

CHAPTER 3: THE INFRASTRUCTURE CHALLENGE

The infrastructure sector comprising of transportation, communications, electricity and other services constitutes the backbone of any growing economy. Supply bottlenecks of critical services can severely hamper growth and development. The Tenth Five Year Plan has targeted an annual growth of 8 per cent in GDP over 2002-07 as compared to the average of 5.6 to 5.7 per cent recorded during the eighties and nineties. However, further acceleration of growth requires significant investments in infrastructure. The energy-transport infrastructure, in particular, will be a major determinant of an acceleration in GDP growth.

According to the Tenth Five Year Plan, the cumulative investment requirement during 2001-02 to 2005-06 has been estimated at US\$ 156 billion. Of this, 40 per cent is required in the power sector, 11 per cent in telecom and around 14 per cent in roads and railways. With US\$ 38 billion already invested between 2001-02 and 2002-03, there still exists a target of US\$ 118 billion to be met over the next three years.

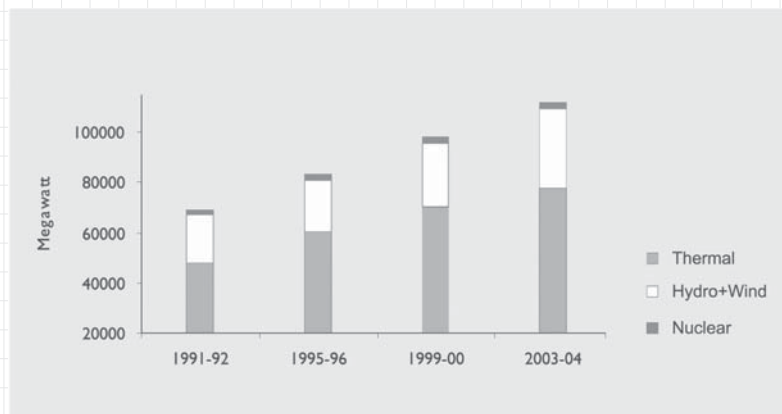
All the infrastructure sectors need sufficient funds for expansion and maintenance of existing facilities. To address this need as well as improve efficiency, a number of policy measures have been initiated recently. In order to create an adequate provision of various public goods, the Government has changed its role from direct producer of public goods and focuses on facilitating and encouraging public-private partnership, including Foreign Direct Investment. This effort has borne fruit over the last five years. According to a World Bank report, India was amongst the top ten developing countries to receive private participation in infrastructure projects worth US\$ 27.7 billion (in 2001). Changes have also been initiated with an emphasis on implementing commercially viable projects, well-enforced user charges and a regulatory framework that fosters competition.

This chapter reviews the availability of infrastructure, key challenges, regulatory changes, future targets and public-private participation and opportunities in critical infrastructural segments of power, IT and telecom, civil aviation, roads, railways and ports & shipping.

Power

Power is one of the most critical infrastructure sectors which determines economic development. The growth in demand for power is generally higher than the GDP growth rate. In India, the elasticity ratio during the 1990s was projected at around 1.5 and a similar elasticity is expected to hold, when going forward. Hence, to support a GDP growth of 8 per cent per annum, the power supply needs to grow at around 12 per cent annually.

Figure 3.1: Power Generation Capacity (in megawatt)



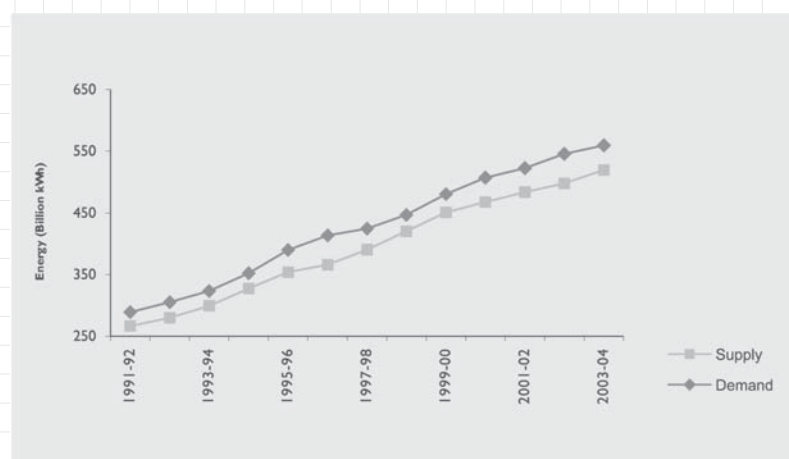
Source: Ministry of Power

The power generation capacity in India grew at a compounded annual rate of 4.1 per cent during 1991-92 to 2003-04. In 2003-04, thermal sources accounted for almost 70 per cent of the power generation capacity. Hydro, wind and nuclear sources accounted for 28 and 2 per cent respectively. Indian policy has attempted to encourage hydel and wind energy sources that do not rely on fossil fuel, and hence, avoid carbon emissions. This has resulted in a faster growth of the hydel and wind sources.

