

A background paper on Infrastructure in Maharashtra



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1. Executive summary

I. Introduction

Infrastructure is a key driver of economic growth. The much anticipated further growth in all sectors of the economy will be increasingly contingent on the availability of the physical infrastructure and related services. The development of human resources contributes to sustained growth and productive employment. A healthy, educated and skilled workforce can contribute more significantly and effectively in economic development. Accordingly, the State Governments should re-direct governmental spending and policies towards high priority area of time bound infrastructure development both physical and social.

II. Maharashtra state profile

The State is a major contributor to the nation's economy accounting for almost 21 % of the industrial output, 13 % of the national GDP, 13.7% of total factory employment. Mumbai, the capital is regarded as the hub for financial and business activities of the country and is the headquarters of many of the large business establishments and financial institutions. The city also contributes about 60% of customs duty collections and around 40% of income tax to the national exchequer.

The state industrial growth rate has remained at around 10 % over the past few years and efforts are required to push this growth rate by creating an efficient infrastructure for facilitating sustained industrial production.

The State's average annual GSDP for the 10th five year plan has been around 8.5%. Although Maharashtra is a highly industrialised state of India, agriculture continues to be the main occupation of the people. About 61% of the people directly or indirectly depend on agriculture and allied activities for their livelihood. The average annual GSDP growth of agriculture and allied activities sector for the state in the 10th five year plan from 2002 to 2007 has been around 2.7 %, which is less than the

growth of 3.7% achieved in the 9th five year plan . The slow down in the state agriculture output is acting as a bottleneck for the overall economic growth of the State.

Maharashtra is rated as one of the most preferred investment destination in the country. Though Maharashtra receives a higher number of investment proposals, the state lags behind Gujarat in terms of the actual implementation of such proposals due to infrastructural deficiencies and lack of measures to facilitate smoother project implementation.

III. Social infrastructure overview

1. State HDI Index

The Human Development Index (HDI) is the normalized measure of life expectancy, literacy, education, standard of living, and GDP per capita of a region. As per the National Human Development Report 2001 by Planning Commission, Maharashtra scores 0.523 as on 2001, improving its score of 0.363 of 1981. However during the past two decades, Maharashtra's ranking in the State HDI index has fallen one place below to that of fourth in the index ranking.

2. Education Sector

The number of primary schools in the state has risen from 44,535 in 1970- 71 to around 69,330 in 2006-07 and has a ratio of 34 students per teacher. The number of secondary and higher secondary institutes in the state has risen from 5,313 in 1970- 71 to around 20,339 in 2006-07 and has a ratio of 38 students per teacher. Similarly the number of institutes offering higher education has seen a rise from 547 in 1970-71 to 1,677 in 2006-07. Under the aegis of the central government and the state government, various projects have been undertaken for the universalisation of primary education across the state. Schemes like Sarva Sikshan Mohim, Vasti Shala, Mahatma Phule Shikshan Hami Yojana, National Literacy Mission, nutritional diet scheme are some of the measures undertaken for spreading the education in the state.

The enrolment rate is the main indicator of the progress in higher education and is measured in Graduate Enrolment Ratio GER. The GER from different countries show that developed countries have GER invariably above 50% and the world average is 23.2%. Maharashtra, as per the data available for 1999-2000 has a GER of 14.14 % and is seventh ranked with Chandigarh leading at 26.24%, followed by Delhi at 21.16 % and Kerala at 18.08%.

While Maharashtra is recognised as one of the better destinations for higher education, pro-active measures are required for improving the quality of higher education. The Government may also take the initiative of allowing the private sector to run government schools, besides setting up new ones. This would allow the private sector to use government assets to create better revenue streams and provide additional and value-added services to students. Roping in the private sector will also ensure leakages are limited as the private party would be accountable for the funds it receives from the government.

3. Healthcare sector

In comparison with other states on health parameters, Maharashtra is one of the better performers. The state has also been pro-active in ramping up its infrastructural facilities over the years. The state had 1,047 government & public aided hospitals; 2,072 dispensaries and 1,809 primary health care centres as of 2005-06. The Maharashtra state public health department on its part has made serious efforts in formulating and executing the schemes and projects initiated by various central and state level governments.

The main stumbling block for the state in effective implementation of various programmes is size of its population. A large percentage of population (around 58%) resides in rural areas making the task of reaching out to them with the health services even more challenging. Though the government has initiated programmes specifically aimed at rural, backward and tribal population, the effects are yet to get reflected in the health indicators. While the infant mortality rate in urban areas of the state stands at 22 per 1000 live births, in the rural areas it rises to 51 per 1000 live births. To tackle this situation the state government needs to ensure more rural focus while continuing in implementation of its health care programmes and schemes.

IV. State utilities & ancillary infrastructure

1. Power sector

Maharashtra once used to be a model state for its notable efficiency in power sector. However, presently Maharashtra leads the states in power shortage and has the highest demand supply gap. The peak shortage has risen from 2,500 MW in 2005 to 6,800 MW in April 2007. Due to this, there have been instances of power curtail to rural areas for more than 20 hours. The transmission and distribution losses, has also risen at an alarming level of over 32%, further aggravating the situation. The basic lacuna for the power sector of Maharashtra remains not drawing up perspective plans for the capacity additions well in advance. Maharashtra has made very negligible capacity addition in state power generation plants during past few years.

The state has taken cognizance of this situation and has drawn up plans for capacity addition to the tune of 6,425 MW. However, this capacity will be available in stages starting from 2009 to 2012. It is estimated that demand supply gap for Maharashtra excluding Mumbai, will be around 11,000 MW by end of eleventh five year plan.

Maharashtra economy has seen a GSDP growth rate of more than 9% for past two years. The state has the potential to sustain this growth rate, if the desired attention is provided on creation & maintenance of quality infrastructure, which necessitates the State to continue with further reforms in the power sector.

A large percentage of population (around 58%) resides in rural areas making the task of reaching out to them with the health services even more challenging

2. Telecom sector

Maharashtra combined with Mumbai circle has the highest connections in the country both in fixed as well as wireless. The State however has a poor tele-density. Teledensity is the statistic showing number of connections per 100 for the given region. As on December 2006, amongst the metros, the tele-density of Mumbai was 63.91, while that of Delhi and Chennai was 82.63 and 77.73 respectively. The rural tele-density of the state is abysmally poor at 2.78.

Telecom being a centrally governed sector, state government has very little part to play. However state government can always attract private players to increase their basic infrastructure to promote higher growth in this sector for the state. The areas to concentrate are -

- Increasing the number of internet users in urban as well as rural areas;
- Spreading the broadband network in rural areas;
- Increasing Tele – Density by having more connections;
- Increasing the installation of Village Public Telephone (VPTs);
- Concentrating on shared infrastructure for wireless connectivity.

3. Urban Development

The Ministry of Urban Development & the Ministry of Urban Employment and Poverty Alleviation monitor the programmes concerning all the issues of urban development and housing in the country. Some of the initiatives are -

- i. Jawaharlal Nehru National Urban Renewal Mission (JNNURM). Projects in Maharashtra under JNNURM scheme include -
 - Augmentation of the water supply to Mumbai by 455 Million Litres per Day (MLD) by Mumbai Water Supply Project-IV
 - The Nagpur Water Supply Project which aims to enhance water supply capacity in the city by 113 MLD

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- The Brihanmumbai Storm Water Drainage (BRIMSTOWAD) project in Mumbai, which involves a complete overhaul of the 100-year old city drainage system.
- ii. Infrastructure Development in Mega Cities. Development authorities of the respective cities act as nodal agency for implementation of this scheme. Ongoing water supply projects by MMRDA in Mumbai region under this scheme include -
 - Rs. 1000 million for construction of intake works at Maswan on Surya river, transmission line and Master balancing Reservoir for Vasai-Virar on BOLT basis
 - Rs. 1650 million for Greater Mumbai for the balance work of Third Mumbai Water Supply and Sewerage
 - Rs. 754 million for Mira-Bhayander Municipal Council for Water Supply

4. Special Economic Zones

Maharashtra had announced its SEZ policy in the year 2001. Though Maharashtra has the maximum number of SEZs approved in the country, the notified SEZs are just 27% of total approved SEZ. This ratio is lowest as compared to the other states. In addition, the total land required for approved or in principle approved SEZs in the state stands at over 47,500 hectares against which only 4,150 hectare of land has been notified. The ratio is at mere 8.72%. The ratio is very low compared to other states like Andhra Pradesh & Gujarat, which have a ratio of 68.23 % and 42.37% respectively.

The delays in notification have acted as a hindrance in the establishment of SEZs in the state subsequently acting as a bottleneck for the proposed investments in state, along with the potential employment generation, which has been one of the main objectives up establishment of SEZs in the country.

5. Tourism

The state of Maharashtra offers a wide range of themes including leisure, heritage, pilgrimage, eco, history for tourism industry in the state. It also offers various tourism circuits like water tourism, Deccan odyssey, adventure tourism etc. Maharashtra Tourism Development Corporation (MTDC) is the state government agency for promotion and regulation of tourism sector. It is also responsible for developing, managing and maintaining the tourist places in the state. Maharashtra state has been maintaining its second position in attracting a major chunk of foreign tourist arrivals in India by garnering a share of around 15%, though the share has declined from around 18% in 2000.

The tourism potential of the state however has not yet been fully tapped on account of lack of an integrated approach from various government departments and agencies. The important issue is that tourism is not an isolated function or activity in itself but spreads across multiple sectors and hence the role of coordination between different agencies becomes very important. Further, developing tourism industry demands capital intensive projects which have the longer gestation period of 8-12 years, depending up on the size and potential.

Tourism resources in Maharashtra can generate much higher demands amongst domestic as well as foreign tourists coming in India. The need is for the strategic and intelligent synergies to be developed to tap the market and making tourism a driver in economic growth of the state.

V. Transportation infrastructure

1. Road

The road infrastructure in the State is managed by various local bodies including Public Works Department of the state, municipal corporation, Maharashtra State Road Development Corporation (MSRDC), Maharashtra Industrial Development Corporation (MIDC), Forest Department. The total state secondary road length maintained by the PWD and Zilla Parishad (excluding internal road length of local bodies) at the end of March, 2006 was 2.31 lakh km.

The establishment of fully state owned corporation, MSRDC has propelled private sector participation in road projects. MMRDA (the Mumbai Metropolitan Region Development Authority) has the mandate for MUIP (Mumbai Urban Infrastructure Project) with an estimated cost of around Rs.2,648 Cr.

However some of the projects are suffering from slow implementation which in turn has escalated the project cost.

2. Railways

Most of the railway projects in the immediate past in the state were related to conversion of meter gauge to broad gauge. Some of the recent rail related projects undertaken in the State include –

- o Gauge conversion work of narrow gauge to broad gauge in the Miraj-Latur section
- o Construction of 54 km of new broad gauge line between Baramati- Lonand

One of the most important projects viz , the Mumbai Urban Transport Project (MUTP) spearheaded by MMRDA aims to develop world-class infrastructure for an efficient, safe and sustainable Railway system in Mumbai suburban section. The system carries about 6 million passengers every day. Mumbai Rail Vikas Corporation (MRVC), a joint venture of Railways

Government of India has announced the establishing of the Dedicated Freight Corridor (DFC) between Delhi and Mumbai, covering an overall length of 1,483 km with end terminals at Dadri in the National Capital Region of Delhi and Jawaharlal Nehru Port near Mumbai

and Government of Maharashtra, has been set up for implementation of rail projects under MUTP and other projects of Railways in the Mumbai Metropolitan Region. The MUTP is being undertaken in two phases. The infrastructural inputs of Phase I of the project include quadrupling of the Borivali-Virar section, 5th & 6th lines from Kurla to Thane, optimisation of Western Railway. Some of the benefits to be accrued from the MUTP – Phase I will lead to 550 new trains i.e almost 25% increase in total trains per day.

In addition, the Mumbai Metro project endeavours to be the planned construction of a mass rapid transit/light rail. The nodal agency for the Mumbai MRTS (Mass Rapid Transit System) is MMRDA. The project would enable proper interchange facilities for connectivity to neighbouring areas like Thane, Navi Mumbai, and Vasai – Virar. The metro project consists of three phases involving nine corridors spanning a length of around 145 km. Timely completion of the metro project can however be a major challenge.

