment
- ▶ 36 investment projects assisted by ADB in the GMS program
- ▶ Transport corridors generated plans for three economic corridors—
 - ▶ Southern Economic Corridor (connecting Cambodia–Viet Nam with Thailand)
 - ▶ East–West Economic Corridor (connecting Lao PDR–Viet Nam with Thailand)
 - ▶ Northern Economic Corridor (connecting Yunnan with Lao PDR and Thailand).



Industrial Corridors in South and South East Asia

- ▶ **Chennai Dawei Corridor** – A maritime corridor which further connects to the Trilateral Highway between India – Myanmar – Thailand.
- ▶ **Trilateral Highway** – 3,200 km highway to link India to Myanmar and then further to Southeast Asia.
- ▶ **Greater Mekong Sub Region Corridor** – Connects to Tri-lateral Highway and Chennai Dawei Corridor. Aimed at transforming the corridor towns into economic hubs.



- ▶ **Bangladesh China India Myanmar Economic Corridor (BCIM) Corridor** - First multimodal expressway between India and China through Myanmar.& Bangladesh.
- ▶ **ECEC Corridor** – envisaged to run from eastern India (Kolkata) to Chennai in southern India which will play a key role in boosting trade with Southeast Asia.
- ▶ **Delhi Mumbai Industrial Corridor and DFC** - Multi-modal corridors with industrial clusters and new industrial cities as 'Smart Cities' .

- ▶ **Vizag Chennai Industrial Corridor (VCIC)** is the key part of the ECEC
- ▶ **VCIC is best suited to execute India's “Act East Policy”** of engaging with East Asian economies



Section

Vizag Chennai Industrial Corridor

ADB

Objectives of VCIC

Expanding Industrial Output

- Increasing Manufacturing sector's contribution to GDP and boost exports

Expanding employment opportunities

- Increase employment opportunities in formal sector

Increasing labour productivity and wages

- Focus on labour productivity improvements and increasing wages

Promoting Dynamic SMEs

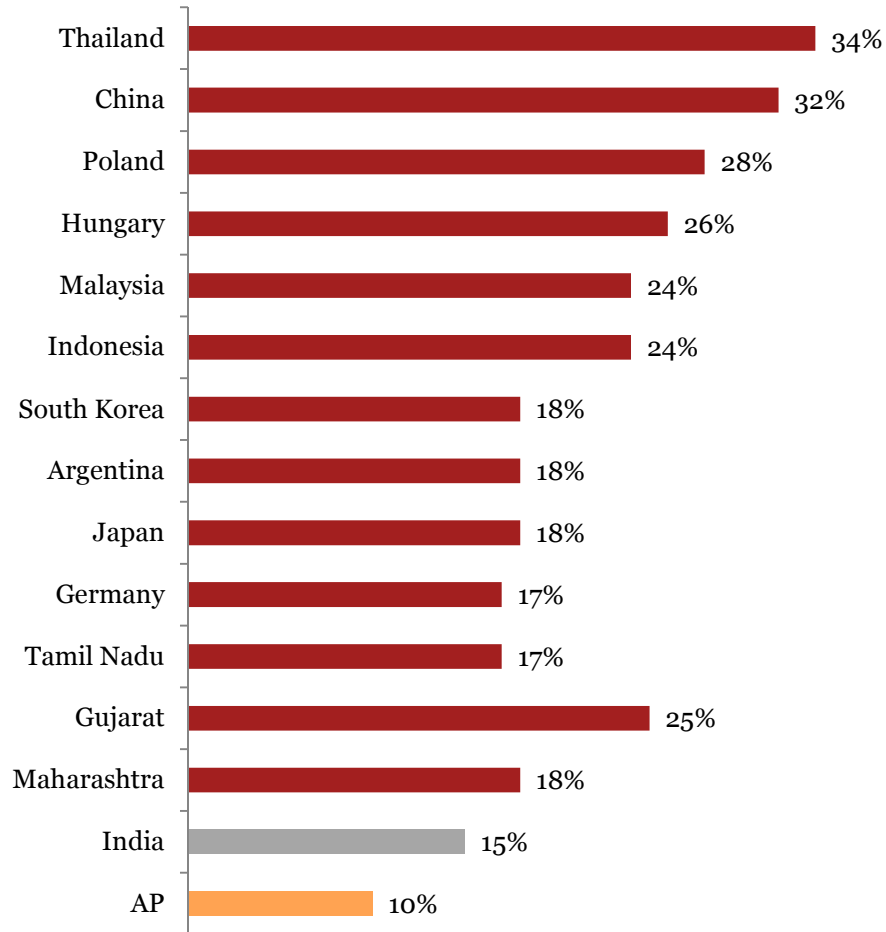
- Focus on leveraging existing supply chains

In the Business induced scenario (BIS) VCIC has the potential to

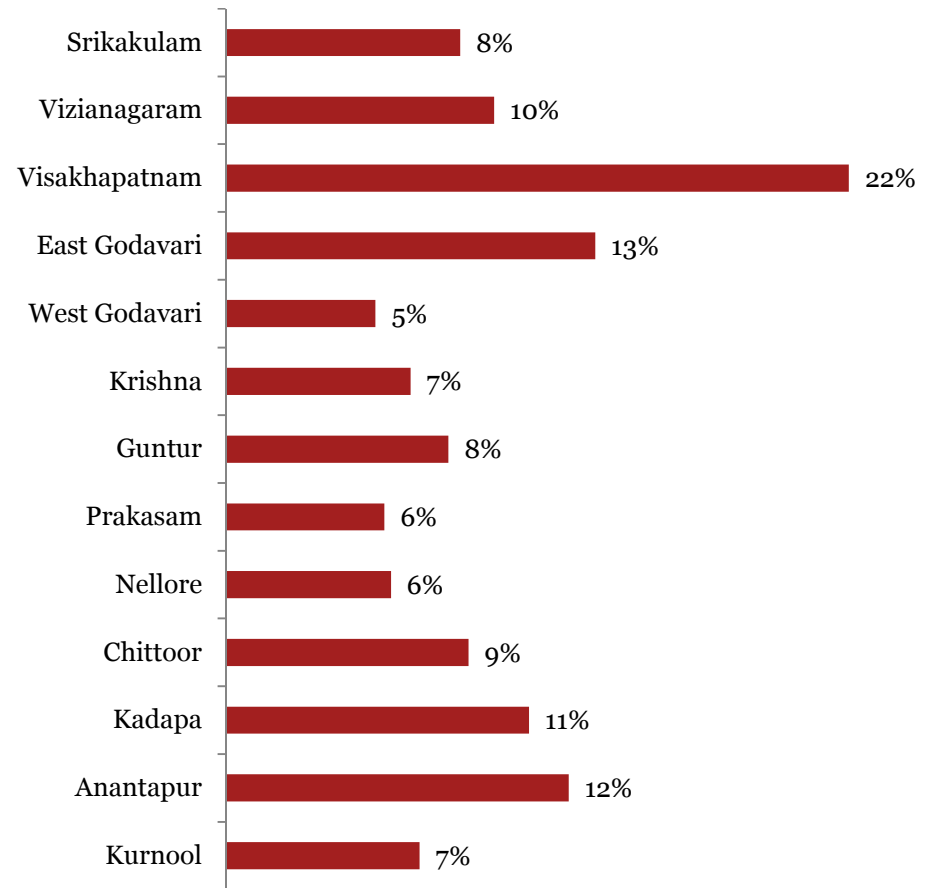
- Increase the GDP in the Corridor districts by **6 times**.
- Expansion of manufacturing output by **7 times** the current output.
- Creating additional employment of over **11 million** people.