Demand-Supply Gap in Power

The demand for power has grown at a Compounded Annual Growth Rate (CAGR) of 5.66 per cent from 289 billion kilo Watt hour (kWh) in 1991-92 to 559 billion kWh in 2003-04. Power supply in the same period has increased at a CAGR of 5.72 per cent from 266 billion kWh to 519 billion kWh. As a result, the energy shortage has widened from 22.6 billion kWh in 1991-92 to 39.9 billion kWh in 2003-04.

Figure 3.2: Power: Demand-Supply Gap



Source: Ministry of Power

Some Problems in the Power Sector

The shortage in power supply is a result of a set of problems that the Government is actively addressing. These problems include inadequate power generation capacity, lack of optimum utilisation of the existing generation capacity, inadequate inter-regional transmission links, inadequate and ageing sub-transmission & distribution network, slow pace of rural electrification and inefficient use of electricity by the end consumer. In addition, poor cost recovery in distribution (since revenues from selling electricity fall short of the cost of buying or producing it), has resulted in weak financial status of the State Electricity Boards (SEBs). Moreover, price signals in the power sector have been distorted through highly subsidised power for agriculture and domestic consumers.

Recent Reform Initiatives in the Power Sector

A number of power sector reforms have been initiated since 1991 to address the above problems. Some of the key reforms were:

- a The Central Electricity Regulatory Commission (CERC) was set up at the national level and State Electricity Regulatory Commissions (SERCs) were set up in 23 States
- b The issues of one-time settlement of dues payable by SEBs was addressed by securitising the dues

- c In 2000, the Indian Electricity Grid Code was established to ensure grid discipline
- d An Accelerated Power Development and Reforms Programme (APDRP) was formulated to provide central support to States undertaking distribution reforms
- e The Central Electricity Tariff Commission's recent guidelines provide for a 14 per cent ROE in its tariff calculations

Future Targets

Table 3.1 lists the future targets in the power sector set in the Tenth Five Year Plan
 Table 3.1: Sector-wise/mode-wise capacity addition (in MW) during the 10th Pan (2002-07)

Source	Central	State	Private	Total
Hydro	8,742	4,481	1,170	14,393
Thermal	12,790	6,676	5,951	25,417
Nuclear	1,300	-	-	1,300
Total	22,832	11,157	7,121	41,110

Source: Planning Commission

Private Sector Participation in the Power Sector

Private investment in the power sector was first encouraged through the opening up of investment in power generation. This was subsequently extended to distribution and transmission projects through passing of Electricity Laws (Amendment) Act in 1998. The response from the private sector has been encouraging. Since 1991, a total capacity of around 7400 MW from 37 private power plants has been commissioned. The 9th Plan witnessed 5,061 MW of power capacity addition by the private sector. An additional 37,473 MW of private power generation capacity is likely to be added during the 10th Plan.

In the initial phase, the low private sector participation was a fallout of the absence of an enabling regulatory, legislative and market environment, slow pace of reforms in power and related sectors, inability to deliver bankable contractual frameworks, inefficient distribution mechanism and discouraging competition in generation. Investment in generation through Independent Power Producers (IPPs) who would sell power to the State Electricity Boards (SEBs) also failed to work as fear of non-payment by SEBs - the monopoly transmission and distribution companies, deterred the private sector. The Electricity Act 2003 was enacted to fill these lacunae and encourage private investment (Box 3.1).

Box 3.1: Electricity Act 2003 – Key Features

- Captive generation freely permitted
- Non-discriminatory open access in transmission introduced to encourage competition between generators and distributors
- Provision for generation and distribution in rural areas permitted without licence
- Consumer tariffs to progressively reduce cross subsidies and move towards actual cost of supply
- Spot trading of electricity permitted and possibility of futures and options on electricity being explored

In order to encourage investment in the private sector, automatic approval (RBI route) for 100 per cent foreign equity is allowed in power (except in nuclear power). In addition, duty concessions are offered on import of capital goods for setting up mega power projects. The enactment of the Electricity Act is bringing about far reaching changes in the power sector, making it substantially easier for private players to participate. Box 3.2 describes some of the critical changes that the Act is expected to foster.

