

# INFRASTRUCTURE DEVELOPMENT IN ANDHRA PRADESH

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## ABSTRACT

The Global Competitiveness Report by the World Economic Forum has considered the quality of infrastructure as one of the critical components to determine the competitiveness of a country. Quality infrastructure reduces income inequalities and parities by fostering economic growth. Infrastructure development creates a multiplier effect on the economic development of the state and is a major contributor to the growth strategy. . In fact the economic infrastructure enhances the productivity of physical capital and land whereas the social infrastructure improves the productivity labour. Initial thinking of economic development, however, emphasised on economic infrastructure (including transportation, communication, power supply, irrigation etc.,) for industrial growth and capital accumulation. Later when the human capital dimension of economic development is brought out, the social infrastructure such as health and education gained equal importance.

## INTRODUCTION

Andhra Pradesh (AP) is located in the southern peninsula of India. The state shares its borders with Chhattisgarh on the north, Odisha on the northeast, Telangana and Karnataka on the west, Tamil Nadu on the south, and Bay of Bengal on the east. The erstwhile state of Andhra Pradesh has been bifurcated into two states, Telangana and residuary Andhra Pradesh (Seemandhra), by the Andhra Pradesh Reorganisation Act, 2014, or the Telangana Act. The Act consisted of the aspects of the division of assets and liabilities, the boundaries of the proposed new states, and the status of the capital city Hyderabad after the separation of the state.

It is the first state in the country to have enacted the Industrial Single Window Clearance. The Act made it compulsory for new industries to register with a single-window to obtain clearances quickly. It also simplified procedures for getting industrial clearances. The state also has separate acts for development in sectors such as solar power, electronic hardware, and food processing. With 13 districts and a geographical area of 1,62,970 sq. km., Andhra Pradesh ranks as the 8th largest state in the country. The state has a well-developed social, physical, and industrial infrastructure, as well as virtual connectivity. It also has good power, airport, IT, and port infrastructure. At current prices, Andhra Pradesh's gross state domestic product (GSDP) stood at Rs. 1,201,736 crore (US\$ 157.36 billion) for 2021-22. The GSDP increased at a CAGR of 12.14% from 2015-16 to 2021-22. The Gross Value Added (GVA) growth stood at 18.47% during 2021-22.

## Objective of the study

To study Infrastructure and Development Infrastructure plays a critical role in the development process of any economy.

To study the Infrastructure is also critical in facilitating the connectivity of people living in different geographies and movement of goods and services and thereby for both the economic as well as for human development.

It is most important for the delivery of public services.

It is said that 'infrastructure is the basis for development wherein it is the foundation on which the factors of production interact in order to produce output **Economic Infrastructure**

Economic infrastructure expands the size of the market and economic activities and thereby employment opportunities.

The economic infrastructure that includes all those services such as power, irrigation, transport telecommunication banking and they are directly concerned with the needs of such production sectors as agriculture, industry & trade.

## Financial Infrastructure

Financial infrastructure is an important factor in the economic development of the society. The initial growth models have emphasized on the capital (particularly savings and investment) in the process of growth of an economy. Financial resources far most important not only at the macro level but also at the micro level. It is observed in the literature that one of the factors limiting the development of rural and agrarian economy is access credit market especially that of formal and institutional.

## RECENT DEVELOPMENTS IN KEY SECTORS

- As per the Budget 2022-23:
  - In phase III of the Nadu-Nedu program, the infrastructure in 24,620 schools (such as furniture, fans, lights, and drinking water) will be upgraded.
  - Rs. 13,640 crore (US\$ 1.78 billion) was allocated for agriculture and allied activities.
  - Allocation of Rs. 8,597 crore (US\$ 1.12 billion) as capital expenditure on transport. Out of this, Rs. 2,173 crore (US\$ 284.54 million) has been allocated for roads and bridges.