Manufacturing in Andhra Pradesh

Manufacturing sector's contribution to total GDP

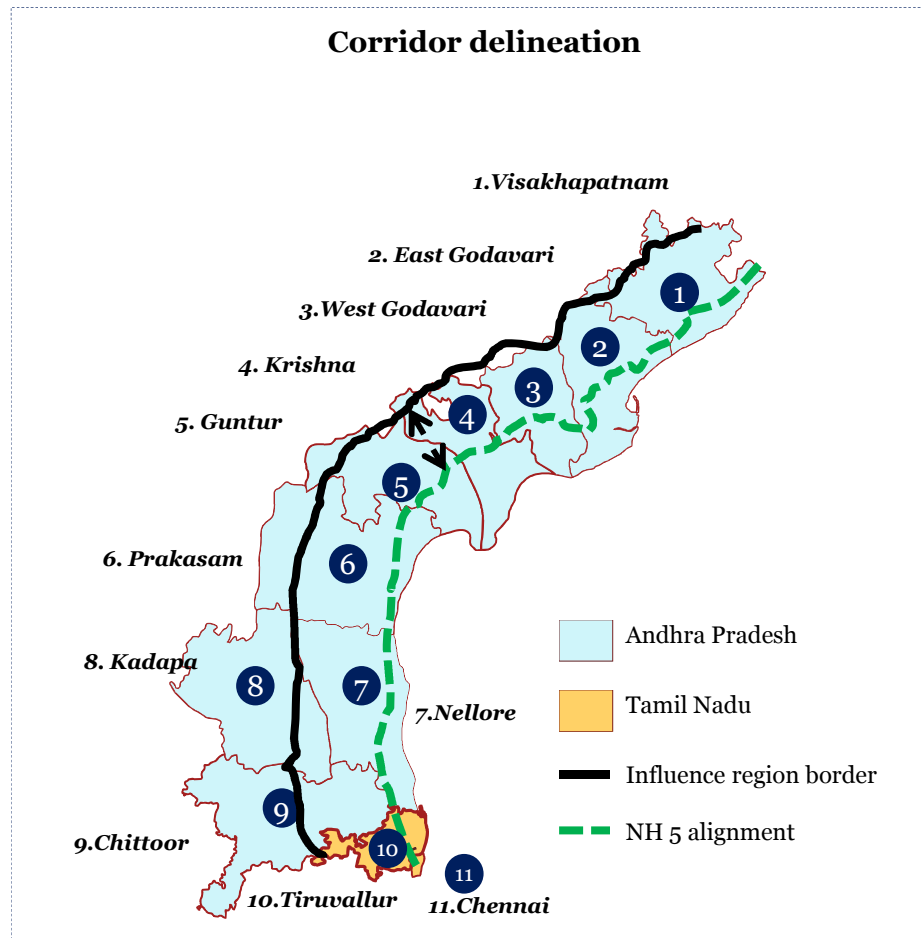


District wise - Manufacturing sectors contribution to total GDP



Source: World Bank, District Domestic Product, AP, RBI Handbook of statistics

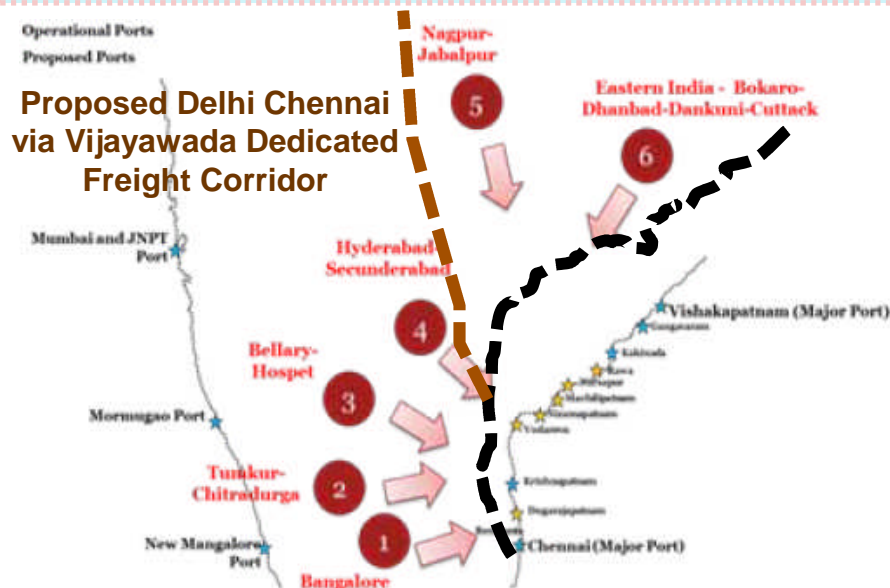
VCIC encompasses one of the largest concentration of industrial, mineral and urban nodes supplemented by strong local factor advantages



- The Corridor contributes to 5% of national GDP
- Influence area - over 110,000 sq. km, 3.5% of India's area
- Industrialization be **supplemented by natural resources** available in the region (natural gas, minerals, agriculture products)
- The **major ports well connected** and in close proximity to many of the East Asian economies (80% of AP's coastline)

VCIC Hinterland Connectivity

VCIC Corridor is well connected with its Hinterland – Eastern Karnataka, Central India and Eastern India



1 2 3 Eastern Karnataka

Three regions in Karnataka State

- ▶ Bangalore, Tumkur–Chitradurga, and Bellary – Hospet
- ▶ Expected to attract large amounts of investment in the near future
- ▶ Part of proposed Chennai–Bangalore Industrial Corridor (CBIC) and Bangalore–Mumbai Economic Corridor (BMEC)
- ▶ **VCIC ports are only convenient gateway port for this region**

4 5 Central India

Two regions in Central India

- ▶ Hyderabad & Nagpur – Jabalpur Belt - further connected to the N-S corridor through NH7
- ▶ **Important production and consumption centers**
- ▶ **Can serve as cargo agglomeration centers for north and central India**

6 Eastern India

Prime region connecting Eastern India

- ▶ Bokaro – Dhanbad – Dankuni arc
- ▶ **Industrial are important cargo centers – due to technical advantage of the VCIC ports over Eastern India ports**
- ▶ A segment of Eastern Corridor

VCIC Corridor also connects to the Central and Northern Indian hinterland via proposed Delhi Chennai Dedicated Freight Corridor (DFC)