Encouraging results of the Act are already evident. 11 Independent Power Producers (IPPs) with 4000 MW of capacity have already achieved financial closure in the last one-year.

Box 3.2: Electricity Act 2003

Before	After
<ul style="list-style-type: none"> • Dominance of SEBs & Central Generating Stations. • High accounts receivables, as they supplied power to financially weak SEBs • Weak payment security mechanism for IPPs • T&D the weakest link in the system, marred by huge losses (>40 per cent) • Poor infrastructure, inadequate investment, unremunerative tariff structure and theft - main reasons for losses • No third-party access available to this infrastructure • Poor financial state of SEBs driven by huge T&D losses and skewed tariff structure • Single supplier with poor quality 	<ul style="list-style-type: none"> • Structural reforms undertaken by various SEBs to improve payment security • Captive power generation and third-party sales encouraged • Unbundling & corporatisation of T&D business by SEBs • Higher infrastructure investments • Tremendous opportunities for private power utilities in distribution activity • Stringent norms imposed • Cross-subsidies to fall gradually and tariff imbalances to be removed • Consumers above 1 MW allowed to source power from the supplier of choice • Quality of supply to improve in the long run

Investment Opportunities for the Private Sector

Investment opportunities for the private sector in the distribution of power have expanded as several State Governments have agreed to their entry in distribution. With a total capacity addition of 1,13,000 MW expected during 2002-12, an investment of US\$ 200 billion in power generation, transmission and distribution is envisaged. The private sector can also participate in import of LNG for setting up large capacity combined cycle power plants, renovation and modernisation, cross country grids and energy audit and monitoring.

Telecommunications and Information Technology

The telecommunications sector has grown at a phenomenal rate since 1995 with the increasing significance of knowledge based sectors such as Information Technology (IT) and IT Enabled Services (ITES). Tele-density in India (per '00 households) has increased from 1.3 in 1995-96 to 7.02 in 2003-04. Much of this jump has been driven by policy initiatives and reforms, recognising the sector's role in economic development and encouraging greater competition.

The total number of mobile telephone connections as on March 31, 2004 was 33.7 million while the number of fixed lines was 42.84 million. In rural telephony, of the 60 million villages identified in the 1991 census, 52.2 million had a Village Public Telephone (VPT) as of March

2004. In bandwidth connectivity, India has a total of 20.5 gigabits per second of international connectivity.

Competition among private players has resulted in a sharp drop in tariff rates and hence a large rise in telephone connectivity. In 2003-04, mobile connections grew at 160 per cent while basic telephony grew at 3 per cent. Of this, the share of public operators in overall (fixed and mobile) telephone connection has fallen from a total monopoly in the early 1990s to around 60.7 per cent in 2003-04. The private sector holds a 39.3 per cent share. There has been a shift in access technology from fixed to mobile telephony in recent years. Mobile subscribers have already surpassed fixed line connections in the Delhi, Mumbai, Chennai and Punjab telecom circles. The large rise in share of private players in the Indian telecom sector in the last two years is an indication of the existing opportunity in this sector.

Recent Reform Initiatives in the Telecom Sector

One of the key challenges facing this industry is the rapid technological change necessitating a mature regulatory framework with broad policy of taxes and regulation that is largely promotional. The policy framework also needs to consider the active competition between Global System for Mobile (GSM) and Code Division Multiple Access (CDMA) mobile telephony. With these objectives in mind, the Indian telecom sector reforms have created a favourable environment that fosters competition and buttresses growth (Box 3.3).

Further, to enable the adoption of latest technologies, a separate Ministry of IT was established in 1999 and an Information Technology Act was passed in 2000. The investment policy in the IT sector allows for foreign equity up to 100 per cent in the software industry, via the automatic route. A number of states have developed their own IT policies to promote the software sector. Investment incentives being offered include tax holiday up to 2010 for IT units in Software Technology Parks (STPs) and tax holiday for up to 10 years with 125 per cent tax concession for R&D units.

