

# Strategy Paper on Infrastructure

Government of Andhra Pradesh

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## 1. Background

This is a Strategy Paper on infrastructure. Infrastructure is a big subject encompassing a large part of the Government's activities including social and physical sectors. In this paper, we are limiting our focus to physical infrastructure and more specifically on sectors like Information Technology, Tourism, Roads, Ports, Airports and the strategy for developing these with private participation. Sectors like power and irrigation are not covered in this Paper as there are separate White Papers on these sectors. Social sectors like health and education are being discussed in separate Papers.

## 2. Introduction

The Government of Andhra Pradesh has set for itself an ambitious vision for the economic and social development of the State and the people. While growth in the past decade has been substantial, the need to bring in a new dynamism in the development process has been felt by the Government. The challenge for the Government today is in playing the role of facilitator, enabler and catalyst of economic change.

Today, Andhra Pradesh is the fourth largest State in the country in economic terms with a Gross State Domestic Product in the range of Rs.80,000 Cr. (\$17 Billion) at constant (1993-94) prices. The State's overall economic growth rate has been 4.6% a year till recently, lower than the country's average of 5.2% a year and that of India's six fastest growing states (5.7%)[1].

### 2.1. Vision 2020

Vision 2020 sets challenging targets for economic growth and to achieve these Andhra Pradesh needs a new and comprehensive growth agenda. To attract private investment, the State will first need to create the conditions that will allow private investors to successfully participate in its development. This involves building infrastructure and reforming regulation to create a conducive environment for business.

To achieve the 9-10% growth targeted, the State will need to stimulate economic growth by focusing on specific sectors that offer high growth opportunities. Andhra Pradesh is focusing on 19 growth engines and among these, construction and infrastructure have been identified as the growth engines that will create the highest economic impact in the short-term.

By 2020 it is estimated that the State's industrial sector would be growing at 11% per annum in real terms. At this rate, the State's industrial output would increase 13-fold from around Rs.13,000 Cr in 1995-96 to around Rs.1,70,000 Cr in 2020. To achieve this level of industrial output, an investment of Rs.11,65,000 Cr in the industrial sector would be required over the next 20 years.[2]

During this period, per capita income will grow to 7 times of its present value. Rising living standards and population growth will also place an increasing demand on urban amenities such as power, water, roads, mass rapid transport etc.

## **2.2. State Industrial Policy**

Clearly, such a large increase in industrial activity would place enormous demands on the infrastructure of the State. The focus in the State's Industrial Policy has therefore been shifting from providing pure subsidies and incentives to ensuring adequate infrastructure, either government provided or privately developed.

The Industrial Policy 2000-2005 states that infrastructure facilities such as roads, electricity, water, drainage etc are to be provided at the door step of the proposed industry in the areas identified by the State Government as Industrial areas and in areas not so identified, the Government will share the cost for the provision of such infrastructure to the extent of 25% or Rs.1 Cr, whichever is less. To this end an Industrial Infrastructure Development Fund of Rs.100 Cr is being created.

## **2.3. State Infrastructure Policy**

Today, inadequate infrastructure is the biggest bottleneck in the path to the industrial and economic development targets of Vision 2020. In recognition of this, the Government has for the first time come out with a comprehensive Infrastructure Policy. The Policy is being supplemented with sector policies and model concession agreements. An Infrastructure Development Enabling Act (IDEA) is also under preparation.

The focus of the Government in all these initiatives has been to play a facilitating and enabling role in infrastructure development.

It is estimated that about Rs.500,000 Cr[3] would be required for creating the infrastructure needed to sustain an economy of such magnitude and to bridge the present shortages.

#### **2.4. Vision for Infrastructure Growth**

Given the magnitude of the task, Andhra Pradesh needs to prioritise and co-ordinate investments in certain key regions. Initially, the focus will be on building infrastructure in the growth corridors, i.e., the key economy centres or clusters of Hyderabad, Vijayawada, Visakhapatnam, Nellore and Anantapur and in the geographical 'strips' between these centres to allow industries in each cluster to develop to their full potential and also attract development of new industries in the three regions of Telangana, Rayalaseema and Andhra.

#### **2.5. Thrust Areas**

##### **2.5.1. Andhra Pradesh Industrial Infrastructure Corporation**

Andhra Pradesh Industrial Infrastructure Corporation (APIIC) has so far set up 272 industrial estates over an area of 30,000 acres of land. There is an increasing need for high quality specialized infrastructure focussed on specific sectors such as Information Technology, Biotechnology, Financial Services, Food Processing, Leather industries and various other growth engines identified by the State. The Government and APIIC have embarked a consensus policy on developing specialized infrastructure like Hitec City, Biotechnology Park, Financial District, Hardware Park, Food Processing Park, Apparel Park, Visakhapatnam Industrial Water Supply project through partnership with the private sector.

APIIC is the nodal agency for implementing the prestigious Special Economic Zone in the Vizag-Kakinada Corridor. A consultant has been selected to suggest appropriate regulatory and policy framework, keeping in view the global scenario, to identify specific location for the project and to structure the project suitably to maximise the scope for private investment in infrastructure development in the SEZ. The work is underway.