The Building Blocks

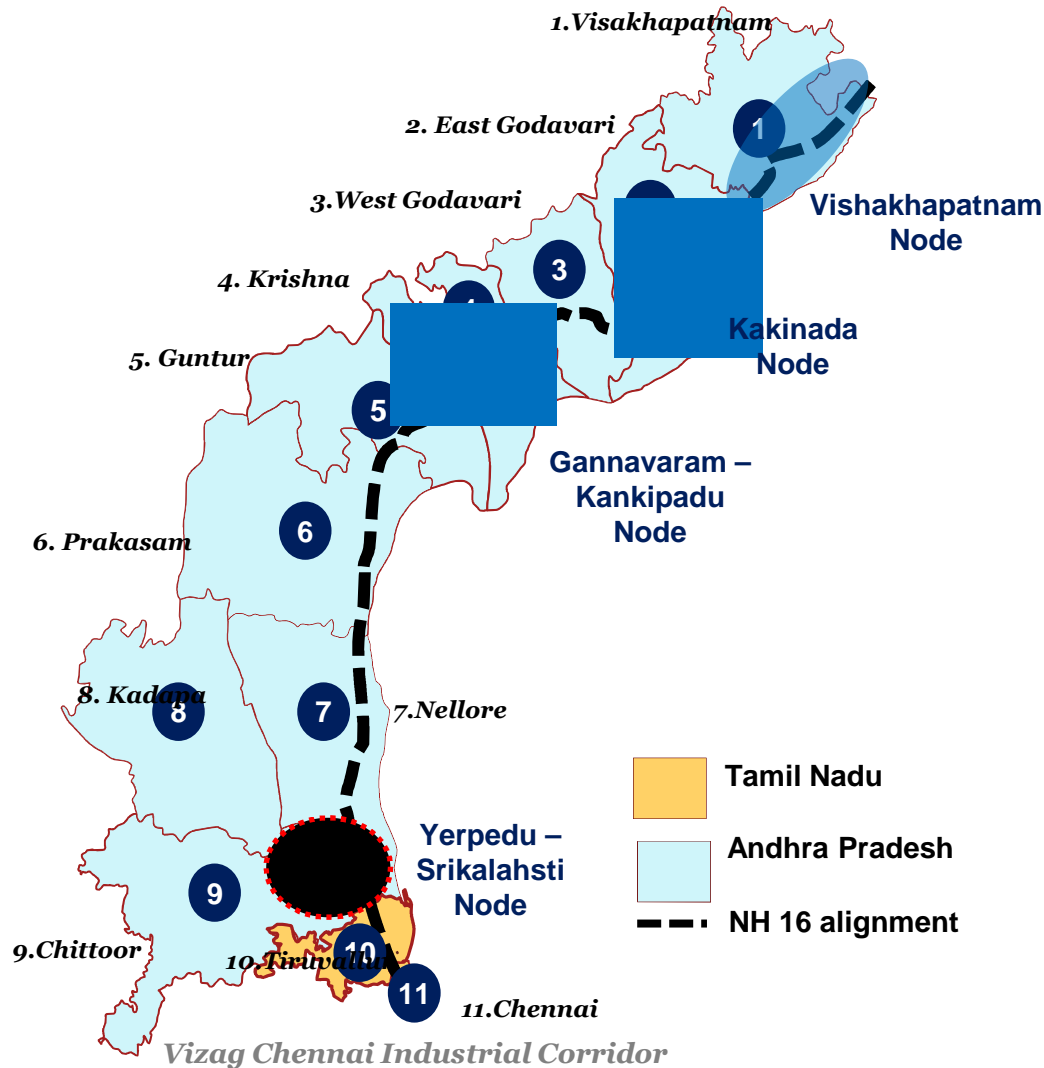
**Node Centric
Development**

**Promoting
Key Industrial
Sectors**

**Connectivity
and
Infrastructure**

**Proactive
Urbanization**

Node -centric development



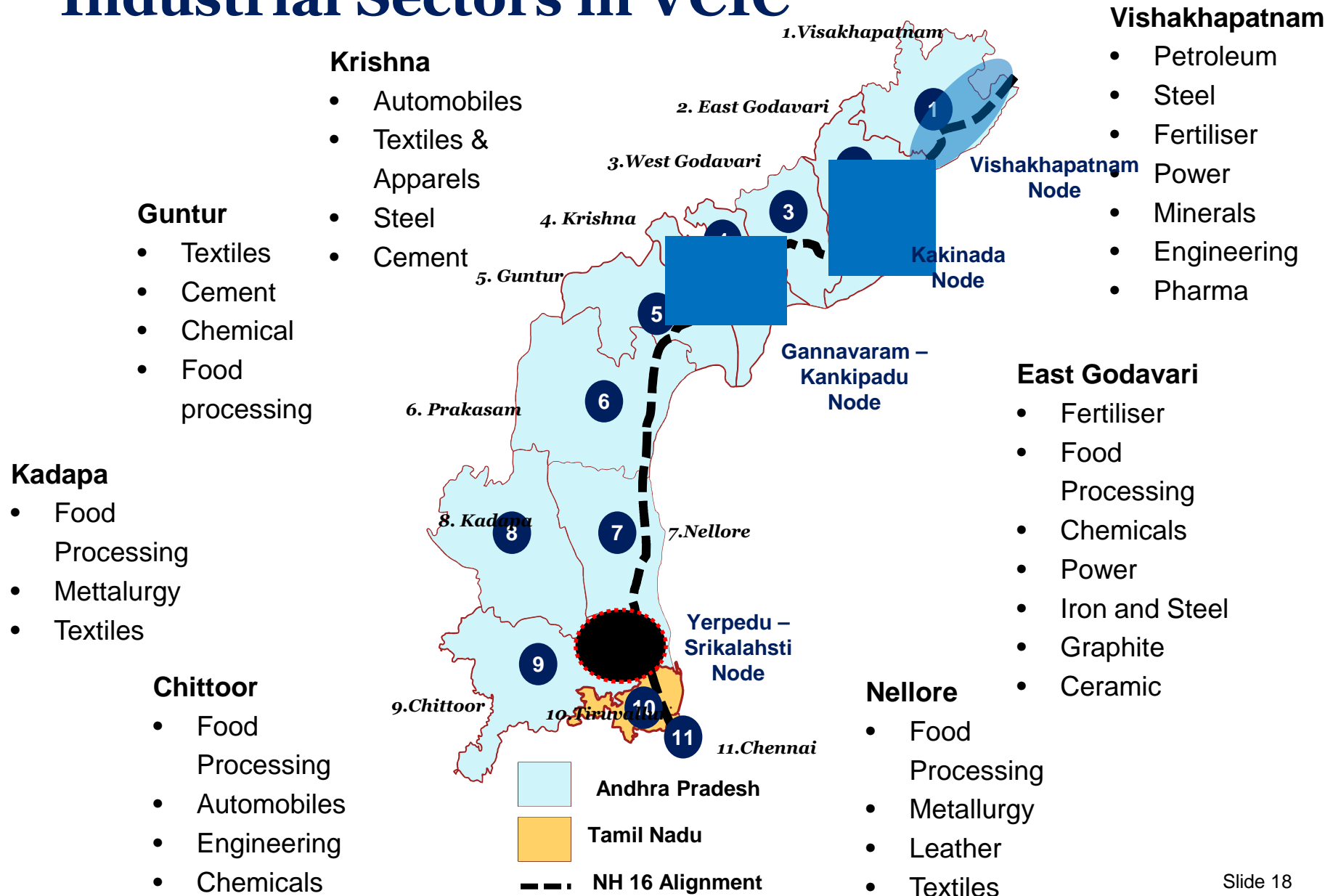
Growth Nodes – Industrial Production Centers

Four nodes have been identified

- Vishakhapatnam Node
- Kakinada Node
- Gannavaram – Kankipadu Node
- Yerpedu – Srikalahasti Node



Industrial Sectors in VCIC



A strategic mix of industries has been shortlisted to achieve targeted outcome of promoting manufacturing driven transformation

Sectors	AP's comparative advantage (GVA basis)	Aligned to Global Production Networks	Activating higher value addition	Employment creation	Thrust to MSME	Top sectors in terms of investment in the corridor	Driving Export growth
Food processing	✓			✓	✓	✓	✓
Metallurgy					✓	✓	
Chemical and Petrochemical	✓	✓	✓	✓	✓	✓	
Pharmaceuticals	✓	✓	✓		✓	✓	✓
Automobiles		✓	✓	✓	✓		✓

Industries that may hold the potential for future industrial development (“we are lagging and must get into”) have also been shortlisted

Sectors	Sub-segments with highest Trade Volume (Export and Import)	Policy support/Government’s focus/ revealed disadvantage	Increased contribution to global trade
Medical Equipment	✓		✓
Plastics	✓		✓
Organic Chemicals	✓		✓
Aerospace	✓	✓	✓
Electronics	✓	✓	✓
Textiles	✓	✓	✓
IT/ITeS		✓	