Government of India has announced the establishing of the Dedicated Freight Corridor (DFC) between Delhi and Mumbai, covering an overall length of 1,483 km with end terminals at Dadri in the National Capital Region of Delhi and Jawaharlal Nehru Port near Mumbai. A band of 150 km (influence region) has been chosen on both sides of the Freight Corridor to be developed as the Delhi-Mumbai Industrial Corridor (DMIC). The

nodes shortlisted under DMIC in Maharashtra for Phase I are Igatpuri-Nashik-Sinnar as general manufacturing investment region and the Greenfield Port at Alewadi/Dighi as industrial area. For Phase II, Dhule – Nardhana has been identified as the investment region in the state, with Pune – Khed region as the industrial area.

Some of the key issues which needs immediate attention by the railways are improving safety measures (especially during the peak hours of the suburban rail travel), increasing line capacity through automated block signalling (ABS), increasing the comfort factor while travelling in passenger trains, providing an opportunity for greater involvement of private sector in the non-core rail activities.

3. Airports

There are three international airports located in Maharashtra at Mumbai, Nagpur and Pune, with Mumbai leading the ranks amongst the busiest airports in India. The consortium of GVK Industries Ltd. (GVK) and Airports Company South Africa (ACSA), appointed to carry out the modernization of Mumbai Airport (Chattrapati Shivaji International Airport) have chalked out a new master plan designed to expand and upgrade the infrastructure at CSIA to cater for 40 million passengers per year and one million metric tonnes of cargo per year by 2010.

A modern state-of-the-art second international airport for Mumbai at Navi Mumbai has also been proposed and is envisaged to be operational by 2012. In addition, Government of Maharashtra has entrusted the responsibility to Maharashtra Industrial Development Corporation (MIDC) for executing the Pune International Airport project, which would eventually replace the existing Pune Airport. Apart from the metropolitan airports, the government is actively planning to upgrade the airports in Tier II & Tier III towns in the State.

The State Government has incorporated Maharashtra Airport Development Company Limited (MADC) to play a lead role in the planning and implementation of the Multi-modal International Hub Airport at Nagpur (MIHAN) project. MADC would also take up development of other Airports in Maharashtra not belonging to the Airports Authority of India (AAI) and Indian Air Force (IAF). In addition to MIHAN, Nagpur has also been identified by Boeing as the location for its planned regional maintenance, repair and overhaul (MRO) facility.

It is envisaged that private participation in the airports will rise, especially with the opening up of regional / merchant airports for better connectivity. The rapid increase in the number of aircraft operating from India would result in greater demand for maintenance, repair and overhaul (MRO) facilities. However the biggest change in the aviation sector is yet to unfold – the blooming of the air cargo transportation.

4. Ports

Maharashtra has two major ports, Mumbai Port and Jawaharlal Nehru Port (JNP) both located in Mumbai harbour. While Mumbai port has been acting as one of the major gateways for more than a century, JNP has over the years since its establishment in 1990s has emerged as a premier container handling port, accounting for almost 55% of the container traffic movement amongst the major ports in India. The operational minor (non-major) ports under Maharashtra Maritime Board (MMB) handling cargo include the ports at Dahanu, Tarapur, Dharamtar, Ulwa-Belapur, Trombay, Revdanda, Dighi, Dabhol, Bankot, Kelshi, Ratnagiri, Jaigad, Vijaydurg and Redi. The total cargo handled at

the minor ports increased from 8.5 Million Tonnes in 2002-03 to 11.1 Million Tonnes in 2005-06. The cargo commodities handled at the minor ports are bulk cargo and include coal, clinker, iron ore, limestone, cement, bauxite, sand, LPG, molasses etc.

MMB has also conceptualised Inland Water Transport projects under the centrally sponsored Scheme of Ministry of Shipping, GoI. Some of these include -

- From South Mumbai to Amba River/Dharamtar Creek at Mandwa
- In Mhasla / Mandad River(Rajpuri Creek) at Dighi
- From South Mumbai to Amba River/Dharamtar Creek at Rewas
- For eco-tourism project at Isapur, District Nanded, Maharashtra

Efforts are also on to develop passenger water transport projects around Mumbai.

The most important need for port sector activity in the state is to ensure timely implementation of the projects. Although the neighbouring state of Gujarat has the largest private investment and executed projects in this sector, not a single port project in Maharashtra has made significant progress so far

The most important need for port sector activity in the state is to ensure timely implementation of the projects. Although the neighbouring state of Gujarat has the largest private investment and executed projects in this sector, not a single port project in Maharashtra has made significant progress so far. Lack of port connectivity is observed to be the major hindrance for private investment. The state government in association with the central government should identify and expedite such port connectivity projects. It is also important to create logistics parks to facilitate cargo consolidation / distribution.

VI. Infrastructure financing

Infrastructure projects being capital intensive, with long gestation periods; the Financial Institutes (FIs) and the banks need to create new structures to facilitate the required funding. Most infrastructure projects are financed at a debt: equity ratio of 70: 30. Infrastructure investments in India face several macro-economic and institutional constraints including

- limited scope for central and state governments to raise their budgetary support as well as guarantees to infrastructure (as share of GDP) in the coming years
- lack of availability of risk capital to support debt raising
- limited investment by eligible investors such as insurance companies in private infrastructure development

Some of the policy initiatives to be taken by the government to facilitate infrastructure financing include

- Tapping the potential of insurance sector by harmonizing the definition of Infrastructure, liberalizing investment guidelines for debt instruments and liberalizing investment guidelines for equity instruments.
- Development of domestic debt capital market, increasing efficiency of private placement market, removing regulatory asymmetry between loans and bonds and introduction of credit derivatives

- Tapping the potential of insurance sector by harmonizing the definition of Infrastructure, liberalizing investment guidelines for debt instruments and liberalizing investment guidelines for equity instruments
- Utilizing foreign exchange reserves

VII. The PPP approach

The 11th five year plans envisages total infrastructure investment of around US \$ 500 billion for a period of five years in the country of which 30% would be funded through private sector participation.

Maharashtra state has taken pro-active measures towards the PPP approach, some of which include :

- Formation of a cell under Secretary (Special Projects) as nodal officer
- Formation of Maharashtra Urban Infrastructure Fund with Rs. 47 crores as corpus
- Formation of Maharashtra Urban Infrastructure Development Corporation Limited (MUIDCL) with 51% private equity

The major PPP initiatives by the state have been in road sector, in which it has completed several projects successfully. PPP in Port related projects estimated at a combined capital investment of Rs. 6,544 crores is also being developed in the State. Maharashtra is presently ranked second in the country for on-going PPP investments with Rs. 12,498 crores of investment

State run organisations like SICOM Limited and CIDCO also facilitate in providing a suitable platform for the funding and development of infrastructure and allied projects in the state enabling private sector participation.

PPPs present an opportunity to meet the State's investments needs that can be translated into a win-win situation for all.

2. Maharashtra state economic overview

2.1 State snapshot

Population	9.69 Crores (2001 census)
Population Density (No. of persons / sq.km)	315 (313 for India)
Geographical Area	3,08,000 sq. km (9.4% of India)
Business language	English
Per Capita State Income (at current prices)	INR 37,081 (National Average INR 25,716)
Per Cent Share in India's GDP	13.3%
Literacy Rate	76.88% (National figure – 64.84%)
Urbanization	42.43%
Power generation	68,865 Million KWH
Average Growth rate	8.5 % per annum
Industrial Growth Rate	10% per annum

Maharashtra is the third largest state in the country and the second largest in population after Uttar Pradesh. Maharashtra is one of the prosperous states of the country and houses some of the largest businesses and Financial Institutes in India and holds many records for its contribution in the nation's economic development including:

- 18.2% of fixed capital investment
- 20.7% of value of production
- 49.2% of total tax collection
- 13.7% of total factory employment

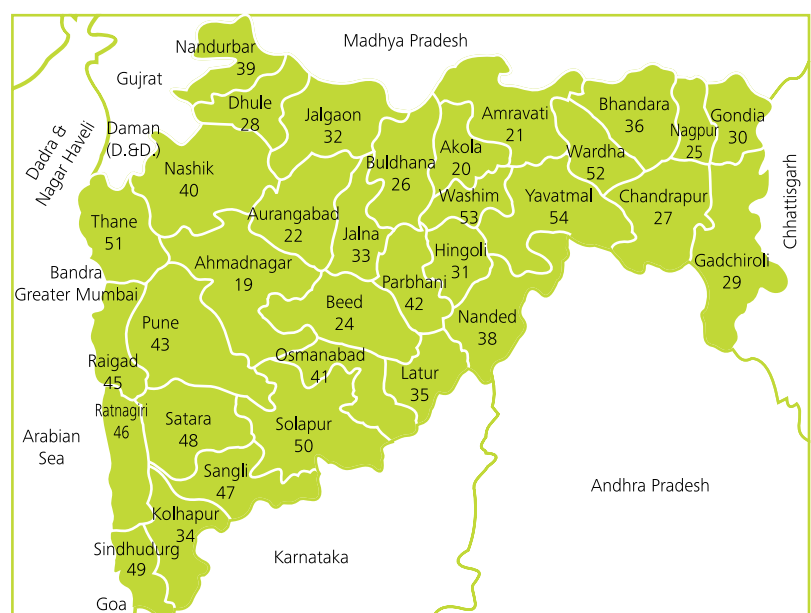
Mumbai is the capital city which plays the dual role of being both the financial and the cinematic hub of the country. Mumbai is the economic hub of most of the financial and business activities of the country. The Island city contributes no less than 60% of customs duty collections, 40% of income tax collections and 20% of central excise tax collections of India.

Maharashtra has thirty-five revenue districts, which are grouped into six divisions: Aurangabad Division, Amravati Division, Konkan Division, Nagpur Division, Nasik Division and Pune Division. These are official revenue divisions of government of Maharashtra. Geographically, historically and according to political sentiments, Maharashtra has five main regions viz

Vidarbha or Berar (Nagpur and Amravati divisions), Marathwada (Aurangabad Division), Khandesh and Northern Maharashtra (Nasik Division), Desh or Western Maharashtra (Pune Division), and Konkan (Konkan Division).

In contrast to the agrarian economy that characterises India, Maharashtra stands out, with the highest level of urbanisation of all Indian states.

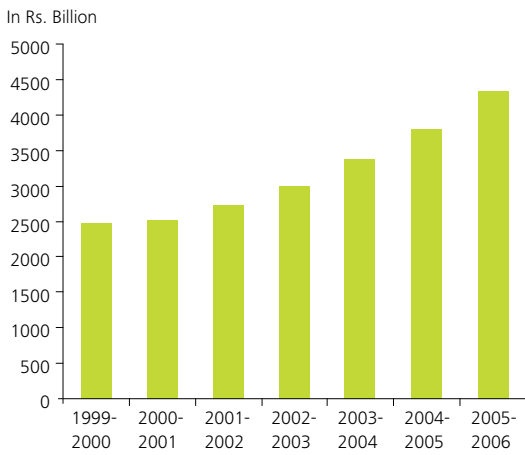
District map of Maharashtra



2.2 State economic performance

The Gross State Domestic Product (GSDP) of Maharashtra, at constant prices (1999-00) has been estimated to grow at the rate of 9.3% during 2006-07 and the State's average annual GSDP for the 10th five year plan has been around 8.5%.

GSDP growth pattern



Source : Economic Survey of Maharashtra 2006-07

Although Maharashtra is a highly industrialised state of India, agriculture continues to be the main occupation of the people. About 61% of the people directly or indirectly depend on agriculture and allied activities for their livelihood. Principal crops of the state are rice, jowar, bajra, wheat, tur, mung, urad, gram and other pulses. Maharashtra is a major producer of oilseeds like groundnut, sunflower, soyabean etc. However nearly one-third of the area of the state falls under the rain shadow region, wherein rains are erratic and scanty. As a result agricultural growth in the region has remained vulnerable. This has resulted in the productivity level in the state much below the national level. The average annual GSDP growth of agriculture and allied activities sector for the state in the 10th five year plan from 2002 to 2007 has been around 2.7 %, as against the growth of 3.7 % observed in the 9th plan (2002-07). The slow down in the state agriculture output is acting as a bottleneck for the overall economic growth of the State. The planning commission has envisaged a 4 % agricultural growth for the 11th plan period, which can be achieved by slew of various measures including providing modern marketing arrangements, establishing agro-processing units and cold storage chains, etc.