##### **2.5.2. Information Technology**

###### **2.5.2.1. Hi-Tech Space**

The I.T Policy enunciated by the Government of A.P. through G.O.Ms.No. 114 Finance & Planning (IT&C) Department dated. 25/5/99 lays considerable stress on creation of I.T parks through provision of certain incentives.

The Government has also recently issued detailed guidelines for setting up of I.T parks in

the private sector, through G.O.Ms. No. 20 MA&UD Department dated. 19/1/2001. The salient features of this initiative are that I.T parks can be built in residential, commercial, institutional and industrial zones without payment of any conversion charges. I.T parks with a total space of over 30 lakh sq. ft. are likely to come up during the years 2001 and 2002 taking advantage of this policy. The Government has catalysed the creation of Hitec city - a world class IT infrastructure facility. There is also a plan to create the infrastructure required for setting up of a Hardware park near the proposed international airport at Shamshabad. An area of over 5000 acres around the Hitec City is being notified as CYBERABAD to give a fillip to the development of IT infrastructure in the area on world-class lines.

The Government is also attempting to disperse the benefits of IT to the other parts of the state by promoting setting up of IT parks at Vizag, Vjayawada, Tirupati and Warangal in a phased manner in conjunction with STPI.

#### **2.5.2.2. Bandwidth**

Bandwidth has been a major bottleneck for a free growth of IT sector. As of January, 2001, about 100 Mbps is available out of Hyderabad. This is likely to go up to 185 Mbps by March, 2001.

The State Government has announced its policy through G.O.Ms. No. 5 dtd. 11/2/2000 on right of way along all State highways for the Telecommunications sector. The above policy has resulted in several major companies, like, Reliance, Bharti, Zee etc. to take up major projects of laying optical fibre backbone within the State of Andhra Pradesh so as to reach out to towns and villages.

The State has entered into MOU's with ISRO for satellite communications for development applications like distance education and with MEASAT for setting up data centers and for laying sub-marine cable from Vizag to Malaysia.

#### **2.5.3. Tourism**

The State Government introduced the Tourism policy, 1998, which creates a facilitative background for Private Sector participation by introducing incentives and tax breaks for investors in the sector. Special Tourism Areas for intensive investment and development under private sector has been declared. International Consultants have been appointed for conducting a survey, preparing Macro and Micro Plans for developing these Special Tourism Areas. W.T.O. has also prepared Master Plan for development of Tourism in Andhra Pradesh.

While implementing the Tourism related projects, the fundamental infrastructure i.e., transport, safety, sanitation, sewerage, solid waste disposal systems and also personal security are insisted upon.

The Tourism Department has taken up pedestrianisation scheme of Charminar area, improvements to the Golconda Fort and Qutub Shahi tombs, water quality improvements and landscape enhancements at Hussain Sagar Lake.

Other projects under implementation are related to Pilgrim Tourism, Indian Institute of Hospitality Management, Urban HAAT, Rope Ways, Guest Houses, Development of Buddhist Sites, Botanical Gardens, and Silparamam.

### 3. Mega Infrastructure Projects

Government of Andhra Pradesh (GOAP) has identified key social and physical infrastructure projects for immediate development. The development of these projects would result in substantial economic benefits for the State and hence these projects are designated as Mega Infrastructure Projects. The list of important Mega projects is given below:

Mass Rail Transport System, Hyderabad	Vizag International Airport
Trade Fair Centre, Hyderabad	Gangavaram Port
Hyderabad International Airport	Vizag Industrial Water Supply
Cyberabad	International Convention Centre Hyderabad
LNG Terminal, Kakinada	Golf Courses in Hyderabad & Vizag
Hardware Park	Kasu Brahmanand Reddy Park
Special Economic Zone, Kakinada-Vizag Corridor	Krishnapatnam Port
Software Park at Visakhapatnam	Hyderabad Drinking Water Supply
Financial District	Biotech Park
International School in Hyderabad	Satellite Communication Centre
Networking and connecting the State	Apparel Park
Hyderabad-Chennai Highway	Tada-Ichapuram Highway
Hyderabad-Vijaywada Highway	

### 4. Task Force

For a speedy and transparent implementation of the identified Mega Infrastructure Projects, Government of Andhra Pradesh has constituted a high level Task Force under the Chairmanship of the Chief Secretary vide G.O.Ms.44 of Finance & Planning Dept. dated 14<sup>th</sup> June, 2000.

The mandate of the Task Force is two fold: serve as a platform for inter-departmental co-ordination and provide enablers for the privatisation of infrastructure projects. The Task

Force is responsible for the following activities:

- Developing the project concept
- Preparation of feasibility studies
- Preparation of project report
- Identifying steps for privatisation
- Obtaining necessary Statutory and administrative permissions
- Procedures for inviting tenders and award of contracts
- Execution of the projects

To support the Task Force, Crisil Advisory Services (CAS) has been appointed as consultant to the Task Force. CAS' mandate is to provide inputs, both at the project-specific and at the policy level. CAS has considerable experience in advising Governments on privatisation of infrastructure, bid process management and financial analysis.