Connectivity and Infrastructure development

- Road network
- Rail network
- Gateways (Ports & Airports)

VCIC Road Network

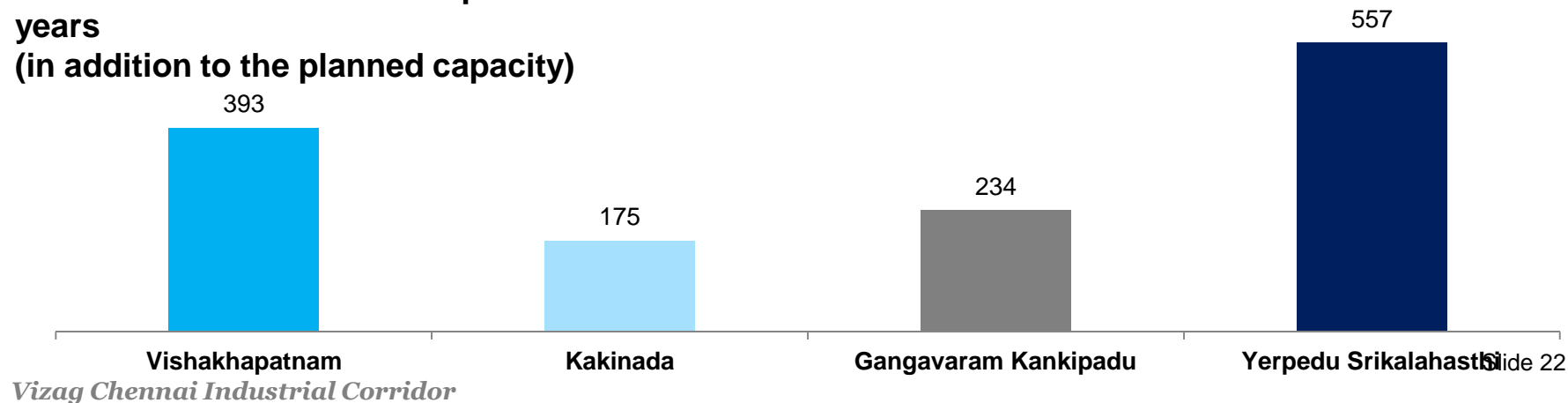
Existing and Planned Capacity

Particulars	Existing Capacity	Planned Capacity Augmentation by Government
	800 km (currently 4 lane)	
Alternate Spinal Connectivity (Parallel access at crucial segments)	383 km	<p>Proposed Expansion of the existing 383 km</p> <ul style="list-style-type: none"> 255 km : single lane to two lane 128 km : 2 lane to 4 lane <p>Additional road network of 68 km</p>
Grid Network		

Proposed Additional Capacity

*SH – State Highway, NH – National Highway
(km)

Node centric network development of roads in the VCIC corridor in the next 5 years
(in addition to the planned capacity)



VCIC Rail Network

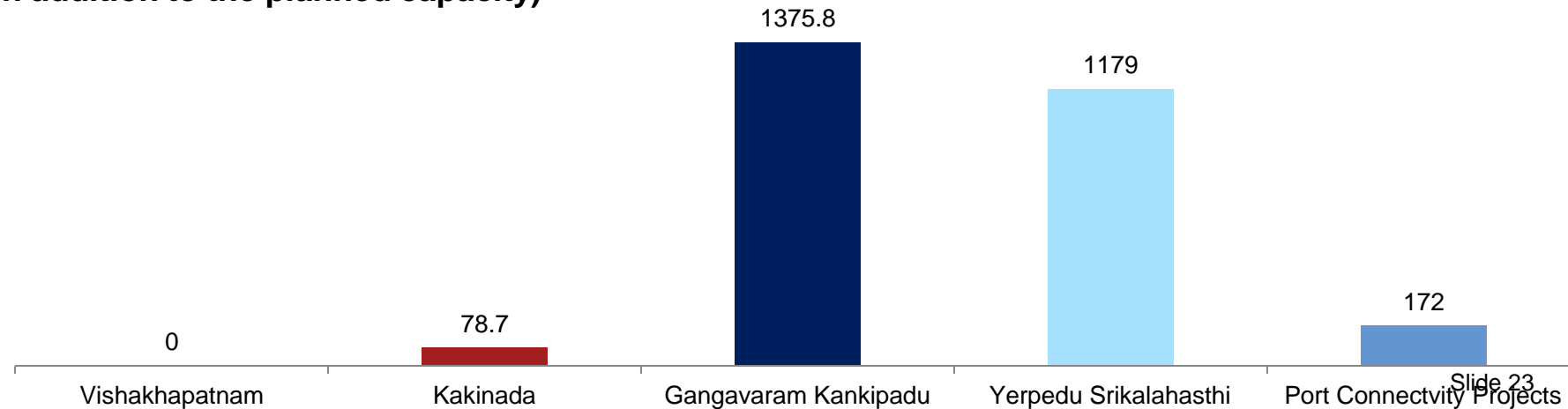
Existing and Planned Capacity

Particulars	Existing Capacity	Capacity Augmentation /Expansion
Spine	531 km (Capacity utilization >80%)	Capacity augmentation proposed through development of two DFC – Delhi to Chennai via Vijaywada and Kharagpur to Vijaywada
Grid Network	1720 km	Entire grid network has been planned for expansion

Proposed Additional Capacity

Node centric development of rail network on the VCIC corridor in the next 5 years
(in addition to the planned capacity)

(km)



VCIC Gateways

Port

Particulars	Existing Capacity	Planned & Proposed Capacity
	Total capacity of 126 million tonnes per annum (Average capacity utilization > 80%)	

Airport

Particulars	Existing	Planned & Proposed Capacity
Airports	4 Airports	<ul style="list-style-type: none"> • Upgradation of 3 existing airports • Greenfield international airport at Vishakhapatnam in place of the existing airport • 3 Regional Greenfield Airports • 2 No-frills airport

Proactive urbanization

Urban Infrastructure Needs

- Reliable municipal services (24x7 water supply, low NRW, 100% wastewater and solid waste collection and treatment, 0% flooding, etc.)
- Efficient public transport, Reliable power, and telecom services
- High quality social infrastructure (education, health, entertainment, etc.)
- Affordable workforce housing

Short term strategies

- Develop identified cities into Smart Cities (e.g., Vizag)
- Strengthening existing urban centers
- Public transport connections to economic centers

Long-Term Strategies

- Integrated Townships: Industrial, Residential, Commercial, and Institutional
- New urban development at or near new economic centers
- Hierarchically structured public transport networks



Section

ADB Interventions

ADB

The Approach

Near-term (0 to 3 years): Focus on de-bottlenecking – both physical infrastructure and institutional and policy framework.

Short-term (Upto to 5 years): Focus on capital investments that stimulate demand and generate revenues. Examples include development of brownfield industrial clusters.

Medium-term (5-10 years): Investments that require some master planning as well more lumpy investments.

Long-term (More than 10 years): Major greenfield projects. Examples include developing a new economic node or a city.

Implementation Strategy

Investment Plan over the RPP period

- Ascertaining sector wise investments required
- Short term (0- 5 years) , Medium term (5-10 years) and Long term (beyond 10 years).

Project Prioritization and Phasing

- Project prioritization and phasing plan for each of the sectors like roads, railways, ports, airports and logistics.