On the industry front, Maharashtra has established itself as the industrial backbone of the country. The State contributes around 21 per cent in the country's industrial output and around 13 per cent in the country's GDP. The industrial growth rate has averaged to around 10 per cent and efforts should be made by the state to increase the growth rate by creating and efficient infrastructure for facilitating sustained industrial production. Minerals of the state include coal, manganese ore, limestone, chromite, bauxite, iron ore, dolomite etc. The referred minerals are found in the districts of Bhandara, Chandrapur, Gadchiroli, Nagpur, Ratnagiri, Sindhudurg, Kolhapur, Raigad, Thane and Satara. The total mineral area is about 58 thousand sq.km (about 19% of the state's geographical area)

State Exports Trends

In Rs. Billion



Source: Economic Survey of Maharashtra 2006-07

The State of Maharashtra is one of the major source of India's exports. The main products exported from the state are software, gems & jewellerys, apparels, textiles, machinery & instruments and agro-based products.

2.3 Investment scenario

Maharashtra is rated as one of the most preferred investment destination in the country as per the statement on RBI's regional office-wise FDI equity inflows¹ depicted in the Table below

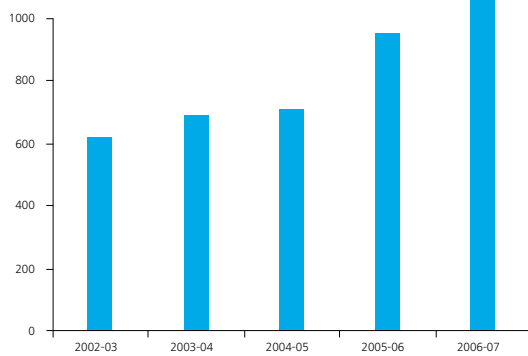
Statement on RBI's Regional FDI Equity Inflows (April 2000 to Oct 2007)

Ranks	RBI's Regional Office ²	State Covered	Amount of FDI inflows		% age with FDI inflows (in Rupee terms)
			Rupees in Crore	US \$ in million	
1	Mumbai	Maharashtra, Dadra & Nagar Haveli, Daman & Diu	47,312.14	10,763.3	25.55
2	New Delhi	Delhi, Part of Uttar Pradesh and Haryana	42,023.84	9,501.2	22.70
3	Bangalore	Karnataka	12,931.56	2,931.4	6.98
4	Chennai	Tamil Nadu, Pondicherry	12,820.74	2,874.2	6.92
5	Hyderabad	Andhra Pradesh	7,456.59	1,692.8	4.03
6	Ahmedabad	Gujarat	5,243.55	1,166.3	2.83
7	Kolkatta	West Bengal, Sikkim, Andaman & Nicobar Islands	3,134.66	741.5	1.69
8	Chandigarh	Chandigarh, Punjab, Haryana, Himachal Pradesh	1,754.71	384.2	0.95
9	Panaji	Goa	826.54	179.3	0.45
10	Bhopal	Madhya Pradesh, Chhattisgarh	442.86	101.7	0.24
11	Kochi	Kerala, Lakshadweep	428.65	95.9	0.23
12	Bhubaneswar	Orissa	395.52	88.7	0.21
13	Jaipur	Rajasthan	293.69	65.1	0.16
14	Kanpur	Uttar Pradesh, Uttarakhand	57.73	12.8	0.03
15	Guwahati	Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura	52.38	11.7	0.03
16	Patna	Bihar, Jharkhand	1.78	0.4	0.00
17	RBI's regions not indicated ³		49,984.00	11,215.2	27.00
Total			1,85,160.95	41,825.6	100.00

Source – Department of Industrial Policy & Promotion, Government of India

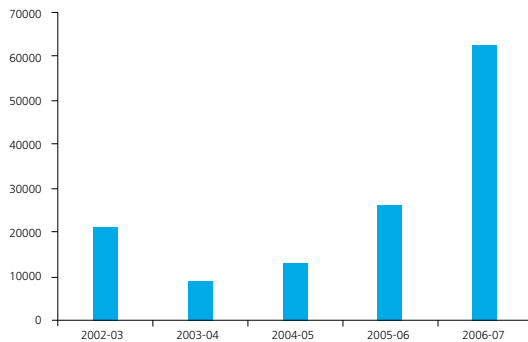
The status of the investment intentions (IEMs +Lols +DILs)⁴ in Maharashtra from 2002 to 2007 is indicated below:

Number of Investment Intentions in Maharashtra



Source – www.siadipp.nic.in

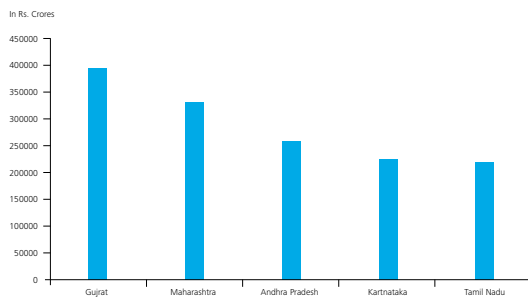
Proposed Investment in Rs. Crore



Source – www.siadipp.nic.in

In terms of industrial investment, Maharashtra is amongst the top three destinations in the country

Registered Industrial Investment in Rs. Crores (August 1991 to Dec 2006)



Source: Economic Survey of Maharashtra 2006-07.

Though Maharashtra receives a high number of investment proposals, the state lags behind Gujarat in terms of the actual implementation of such proposals, which suggests that the state has to ensure that timely actions are taken up at the State level to facilitate the entrepreneur in implementation of the project.

2.4 Measures to improve the growth rate

History has shown that export-led growth is a crucial component of sustainable economic growth. There are many enablers of export oriented economic growth including facilitating regulatory environment, establishing export oriented zones like SEZs, elimination of administrative barriers to FDI in export-oriented sectors etc. However the most important enabler is the improvement in infrastructure. Software exports are, to a large extent, are either depended on the infrastructure sector that has made the most progress (telecommunications) or able to cocoon themselves from service inadequacy. But engagement in manufacturing, particularly export oriented requires integration of supply chains.

In order to attain the double digit growth rate, it is imperative that Maharashtra has in place a robust and a dependable infrastructure since infrastructural development is the key to industrial growth. Inadequate supply of infrastructure or unreliability in services may inhibit the investment of productive capital or restrict/reduce output thereby inhibiting economic growth. Accordingly it is vital to enhance the infrastructure, both physical and social to provide a broader platform for leveraging the state economy.

In addition, the development of human resources also contributes to sustained growth and productive employment. A healthy, educated and skilled workforce can contribute more significantly and effectively to economic development. Accordingly, Maharashtra should re-direct governmental spending and policies towards high priority area of time bound infrastructure development (physical and social).

3. Social infrastructure overview

For Maharashtra to sustain its growth, there is a need to involve a larger part of the population in the economic growth story to avoid growing disparity between different sections of the society. Achievement of such an inclusive growth would be made possible by development of social infrastructure sector. Strengthening of the social sector plays a key role in acting as a catalyst in improving the standard of living to a larger percentage of population.

3.1 Human development in Maharashtra

The Human Development Index (HDI) is the normalized measure of life expectancy, literacy, standard of living, and GDP per capita for regions worldwide. It is also used to measure the impact of economic policies on quality of life. The Human Development Index of the major 15 states of India reflects that though Maharashtra has improved consistently over the years in the three basic dimensions of HDI (Health, Income & Education), the relative ranking of Maharashtra has gone one place down over the past two decades.

The Human Development Index (HDI) is the normalized measure of life expectancy, literacy, standard of living, and GDP per capita for regions worldwide.

State wise Human Development Index

States/UTs	1981		1991		2001	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.298	9	0.377	9	0.416	10
Assam	0.272	10	0.348	10	0.386	14
Bihar	0.237	15	0.308	15	0.367	15
Gujarat	0.36	4	0.431	6	0.479	6
Haryana	0.36	5	0.443	5	0.509	5
Karnataka	0.346	6	0.412	7	0.478	7
Kerala	0.5	1	0.591	1	0.638	1
Madhya Pradesh	0.245	14	0.328	13	0.394	12
Maharashtra	0.363	3	0.452	4	0.523	4
Orissa	0.267	11	0.345	12	0.404	11
Punjab	0.411	2	0.475	2	0.537	2
Rajasthan	0.256	12	0.347	11	0.424	9
Tamil Nadu	0.343	7	0.466	3	0.531	3
Uttar Pradesh	0.255	13	0.314	14	0.388	13
West Bengal	0.305	8	0.404	8	0.472	8
India	0.302		0.381		0.472	

Source – National Human Development Report 2001 by Planning Commission, GoI

This implies that while efforts have been taken by the Maharashtra State government to improve its qualitative HDI value, the other states have been equal to the task and hence the overall ranking of Maharashtra has not been elevated. Accordingly, Maharashtra may take a leaf out of the best practices followed by the other leading States especially in sectors of education and healthcare to bestow on its citizens a comparatively better quality of life.

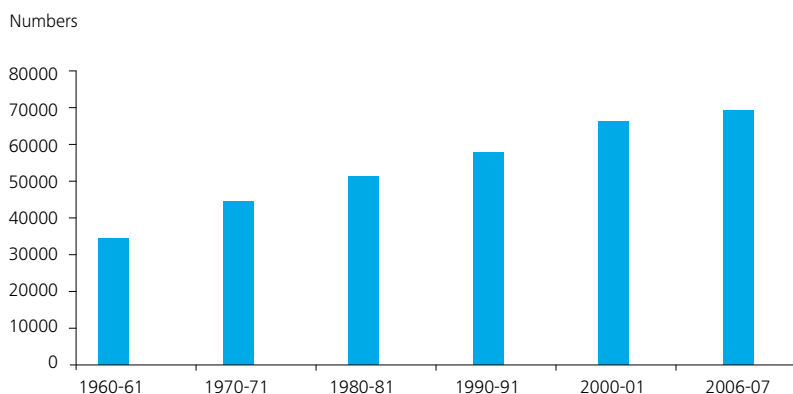
3.2 Education sector

3.2.1 Overview

Education has been viewed as the seed to national development. The State government has given due recognition to the importance of education by taking steps to increase the level of literacy. It has followed a dual pronged approach by providing elementary education to all and also by providing a platform of building technical skills.

While a number of private schools offer primary and secondary education in Maharashtra, there are large number of schools operated both in urban and rural areas through the collaborative effort of the State government and local bodies like the Zilla Parishad, municipal councils, municipal corporations etc. The number of primary schools in the state is around 69,330 in 2006-07 and has an enrollment of around 11.6 million students and around 3,40,000 teachers having a ratio of 34 students per teacher. The secondary including higher secondary institutions have an existing enrollment of around 11.06 million students, while the education institutes offering higher education have an enrollment of around 1.1 million students.