### **5. Infrastructure Development Policy**

The Task Force has recognised that the flow of private investment in infrastructure development is hindered by various factors, of which the significant are:

- Delayed & rigid statutory clearances.
- Opaque procedures for award of projects/concessions.
- Frequent Public Interest/Other litigations.
- Inadequate:
  - Sector Policies,
  - Fiscal incentives and
  - Dispute resolution mechanisms

To overcome these problems and to signal its seriousness to developers and investors, GoAP has recognised the need for a proactive Infrastructure Policy and has announced the Andhra Pradesh Infrastructure Policy, vide G.O.M.S. 427 of GAD dated 18/12/2000. The Infrastructure Development Policy has been drafted after extensive discussions with all project participants and implementing Government Departments.

The policy applies to:

- Infrastructure projects implemented with Public Private Partnership (PPP) and requiring State Government support/concessions.
- Infrastructure projects where new/ fresh/ additional investment is envisaged
- It would not address projects such as those implemented as Joint Ventures between government departments, or privatisation/disinvestment of existing utilities.

The Policy endeavours to:

- Lay down the framework for PPP and outline the Project Delivery Process
- Enumerate the benefits/incentives available to the Developer
- Identify Generic risk issues and provide safeguards for Government, Developer and

Lender interests

### 5.1. Key Elements of Infrastructure Policy

The Infrastructure Policy addresses the following sectors:

Power generation, transmission and	Roads (State Highways, Major District Roads, Other
Water supply, treatment and distribution	Airports and Heliports
Inland Container Depots and Logistics Hubs	Public buildings
Information Technology and Telecommunications	Industrial/knowledge parks and allied townships
Canals, Dams	Hydropower projects
Housing	Metro Railroads and other urban transport systems
Waste management	Sewerage, drainage
Sports and recreation Infrastructure, public	Trade Fair, Convention, Exhibition and Cultural
Education	Gas and Gas works
	Inland water transport
Tourism	Any other sectors as recommended by the Task

In addition, Policy also enumerates the modes of PPP and prescribes the selection criteria for each.

The Policy makes a distinction between Category 1 and Category 2 projects. This distinction is based on the sector of the project. All category-2 projects, except those in the following sectors, shall be followed and forms of Government Support that would be provided. The Policy proposes flexible and innovative developer selection processes.

#### 5.1.1. State Support

Similarly, Government support for infrastructure projects, with reference to the category of project, would be in the following forms (listed in decreasing order of preference):

Foregoing Revenue Streams	
Contingent liabilities (Guarantees) and Financial support	Only for category 2 projects if authorised by the Task Force

### 5.1.2. User Levies

The Policy also recognises the need of Developers to collect user levies in order to recover their investments and earn a fair return and also identifies mechanisms and procedures for setting, reviewing and regulating user levies.

### 5.1.3. Risk Sharing

Project bankability has suffered primarily due to lack of unprejudiced risk sharing and not on account of projects being financially unviable. Un-prejudiced risk sharing would only occur when all risk elements are identified and allocated to those best equipped to deal with the same. The Policy exhaustively identifies and classifies all risks and makes it mandatory for all concession agreements to deal with allocation and treatment of these risks.

## 6. Infrastructure Development Enabling Act (IDEA)

In spite of the above policy in the form of a Government Order, Government has realised that there should be a legal sanctity for the Policy. Accordingly, it has initiated steps to formulate a relevant Statute i.e. an Infrastructure Development Enabling Act (IDEA), which would address the issues of project delivery process, risk sharing, State support, dispute resolution and collection of user levies.

IDEA would be supplemented by the rules and procedures needed to aid Departments in the day-to-day implementation of projects. Sector specific issues would be addressed in the Sector policies and the model concession agreements that would actually govern projects implemented in the State through PPP.

The Policy will be the bedrock of IDEA as it addresses all key issues. However, instead of limiting the scope of the IDEA to that of the Policy, GoAP proposes to make the IDEA more comprehensive by addressing the following additional issues such as punitive damages, abuser charges, polluter charges, project enabling fund and rapid clearances.

To support these legal and policy initiatives at an institutional level, the IDEA proposes a bold and novel concept. The role of the Task Force is to be expanded and formalised. While the Task Force would oversee operational and executive functions, dispute resolution and regulatory functions would be the responsibility of an independent quasi-judicial body. Named the Infrastructure Promotion Authority (IPA), the aim of this body would be to eliminate delays on account of disputes, Public Interest Litigations etc by internalising the dispute resolution mechanism. Ensuring fair play and regulating the provision of infrastructure services would be the other responsibility of the IPA.

The legal counsel who would actually draft the principles into an ACT has been identified and appointed and it is expected that the ACT would be tabled in the forthcoming Budget Session of Assembly.

## 7. Ports

### 7.1. Background

Andhra Pradesh has twelve Minor & Intermediate ports and one Major port

(Visakhapatnam) along its 1000 km coast. Visakhapatnam is the country's second largest Major Port (35.6 mmt in 1999-2000), but at the state port level, Andhra Pradesh though ranked third behind Gujarat and Maharashtra, handles only 9% of the total Minor port traffic (5.3[4] mmt of an all-India Minor port total of 62.3 mmt in 1999-2000). Gujarat, by contrast, handled as much as 48.8 mmt in 1999-2000. Kakinada is by far the largest minor port in AP, handling 2.77 mmt of traffic in 1999-2000 and Rawa Port handled 2.53 mmt. Krishnapatnam (until its privatisation in 1997) and Machilipatnam, were the other active ports.