Cluster development approach

- Identification of inter-sectoral linkages to promote cluster development.
- Classification of projects as 'driver projects' and 'linkage projects'

Investment Promotion

- Investment promotion strategies to attract timely investments

Skills Mapping

- Skill and resources mapping for the region
- Strategies to deal with competing skill demand and availability

Approach for the RPP Study

Phase 1

1a

As-Is Assessment

Industries

- Existing industrial scenario
 - Output
 - Export
 - Employment, etc.
- Global Production Network

Infrastructure

- Existing infrastructure linked to industry:
 - Road
 - Rail
 - Airport
 - Port
 - Inland waterway
 - Industrial water
 - Power and energy
 - Logistics
- Existing infrastructure linked to urban development (QoL):
 - Airport
 - Urban transport
 - Recreation/entertainment
 - Water
 - Waste and sewerage system
 - Power & energy

1b

Regional profiling of the delineated corridor

1c

Review policies & regulations impacting Investment Climate

1d

Logistics & Trade Facilitation policies

Phase 2

2

Forecasting and Demand Assessment

Industrial growth linked forecasts

- Infrastructure Demand
- Land Demand
- Skill Demand

Urban growth linked forecasts

- Infrastructure Demand
- Land Demand
- Social enablers

Consolidated Demand

- Infrastructure Demand
- Land Demand
- Land GIS Mapping
- QoL Aspiration

Gap Assessment

3

Development strategies

- Industries
- Urban development
- Land Management
- Transportation
- Inland waterway
- Logistics
- Power & Energy

Project identification

Project prioritization

Regulatory & Implementation framework

4

Develop Action Plan to address policy & regulatory enablers for improving Investment Climate

5

Phase 3

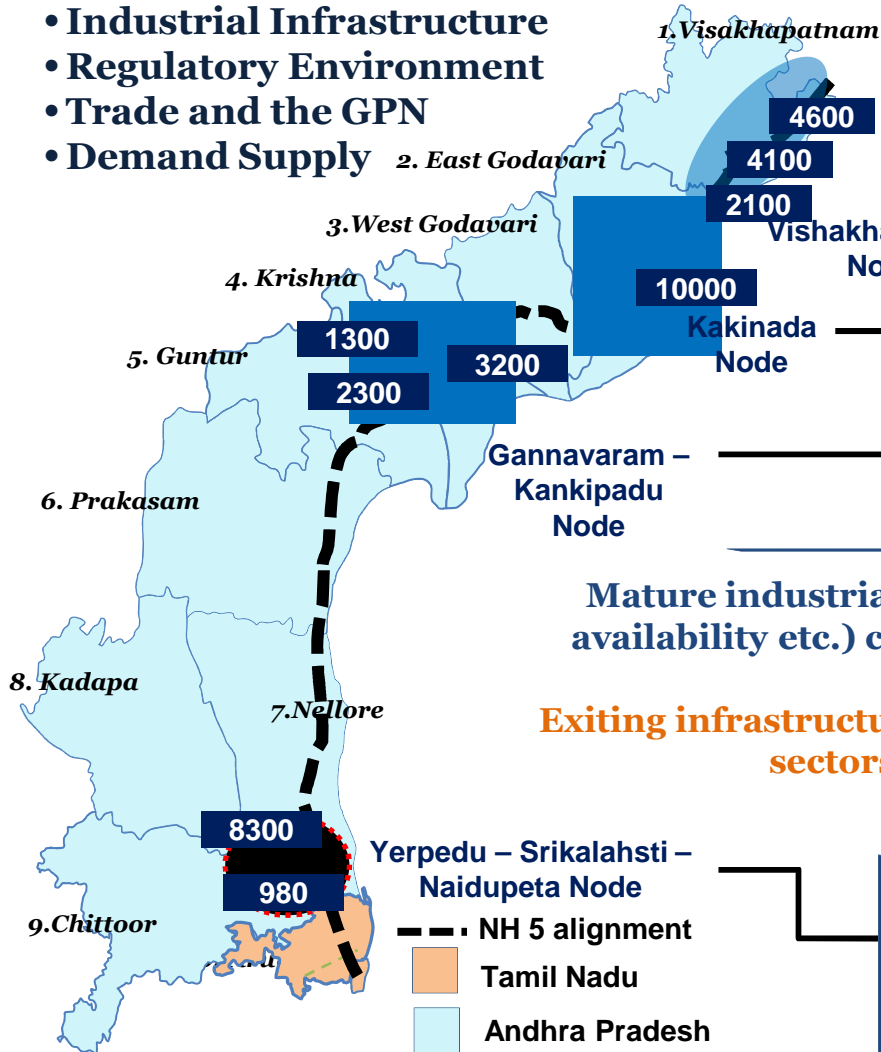
Comprehensive Regional Perspective Plan

Investment promotion and stakeholder engagement strategies

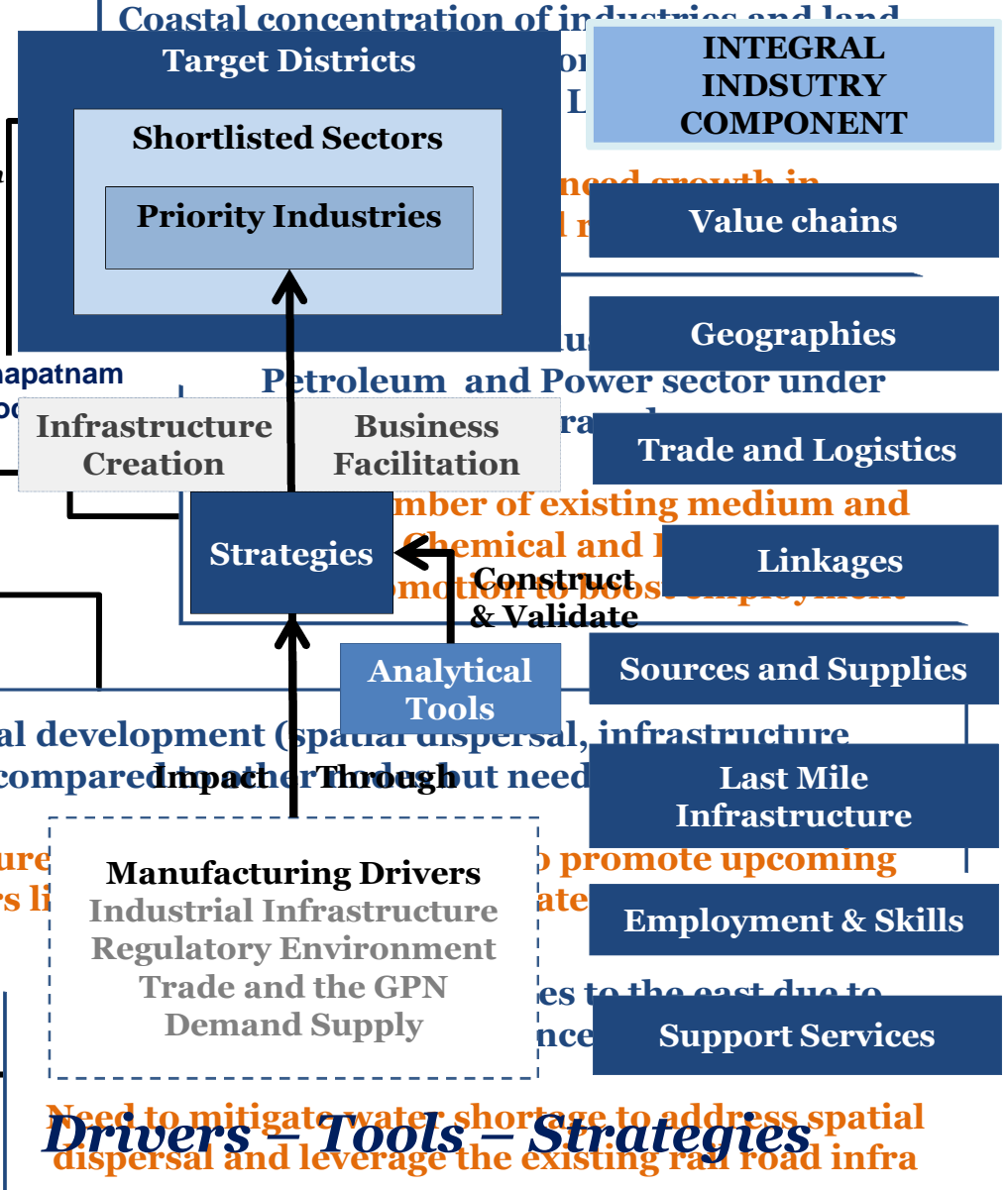
Nodes and the Districts

What will drive MANUFACTURING in 4 nodes and 36000 acre land bank

- Industrial Infrastructure
- Regulatory Environment
- Trade and the GPN
- Demand Supply