- The State Government has set aside Rs. 8,495 crore (US\$ 1.11 billion) for urban development in 2022-23. Out of this, Rs. 1,000 crore (US\$ 131.13 million) has been allocated towards the Smart Cities Mission, while Rs. 800 crore (US\$ 104.9 million) has been allocated for the creation of essential infrastructure for the new capital city.
- The State Government announced plans to invest Rs. 9,451 crore (US\$ 1.24 billion) to develop the state's energy sector.
- Allocation of Rs. 15,708 crore (US\$ 2.06 billion) for health and family welfare. Out of this, Rs. 2,462 crore (US\$ 322.85 million) has been allocated towards the National Health Mission, and Rs. 1,009 crore (US\$ 132.31 million) has been allocated for Primary Health Centres (PHCs).
- Rs. 30,385 crore (US\$ 3.97 billion) has been allocated for education, sports, arts and culture. Out of this, Rs. 8,015 crore (US\$ 1.05 billion) has been allocated towards teaching grants to Mandal Praja Parishads, and Rs. 2,136 crore (US\$ 280.1 million) has been allocated towards the Samagra Shiksha Abhiyan.
- The Andhra Pradesh government set aside Rs. 2,755.17 crore (US\$ 361.1 million) for industrial and infrastructure development.
- In September 2022, Minister for Road Transport and Highways, Mr. Nitin Gadkari, laid the foundation stones for eight National Highway Projects worth Rs. 3,000 crore (US\$ 367.45 million) in Rajamahendravaram, Andhra Pradesh.
- The "Russian Education Fair 2022" was held on September 14, 15, and 16 in Visakhapatnam, Vijayawada, and Nellore, respectively, by the Russian Centre of Science and Culture (Cultural Department of the Russian Consulate in South India). This fair was conducted to help Indian students pursue UG and PG in medicine in Russia.
- Andhra Pradesh is home to many global and national pharma players, and various companies have set up their manufacturing hubs in different cities of the state. Pharmaceutical exports from the state stood at US\$ 863.72 million in FY22.
- Hyderabad has become one of the preferred destinations for global pharma biotech investments and has attracted around Rs. 7,500 crore (US\$ 983.52 million) of investments in FY22, which is expected to result in employment for about 35,000 people.
- Under the Ayushman Bharat Digital Mission (ABDM), Andhra Pradesh has become the first state in the nation to connect the electronic health records of one crore people to the central database.
- Traffic handled by the Visakhapatnam port reached 69.03 million tonnes in FY22.
- In March 2022, Arcelor Mittal announced a renewable energy partnership with Greenko Group under which it will invest US\$ 600 million to own and fund a 975 MW renewable energy project in Andhra Pradesh.

- The Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC) is preparing to offer all of its services online in the near future. This will minimise the necessity for in-person meetings between the concerned entrepreneurs and officers. Additionally, it is creating a mobile application to make the services accessible on the go.
- In 2021, 7107 Micro, Small and Medium enterprises (MSMEs) were established in Andhra Pradesh, with an investment of Rs. 2,099 crore (US\$ 275.25 million), providing employment to 46,811 people.
- In December 2021, Union Minister for Road Transport and Highways Mr. Nitin Gadkari inaugurated and laid the foundation stone for 41 road projects in Andhra Pradesh for a length of 1,048 km, to be completed at an estimated cost of Rs. 16,826 crore (US\$ 2.2 billion).
- In August 2021, a new N5 taxiway and six parking bays were made operational at the Visakhapatnam Airport. The taxiway will increase operational capacity by allowing 12 aircraft movements per hour instead of the current nine and the parking bays will allow aircraft to be parked overnight.
- In July 2021, Indian Railways announced 33 projects in Andhra Pradesh that consist of 16 projects of new railway lines, while the remaining 17 projects were for doubling of the existing lines. These projects would cost Rs. 62,801 crore (US\$ 8.45 billion) and cover 5,706 kms in the state.
- In April 2021, the government announced that it would convert 10 major state highways in Andhra Pradesh into national highways at a cost of Rs. 8,000 crore (US\$ 1.09 billion).
- In February 2021, Finance Minister Ms. Nirmala Sitharaman announced commencement of the Nadikudi-Srikalahasti railway project. The Central government spared Rs. 1,144 crore (US\$ 154.2 million) to fast-track the project.
- In February 2021, Union Minister for Road Transport and Highways, Mr. Nitin Gadkari, approved a proposal to construct a six-lane Kantakapalle-Sabbavaram section of NH 130CD worth Rs. 824.29 crore (US\$ 111.1 million) and the development of a six-lane Korlam-Kantakapalle section of NH 130CD worth Rs. 772.70 crore (US\$ 104.2 million). In addition, approval was also provided for widening and strengthening the four-lanes of urban link of NH-42 in Ananthapur town worth Rs. 311.93 Crore (US\$ 42.1 million).
- The government plans to set up a AP Green Energy Corporation with a mandate to install 8,000 MW to 10,000 MW of dedicated solar power capacity.
- The government plans to develop a greenfield port at Ramayapatnam in the state to meet the ever-increasing cargo demand under the landlord model with artificial deep harbour along an open straight seacoast, protected by breakwaters. The estimated cost for phase I is Rs. 3,736 crore (US\$ 530 million).
- In July 2021, United Telelinks Neolyncs, the manufacturer of Karbon mobile phones and other electronic devices, announced an investment of Rs. 2,150 crore (US\$ 290.82 million) in Andhra Pradesh. This investment will generate direct employment for 6,000 people and indirect employment for 15,000-20,000 people.