### 7.2. Development Targets

Name of Port	Existing Capacity Mill. Tons.	Time Frame					
		2000-2005		2006-2010		2011-2020	
		MT**	INV*	MT**	INV*	MT**	INV*
Kakinada	8.5	11.0	390	20	800	40	1700
Krishna-patnam	0.2	8.0	900	15	550	40	1550
Gangavaram	--	12.0	1200	20	625	40	1250
Vodarevu	--	1.0	25	1.5	25	5	350
Machilipatnam	0.2	10.0	1360	20	800	40	1500
S. Yanam	0.8	5	25	8.5	--	10	50
Bhavanapadu	--	3.0	400	8	250	11	200
Calingapatnam	--	F&S	--	--	--	--	--
Bhimunipatnam	--	F	--	--	--	--	--
Mutyalammapalem	--	Captive	--	--	--	--	--
Narsapur	--	F	--	--	--	--	--
Nizampatnam	--	F	--	--	--	--	--
Total	9.7	50.0	4300	93	3050	186	6600
Total investment Rs.13950 crores.							
* Investment in Cr. Of Rs. at constant price. ** Million Tons.							
F = Fishing; F&S = Fishing and Coastal Shipping.							

### 7.3. Vision 2020

Andhra Pradesh has prepared a perspective development plan: the "Vision 2020" which has identified ports as 'trunk infrastructure' constituting the 'infrastructure backbone' of the State. The Vision 2020 envisages the following development targets:

- Visakhapatnam to be a mega port (~70 mmtpa capacity)
- 4 ports of 30-50 mmtpa capacity each, to be developed at the State level (e.g.

Kakinada, Krishnapatnam, Gangavaram, Machilipatnam, etc.)

- Other ports to be developed for captive use, linked to specific growth engines.

The Vision 2020 envisages a total minor port capacity augmentation to 186 mmtpa by year 2020. The current capacity is 9.7 mmt.

Based on a ballpark estimate of investment required to create 1 mmt of capacity (around Rs 80 to 100 crore per mmt), the order of magnitude of investment required to achieve the stated target of 186 mmt would be in the region of Rs. 14000-17000 crore by 2020.

The budgetary provision for the port sector for the year 2000-2001 is Rs.100 lakhs towards plan investment in upgradation of facilities at Kakinada port and Rs.768 lakhs towards non plan expense in port management, dredging and services at the existing minor ports.

#### **7.4. Privatisation Initiatives to Date**

In 1994, the Government issued advertisements for the privatisation of the minor ports of Kakinada, Machilipatnam, Nizamapatnam, and Krishnapatnam. Later the ports of Bhavanapadu, Kalingapatnam, Bheemunipatnam, Mutyalammampalam, Gangavaram, Narsapur and Vodarevu were put on offer. The following awards were made :

- Krishnapatnam Port was handed over to Krishnapatnam Port Company Limited (KPCL), a company promoted by the NATCO group on 17.1.1997.
- Vodarevu Port was handed over to a consortium of Indian Barytes and Chemicals, Vam Management and Ship Steel India Limited on 22-3-1999 for shipbreaking and anchorage operations.
- Kakinada Deep Water Port was handed over to M/s. International Seaports India Pvt. Ltd., promoted by Larsen & Toubro Ltd, Stevedoring Services of America and Precious Shipping of Thailand on 22-3-1999.
- A letter of support was issued on 3-8-2000 to a Consortium lead by M/s. Indian Oil Corporation for development of an LNG facility at Kakinada.
- An MoU was entered into with M/s. KIOLC on development of LNG Terminal at Kakinada Port on 10.1.2001 during Partnership Summit Meet.

Implementation success has, however, been limited. While traffic (or the lack of it in variance with original estimates) has been cited by Developers as the key deterrent at Krishnapatnam and Kakinada, a speculative bid process undermined the selection of an appropriate Developer at the Gangavaram site. At Vodarevu and Kakinada (LNG), environmental and DPR studies respectively, are currently underway

## **8. Airports**

### **8.1. Current Status**

#### **8.1.1. Begumpet Airport, Hyderabad**

Hyderabad is the only International Airport in Andhra Pradesh at present. The existing airport at Begumpet was considerably expanded with an investment of nearly Rs.100 crores for the construction of the Rajiv Gandhi terminal and other development activities in the last two years. Despite this expansion, the airport cannot handle Boeing 747 and other wide-bodied aircraft due to its limited landing and taking off capabilities. The airport is able to tap only 30 per cent of international traffic due to non- availability of direct flights while

70 per cent of the passengers from Hyderabad go to Mumbai, Chennai and Bangalore for the international flights.

#### **8.1.2. Vishakhapatnam Airport**

The existing Airport is a Naval facility, which has landing facilities for Boeing 737 type of aircrafts only. There are limitations in operating A300/A320/ aircrafts due to inadequate runway length (present length is 6700ft.). The existing airport also lacks adequate night landing facilities.

#### **8.1.3. Other Airports**

There are three domestic airports with limited facilities at Tirupati, Vijayawada and Puttaparthi. Andhra Pradesh also has a number of small airstrips with inadequate infrastructure and landing grounds in 17 locations spread all over the state.

### **8.2. Air Traffic - Trends & Forecasts**

Hyderabad Airport recorded 19% growth in domestic traffic during 1999-2000.