Districts – Sectors – Industries



ADB's Country Operations Business Plan (COBP) for AP

2014: Initiated technical assistance (TA) support and completed Conceptual Development Plan of the VCIC (PwC and Deloitte)

2015:

- Continued TA to prepare Regional Perspective Plan (RPP)
- Initiated new TA for preparation of Master Plan of identified industrial nodes in the VCIC
- Initiate processing of project (\$500 million) AP Industrial Corridor Development for critical infrastructure needs in power, transport, urban and industrial sectors

2016 and 2017:

- Program and project loans(s) depending upon AP's absorption capacity

ADB Interventions

Technical & Financial Support

Policy Based

Support to government in policy, institutional, and governance reforms to promote accelerated industrial development

- Investment climate- 'Ease of doing Business'.
- Ease of logistics and Trade facilitation
- Integrated Industrial Townships policy
- Proactive Urbanization-Policy and action plan for smart cities
- Labor reforms
- Setting up of corridor management authority

Project Based

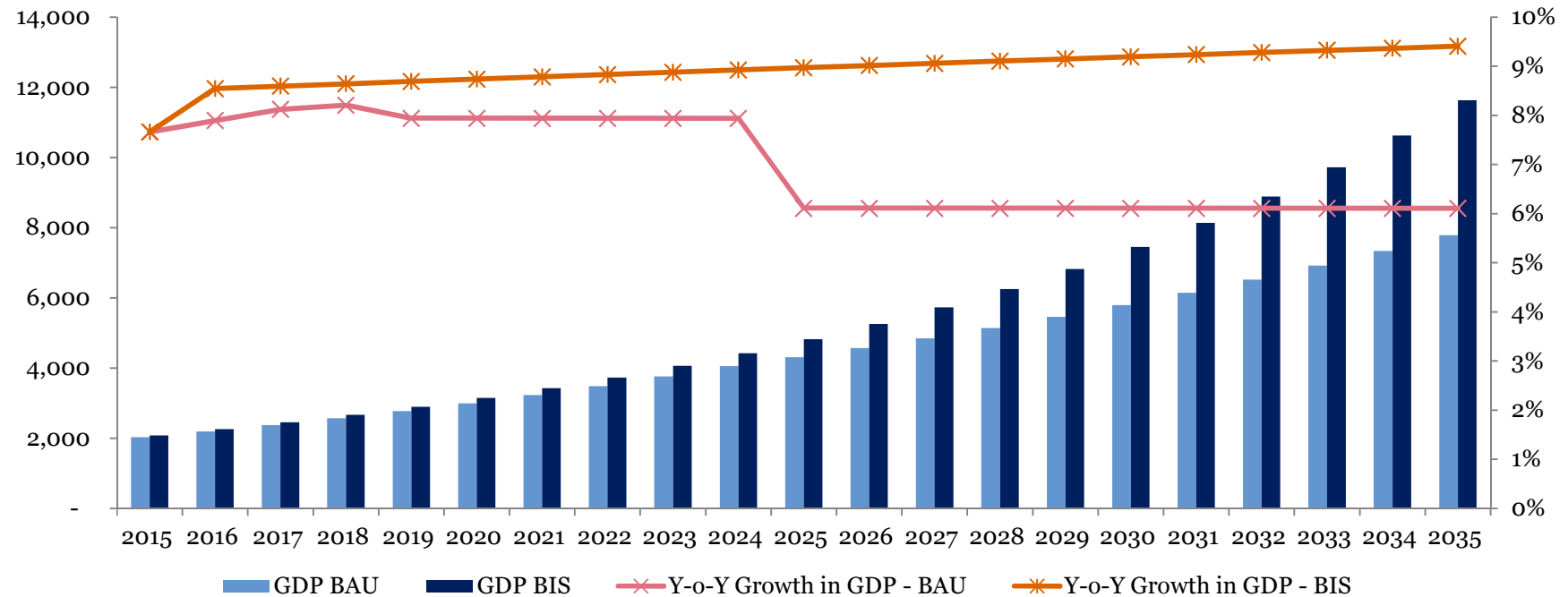
Support investments in physical infrastructure in the selected nodes (\$600 million in 2015 followed by successive future investments).

- Internal infrastructure in selected industrial clusters
- Transport, Power and urban Infrastructure
- Infrastructure and advisory support for smart cities
- Project management consultants, detailed design and consultants, and other consultant support
- Capacity building of institutions working for corridor management.
- Skill development and capacity enhancement of workers, entrepreneurs, students, etc.

VCIC has the potential to increase the GDP in the Corridor districts by six times , manufacturing output by 7 times creating additional employment of over 11 million...

Business-as-usual scenario (BAU). Corridor growth trends forecasted by correlating the manufacturing sector's growth in nine districts with India's projected GDP growth.

Business-induced scenario (BIS). Forecast of short-listed industrial sectors at growth rates pursued by relevant stakeholders.



The contribution of manufacturing sector is envisaged to increase to 11% from the current contribution of 8%

*BAU scenario is based on the correlation of the VCIC's GDP with India's GDP, hence, is sector growth agnostic.

Source: IMF projection, ASI 2010-11 AP, District Domestic Product AP 2010-11, various sector reports, Labour intensity report 2008

Issues and Challenges

- To improve “Ease of Doing Business” and benchmark it with the best in the world
- To increase manufacturing sector’s share from 10% to 25% with specific targets, strategies, timelines, and action plans
- To speed up infrastructure development and overcome lack of preparation, slow execution, time and cost overruns, promote PPP, mobilize private sector finance, etc.
- To promote world class integrated townships having industrial, commercial, residential, and institutional infrastructure