Box 3.3: Telecom Sector Reforms

- Telecom equipment manufacturing deregulated in 1991
- Cellular phone services thrown open to private sector in 1992 and basic services in 1994
- The National Telecom Policy (NTP) formulated in 1994 and later replaced by NTP '99.
- NTP '99 also provided for registration of Other Service Provider category to promote BPO activities
- The Telecom Regulatory Authority of India (TRAI) set up in 1997 as an independent regulator
- Private sector allowed in Internet Service Provider (ISP) sector in 1998
- Migration from fixed licence fee to revenue sharing regime in August 1999
- Establishment of a dispute settlement mechanism called Telecom Disputes Settlement and Appellate Tribunal through TRAI (Amendment) Act, 2000
- National long distance service opened to competition in August 2000
- The Communication Convergence Bill introduced in Lok Sabha in August 2001
- International Long Distance (ILD) services and Internet telephony opened for competition in 2002
- Introduction of the Calling Party Pays (CPP) in May 2003

- 'Unified licensing regime' for basic and cellular operators introduced in October 2003
- Interconnection Usage Charge introduced in 2003-04
- Reduction in the Licence fee for Basic / Cellular / Unified Access Services with effect from 01.04.2004

Future Targets

Tele-density of 7.67 has already been achieved (July 2004) and the industry expects a much higher tele-density than the Planning Commission target of 9.91 by March 2007.

Private Sector Participation in the Telecommunication Sector

India is one of the most deregulated telecom markets in the world with private participation in international long distance (ILD), National Long Distance (NLD), basic, cellular, Internet, radio paging and other value added services. Private players dominate the cellular telephony (78.5 per cent share) with an increasing share in basic telephony.

Investment Opportunities for the Private Sector

- Indian tele-density at 7 is low as compared to emerging markets like Brazil and China at 42.38 and 42.32. In the rural market, this density (at 1.58), is even lower. This opens up a huge potential market for participants
- Major impetus to tele-density is expected to arise from semi-urban and rural markets
- Investors can acquire licences issued to existing operators who are divesting equity stakes to foreign investors
- 100 per cent FDI is permitted in the telecom equipment manufacturing sector through the automatic route
- Participation in telecom equipment marketing

Civil Aviation

The civil aviation sector in India has made significant strides in coping with domestic and international traffic and has played a crucial role in the development of trade and tourism. During the month of July 2004, all operational airports handled 57.94 thousand aircraft movements (excludes defence & other non-commercial movements), 4.57 million passengers and 105.53 thousand tonnes of cargo.

There are 125 airports in the country, controlled by the AAI, of which 11 are international airports. The infrastructure facility at Indian airports is managed by the Airports Authority of India (AAI). Among air operators, Indian Airlines Ltd. and other private airlines provide domestic air services while Air India Ltd., Indian Airlines Ltd. and other international airlines operating to India handle international air services. In addition, there are 37 non-scheduled operators providing air taxi/non-scheduled air transport services.

Recent Reform Initiatives in the Civil Aviation Sector

The Indian Government has taken major policy initiatives to improve the viability of airports (See box 3.4). The Expert committee on Civil Aviation headed by Shri Naresh Chandra submitted its report in December 2003 and implementation of its recommendations is expected to enhance the quality of this service along with creation of incentives for new investment.

Box 3.4: Initiatives in the Civil Aviation Sector

- The Airport Infrastructure Policy, 1997, permits private equity participation in development of airport infrastructure to bridge the resource gap as well as to bring greater efficiency
- Domestic air transport policy allows participation of foreign individuals/companies up to 40 per cent and the participation of non-resident Indians (NRIs) up to 100 per cent in domestic air transport services. However, no direct/indirect equity participation by foreign airlines is permitted in domestic air transport services
- The International Air Transport Policy permits domestic private carriers to utilise international air transport bilateral traffic rights subject to a first refusal by Air India and Indian Airlines
- New international airports are being set up in Bangalore, Hyderabad and Goa with private sector participation
- In January 2004, the excise duty on ATF was reduced from 16 to 8 per cent and both Foreign Travel Tax (FTT) and Inland Air Travel Tax (IATT) were abolished
- Foreign equity participation in airport infrastructure is permitted up to 49 per cent for modernisation of Delhi and Mumbai airports and 100 per cent for greenfield projects
- Open sky policy for cargo and charters is allowed till 2007

Future Targets

The country has witnessed an immense growth in air traffic over the past three decades and given the low penetration rate and expected fall in airfares, this surge is likely to continue. The domestic traffic is projected to rise from 12 million passengers in 1996-97 to 52.3 million in 2016-17. The international passenger traffic is expected to rise from 10.9 million in 1996-97 to 33 million in 2016-17. In addition, the AAI has set aside US\$ 800 million to modernise and expand airspace management and infrastructure over the next five years. This presents an enormous opportunity for private sector players.

Private Sector Participation in the Civil Aviation Sector

The private sector has participated in domestic air services, greenfield airport construction and financing in India. In domestic air services, the number of passengers availing of private airlines has increased from 15,000 in 1990 to 6.7 million in 2001. In 2003-04, private operators catered to nearly 60.1 per cent of the domestic air traffic.