International traffic also showed an increase of 14.5%, which was in contrast to a decline of 5.8% witnessed at Bangalore Airport during the same period. This was in line with the overall trend for the country with domestic passenger traffic growing by 12.7 per cent and international traffic by 9.4 per cent during the first three months of year 2000-2001.

### **8.3. Vision 2020 Goals & Development Targets**

In the area of Airports, the Vision 2020 Report envisages the following:

- Two International Airports: Hyderabad and Visakhapatnam. The former will cater to the areas in the western hemisphere and the latter to the eastern hemisphere
- 5-6 small airports (possibly at Vijayawada, Tirupati, Puttaparthi, Cuddapah, Kakinada/Rajahmundry, Warangal and Nellore). The existing airports are proposed to be upgraded to facilitate landing of larger aircrafts thereby improving connectivity to other parts of the state and the country.
- All districts to have airstrips and all existing airports to be functional. These small airfields and airstrips are proposed to be developed for catering to tourism and regional transport needs for passenger as well as cargo.

### **8.4. Strategy & Policy Interventions**

#### **8.4.1. GoAP Incentives and Assistance for Airport Sector**

- The investors would be left free to fix their own tariff for various Airport services without detriment to the development of the Airport in shorter / longer period
- The investors would be given complete freedom to follow their own personnel and employment policy without being governed by the rules and practices in other Airports
- Government would assist in acquisition of land
- Government will give help in obtaining fresh water and power supply to the investors

#### **8.4.2. Priority Programs and Schemes:**

##### **8.4.2.1. Hyderabad International Airport at Shamshabad**

- The project is proposed on a Joint Venture (JV) basis between Government of India (GoI), Government of Andhra Pradesh (GoAP) and the Private Developer on 13:13:74 equity participation.
- TECS has suggested development of the airport on a 5,000-acre site at Shamshabad, 21 kms. from the city of Hyderabad. Modeled on the airport in Hong Kong, it will be designed to handle traffic of 50 million passengers in a 50-year time frame.
- The project is to be implemented in four phases. As per the present plan, the first phase of the airport runway of 3,760metres, costing Rs 1,317.70 crore, will be completed by 2008 with provision to handle 10 million passengers every year. This will double to 20 million passengers in the second phase which will involve additional induction of capital to the tune of Rs. 367.70 crore. The final stage, to be completed by 2050, will push the capacity to 40 million passengers.
- Two parties namely, (1) GMR Vasavi, India with Malaysia Airports Holding Berhards and (2) Zurich International Airport have submitted detailed proposals on 18/12/2000. It is expected that the bid evaluation report would be submitted to GoAP by end of Jan 2001

#### **8.4.2.2. Visakhapatnam Airport**

AAI has decided to construct a new runway of 10000 feet length at an estimated cost of Rs.100 Crores. AAI will provide Rs.25.00 crores, Ministry of Defence will provide Rs.50.00 crores and GoAP will provide Rs.25.00 crores. The Central Govt. has agreed to provide the required funds. Airports Authority of India (AAI) have appointed Consultants for preparation of plans, design and execution. The work for the construction of the Runway and required terminal buildings is expected to begin shortly.

#### **8.4.2.3. Other Airports**

- The Government has provided 90 acres of land for extension of the Vijayawada airport runway to facilitate landing of the Boeing aircraft
- The Government is planning to develop the night landing facility at the Tirupati airport.
- The existing airfields at Cuddapah, Rajahmundry, Adilabad and Warangal are proposed to be developed into airports by constructing required buildings and providing necessary infrastructure facilities. Simultaneously the Government is planning to develop the Krishnapatnam airport to meet the needs of people in Nellore and Prakasam districts.

## **9. Roads**

### **9.1. Roads Scenario in Andhra Pradesh**

Roads form an important component of physical infrastructure to promote development and growth. An efficient transportation system is the lifeline of the economy. The status of

roads therefore constitutes a significant index of the economic well being of the society. The road density in Andhra Pradesh is 0.70 Kms per One Square Kilometer and 293 Kms per One Lakh Population against the all India average of 1.00 Kms per One Square Kilometer and 389 Kms per Lakh Population ( as per 1991 census, Population of A.P. is 66.355 Millions and India is 844.324 Millions). While the foregoing figures show that the density and coverage of road network is marginally lower than the national average, however internationally, it is very low compared to the developed countries of the West and developing countries in South East Asia. If the quality of the roads is also factored, the comparison is likely to be much more adversed. This indicates that the road network in Andhra Pradesh needs to be expanded and improved substantially to bring it on par with the best national and international levels.

### 9.1.1. Trends in Transport Scenario

The share of road transportation in the total goods has increased from 22% in 1956 to more than 73 % in 2000 and passenger traffic has increased from 28% in 1956 to more than 82% in 2000 and is expected to go up further by 2020.