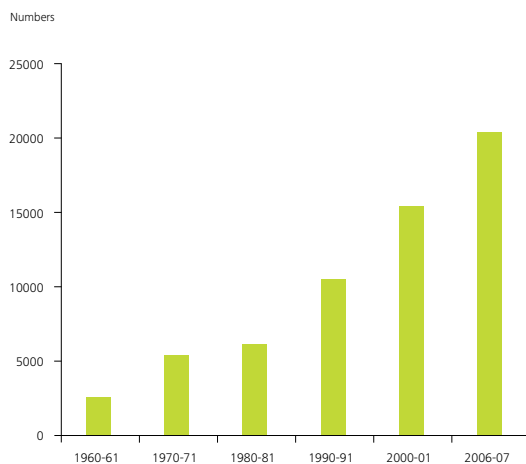
Growth in the number of Primary education institutions in the State



Source: Economic Survey of Maharashtra 2006-07

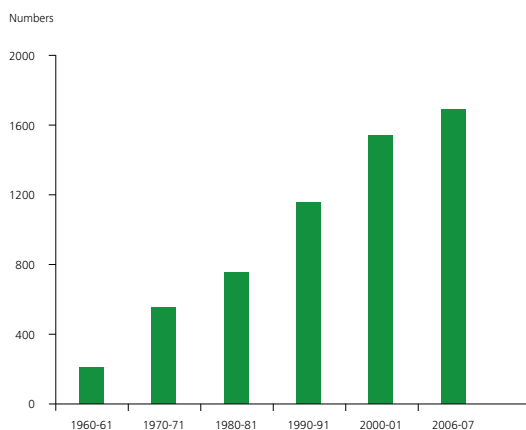


Growth in the number of Secondary & Higher Secondary institutions in the State



Source: Economic Survey of Maharashtra 2006-07

Growth in the number of higher (all types) educational institutions in the State



Source: Economic Survey of Maharashtra 2006-07

3.2.2 Initiatives taken by the Government

Proactive efforts have been undertaken for the universalisation of the primary education, which has subsequently led to an increase in the demand for secondary education. "Sarva Siksha Abhiyan", a Central Government programme is aimed to provide quality education to all children in the age group of 6 to 14 years. In Maharashtra it is known as "Sarva Sikshan Mohim". Under its "Vasti Shala" programme, the government has fixed the norm of opening a school within the vicinity of 1.5 km of a habitat having a minimum population of 200. For the tribal areas, it

is within the vicinity of 1 km and a population of 100. Under this scheme, during 2006-07, around 8,764 such Vasti Shalas are operational with total student strength of 1.87 lakhs.

Another education scheme under the name of "Mahatma Phule Shikshan Hami Yojana" attempts to provide education to the economically poor children deprived from primary education. This scheme has around 4.30 lakh being educated from 22,267 centres in the State. Under the nutritional diet scheme sponsored by the Central Government and implemented by the State Government, nutritional diet is provided to students in the primary schools for increasing their attendance. Under this scheme, students of I to V standard from government and government aided private schools, Vasti Shalas, education centres under Mahatma Phule Shikshan Hami Yojana, schools of handicaps, deaf and dumb students having a minimum 80 per cent attendance are provided with food.

3.2.3 General Higher Education

Maharashtra stands second in the number of universities (20) after Uttar Pradesh (24). The universities in the State have grown, over the years, across specific disciplines such as agriculture, language, technology, medical, law, animal husbandry and fishery. This increase in the education institutions capacity in terms of institutions and teachers has also been reflected in increase in the number of students. This increase in institutional capacity should reflect increase in the higher preparation of youth in age group of 18-23 availing the higher education after completing higher secondary stage.

In this respect, the enrolment rate is the main indicator of the progress in higher education. The Graduate Enrolment Ratio (GER) is the ratio of number of students enrolled (irrespective of age) divided by number of persons in the age group of 18 – 23. The results of GER from different countries show that developed countries have GER invariably above 50% and the world average of GER is 23.2%. For India, the average GER is around 10%, which is way below the world average. A comparative study of the State's GER as per the data available for 1999-2000 indicates that though Maharashtra is above the average national figure, it is still not the leading state in providing quality higher education.

Leading State wise Gross Enrollment Ratio (GER)⁵

	Male	Female	Total
Chandigarh	23.26	31.23	26.24
Delhi	19.73	23.26	21.16
Kerala	15.56	20.43	18.08
Goa	18.69	16.55	17.54
Pondicherry	18.81	11.9	15.37
Himachal Pradesh	16.85	13.84	15.22
Maharashtra	16.81	11.1	14.14
Nagaland	13.93	14.15	14.04
Manipur	14.59	12.53	13.58
Tamil Nadu	15.23	9.19	12.05
Punjab	10.14	11.64	10.86
Madhya Pradesh	11.00	9.91	10.48
Gujarat	11.22	8.8	10.01

Source: Draft Report of the Working Commission on Higher Education – Planning Commission, Gol

While Maharashtra is recognised as one of the better destinations for higher education, there should also be pro-active steps taken for imparting quality higher education. Quality in higher education also assumes significance particularly in the wake of the “Knowledge Economy” and the greater need for technological competencies. The higher education should enable an individual to acquire certain skills that help him to get a decent income through self-employment or through working on some remunerative job. It might thus mean that education should improve one’s own economic status, and in the process, the economic status of the region and the country.

3.2.4 Future outlook

It should also be emphasized that innovations are necessary to make education at all the levels meaningful and relevant. This is important since there are continuous changes in the economy and the skills acquired through such specific programmes

of vocationalization are likely to become obsolete within a short period. It is therefore imperative for the government to chalk out career oriented programmes which takes into cognizance the skillsets required to prosper in the global economy.

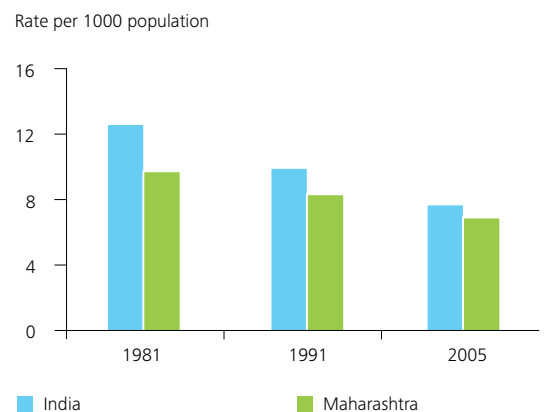
The Government may also take the initiative of allowing the private sector to run government schools, besides setting up new ones. This would allow the private sector to use government assets to create better revenue streams and provide additional and value-added services to students. Roping in the private sector will also ensure leakages are limited as the private party would be accountable for the funds it receives from the government.

3.3 Healthcare Sector

The Maharashtra state public health department has made serious efforts in formulating and executing the schemes and projects initiated by various central and state level governments. The department has prepared a comprehensive strategy in line with National Health Policy and set specific target of improving the public health in the state of Maharashtra. The department has endeavoured to give due care to the health needs of the people from Rural, Tribal and backward regions.

3.3.1 Key Health Indicators of the State

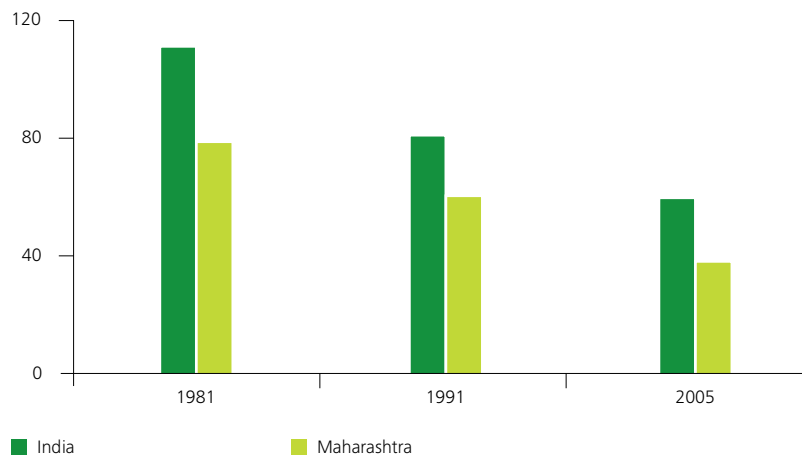
Crude Birth Rate per 1000 population



Source: Government of Maharashtra, Public Health Department, Directorate of Health Services

Infant Mortality Rate per 1000 live births

Rate per 1000 live births

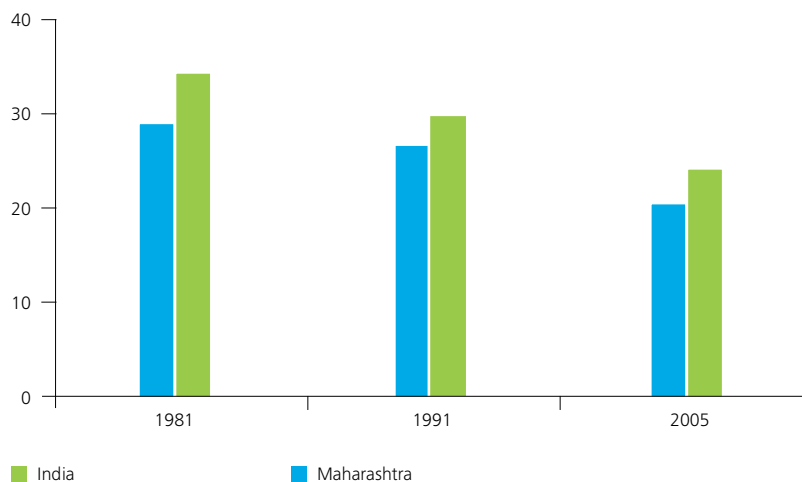


Source: Government of Maharashtra, Public Health Department, Directorate of Health Services

There is continuous progress in key health indicators for the state. Further, the state scores better than India average for the indicators. The improvement are the results of a number of factors including better health infrastructure in the state, improved sanitation and drinking water facilities, and awareness about health and related services

Crude Death Rate per 1000 population

Rate per 1000 population



Source: Government of Maharashtra, Public Health Department, Directorate of Health Services

3.3.2 Comparison with Other States

Comparison of vital health statistics

State	CBR ⁶	CDR ⁷	IMR	Life expectancy		Sex Ratio No. of Females per 1000 Males
				Male	Female	
Maharashtra	19.1	6.2	36	64.4	67.3	922
Karnataka	20.9	6.9	49	61.7	65.4	964
Andhra Pradesh	19.0	7.0	59	61.5	63.7	978
Tamil Nadu	17.1	7.5	41	65.2	67.6	986
Kerala	15.2	6.1	12	70.7	75.0	1058
India	24.1	7.5	58	62.4	63.4	933

Source: Government of Maharashtra, Public Health Department, Directorate of Health Services

In comparison with other states on health parameters, Maharashtra does show a decent performance. The state has also been pro-active in ramping up its infrastructural facilities over the years. As on 2005-06, the state had 1,047 government & public aided hospitals; 2,072 dispensaries and 1,809 primary health care centres.

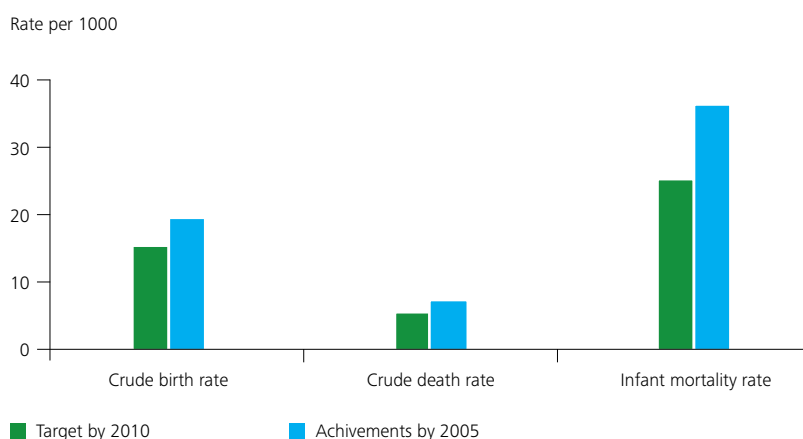
3.3.3 Future outlook

The main stumbling block for the state in effective implementation of programmes is the size of its population. Large population itself creates pressure on the infrastructural facilities and resources in handling and monitoring the impact of services and schemes. A large proportion of population (around 58%) resides in rural areas making the task more challenging.

Prima facie the state, so far, has done fairly well in moving towards the target set as per the population policy. However, a deeper look into the statistics reveals another story. Figure 14 gives a snapshot of this incongruence between rural and urban areas.