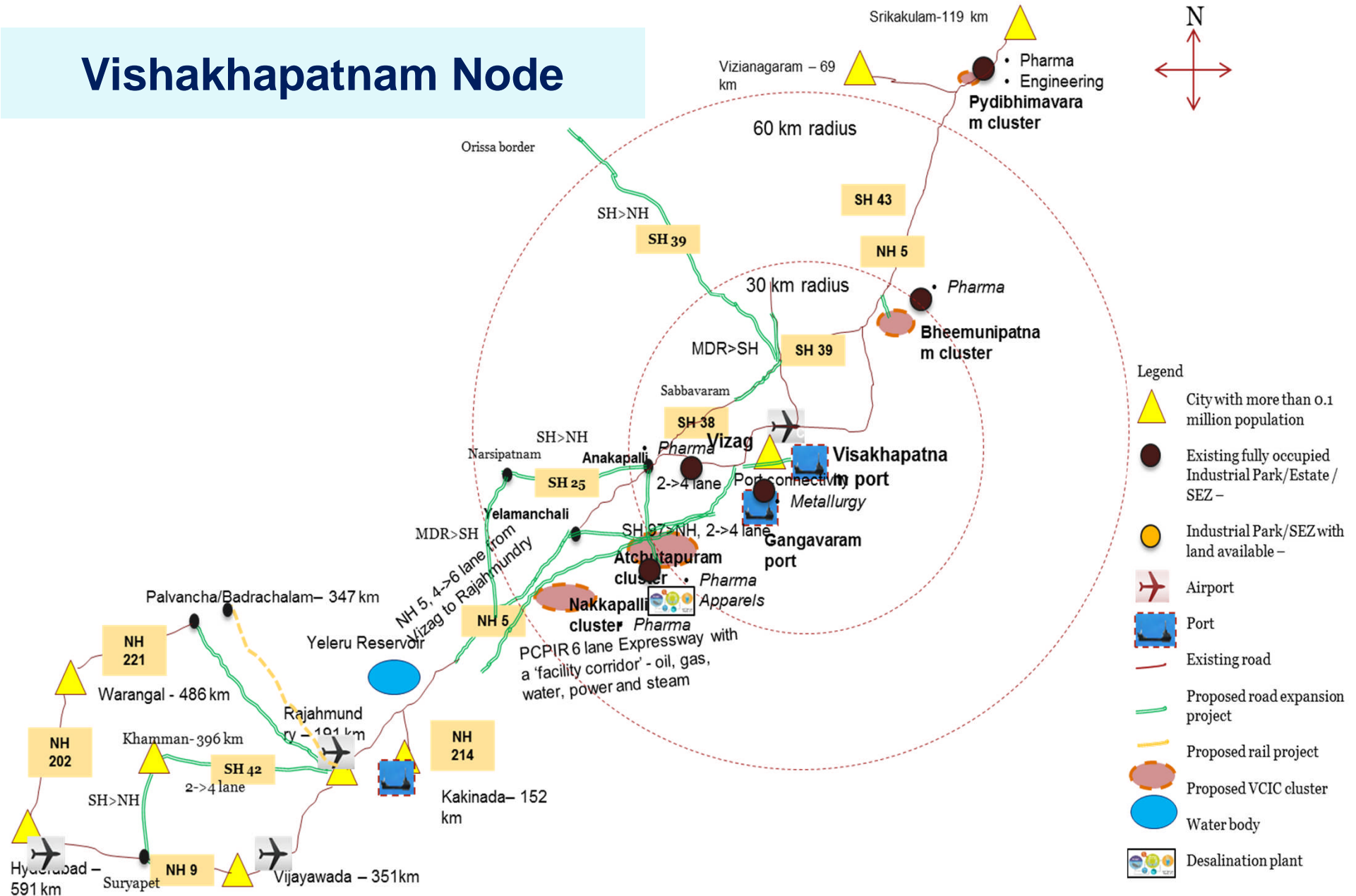


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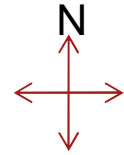