**The length of road network in the State has grown steadily from 26,762 Km. in 1956 to 1,94,523 km. as on today.**

The vehicle population has grown from 24,783 in 1956 to 35,97,351 as on today. This indicates the road length has increased 7 times in 44 years, whereas the vehicle population has increased 145 times during the same period which emphasises the priority the Government has to give to road construction & maintenance. The break up of the length of roads as on 1-1-2001 category-wise is as under:

S.No.	Name of the category	Road length in Kms
1	National Highways	4,104
2	State Roads	7,952
3	Major District Roads	34,618
4	Other Dist.Roads(Taken	17,883
4	Rural Roads	103,814
5	Local Bodies Roads	17,752
6	Project Roads	8,400
	Total	194,523

### 9.1.2. Length of Roads under Various Agencies


Total Length	194,523 km.
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The Lane-wise and surface-wise details of Roads under the control of Roads & Buildings Department, is as under :

Single Lane	50,475 km.
Intermediate Lane	3,843 km.
Double Lane	10,145 km.
Multi Lane	94 km.

Surface-wise Length of Roads ( in Kms ) :

Black Top Roads.	46,215 km.
Waterbound Macadam Roads	12,894 km.
Unmetaled / Earthen Roads	5,448 km.

### 9.1.3. Strategic Option Study

The State Government has conducted Strategic Option Study in 1994 to identify the deficiencies in the road network and also to prepare plans to improve the road network in phased manner on scientific basis. The report of the study revealed the following deficiencies:

- a. Even main arterial roads are having very poor riding quality ( roughness more than 4500 mm per km. )
- b. The carriage way width is very much inadequate when compared with traffic plying on the road. The volume –capacity ratio is very high.
- c. Around 67% of the road length is having either metal or unmetal roads.
- d. Many river crossings, railway level crossings are not bridged, resulting in bottlenecks and also missing links
- e. Even the existing crust on the main arterial Roads / State Highways are having inadequate thickness and as such are not able to withstand ever increasing traffic axial loads.
- f. Inadequate and poor condition of the shoulders.
- g. The survey also revealed that the State is losing about 600 crores every year due to various deficiencies listed above by way of vehicle operating cost , delay in travel and accidents etc.

### 9.2. Road Development Plans

Based on the Strategic Option Study conducted, the Road development plans were prepared on scientific lines to improve the main arterial network and also the high priority roads in the first phase. The funds required is proposed to be raised in many ways as listed below

- a. By increasing allocations through budget provision
- b. By approaching external funding agencies for securing resources..

- c. By establishment of Road development Corporation to go to the Capital Market for raising money.
- d. To approach NABARD for providing loan for improving the rural roads.
- e. Ministry of Road Transport & Highways – Funds for National Highways and Central Road Fund
- f. GOI-Pradhan Mantri Gram Sadak Yojana
- g. GOI-Ministry of Railways towards construction of ROB/RUBs on cost sharing basis
- h. By privatisation through BOT procedure

### 9.2.1. Primary Core Network

For the first time in the country, Andhra Pradesh state has identified high priority roads based on traffic density and designated as primary core network in order to keep them in good condition and also to provide sustainable level of funding both for construction and maintenance. The Primary core network of 10,500 Kms proposed to be improved as under

A. P. State Highway Project	1,428 Km
Maintenance Component	1,696 KM
A. P. Economic Reconstruction Project	1,244 Km
A. P. Road Development Corporation	5,406 Km
Others including already improved	726 Km
Total	10,500 km.

### 9.3. Details of Projects Taken Up

The following are the major projects taken up in the Road Sector

- AP State Highway Project (1997-2003)
- AP Economic Restructuring Project (1998-2003)
- AP Hazard Mitigation and Emergency Cyclone Recovery Project (1997-2001)
- NABARD (1995-96 onwards every year)
- Road Development Corporation

#### 9.3.1. AP State Highway Project

The World Bank have sanctioned loan for improvement of A.P. State Highways Project amounting to Rs. 1845 cr for the following Project Components:-

- Widening & strengthening of State Highways and Major District Roads comprising of about 1428Km.
- Heavy periodic maintenance (Back-log of maintenance) on primary core network of roads covering about 1696 Km length and emergency repairs to Naidupeta Bypass of NH 5

#### 9.3.2. Maintenance Component

Under this component, about 1696Km length of Primary core net work of Roads are included for take up of backloq maintenance, and 20 km. under Emergency Repairs to NH

5,(Naidupete Bypass). Already tenders were settled for 55 packages covering 1037.48Km. Work on 695 km. is already completed.

The department has introduced performance based maintenance contract on trial basis in four districts of A.P. i.e, Nalgonda, Kurnool, Chittoor, Guntur. This is also first of its kind in India. It is proposed to extend the same system of maintenance contract for the entire network in phased manner.

#### **9.3.3. APERP – Roads Sector – (R&B Component)**

The Roads & Buildings Department Component consists of Heavy Periodic Maintenance of 1244 km of the Primary Core Network. This work is taken up in 82 packages costing about Rs.3691.0 Millions.

Out of the total 82 packages, agreements are concluded for 77 packages and work is in progress. Bids are re-invited for 5 packages, which were cancelled due to higher Tender premium and the same, are reinvited for grounding before April 2001. Works on about 876 km. will be completed by June 2001 and the entire scheme will be completed by December 2002.

#### **9.3.4. AP Hazard Mitigation & Emergency Cyclone Recovery Project**

World Bank have sanctioned loan under this project to improve 788 km. of Roads and Construction of 41 Bridges along with repairs & construction of Buildings. The total outlay is Rs.224.75 cr. The Project is schedule to be closed by June 2001.