The same scenario appears for other indicators as well. The intervention in rural areas lags far behind that in urban areas. There exists a huge gap between urban and rural healthcare facilities available in the state

Targets & Achievements as per Population Policy 2001 for Maharashtra

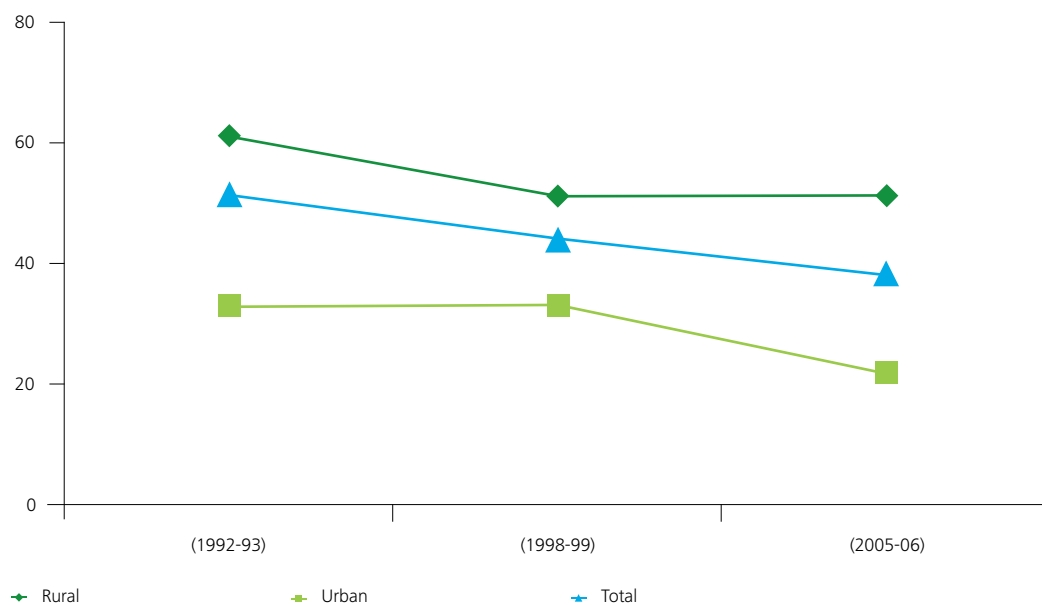


Source: Government of Maharashtra, Public Health Department, Directorate of Health Services

Though the government has initiated programmes specifically aimed at Rural, Backward and Tribal population, the effects are yet to get reflected in health indicators. The state government also needs to ensure effective implementation of its own programmes for tribal and rural population. The government has taken right steps by setting up of Anganwadi centres for reaching out to remote and sensitive areas of state and for making proper interventions in lives of rural and tribal population of the state.

Infant Mortality Rate for Maharashtra

Rate per 1000 live births



Source: Government of Maharashtra, Public Health Department, Directorate of Health Services

4. Utilities & ancillary infrastructure

Power, transportation, communication remains to be the key components of physical infrastructure. The physical infrastructure is of critical importance for overall economic development of the nation. Creation and maintenance of physical infrastructural facilities is also a prerequisite to attract the foreign funds and boost the growth pace. An overview of some of the key infrastructure state facilities is indicated in the subsequent sections.

4.1 Power

Power is a critical factor in infrastructure for sustained economic growth. The pace of growth greatly depends upon a commercially viable and efficient power sector. Maharashtra once used to be a model state for its notable efficiency in power sector. The state had surplus capacity installed in place till year 2001 to meet the maximum demand at any point of time.

But situation has changed drastically for the state and power sector is now typically characterized by continuous power shortages. The demand supply gap for electricity in state is rising and has reached a level of over 18%. Such a high deficit in availability of power has led authorities to resort to load shedding, regularly. The situation, instead of getting better for the state, is worsening. Further, even in comparison with some key states of India, the demand supply gap is much higher.

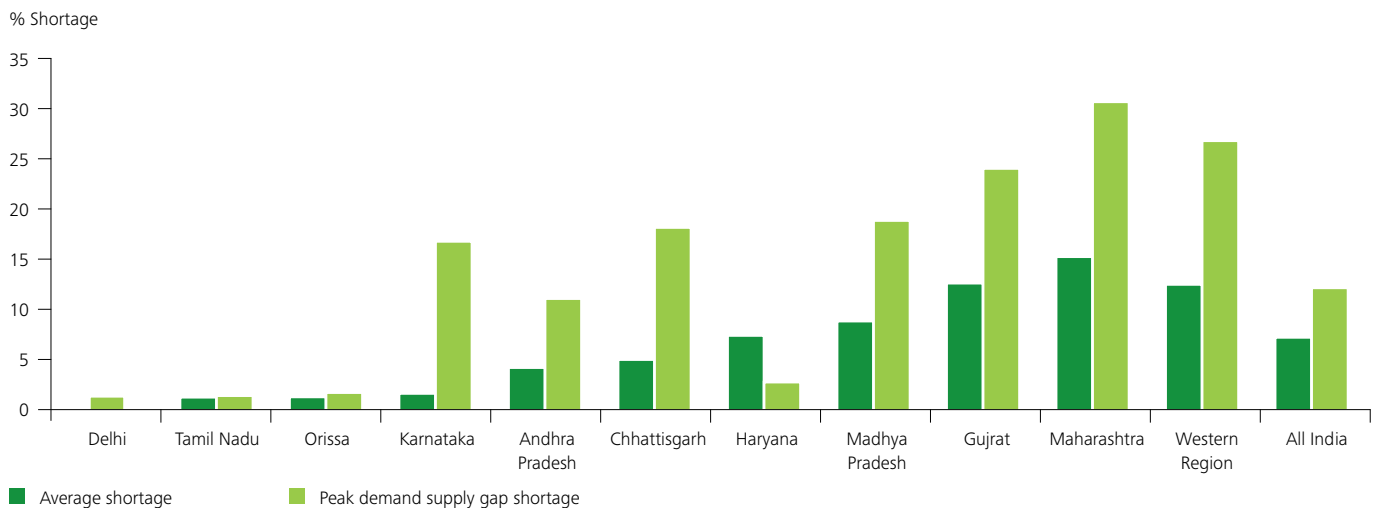
Maharashtra leads states in power shortage and has the highest demand supply gap. The demand supply gap shoots up to over 30% during peak demand. The peak shortage which was around 2,500 MW in 2005 in Maharashtra recorded 6,800 MW in April 2007.



The transmission and distribution losses, has also risen at an alarming level of over 32%, further aggravating the situation. Though, there have been improvements on this front compared to past year, the level is much higher than average for developed countries. This loss results in reduction of the State revenue and has drastic implications on profitability and commercial viability of the operations of transmission and distribution companies.

In this context the government also allowed private participation in creation of infrastructure, especially power sector services

Power Supply Shortage Percentage for Key States in India



Source: Ministry of Power, Gol

4.1.1 Reforms

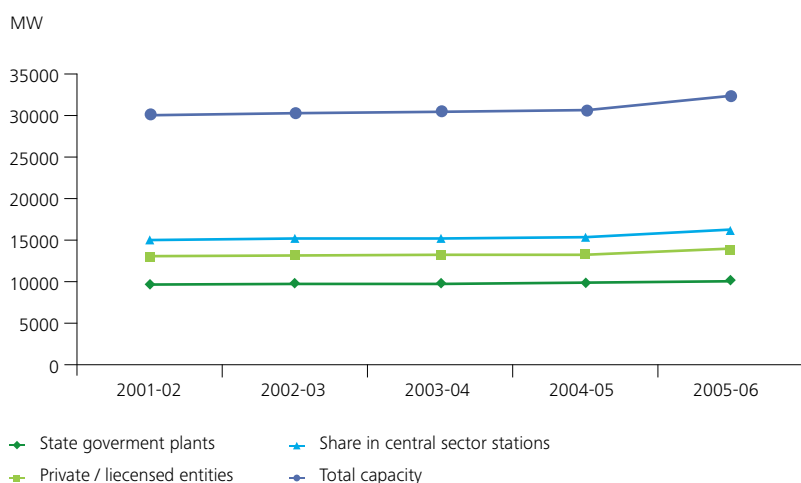
In India, the creation of physical infrastructure used to be considered primarily government’s responsibility. As part of reforms the government liberalized and privatized many of its operations for efficiency and better services to the public at large. In this context the government also allowed private participation in creation of infrastructure, especially power sector services. In line with central government’s policy reforms, the government of Maharashtra also opened up its infrastructure sector for private participation.

Particularly, for power sector reforms the state government also signed MoU with the central government to implement the reforms to make power sector entities operationally efficient and commercially viable. Maharashtra State did well in the first year of launch of reforms but in subsequent years it has lagged far behind the schedule of implementation of reforms as per MoU with the central government. Though, there have been achievements on this front, like organizational restructuring and setting up of State Electricity Commission, much remains to be done.

4.1.2 Bottlenecks

The basic lacuna for the power sector of Maharashtra remains not drawing up perspective plans for the capacity additions well in advance. Maharashtra has made negligible capacity addition in state power generation plants during past few years. In addition, quality and reliable supply of power is another concern leading to adverse effect on industrial output.

Installed Power Generation Capacity of Maharashtra (2001-2006)



Source: Ministry of Power, Gol

The state has taken cognizance of this situation and has drawn up plans for capacity addition to the tune of 6,425 MW. However, this capacity will be available in stages starting from 2009 to 2012, that too if projects are executed as per the envisaged time framework. In addition, the state plans to source 300 MW power by utilising Uran Gas Station in immediate future. A capacity expansion up to 1,040 MW has been envisaged from Uran Gas Station by procuring gas from other sources. Apart from this, the distribution company plans to source 2,000 MW power from private power producers which will materialise by 2011.

4.1.3 Future outlook

It is estimated that demand supply gap for Maharashtra excluding Mumbai, will be around 11,000 MW by

end of eleventh five year plan. MahaGenCo along with sister concerns has plans to add a capacity to the tune of approximately 8,500 MW. The Government has to draw perspective plans for adding the remaining part of generation capacity. As per the World Bank's observation on Indian power sector, the sector has to be run commercially and not on basis of social objectives and subsidy regime. It further requires the generation, transmission and distribution to be managed as profit centres. Given the size of MSEB, the government has rightly split the behemoth in to four entities.

The restructuring and reforms have brought positive results and the state government has been effective in attracting investment in power sector by relevant sector specific policies and lucrative tariff structure. Maharashtra has done very well to remain preferred destination with instances of companies coming up and willing to invest in power projects such as wind mills power plants. Most of states have faced problems in power sectors on account of operational inefficiency and reluctance to expedite the reforms process. The Central Government has formulated the electricity plan but has to go a long way to ensure that the state governments observe priority in implementation of the reforms in the power sector. That will only make state electricity boards or related entities run efficiently and become commercially viable.

Maharashtra economy has seen a GSDP growth rate of more than 9% for past two years. The state has the potential to sustain this growth rate, if the desired attention is provided on creation & maintenance of quality infrastructure. State needs to continue with further reforms in the power sector. The government has already drawn up comprehensive plans for turning around the power sector companies. The government now has to act as a catalyst to see to it that the plans and policies are implemented as envisaged. Simultaneously with the capacity addition for generation, the government has to plan for strengthening the transmission and distribution network so that there is no idle capacity or ill managed power generation.