- The presence of rich climatic and soil conditions makes Andhra Pradesh a major agricultural belt. Few of the leading crops produced in the state include rice, chilly, oilseeds, cotton, pulses, and grams.
  - 77 agri testing labs will be operationalised from the Kharif 2022 season to address the problem of spurious seeds, fertilisers, and pesticides.
  - The cost of installing electricity meters for agricultural pump sets will be borne by the state government.
  - 52.38 lakh farmers received Rs. 7,016 crore (US\$ 920 million) in financial assistance under the Rythu Bharosa scheme in 2021-22.
- Andhra Pradesh is home to a thriving fisheries industry and employs about 1.45 million people and contributes a major proportion to the total value of sea food export from the country.
  - In FY22, marine products exports from the state stood at about US\$ 3.09 billion.
  - Andhra Pradesh is one of the largest producers of brackish water shrimps and freshwater prawns.
  - In August 2021, Adani Ports announced that the proposal to acquire a 10.4% share in the Gangavaram Port (GPL) has been approved by the Andhra Pradesh government. The proposed acquisition will cost Rs. 644.78 crore (US\$ 86.98 million).
- According to the Director General of Hydrocarbons (DGH), Andhra Pradesh has huge oil and natural gas reserves. Production of crude oil and natural gas in the state was recorded at 216.51 thousand metric tonnes and 847 million cubic metres (MCM) during 2019-20, respectively. The state's Krishna-Godavari basin, spread over an area of nearly 52,000 sq. kms, has a total hydrocarbon resource base of 1,130 million metric tonnes. To promote investment in the industry, the Andhra Pradesh Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR) is being set up.
  - In July 2021, the Central Government agreed to establish a petrochemical corridor with an outlay of Rs. 25,000 crore (US\$ 3.27 billion) in Andhra Pradesh.
- In August 2021, Reliance Industries Limited (RIL) announced an increase in its PET recycling capacity by establishing a recycled polyester staple fibre (PSF) manufacturing facility near the Krishnapatnam Port in Andhra Pradesh's Nellore district.

The Union Ministry of Finance has allocated ₹202 crore to Andhra Pradesh towards capital expenditure on infrastructure development out of ₹5,000 crore provided for PM Gati Shakti-related expenditure under Part-II of the 'Scheme for Special Assistance to States for Capital Investment for 2022-23'. Besides, financial support is being extended to various projects under Gati Shakti (national infrastructure master plan) and their implementation is being regularly monitored by the concerned Ministries / Departments and the Project Monitoring Group of the Department for Promotion of Industry and Internal Trade.