The equity of the new international airport at Cochin was financed by funds from the State Government, Non-Resident Indians, travelling public, financial institutions and airport service providers. The Government of Kerala and State Government undertakings jointly invested 51 per cent of the equity, while the public and private sector have invested the balance 49 per cent of the equity.

The Bangalore Airport is the first-ever 'greenfield airport' in the country, being implemented on a Build Own and Operate (BOO) basis. The airport would be constructed through a private-public partnership, with the joint venture company comprising Karnataka State Industrial Investment and Development Corporation (KSIIIDC) and Airports Authority of India (AAI) as well as a consortium of companies including Siemens (Germany), Unique Zurich (Switzerland) and Larsen and Toubro (India).

Investment Opportunities for the Private Sector

The investment opportunities for the private sector exist in the following areas:

- Restructuring and modernisation of the Mumbai and Delhi airports through the Joint Venture route
- Two new greenfield international airports with private sector participation to be set up at Bangalore (implemented) and Hyderabad, where the private partners will hold 74 per cent equity
- Setting up of a new international airport in Goa has been approved in principle
- Participation can also be in the form of privatisation through long-term lease
- Construction of terminal facilities and ground handling
- Manufacture of aircraft
- Logistics and support services including their infrastructure

Roads

The Indian road network has witnessed a quantum leap as new institutional arrangements (based on a self financing revenue model comprising tolls and cess) and highway engineering of international standards have led to better connectivity. The Indian road network of 3.3 million kms is the second largest in the world. Roads carry about 70 per cent of the freight and about 85 per cent of passenger traffic.

The road network can be broadly divided into Expressways, National Highways, State Highways, District Roads and Rural Roads. The National Highways have a length of about 65,569 km and carry about 40 per cent of the road-based traffic; the state highways and district roads cover about 5,98,000 kms while the rural and other roads cover about 2,650,000 kms of road length.

Recent Initiatives in the Roads Sector

A number of road projects have been initiated to strengthen the road network (Box 3.5). The National Highways Development Project (NHDP Phase I & II) comprises of 5,846 km Golden Quadrilateral (GQ) connecting the four major metro cities, 7,300 km of North- South & East- West corridors and 1,133 km of port connectivity and other projects at an investment of US\$ 12 billion. Already over 4000 kms of road length has been constructed (Table 3.2). To tackle the resource constraint, Central Road Fund (CRF) has been augmented to mobilise the dedicated cess fund levied on diesel and petrol. This fund is being leveraged for market borrowings and is being used for implementation of NHDP. In addition, innovative methods of financing such as BOT, annuity based BOT and SPV systems have been put in place to attract the private sector.

Box 3.5: Road Reforms

Measures initiated by the Government to improve the road network are as follows:

- Capital grant up to 40 per cent of project cost to enhance viability on a case-to-case basis
- Entrepreneur allowed to collect and retain tolls in BOT projects
- 100 per cent Foreign Direct Investment (FDI) allowed in road sector projects
- 100 per cent tax exemption in any consecutive 10 years out of 20 years
- Duty free import of specified modern high capacity equipment for highway construction

- Control of National Highways Bill 2002 passed to prevent unauthorised occupation of highway land
- The Central Road Fund was augmented and the corpus of this fund would be utilised for the development of State and National Highways. The Government has imposed a cess of US\$ 0.03 per litre on petrol and diesel to mop up funds for the development of roads

Table 3.2: Progress of NHDP (as on August 31, 2004)

Length (in kms)	GQ	NS-EW	Port Connectivity and other projects	Total
Total	5846	7300	1133	14279
Completed	3121	653	263	4037
Under implementation	2725	410	350	3485
Balance length to be awarded	0	6211	520	6731
Cumulative expenditure (US\$ billion)	4.09	0.49	0.35	4.93

Source: Department of Road Transport & Highways, Ministry of Shipping, Road Transport & Highways

Future Targets

The 10th Plan has targeted the completion of the GQ and N-S, E-W corridors under NHDP Phase I and II by 2005 and 2007, respectively. In addition, a total length of over 10,000 km under NHDP Phase-III is proposed to be widened to 4-lane or 2-lane highways with paved shoulders (where 4-laning is not justifiable immediately) at an estimated cost of US\$ 12 billion on BOT basis. Under NHDP Phase-III, upgradation of these 10,000 km includes (a) Connectivity of all State capitals in Phase I & II (b) Stretches of high traffic volume not included in Phase I & II (c) Connectivity from NHDP to places of tourist importance, heritage sites, places of economic importance, pilgrimage centres and agricultural 'mandis'.