4.2 Telecom

Maharashtra is divided into two circles, namely Maharashtra and Mumbai. The players in each circle are as follows

	Mumbai	Maharashtra
Wireless	BPL	Vodafone
	Vodafone	Idea Cellular
	MTNL	BSNL
Unified	Reliance Infocomm	Reliance Infocomm
	Tata Teleservices	Tata Teleservices
	Bharti Airtel Ltd	Bharti Airtel Ltd
	Idea Cellular	Aircell Ltd.
Wireline	MTNL	BSNL

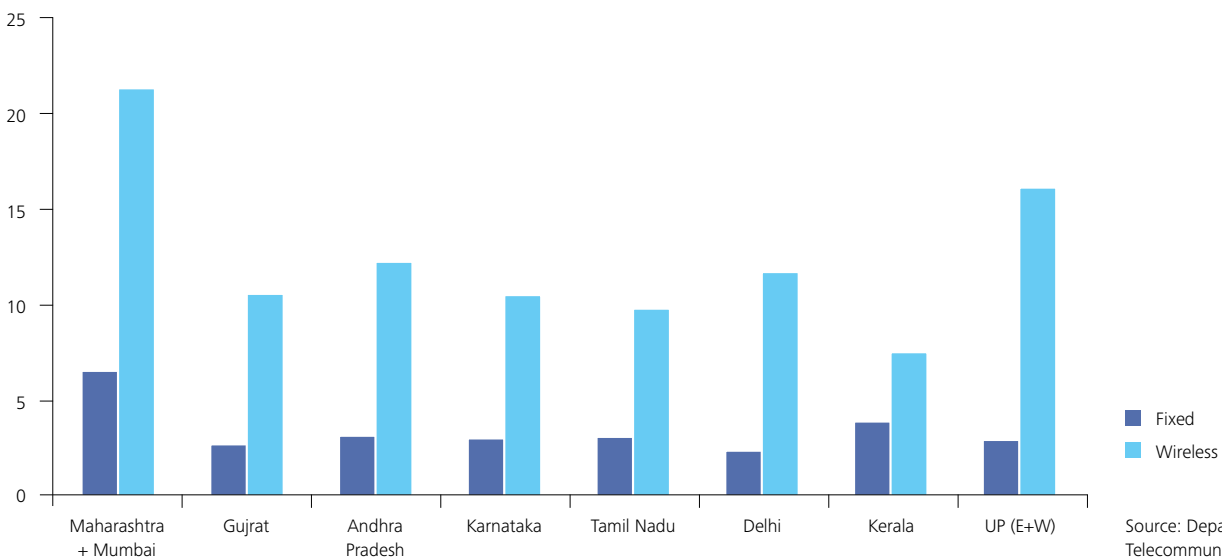
4.2.1 Comparison with other states

Number of Connections

Maharashtra combined with Mumbai circle has the highest connections in the country both in Fixed as well as Wireless. Fixed connections were at 6.32 million and wireless connections were at 21.12 million as of December 2006.

State-wise Number of telecom connections as of December, 2006

Connection in millions



Public Telecommunication

Circle wise details of Public Phone Booths, as of May, 2007

States	Local	STD	Highway	TOTAL
Maharashtra	249,179	75,339	1,600	326,118
Gujarat	80,697	39,056	2,161	121,914
Andhra Pradesh	207,325	59,317	1,105	267,747
Karnataka	211,600	48,073	485	260,158
Tamil Nadu	227,029	67,714	469	295,212
Kerala	71,813	52,905	1,421	126,139
UP (E + W)	17,056	133,688	8,637	159,381
Overall India	1,179,771	874,283	28,770	2,082,824

Source: www.bsnl.co.in

Rural Telecommunication

The Department of Telecommunication has come up with Village Public Telephone (VPT) scheme in 2002. In the scheme government had decided to connect over 6 lakh villages of India with VPTs. Till December 2006 over 5.5 lakh village were covered. In Maharashtra there are 42,467 villages of them 38,762 have been covered.

Details of VPTs in some of the leading states

States	No. of Villages	VPTs	Coverage (%)
Bihar	41,077	38,475	93.67
Madhya Pradesh	51,806	47,577	91.84
Maharashtra	42,467	38,762	91.28
Orissa	46,989	40,778	86.78
Rajasthan	39,483	34,571	87.56
Uttar Pradesh (E + W)	103396	97274	94.08
Overall India	607,491	557,403	91.75

Source: www.bsnl.co.in

Teledensity

Teledensity is the statistic showing number of connections per 100 for the given region. Amongst the metros, as on December, 2006 the tele-density of Delhi and Chennai stands at 82.63 and 77.73 respectively, while that of Mumbai is 63.91

State wise tele-density (as of December, 2006)

States / Circles	Teledensity		
	Overall	Urban	Rural
Gujarat	22.78	54.44	2.52
Haryana	20.6	58.44	2.99
Himachal Pradesh	25.03	77.86	7.12
Karnataka	23.28	60.47	2.52
Kerala	31.73	91.69	10.95
Maharashtra	17.41	47.42	2.78
Punjab	34.93	82.54	4.92
Tamil Nadu	20.34	41.83	3.35
All India	16.83	33.34	1.86

Source: Annual report of Department of Communication 2006-07

As indicated in the table, Maharashtra's tele - density is poor, which reflects that though Maharashtra may be the leading state in the number of connections or having the largest numbers of PCOs, it is constrained by the limited spread of the telecom connectivity across the state as compared to its counterparts.

Internet & Broadband

Internet being the information superhighway has become crucial for many. Maharashtra leads in total number of internet connection with 1.61 million connections. The main reason is the large base of internet users in Mumbai.

4.2.2 Future Outlook

Telecom being a centrally governed sector, state government has very little part to play in the same. However state government can always attract private

players to increase their basic infrastructure to promote higher growth in this sector for the state.

Areas to concentrate are

- Increasing the number of internet users in urban as well as rural areas
- Spreading the broadband network in rural areas
- Increasing tele – density by having more connections
- Installing the VPTs in remaining 3,705 villages
- Concentrating on shared infrastructure for wireless connectivity. TRAI has proposal for installing 1,000 such towers covering around 13,300 villages and 17.5 million people.

4.3 Urban development

4.3.1 Government initiatives

The Ministry of Urban Development & the Ministry of Urban Employment and Poverty Alleviation monitor the programmes concerning all the issues of urban development and housing in the country. Some of the initiatives are -

Integrated Development of Small and Medium Towns (IDSMT)

It aims at the development of selected regional growth centres with infrastructure and service facilities so as to enable such towns to emerge as regional centres of economic growth and employment opportunities and arrest migration to large and metropolitan cities.

Infrastructure Development in Mega Cities

Development authorities of the respective cities act as nodal agency for implementation of this scheme. Thus for Mumbai, Mumbai Metropolitan Region Development Authority (MMRDA) is the nodal agency. Ongoing water supply projects by MMRDA under this scheme include

- Rs. 1000 million for construction of intake works at Maswan on Surya river, transmission line and Master balancing Reservoir for Vasai-Virar on BOLT basis
- Rs. 1650 million for Greater Mumbai for the balance work of Third Mumbai Water Supply and Sewerage
- Rs. 754 million for Mira-Bhayander Municipal Council for Water Supply

Coverage area of Integrated Development of IDSMT scheme for Maharashtra and India

	Towns covered	Central funds released (in Rs. Crores)	State funds released (in Rs. Crores)	Reported expenditure (in Rs. Crores)
Maharashtra	178	121.43	79.63	215.64
Overall India	1,854	1,019.44	650.10	1,380.67

Source – www.muda.nic.in

Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

The Prime Minister of India launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) on 3rd December, 2005 to give focused attention to integrated development of urban infrastructure and services in select 63 cities with emphasis on provision of basic services to the urban poor including housing, water supply, sanitation, slum improvement, community toilets/baths etc. Projects in Maharashtra under this scheme include

- Augmentation of the water supply to Mumbai by 455 MLD (Mumbai Water Supply Project-IV)
- The Nagpur Water Supply Project which aims to enhance water supply capacity in the city by 113 MLD
- The Brihanmumbai Storm Water Drainage (BRIMSTOWAD) project in Mumbai, which involves a complete overhaul of the 100-year old city drainage system.

Extension of Accelerated Urban Water Supply Programme to Small Towns (AUWSP)

This programme was initiated in 1993-94 to provide safe and adequate water supply facilities to the entire population of the towns having population less than 20,000 as per 1991 Census. Financing is to be done Central Government & State Government on 50:50 basis.

Progress of projects under AUWSP scheme in Maharashtra and India as on 31st March 2006

(Amount in Rs. Crores)

	DPR Approved so far		Centre Fund Released	State Fund Released	Expenditure Reported
	Numbers	Estimated Cost			
Maharashtra	37	11,578	4,827	3,730	10,004
Overall India	1,242	182,237	80,433	71,981	119,978

Source – www.urbanindia.nic.in

4.3.2 Future outlook

Ongoing programmes of both the Central and State Governments may not be adequate to fill the resource gap given the large resource requirement. Therefore the Government approved the Pooled Finance Development Fund (PFDF) scheme on September 29, 2006, to provide credit enhancement to urban local bodies to access market borrowings based on their creditworthiness through State-level pooled finance mechanism. PFDF will ensure availability of resources to urban local bodies to improve urban infrastructure, service delivery and to ultimately achieve the goal of self sustainability.

4.4 Special Economic Zones

Maharashtra had announced its SEZ policy in the year 2001. In its policy, the government has undertaken to:-

- Provide continuous water and electricity supply
- Exemption from all state levied taxes, duties and other local taxes
- Power of labour commissioner to be delegated to Development Commissioner of SEZ.
- Exempting units in SEZ from certain labour laws (included in 2006)
- Speedy clearance from government authorities
- Providing appropriate & exclusive arrangement for maintaining of law and order within the SEZ

4.4.1 Key SEZ statistics

Overview of the SEZ status in the state

Particulars	
Number of Approved SEZ	124
SEZs already notified by Government	24
Operational SEZ	7
Projected exports for 2007-08	Rs. 4,540 Crores
Total proposed Investment [#]	Rs. 9,531 Crores
Investments already made [#]	Rs. 2,530 Crores
Employment Proposed (Direct) [#]	3,84,264
Employment Proposed (Indirect) [#]	5,04,233
Proposed Land required for SEZ (Approved + In Principle approval)	47,600 Hectares
Land notified by Government	4,150 Hectares

[#] Figures are for 20 SEZ, data of which was available

Source - www.sezindia.nic.in

Therefore the Government approved the Pooled Finance Development Fund (PFDF) scheme on September 29, 2006, to provide credit enhancement to urban local bodies to access market borrowings based on their creditworthiness through State-level pooled finance mechanism

Industry wise breakup of the SEZs in the state as of January, 2008

Particulars	No. of SEZ	Land Required (in hectares)
IT/ITES/ Hardware and software	48	1,468
Pharma & Bio tech	17	1,068
Multi - product & FTWZ	24	39,308
Textile	8	1,360
Agro	2	300
Metals	4	553
Engineering & Automotive	6	869
Multi – services	6	1,083
Gems & Jewellery	5	185
Power	2	1,203
Others	2	200
Total	124	47,597

Source - www.sezindia.nic.in

Number of SEZs approved in India (formal and in principle) as of Jan, 2008

States	Approved (Formal + In Principle)	Notified SEZ	Notified SEZ / Approved SEZ (%)
Andhra Pradesh	73	53	75.71
Gujarat	47	16	42.11
Haryana	52	15	42.86
Karnataka	50	20	50.00
Maharashtra	124	24	27.27
Tamil Nadu	70	27	47.37
Uttar Pradesh	27	8	34.78
West Bengal	34	6	30.00
Others	100	26	38.24

Source - www.sezindia.nic.in

The above table reflects that though Maharashtra has the maximum number of SEZs approved in the country, the notified SEZs are just 27% of total approved SEZ. This ratio is lowest as compared to the other states.

The total land required for approved or in principle approved SEZs in the state stands at over 47,500 hectares against which only 4,150 hectare of land has been notified. The ratio is at mere 8.72%. The ratio is very low compared to other states like Andhra Pradesh & Gujarat, which have a ratio of 68.23 % and 42.37% respectively. The delays in notification have acted as a hindrance in the commencement of construction of SEZs in the state subsequently acting as a bottleneck for the proposed investments in state, along with the potential employment generation, which has been one of the main objectives up establishment of SEZs in the country.

4.4.2 Future outlook

Maharashtra government has given due importance to SEZ sector. It formulated its SEZ policy in the year 2001 itself and since then their economic policies have given due weightage to SEZ. Over and above that, their interest in SEZ is clear from the fact that Maharashtra Industrial Development Corporation (MIDC) is the developer of 18 SEZs in the state.