## Importance of the Andhra Pradesh Infrastructure :

To provide excellent global and domestic connectivity

To provide well integrated multi-modal transportation

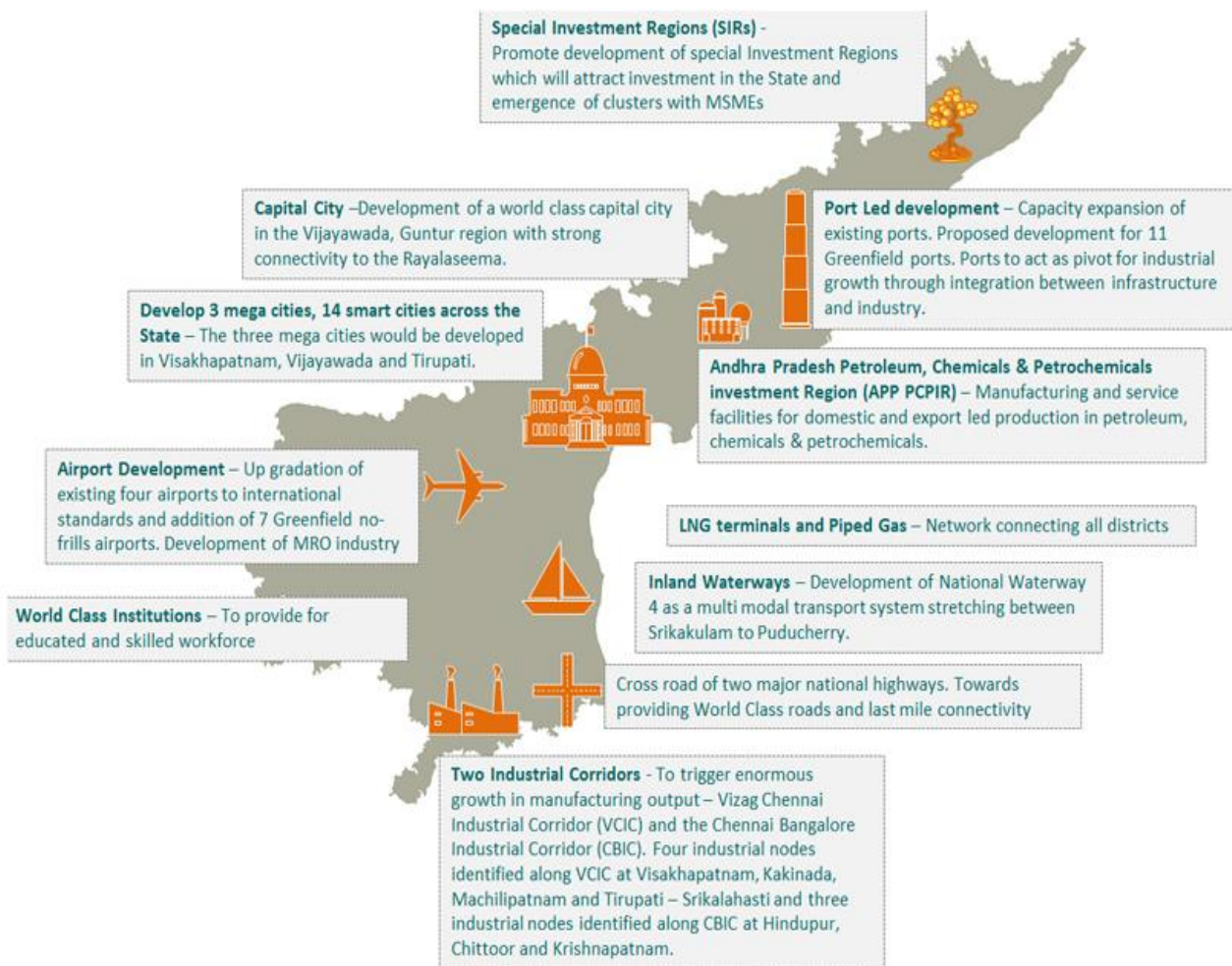
To become a logistics hub and a gateway to the world especially Asia and South-East Asia

Enable improved quality of life for the citizens

Ensure viable, sustainable and green development.