Private Sector Participation in the Roads Sector

Liberalisation of the economy has resulted in a noticeable increase in private sector participation in construction and operation of highways. The Government has initiated about 50 'public private partnership' projects costing around US\$ 2 billion under the Build-Operate-Transfer (BOT) scheme (Toll Based, Annuity and SPVs). This includes an agreement between NHAI and CIDB Inventure, Malaysia, in May 2001 for four-laning of NH-5 and NH-9 for US\$ 0.15 billion. Other foreign players who have participated in the roads sector are - AIDC Group of USA and STRADC of Philippines for the Vivekananda Bridge project; DS Construction Ltd of UK (JI-DSC) for Delhi-Gurgaon Expressway Project (along with Jaiprakash Industries Ltd). NHDP Phase-III projects are to be funded on BOT basis.

Investment Opportunities for the Private Sector

- Around 50 National Highways projects costing about US\$ 1924 million are in different stages of construction or in operation with extensive private sector participation
- Four-laning of 10,000 km at an estimated cost of about US\$ 12 billion to be taken up on Build-Operate Transfer (BOT) basis

- Model Concession Agreements (MCA) for large BOT projects costing more than US\$ 21 million, small BOT Projects costing up to US\$ 21 million and annuity based projects have been finalised
- Investment of US\$ 34.3 billion required to remove deficiencies in National Highways
- Participation in construction of bridges, by-passes and other highway-related en route activities
- Private sector as investors in BOT projects on BOT and annuity basis and participation in bonds and direct borrowings
- Manufacture of construction equipment
- Improvement in urban roads and connectivity in major metros of Delhi, Mumbai, Bangalore, Chennai, Kolkata and Hyderabad

Railways

Indian Railways is one of the largest railway systems in the world with a capital base of about US\$ 11.5 billion. It is the principal mode of transportation for carrying bulk freight and long distance passenger traffic. In 2003-04, Indian Railways carried around 557.4 million tonnes of freight and 5112 million passengers.

Indian Railways has an extensive network, which is spread over 63,122 Route Kilometres (RKm), comprising Broad Gauge (45,622 RKm), Metre Gauge (14,364 RKm) and Narrow Gauge (3,136 RKm). Approximately, 26 per cent of the railway network is electrified.

Recent Initiatives in the Railway Sector

To align the tariff imbalance, rationalisation of fare and freight structures including reduction in the number of classes for freight tariff from 59 to 27 and a reduction in the ratio of highest to lowest freight rates from 8 to 2.8 has been made. More importantly, railways have created focused business organisations such as Rail India Technical and Economic Services (RITES) for consultancy in transportation, Indian Railway Construction Company (IRCON) for construction, Container Corporation of India (CONCOR) for container operations, Indian Railway Tourism and Catering Corporation (IRCTC) for catering and tourism and Raitel for telecom, to help improve profitability. Other initiatives adopted by the railways are stated in Box 3.6.

Box 3.6: Railways Reform Measures

- Direct purchase of power from the producers at a lower tariff and closure of uneconomic branch lines
- In the passenger segment, the world's largest reservation system that connects 2,500 terminals through the Internet, has been extended to more than 100 major cities in India
- In the freight segment, the first phase of the computerised Freight Operation Information System has been completed to enable online tracking of cargo
- High speed goods trains, time-tabled parcel trains and integrated transport facilities are being developed through the terminal warehousing scheme
- Finally, the National Rail Vikas Yojana announced in August 2002 focuses on:
 - Strengthening of the Golden Quadrilateral to enable the railways to run more long-distance mail and freight trains at higher speed
 - Strengthening of rail connectivity to ports and development of multimodal corridors to the hinterland
 - Completion of four mega bridges and of 'last mile' and other important projects

Future Targets

According to the tenth Plan, a total of 1310 km of new lines are to be completed between 2002 and 07.

Table 3.3: Projection for Railway Traffic

	2001-02	2006-2007
Freight Traffic		
Originating Freight (Million Tonne)	489	624
Freight Tonne Km. (Billion Tonne)	323	396
Passenger Traffic		
Originating Passengers (Million)	5000	5885
Passenger Km. (Billion)	473	625

Source: Tenth Plan Document, Planning Commission.