Government however needs to address following issues in their future policies -

- Large scale forced acquisition of land and promotion of real estate business
- Loss of local agricultural and other traditional livelihoods
- Lack of equal and non-exploitative employment opportunities for local communities in SEZs
- Increasing burden on natural resources like land, water, forests besides the threat of environmental destruction
- Revenue losses and lack of real economic development of the country and people
- Absence of government initiative to start dialogue and open public consultant on the matter

To enable a balanced, transparent approach to the SEZ development in the country, it is essential that a multi-stake holder addressing the interests of all sections of the society is established.

4.5 Tourism

The state of Maharashtra offers a wide range of themes including leisure, heritage, pilgrimage, eco, history for tourism industry in the state. It also offers various tourism circuits like water tourism, Deccan odyssey, adventure tourism etc. Maharashtra Tourism Development Corporation (MTDC) is the state government agency for promotion and regulation of tourism sector. It is also responsible for developing, managing and maintaining the tourist places in the state. Maharashtra state has been maintaining its second position in attracting a major chunk of foreign tourist arrivals in India by garnering a share of around 15%, though the share has declined from around 18% in 2000.

4.5.1 Bottlenecks

The state has a treasury of tourism resources in terms of historical places, and a rich cultural heritage along with basic infrastructural facilities across the state.

The government has tried to popularize and highlight the culture and natural resources of different regions, traditions, festivals, pilgrims and heritage of the state through its media communication.

The tourism potential of the state however has not yet been fully tapped on account of lack of an integrated approach from various government departments and agencies. The important issue is that tourism is not an isolated function or activity in itself but cuts across multiple sectors and hence the role of coordination between different agencies becomes very important. Further, developing tourism industry demands capital intensive projects which have the longer gestation period of 8-12 years, depending up on the size and potential. This creates additional pressure on availability of funds with the functioning agencies.

The government, through designated agency, had prepared a perspective plan for development of tourism in Maharashtra for the next 20 years. The plan puts stress on more private participation as well as environmental and socio economic concerns through an integrated approach for development of tourism in the state. Moreover, the state government has designed a tourism policy in end 2006 which recognizes the importance and potential of tourism.

4.5.2 Future outlook

Tourism in India has the potential to attain quantum growth rates and can ensure fast infrastructural developments and thereby can bring benefits of economic growth to rural and backward areas. India has recorded a very good economic growth rate over past few years and the tourism sector can play a key role for India to sustain that in coming years.

The number of tourists' arrivals in India has increased and Maharashtra can take advantage of this burgeoning opportunity. Tourism resources in Maharashtra can generate much higher demands amongst domestic as well as foreign tourists coming in India. The need is for the strategic and intelligent tapping of the market and making tourism a driver in economic growth of the state. The tourism can trigger further commercial growth for the state and generate the much needed avenues for employment and sustained economic development by harnessing the cross sectoral multiplier benefits arising out of the industry.



5. Transportation infrastructure

Maharashtra's transport network has expanded manifold since independence, both in terms of spread and capacity. Along with the increase in quantity, there have been several developments of qualitative nature, such as emergence of a Mumbai–Pune Expressway, improvement in the self-financing capacity of the sector etc.

5.1 Road

The road infrastructure in the State is managed by various local bodies including Public Works Department of the state, Municipal Corporation, Maharashtra State Road Development Corporation (MSRDC), Maharashtra Industrial Development Corporation (MIDC), Forest Department. The total road length maintained by the PWD and Zilla Parishad (excluding internal road length of local bodies) at the end of March, 2006 was 2.31 lakh km of secondary road network . The State also has 4,176 km of national highways

Total Highway length of leading States in Km

State	Length of Highway in Km
Uttar Pradesh	5,599
Rajasthan	5,585
Madhya Pradesh	5,200
Andhra Pradesh	4,472
Tamil Nadu	4,183
Maharashtra	4,176
Karnataka	3,843
Orissa	3,704
Chhattisgarh	2,184

Source – www.morth.nic.in



5.1.1 Projects

The establishment of fully state owned corporation MSRDC has enhanced private sector participation in road projects. MSRDC mainly deals with the properties and assets comprising movables and immovables including land, road projects, flyover projects, toll collection rights and works under construction which vested with the State Government and were under the control of the Public Works Department. These have been subsequently transferred to MSRDC.

Completed Projects of MSRDC

Completed Project of MSRDC	Project Cost in Rs. Cr
MSRDC-Airoli Bridge Project	160.00
50 Flyover & 5 subways in Mumbai	1,500.00
Mumbai Pune Expressway Project	1,630.00
Widening of Thane Ghodbunder Road SH - 42	Not Available
Four laning of Satara - Kolhapur - Stawte border section of NH4	530.00

Source - MSRDC

On-going Projects of MSRDC

On-going Projects of MSRDC	Project Cost in Rs. Cr
Aurangabad city Integrated Road Development Project	167.80
Bandra Worli Sea Link Project	Not Available
Improvement of Nagpur-Aurangabad-Sinner-Ghoti-Mumbai Rd. to NH Standard	700.00
Nagpur city Integrated Road Development Project	350.26
Pune Integrated Road Development Project	260.00
Railway Over Bridges Project	245.14
Sholapur city Integrated Road Development Project	85.50
Construction of Railway over Bridges under Vidharbha Development Scheme	104.00
BARAMATI - (Integrated Road Development Project (IRDP))	25.00
Four Laning & Improvement, O&M and Toll Collection of the Bhiwandi-Kalyan-Shil Phata Highway	228.00

Source - MSRDC

Apart from these, the Mumbai Trans Harbour Link project is envisaged involving construction of a 22 km six-lane bridge from Sewree to Nhava at an estimated cost of Rs. 5,000 Cr. MMRDA (the Mumbai Metropolitan Region Development Authority) has been given the mandate for MUIP (Mumbai Urban Infrastructure Project) and the Mumbai Urban Transport Project (MUTP) to promote infrastructure development and to improve the quality of life in Mumbai. While the MUTP concentrates mostly on railways, the MUIP involves the construction of two vital link roads for connecting eastern and western suburbs viz Jogeshwari – Vikhroli Link Road (JVLR) and Santa Cruz – Chembur Link Road (SCLR).

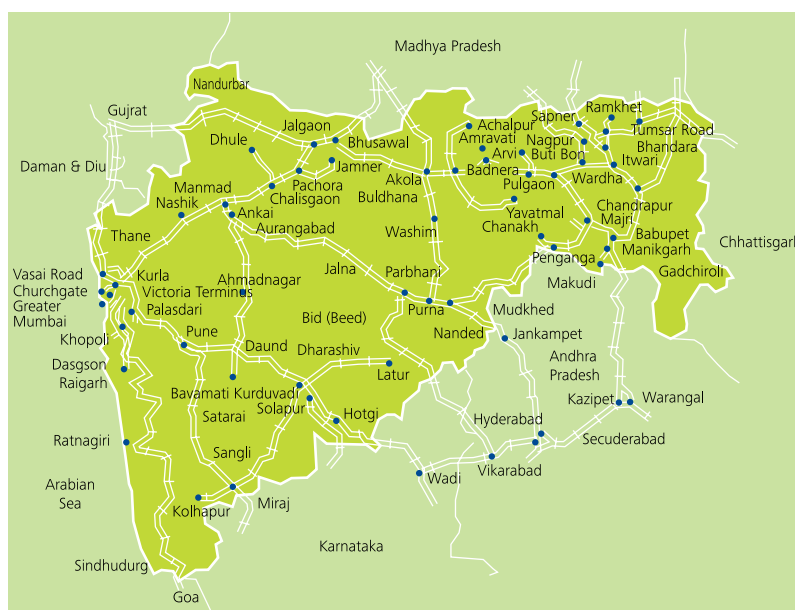
However some of the projects are suffering from the slow implementation which in turn has escalated the project cost.

5.1.2 Future outlook

The government expects private sector investment to increase significantly both at the central and state level in the future. A Planning Commission estimate for the XIth Plan states that about one-third of the total investment in state highways and major district roads will come in from the private sector. The new Model Concession Agreement (MCA) would facilitate the increase in confidence of the private sector in the road projects. In addition there should be a collaborative approach between the government and industry to fine tune financial and regulatory aspects of development. The government needs to incorporate self sustaining financial models for projects. In addition, development of ancillary and auxiliary facilities and increase in the number of lanes to cope with the increasing traffic are issues that need attention in state highways and should be duly addressed.

5.2 Railways

Rail network in Maharashtra



The route length in the state as on March 31, 2006 was 5,910 km (including 382 km of Konkan Railway), approx 9.3% of the total national route length. Over the past five decades, the rail network in the State has increased only by around 13% mainly due to the Konkan Railway

Most of the railway projects in the immediate past in the state were related to conversion of meter gauge to broad gauge. Some of the recent rail related projects undertaken in the State include –

- Gauge conversion work of narrow gauge to broad gauge in the Miraj-Latur section
- Construction of 54 km of new broad gauge line between Baramati- Lonand
- Laying of a 138 km new broad gauge line between Amravati and Narkhed
- New broad gauge line of 261.25 km in the Ahmednagar – Beed-Parali-Vaijanath sector

Mumbai Urban Transport Project (MUTP)

The role of existing suburban rail services is extremely important in the life of people of Greater Mumbai. The system carries about 6 million passengers every day. Though the suburban railways provide an efficient transportation lifeline of Mumbai, the comfort factor during commuting leaves much to be desired. The MUTP aims to develop world-class infrastructure for an efficient, safe and sustainable railway system in Mumbai suburban section, which would provide comfortable and friendly train services to the commuters.

Mumbai Rail Vikas Corporation (MRVC), a joint venture of Railways and Government of Maharashtra, has been set up for implementation of rail projects under MUTP and other projects of Railways in the Mumbai Metropolitan Region. The MUTP is being undertaken in two phases. The infrastructural inputs of Phase I of the project include quadrupling of the Borivali-Virar section, 5th & 6th lines from Kurla to Thane, optimisation of Western Railway and cover-

- Addition of 93 track kms of which 34 kms in Thane-Turbhe-Vashi section and 53 kms in Virar-Borivali section under MUTP have been added.
- Induction of dual voltage 101 new 9-car rakes.
- Running of 12-car rakes on all lines (excluding Harbour line) by lengthening of all platforms.
- DC to AC conversion in all suburban sections except Thane-CSTM section, which is to be undertaken up in Phase II of the Project.

Some of the benefits to be accrued from the MUTP – Phase I will lead to 550 new trains i.e almost 25% increase in total trains per day; Overcrowding during peak hour peak direction will come down from existing, over 5,000 commuters to 3,600 commuters per 9-car rake, resettlement & rehabilitation of 15,000 Project Affected Households. The infrastructural inputs in MUTP Phase II include 5th & 6th line from Kurla to CSTM and Thane to Diwa, 6th line from Borivali – Mumbai

Central and cover addition of 88 track kms in addition to the 93 kms being added in MUTP Phase I, 96 new 9- car rakes, completing the DC to AC conversion on Mumbai Suburban systems, resettlement & rehabilitation of 3,000 Project Affected Households. Some of the benefits envisaged from Phase I include segregation of the suburban train operations from the main line passenger & freight services, addition of 800 new trains over and above the - Increase of 30 % over and above MUTP Phase I.

Mumbai Metro Project

Mumbai's extensive commuter rail system is not built to rapid transit specifications. The Mumbai Metro project endeavours to be the planned construction of a mass rapid transit/light rail. The nodal agency for the Mumbai MRTS (Mass Rapid Transit System) is MMRDA. The project enables proper interchange facilities for connectivity to neighbouring areas like Thane, Navi Mumbai, and Vasai – Virar. The metro project consists of three phases involving nine corridors spanning a length of 145.38 km.

Master Plan of Mumbai Metro Project

Phase	Likely Timeline	Corridor	Length (km)
I	2006-11	Versova-Andheri-Ghatkopar	11.07
		Colaba - Bandra-Charkop	38.24
		Bandra-Kurla-Mankhurd	13.37
II	2011-16	Charkop-Dahisar	7.50
		Ghatkopar-Mulund	12.40
III	2016-21	BKC-Kanjur Marg via Airport	19.50
		Andheri (East) - Dahisar (East)	18.00
		Hutatma Chowk - Ghatkopar	21.80
		Sewri-Prabhadevi	3.50
Total			145.38

In August 2004, the Maharashtra government approved the implementation of the first section (Versova-Andheri-Ghatkopar) of Phase I on a Build-Own-Operate-Transfer basis through PPP model. A consortium led by Reliance Energy was selected as the preferred bidder. The construction work on this 11 km corridor began on 8 February, 2008. Timely completion of the metro project would be a major challenge. Factors including construction work amidst on-going traffic, land acquisition, resettlement of project affected parties, diversion of utilities such as sewage lines, water pipelines, and communication and power cables in time would pose as a major impediment.