#### **9.3.5. NABARD**

NABARD has extended loan for improvement of Rural Roads. The Government has taken up improvement of 2466 kms of rural roads and 130 bridges under this scheme of which so far, 1719 kms of Rural Roads along with 69 Bridges are completed. By the end of this financial year, it is proposed to complete another 280 kms of improvement of roads and another 20 bridges..

#### **9.3.6. Road Over Bridges and Road Under Bridges**

In the last couple of years, concerted efforts by the Government have resulted in the increased allocation of ROB/RUBs to the state. The number of ROB/RUB's taken up on cost sharing basis have increased from two nos. in the year 1995-96 to eight in 2000-2001. In the coming year, Railways authorities have in principle accepted for taking up another eleven ROB/RUBs on R&B roads and have projected for inclusion in their works programme of 2001-2002. 13 ROB/RUB's have been completed in the last 5 years and 25 others are in various levels of progress. of which 17 are under APSHP.

#### **9.3.7. Road Development Corporation**

The State Government has created Road Development Corporation to raise money from the capital market for improvement of the road network. This corporation was created in 1997 and the corporation has gone to the market by issuing bonds to raise money., In the first tranche, the corporation has raised 408.35 crores and this is being used for developing the 1500 km. of road network pertaining to primary core network.

#### **9.3.8. Private Participation**

The State Government has taken initiative to invite private entrepreneurs to take up the road projects under BOT scheme. Clear guidelines and BOT policy

has been approved by the government and based on which projects amounting Rs.200 crores were already taken up and most of them are being completed. It is proposed to take up long express highways also under BOT. In this direction the State Government has got techno-Economic Feasibility report prepared through international consultants for the following three projects:

1	Hyderabad-Vijayawada- Machilipatnam	Length 335 km.
2.	Hyderabad – Bypass	Length 200 km.
3.	Hyderabad – Mumbai upto state border	Length 110 km.

### 9.3.9. Resource Mobilisation

Government has already taken steps to pool up the resources for development of roads both by internal mobilisation and also by external loans. It is programmed to collect toll on all the important roads, which were improved with the World Bank or other loans.

### 9.3.10. AP Rural Road Project:

In order to achieve the village connectivity, it is proposed to approach various funding agencies for providing loan assistance. A detailed project report is already prepared in this regard for seeking loan assistance. About 24,000 km. of rural roads are included in the proposed Project, the cost of which will be about Rs.3500 cr. At present, 18 numbers of CRF works are in good progress out of which 7 works are targeted for completion during 2000-01.

The Ministry of Road Transport & Highways, Government of India, has recently enhanced its support in the Central Road Fund based on the accruals from the diesel cess. The Ministry has informed that the accruals for the state upto 31-3-2000 is 81.61 crores under this scheme. The Government of Andhra Pradesh has recommended 60 proposals under this scheme at an estimated cost of 260.34 crores keeping in view the future accruals upto 31-3-2002.

Amount spent on road sector:

The amount spent on road sector under R&B department has progressively increased in the last five years as may be seen in the table below. This reflects the emphasis given by the State Government in developing this critical infrastructure.

S.No.	Year	Amount Spent Rs. in crores
1	1995-96	394.61
2	1996-97	500.13
3	1997-98	568.35
4	1998-99	822.26
5	1999-2000	979.67
6	2000-2001 (Projected)	1463

### 9.4. National Highways:-

The national highways have grown from 2952 km. to 4,104 km. as on date. State government is constantly pursuing with GOI for upgrading more Roads as National Highways. The following state roads have been upgraded as National Highways in the last few years.

Sl. No.	NH no.	Name of Highway	Year of declaration	Length (Km)
1	63	Ankola-Gooty	1998	56
2	202	Hyderabad-Warangal-Bhoplapatnam	1999	306
3	205	Anantapur-Madanpalle-Tirupathi-Chennai	1999	348
4	214	Kathipudi-Kakinada-Amalapuram-Pamaru	1999	242
5	9A	Vijayawada-Machilipatnam	1999	66
6	219	Madanapalle-Palamaneru-Krishnagiri	2000	137

GOI have taken up 4 laning of NH-5 ie. Tada- Ichapuram and also on NH7 ie. Adilabad to Karnataka border under Golden Quadrilateral and North South Corridor improvement Programs respectively. These projects are programmed to complete by 2003-2004. The State Government through its efforts has obtained enhanced budgetary allocation towards improvement of National Highways in the State particularly towards improvement of riding quality of roads. The allocations have increased from Rs.65 cr. In 1996-97 to over Rs.150 cr. in the year 2000-2001.

## 10. Urban Infrastructure

### 10.1. Water Supply

As per Central Public Health Environment Engineering Organisation (CPHEEO), the drinking water requirement for towns with a population of more than one lakh is 140 Ltr Per capita per day (LPCD) and 70 LPCD for towns with a population of less than one lakh. Based on this norm, the assessed demand for water supply in the municipalities (as per the 1991 census) is about 1127 MLD. In 116 towns and Municipal corporations the present position is one of 'supply-shortage'.

Percentage of Shoratege	No. of Municipalities
76 TO 100	7
51 TO 75	26
25 TO 50	41
Less than 24	28
No shortage	14

The total number of household and public stand post connections is estimated at 6.06 lakh and 0.38 lakh respectively. 59 Water Supply Schemes are under various stages of implementation by the Public Health Engineering Department. HUDCO has recently

sanctioned loan assistance for 13 Water Supply Projects.