Private Sector Participation in Railways

Although railways is a strategic sector, financial participation by the private sector was launched through a Build-Operate-Lease-Transfer scheme in 1994. Poor response to it led to the evolution of a new Build-Operate-Transfer scheme, which envisaged participation by a consortium of construction contractors and financiers. Since then, public-private partnerships in operation, maintenance of tracks, gauge conversion and construction of broad gauge lines have been undertaken. Railways have also entered into a range of MOUs with State Governments for cost sharing (Box 3.7). In 2003-04, the public-private joint participation in railways is likely to mobilise US\$ 90 million.

Box 3.7: Public Private Partnerships Entered into by the Indian Railways

- A Special Purpose Vehicle (SPV) named PRCL (Pipapav Railways Corporation Ltd) formed with equal equity participation from Railway Ministry, Gujarat Pipapav Port Ltd for construction, operation and maintenance of Surendranagar - Pipapav Gauge Conversion/New Line Project
- SPV named HMRDC (Hassan-Mangalore Rail Development Company) formed for construction (Gauge Conversion), operation and maintenance of broad gauge track between Hassan and Mangalore with participation of Govt. of Karnataka, Karnataka Rail Infrastructure Development Company and other strategic investors
- SPV called KRCL (Kutch Railway Company Ltd) for gauge conversion work between Palanpur and Gandhidham providing a short route to ports of Mundra and Kandla
- A 54-km long railway line from Adipur to Mundra constructed by Gujarat Adani Port Ltd and to be operated by the Indian Railways under an agreement

Investment Opportunities for the Private Sector

- Provision of a complete logistics chain (a pilot project of providing warehousing facilities through CWC at Whitefield in Bangalore has already been implemented).
- Construction along major routes through partnership with railways
- Commercial exploitation of rail space and private investments in railway infrastructure and rolling stocks
- Investment of US\$ 152 million for execution of new lines, doubling, gauge conversion and electrification
- Strengthening of the Golden Quadrilateral and its diagonals at an estimated cost of US\$ 12 billion
- Strengthening of rail connectivity to ports and development of multimodal corridors to the hinterland at a cost of US\$ 0.63 billion
- Construction of 4 mega bridges costing about US\$ 0.73 billion
- Production of railway equipments such as wagons and wheels; construction and operation of high-speed passenger corridors; and construction of other exclusive freight corridors

Ports and Shipping

Introduction

Ports and Shipping are an important part of the transportation infrastructure. There are 12 major ports and 185 Minor / Intermediate ports located along India's 7,517 km long coastline along the mainland and island territories of India. Out of the 12 major ports, 11 are managed by their respective Port Trust Boards; constituted under Major Port Trusts Act, 1963, and are under the overall control of the Central Government. These are at Kolkata/Haldia, Mumbai, Chennai, Jawaharlal Nehru Port at Nhava Sheva/Mumbai, Cochin, Visakhapatnam, Kandla, Mormugao, Paradip, New Mangalore and Tuticorin. The 12th major port at Ennore near Chennai, which is also under the overall control of the Central Government, is managed by Ennore Port Limited, a company incorporated under Indian Companies Act, 1956. The 185 minor/intermediate ports are under the jurisdiction of the respective State Governments. Maritime transport accounts for about 95 per cent of the country's foreign trade in terms of volume and 70 per cent in terms of value.

Recent Initiatives in the Ports, Shipping and Inland Water Transport Sectors

Modernisation and development of major and minor ports have been an essential part of India's Five Year Plans. Sustained focus on creation of additional capacities resulted in additional capacity of 124.40 million tonnes per annum (MTPA) in the 12 major ports during the 9th Five Year Plan period (1997-2002). This period also witnessed the phenomenal growth of minor ports particularly in the State of Gujarat. The share of minor ports in the country's cargo traffic at present is about 25 per cent. Under the current guidelines for Private Sector Participation (PSP), the major ports have been allowed to lease out existing assets of the port to private partners for management and operation. Private sector participation in major ports has also been allowed for construction of new berths and terminals, warehousing and storage, container freight stations and tank farms and for dry docking facilities/ship repair on BOT basis. Maritime States are responsible for the planning and development of other ports within their region. For speedy implementation of their plans, the States of Gujarat, West Bengal, Maharashtra and Tamil Nadu have constituted autonomous regulatory bodies, namely, Maritime Boards.

A Scheme for joint ventures without tender between major ports and minor ports, as well as between major ports and companies following the tender route and, between major ports and publicly owned foreign ports has been approved and guidelines on joint venture formation by major ports have been issued.

13 private or captive projects, with a capacity addition of about 45 million tonnes per annum (MTPA) and an investment of about US\$ 511 million have so far been completed/ operationalised in the ports sector. 24 private sector projects with a capacity addition of around 88.5 MTPA and an investment of US\$ 1443 million are at various stages of evaluation and implementation.