VCIC – Existing and Proposed Infrastructure

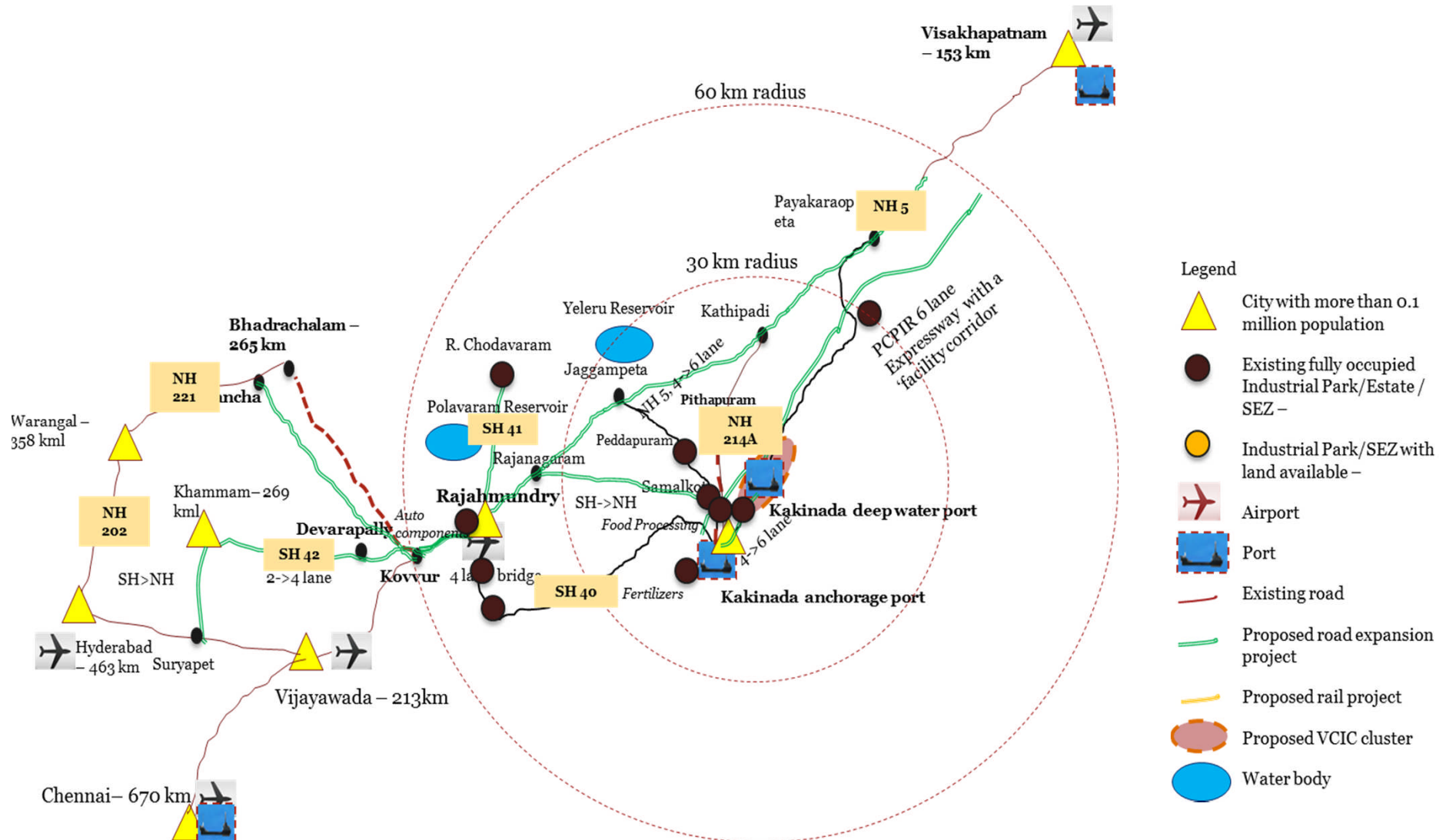
Vishakhapatnam Node



VCIC – Existing and Proposed Infrastructure

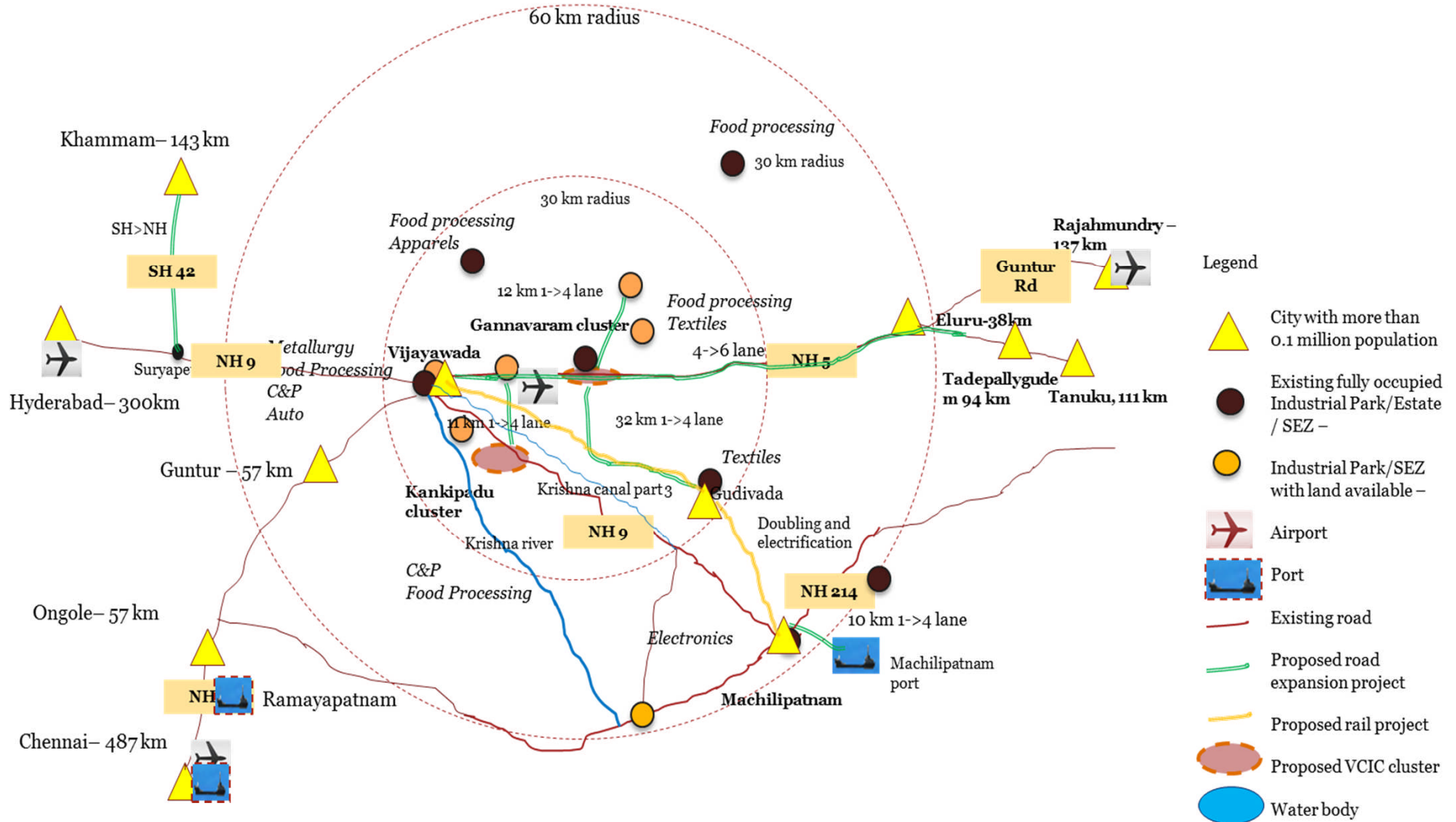
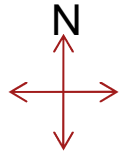


Kakinada Node



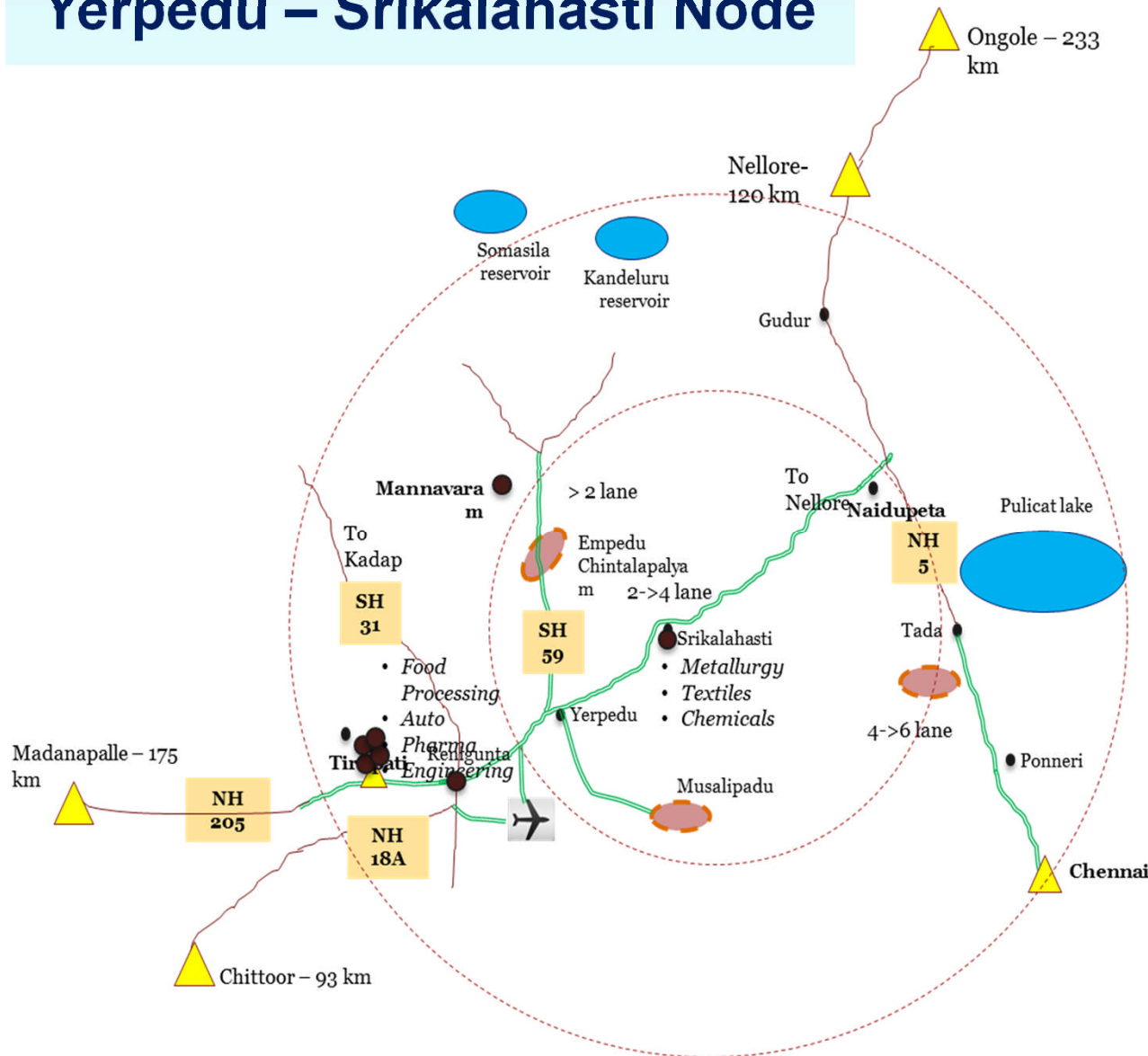
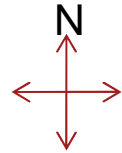
VCIC – Existing and Proposed Infrastructure

Gangavaram - Kankipadu Node



VCIC – Existing and Proposed Infrastructure

Yerpedu – Srikalahasti Node



Legend

- City with more than 0.1 lakh population
- Existing fully occupied Industrial Park/Estate / SEZ – 500 acres
- Industrial Park/SEZ with land available – 623 acres
- Airport
- Port
- Existing road
- Proposed road expansion project
- Proposed rail project
- Proposed VCIC cluster
- Water body