## Phased Strategy for Infrastructure Development

### Strategic Location of Andhra Pradesh



## Social Infrastructure

To facilitate coordinated functioning of various social infrastructure and human development programmes, the government has launched a number of innovative programmes like Janma Bhoomi Maa Vooru, and Smart Village/Smart Ward towards Smart Andhra Pradesh which are being implemented through the convergence of some of the existing government programmes. Education, Health, Drinking Water and Sanitation are being given adequate attention. Reduction of IMR, MMR and Mal-nutrition to the acceptable levels is a priority for the state.

Industrial Infrastructure Integrated development of Coastal Economic Zones as manufacturing hubs has been planned in the state. The programme covers Investment and Manufacturing Zones, and Industrial Corridors. Major industrial corridors planned are: Visakhapatnam – Chennai Industrial Corridor (VCIC), Chennai-Bengaluru Industrial Corridor (CBIC), and Kurnool- Bengaluru Industrial Corridor (KBIC). The dedicated Rail Freight Corridors sanctioned in 2016-17 Railway Budget, from Vijayawada to Kharagpur, and Delhi to Chennai will significantly boost the prospects of these industrial corridors. In addition, it is proposed to develop the Peninsular Region Industrial Development Corridor (PRIDC) project in Donakonda spanning 5,779 acres with an investment potential of ₹ 23,000 crore, and employment potential of 1.33 lakhs. It is proposed to take up orvakallu Mega Industrial Hub spanning over 27,788 acres with an investment potential of ₹ 40,000 crore, and employment potential of 70,000. These corridors will not only promote industries but also create substantial urban infrastructure, and contribute to the overall economic development of the state. Four industrial nodes – Visakhapatnam, Kakinada, Srikalahasti – Yeperedu, and Gannavaram – Kankipadu have been identified as potential nodes for VCIC. Similarly, three nodes – Krishnapatnam, Kalikiri, and Hindupur have been identified as nodes for CBIC and KBIC. To boost industrial progress, National Investment and Manufacturing Zones (NIMZs) are planned to cover Prakasam and Chittoor districts in the state. Prakasam zone spread over an area of 14,231 acres, will attract investment of Siva Krishna Golla (2017). Asian Journal of Research in Business Economics and Management, Vol. 7, No. 5, pp. 323-335. 331 ₹43,700 crore, and create 5 lakh jobs over ten years. The Chittoor zone spread over 5,000 acres will be an integrated township with state-of- the-art industrial and social infrastructure. It is estimated to bring in investment of ₹ 30,000 crore, and create around 3 lakh jobs over the next decade.

	Short Term	Long Term
Ports	<p>Optimising and expanding of existing port capacity Existing Minor ports to capitalise on capacity constraints of major ports along the east coast</p> <p>Capitalise on deep draft ports to handle cape-size vessels along the East Coast</p> <p>Enhance port connectivity to existing ports to be enhanced</p>	<p>Development of new ports to meet demand from industrial corridors</p> <p>Development of multimodal connectivity and supply chain/logistics infrastructure</p> <p>Lead containerisation trend through improved supply chain and cargo agglomeration</p> <p>Development of bulk cargo ports to meet increased energy demands</p> <p>Development of Coastal shipping</p>
Roads	<p>Prioritise lane expansion of roads with high vehicular traffic</p> <p>Upgrade state highways to national highways</p> <p>Improve last mile connectivity to ports and industrial hubs</p> <p>Integrate road network with rail and shipping for a multi modal transit system</p>	<p>Four/two lane efficient hinterland connectivity to utilise the port development to its full potential</p> <p>four/six lane connectivity from district headquarters to the State capital</p> <p>Village connectivity through up gradation and new roads</p> <p>Increased road density of s and national highways</p>
Industrial Development	<p>Build upon existing region specific industries</p> <p>Agglomerate and encourage industries specific to each region</p> <p>Focus on export led growth</p> <p>Develop trade and logistics centre to facilitate global trade</p>	<p>Build upon high and large growth industries an create large scale employment</p> <p>Build upon opportunities created by global trade</p>
Industrial Corridor	<p>Industrial Nodes be linked with the nearby industrial cluster</p> <p>Connectivity between Industrial nodes and ports to be enhanced</p>	<p>Regions between the industrial clusters to be developed and nodes to become key growth drivers</p>