The Union Budget 2004-05 provides a significant fillip to the port sector, given its higher focus on the infrastructure sector. The setting up of the inter-institutional group for development of infrastructure and higher commitment on the Sethusamudram Ship Canal Project will ensure a focused lending approach and speedier project-approval process. The development of the International Container Trans-shipment Terminal (ICTT) at the Kochi Port will help it compete with the Dubai and Colombo ports which are currently used as trans-shipment hubs. The Union Budget 2004-05 has given a boost to the shipping industry with the introduction of tonnage tax as an alternative to the current 7.5 per cent corporate tax. The tonnage tax regime will provide a level playing field to the industry vis-à-vis international players and would make the investment climate conducive to the growth of India's shipping tonnage. As a result, Indian tonnage is set to grow in coming years, consequently, making the India's Exim Trade more competitive.

Box 3.8: Ports and Shipping Reforms

Measures initiated by the government to improve Ports and Shipping are as follows:

- Automatic approval for FDI up to 100 per cent in Ports and Shipping
- Facilities at par with 100 per cent EOUs for the ship repairs industry
- Action has been initiated to formulate a National Maritime Policy to provide fiscal, financial, administrative and legislative measures for growth and development of the maritime sector in India
- The Government has taken steps for phased corporatisation of major ports
- Private sector participation in the ports sector has been allowed
- Scheme for formation of joint ventures by major ports approved
- Inland water transport policy approved by the Government
- The Government has introduced tonnage tax regime for shipping
- Most categories of ships have been brought under the Open General Licence (OGL) to facilitate acquisition at competitive prices
- Automatic approval is also available for acquisition by ship-owning companies for the categories which are not covered under OGL i.e. barges, tugs and boats etc
- The shipping companies are now permitted to get their ships repaired in any shipyard without seeking prior approval from the Government
- The Reserve Bank of India releases foreign exchange for ship repair/dry docking and spares for imported capital goods without any value limit
- 100 per cent investment by NRIs in Shipping with full repatriation benefits

Future Targets

The all India average turnaround time for major ports has improved from 5.7 days in 1995-99 to 3.5 days in 2003-04. However, considerable effort is still needed in order to match world standards. A higher focus on investment in the ports sector will provide better facilities and reduce the turnaround time for ships.

The focus during the 10th Five Year Plan period (2002-2007) is on modernisation, cost effective service, enhancement of service quality and increased public-private partnership. This Plan has targeted capacity addition of about 126 MTPA in the major ports. An amount of approximately US\$ 944 million from public funds has been earmarked for modernisation and development of major ports during the 10th Five Year Plan period. In addition to Plan allocations for major ports, investment to the tune of US\$ 2345 million is expected from the private sector during the 10th Five Year Plan period (2002-2007).

There are plans to increase the share of coastal shipping from 7 per cent to 12-13 per cent of the total domestic cargo by 2012. Lower vessel rates (40 per cent lower than foreign bound vessels) are expected to act as an incentive in this regard.

Private Sector Participation in the Ports and Shipping Sector

Under the BOT route, new container terminals have been commissioned in the private sector by P&O Australia at Jawaharlal Nehru Port & Chennai Port, United Liner Agencies at Visakhapatnam Port and by PSA at the port of Tuticorin. A Licence Agreement has also been signed between Jawaharlal Nehru Port Trust and Gateway Terminals India Pvt. Limited, a joint venture company formed by Maersk A/S CONCOR Consortium for development, management and operation of a third container terminal at the Port on BOT basis. The Government has also approved the award of a contract for development, management and operation of an International Container Trans-shipment Terminal at Kochi Port on BOT basis to Dubai Port International, Dubai. The bidding process for a container terminal on BOT basis at Kandla Port is in progress. Jawaharlal Nehru Port is planning to have its fourth container terminal by the end of the current decade. Ennore Port Ltd. is in the process of firming up its plan for a container terminal in the port. Ennore Port has also planned the development of an iron ore berth, liquid cargo terminal and a coal berth on BOT basis. There is also a new phenomenon of private ports such as Pipavav and Mundra.

Investment Opportunities for the Private Sector

- Increased emphasis on modernisation and restructuring of ports
- Increased thrust on public-private partnerships for the development of ports
- Private investment to the tune of US\$ 2345 million is expected
- Private participation with respect to inland transport infrastructure connecting ports
- Investment needs worth US\$ 20 billion in the maritime sector upto 2012