### **10.2. Multi Model Urban Transport System**

The State Government has entered into a Memorandum of Understanding with Indian Railways for Multi Model Suburban Railway Services in the City of Hyderabad and its suburbs. The Falaknuma – Secunderabad, Secunderabad – Bollaram, Secunderabad – Lingampally, Secunderabad – Nampally links are being taken up on priority basis. The State Government and the Indian Railways are sharing the expenditure on 50:50 basis. The first phase of the project is estimated to cost Rs. 69.00 Crores. The features of the project are as follows:

1. To provide an integrated suburban commuter transport system to the Hyderabad urban agglomeration, that is
  - Comfortable
  - Clean
  - Fast
  - Efficient
  - Regular
  - Reliable
  - Affordable
2. Infrastructure is to be strengthened, modernised and maintained to provide efficient suburban rail transportation to cover the following routes:
  - Falaknuma – Secunderabad
  - Secunderabad – Bollaram
  - Secunderabad – Lingampally
  - Secunderabad – Nampally sections.
3. Electrification of
  - Lingampally – Sanathnagar and
  - Secunderabad – Falaknuma Sections.
4. Indian Railways will strengthen the rail infrastructure and will also install automatic signalling.
5. Initially a joint venture with contribution from Government of Andhra Pradesh and Indian Railways will be floated.
6. Indian Railways will take steps to strengthen infrastructure, run trains at specified frequencies and oversee train service and safety regulations.
7. State Government will help in facilitating this process and will do its part in improving access to the existing railway stations, providing additional bus-bays, circulation areas, parking lots etc. The State Government will also help in re-routing bus services.
8. Joint Venture Company will prepare detailed project proposals for all phases of the project.

### **10.3. Roads**

The total length of roads in all the municipalities in the State is estimated at 11461 Kms, with 14% being Cement Concrete roads, 35% BT roads, 27% WP roads and 25% Kutcha

roads. In terms of road network, the availability of C.C. & B.T. Roads are far better in the municipalities of Andhra Region. Out of 2705 kilometres of Kutcha Roads about 1820 km (about 2/3<sup>rd</sup>) are in the Municipalities of the Rayalseema & Telangana Regions. In order to upgrade the roads and undertake proper maintenance, a budget provision of Rs. 145.00 Crores has been made in the Financial Year 2000-2001.

## 11. Rural Infrastructure

### 11.1. Rural Water Supply

Provision of drinking water supply has been a primary consideration in all the successive five-year plans. A national water supply and sanitation programme was introduced in the year 1954. The following is the status of rural habitations in the State as on 1.4.2000.

Fully covered (FC)	34,327
Partially covered (PC)	21,583
No safe source (NSS)	13,822
TOTAL	69,732

The Department has also created the following infrastructure (up to the year 1999-2000).

Hand pumps	2,50,280
CPWS / PWS schemes	25,633

Past Performance of the Department is as follows:

Year	Amount spent (Rs. Crore)	Habitations covered
1995-96	173.76	3246
1996-97	173.72	3201
1997-98	340.38	3245
1998-99	503.32	3776
1999-2000	521.36	3830
TOTAL	1712.54	17298

During 2000-2001, it is proposed to cover 4705 habitations at a proposed outlay of Rs.383.41 crores. In addition to the above, the Government of India has allocated Rs. 21.30 crores under the Prime Minister's Gramodaya Yojana and schemes are under preparation.

The Department today maintains 246 CPWS schemes and 2.5 lakh hand pumps whereas Gram Panchayats maintains 25,387 individual PWS schemes.

#### 11.1.1. Water Harvesting

To prevent further depletion of the water table, a massive programme of providing 64601 water harvesting structures has been taken up at an expenditure of Rs.8.14 crores. During the current year it is proposed to take up 1566 of these water harvesting structures at a cost of Rs.5.32 crores.

#### 11.1.2. Neeru Meeru

To prevent further depletion of ground water reserves, under Plan-1, 7057 tanks have been

de-silted at a cost of Rs.23.6 crores creating a volume of 170.63 lakh cubic meters. Under Plan 2, 2760 works at a cost of Rs.16.37 crores are proposed.

#### **11.1.3. Vision 2020**

It is proposed to cover all the balance 'partially covered' and 'no safe source' habitations (35405 in number) over the next 5 years at an estimated cost of Rs.5098 crores.

#### **11.2. Rural sanitation**

There are about 44.27 lakh families living below the poverty line in rural areas. By 1999-2000, 12,50,719 individual sanitary latrines had been constructed at a cost of Rs. 193.7 crores for the benefit of 62.63 lakh persons. During 2000-01, it is proposed to complete 7,98,581 individual sanitary latrines at an outlay of Rs. 135.16 crores.

##### **11.2.1. Vision 2020**

Rs. 635.41 crores is required to provide all the balance 31.77 lakh families with individual sanitary latrines. A subsidy of Rs.2000 per toilet is also proposed.

[1] Vision 2020

[2] Vision 2020

[3] Source: Vision 2020

[4] Source: Indian Ports Association

Source:

<http://www.aponline.gov.in/>

Access time: 04/03/2003