	Short Term	Long Term
Power	<p>Reduction of AT&amp;C losses</p> <p>24x7 power to industries, commercial and domestic utilities</p> <p>Capacity addition through purchases</p> <p>Augment power demand through renewable sources</p> <p>Up-gradation and strengthening of key Transmission and Distribution corridors</p>	<p>Capacity Addition through expansion of existing plant</p> <p>Increase supply of power to agriculture and feeder segregation</p> <p>Strengthening and expansion of transmission and distribution Network to meet increased power consumption</p>
Gas Pipeline	<p>Development of LNG terminals and setting the foundation for transforming AP into a hub for Natural Gas</p> <p>Expedite setting up of gas pipelines connecting every district</p> <p>Provide gas to major industrial zones and cluster</p>	<p>Set up of more LNG terminals</p> <p>Develop AP as a hub for Natural Gas. Connect every industry, domestic households, and commercial establishment with pipes gas network in the state.</p> <p>Gas pipelines to connect AP with the rest of India highways</p>
Inland Waterways	<p>Upgrade NW 5 in and around industrial clusters</p> <p>Improve connectivity to roads and ports</p>	<p>Develop the entire stretch of NW 5</p> <p>Enable industrial development of the hinterland by providing IWT as an alternate to surface connectivity for logistics</p>
Airports	<p>Expansion and up-gradation of operational airports to meet demand from industrial development</p>	<p>Development of green field airports</p> <p>Develop AP as a MRO hub in India</p>

1. ROADS	
	i. Beach Corridor
	ii. Upgradation and lane expansion of existing roads
2. GAS	
	i. LNG Terminals
	ii. Gas grid connecting every district
	iii. City Gas Distribution Network
3. AIRPORTS	
	i. Upgradation of existing 6 airports
	ii. Greenfield international airport at Visakhapatnam
	iii. 5 No-frills airports
4. RAILWAYS	
	i. Total length of 3301 km of rail network planned by Ministry of Railways for the State
5. INDUSTRIAL CORRIDORS	
	i. Vizag-Chennai Industrial Corridor
	ii. Chennai-Bangalore Industrial Corridor
6. POWER	
	i. 24X7 power supply to all
	ii. Total installed capacity of 22 GW
7. PORTS	
	i. Upgradation of 6 existing Ports
	ii. New Greenfield Ports

8. INLAND WATER-WAYS	
	i. From Kakinada to Puducherry
9. LOGISTICS	
	i. AP to be developed as a “Logistics Hub

**CONCLUSION**

Infrastructure is the basic amenities and structures that serve a country, state, or city including the services and facilities that are essential to the functioning of its economy. Infrastructure comprises of public and private physical developments, such as highways, railways, bridges, dams, electrical grids, sewers and water supply. Since 2014, after the separation of Telangana, Andhra Pradesh has faced many challenges as it lost its economic powerhouse Hyderabad. The government came up with various plans for rapid development if Andhra in various sectors, Infrastructure being one of the major. They came up with a plan of developing its infrastructure in two phases, Phase one’s Critical infrastructure Investment plan focused mainly of water pipes, roads, railways and sewerage systems to all the regions of the state. Phase two includes developing all the service indicators throughout the state . The Government determined to build a new capital for Andhra that would change the infrastructure scenario of current Andhra state. Considering our case, smaller states are easier to manage and give a chance for the leaders of all communities to take a part in government formation. Separation makes the process of distribution of funds for sectors that require development easier to implement and execute the projects. One of the major reasons for the success of state is good governance. Thus, the ruling parties should come up with initiative/ schemes for the growth. While for the other states the factors for the demand for separation and development post-separation may vary.

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