Delhi-Mumbai Industrial Corridor

Government of India has announced the establishing of the Dedicated Freight Corridor between Delhi and Mumbai, covering an overall length of 1483 km with end terminals at Dadri in the National Capital Region of Delhi and Jawaharlal Nehru Port near Mumbai. This Dedicated Freight Corridor offers high-speed connectivity for High Axle Load Wagons (25 Tonne) of Double Stacked Container Trains supported by high power locomotives. A band of 150 km (influence region) has been chosen on both the sides of the Freight corridor to be developed as the Delhi-Mumbai Industrial Corridor (DMIC).

The nodes shortlisted under DMIC in Maharashtra for Phase I are Igatpuri-Nashik-Sinnar as general manufacturing investment region and the Greenfield Port at Alewadi/ Dighi as industrial area. For Phase II, Dhule – Nardhana has been identified as the investment region in the state, with Pune – Khed region as the industrial area. These identified regions in Phase I & II are proposed to be self-sustained industrial townships with world-class infrastructure, road and rail connectivity for freight movement to and from ports and logistics hubs, served by domestic/ international air connectivity, reliable power, quality social infrastructure, and provide a globally competitive environment conducive for setting up businesses.

5.2.1 Future Outlook

Some of the key issues which need to be urgently looked into by the railways are improving safety measures (especially during the peak hours of the suburban rail travel), increasing line capacity through automated block signalling (ABS), increasing the comfort factor while travelling in passenger trains, providing an opportunity for greater involvement of private sector in the non-core rail activities.

The Indian Railways has over the past few years had a better financial performance, which is providing a platform for innovation in its service line. There is a huge opportunity for the railways to unlock value and contribute to the state's and the country's economic development. This has to be however backed by sound policies and strategic actions.

5.3 Air Ports

The aviation sector has transformed from an over regulated and under managed sector to a more open, liberal and investment friendly sector since 2004. During the last two-three years the actual domestic growth rate has been in the range of 24-28 %. In addition, there is considerable suppressed demand for domestic air travel because many regional domestic airports have not been upgraded. To cater to such growth, the Indian airports especially Mumbai (which is the busiest airport in the country) must have its infrastructure in place, which unfortunately at present is the weakest link in the chain.

Top Ten Busiest Airports in India (2006-07)

	Aircraft Movement '000	Passengers (Lakhs)
Mumbai	201.78	222.5
Delhi	185.17	204.4
Chennai	99.77	89.7
Bangalore	94.4	81.2
Kolkatta	65.69	59.9
Hyderabad	68.17	57.5
Ahmedabad	25.74	24.9
Goa	19.63	22.1
Trivandrum	18.69	17.8
Pune	16.18	15.7

5.3.1 Airports Infrastructure in Maharashtra

There are three international airports at Mumbai, Nagpur and Pune, with Mumbai leading the ranks amongst the busiest airports in India. Mumbai airport is the busiest in India and South Asia. Recently the Mumbai-Delhi route has been ranked by Official Airline Guide (OAG) as the seventh busiest domestic route in the world based on the number of flights per week. Mumbai handles almost 31% and 27% of International and domestic air passenger traffic respectively. Mumbai International Airport Ltd (MIAL), a consortium of GVK Industries Ltd. (GVK) and Airports Company South Africa (ACSA), was appointed to carry out the modernization of Mumbai Airport (Chhatrapati Shivaji International Airport, (CSIA)) in February 2006.

The new master plan of the Mumbai International Airport has been designed to expand and upgrade the infrastructure at CSIA to cater for 40 million passengers per year and one million metric tonnes of cargo per year by 2010. It is also proposed to develop a modern state-of-the-art second international airport for Mumbai at Navi Mumbai. The Ministry of Civil Aviation, Govt. of India, has recently granted "In Principle" approval for setting up a Greenfield airport through public-private partnership (PPP) at Navi Mumbai. City & Industrial Development Corporation of Maharashtra Limited (CIDCO) has been assigned the task of development of Navi Mumbai International Airport. The new airport is envisaged to be operational by 2012.

In addition, a brand new Pune International Airport for Pune metropolitan region has been on the horizon for a long time, and the Government of Maharashtra has entrusted the responsibility to Maharashtra Industrial Development Corporation (MIDC) for executing the Pune International Airport project. The airport would replace the existing Pune Airport. The current area under consideration is the area between Chakan and Rajgurunagar, namely around the villages of Chandus and Shirol, both situated at a distance of 40 km from Pune along the Pune - Nashik National highway (NH-50). MIDC is conducting surveys and completing other formalities to get the required permissions to commence executing the project.

Apart from the metropolitan airports, the government is actively planning to upgrade the airports in Tier II & Tier III towns in the State. The Maharashtra Industrial Development Corporation (MIDC), which operates seven airstrips in Baramati, Belora, Latur, Osamabad, Yavatmal, Kolhapur and Nanded, has initiated a bidding process for private participation for the development of these airstrips into commercial airports.

Maharashtra Airport Development Company Limited (MADC), has been formed by the state to play a lead role in the planning and implementation of the Multi-modal International Hub Airport at Nagpur (MIHAN) project. MIHAN will be used for handling heavy cargo coming from South East Asia and Middle East Asia. Integrated with the development of MIHAN, the master plan of the project consists of a Special Economic Zone comprising of an Information Technology City, Health City, a Captive Power Plant and other Manufacturing and Value Added units.

In addition to MIHAN, Nagpur has also been identified by Boeing as the location for its planned regional maintenance, repair and overhaul (MRO) facility. The Nagpur facility would provide a convenient, centralized location for India-based airlines to schedule routine maintenance and overhaul work, and to have repairs completed.

5.3.2 Future outlook

Private participation in the airports will rise, especially with the opening up of regional / merchant airports for better connectivity. With the healthy increase in the business and tourism, increasing importance of air travel would be felt and will lead to the development of aviation hubs.

As demand for air travel increases and more small airports are required, clarity on how land will be identified and acquired, clearances etc will need to be developed. With the state government initiatives towards development of Greenfield airports, modernisation / expansion of existing brownfield airports, privatisation of airports there is a need to integrate these initiatives under one comprehensive policy.

Developing manpower would also be a priority as the sector gears up to handle growth. This will result in more aviation academies and training institutes being set up. Availability of trained and skilled manpower to handle the growth is a key challenge, and is going to become critical in the future.

Rationalisation of fuel charges, taxes and duties is another issue that needs attention. In addition, the rapid increase in the number of aircraft operating from India would result in greater demand for maintenance, repair and overhaul (MRO) facilities. However the biggest change in the aviation sector is yet to unfold – the blooming of the air cargo transportation.

The present cargo handling complexes need a drastic facelift in the overall infrastructure, operations to accommodate the growing potential of air cargo transport. The need to improve perishable cargo handling facilities also becomes imperative for a booming organized retail sector.

5.4 Sea Ports

JNPT has played an important role in the handling of containerized goods, accounting for almost 55% of the container traffic movement amongst the major ports in India.

Cargo traffic at major ports of Maharashtra in Million Tonnes

	Cargo Traffic in Million Tonnes		
	2005-06	2006-07	Apr-Nov 2007
Mumbai Port (MbPT)	44.19	52.37	38.16
JNPT	37.83	44.82	35.17

Source: Indian Ports Association (IPA) and CMIE

A substantial portion of the export import traffic that is handled at JN Port originates / culminates in north India. The traffic gets distributed mainly amongst the Inland Container Depots (ICDs) located at Tughlakabad, New Delhi and Ludhiana. Apart from the two major ports of JNPT & MbPT, the 720 km long coastline of Maharashtra is also dotted with several minor (non major) ports. For the purpose of development of the minor ports with the participation of the private sector, Maharashtra Maritime Board (MMB) was established in 1996.

The ports under MMB are grouped as under-

Bandra Group	Mora Group	Rajpuri Group	Ratnagiri Group	Vengurla Group
Dahanu	Kalyan	Thal	Ratnagiri	Vijaydurg
Tarapur	Bhivandi	Alibag	Varoda Tiwari)	Devgad
Navapur	Thane	Revadanda	Jaigad	Achara
Satpati	Mora	Borli-Mandala	Boria	Malvan
Kelwa-Mahim	Karanja	Nandgaon	Palshet	Nivati
Arnala	Mandwa	Murud-Janjira	Dabhol	Vengurla
(Datiware)	Trombay	Rajpuri(Dighi)	Harnai	Redi
Vasai	Panvelw	Mandad	Kelshi	Kiranpani
Uttan	(Ulwa-Belapur)	Kumbharu	Bankot	
Manori		Shriwardhan	Jaitapur	
Versova			Purnagad	
Bandra				

Cargo Handled in Lakh Tonnes at the minor ports of Maharashtra

	In Lakh Tonnes		
	Loaded	Unloaded	Total
2002-03	5.13	80.30	85.42
2003-04	11.03	92.29	103.32
2004-05	15.90	105.33	121.23
2005-06	16.40	94.72	111.12

Source – Maharashtra Maritime Board

The operational minor ports handling cargo include the ports at Dahanu, Tarapur, Dharamtar, Ulwa-Belapur, Trombay, Revdanda, Dighi, Dabhol, Bankot, Kelshi, Ratnagiri, Jaigad, Vijaydurg and Redi

The cargo commodities handled at the Maharashtra minor ports is approx 6.5% of the total country minor port cargo traffic. The cargo handled at the minor ports are bulk cargo and include coal, clinker, iron ore, limestone, cement, bauxite, sand, LPG, molasses etc. Ports of Rewas-Aware and Dighi are being developed with the help of private sector participation. In addition, MMB has also identified the development of Greenfield ports of Alewadi / Vadhvan, Anjanvel, Vijaydurg, Ganeshgule, Redi with private sector participation.

5.4.1 Inland Water Transport

The minor ports of Maharashtra together handled around 130.48 lakh passenger traffic during April to December, 2006 of which 118.70 lakh passenger traffic was through mechanised vessels and 12.7 lakh was by non-mechanised vessels.

Maharashtra Maritime Board (MMB) is developing the following IWT projects under the Centrally Sponsored Scheme of Ministry of Shipping, Gol and includes

1. In Godavari River at Vishnupuri, Nanded
2. From South Mumbai to Amba River/Dharamtar Creek at Mandwa
3. From South Mumbai to Amba River/Dharamtar Creek at Karanja
4. In Mhasla/Mandad River (Rajpuri Creek) at Rajpuri
5. In Mhasla/Mandad River (Rajpuri Creek) at Janjira Fort
6. In Mhasla / Mandad River(Rajpuri Creek) at Dighi
7. In Mhasla/Mandad River(Rajpuri Creek) at Agardanda
8. From South Mumbai to Amba River/Dharamtar Creek at Rewas
9. For eco-tourism project at Isapur, District Nanded, Maharashtra

MMB has also formulated the following projects for IWT development which are under consideration by Ministry of Shipping, Government of India:

- From South Mumbai to Amba river / Dharamtar creek at Rewas
- For eco-tourism project at Isapur, District Nanded, Maharashtra

MMB is also planning to develop passenger water transport projects around Mumbai. Following is the proposed network –

Route	From	To
Western Sea Route	Nariman Point	Borivali
Eastern Sea Route	South Mumbai / Gateway of India	Thane / Navi Mumbai
Cross Harbour Route	Gateway of India / Ferry Wharf / South Mumbai	Mandwa – Rewas, JNPT, Elephanta

5.4.2 Future outlook

The most important need for port sector activity in the state is to ensure timely implementation of the projects. Although the neighbouring state of Gujarat has the largest investment and executed projects in this sector, not a single port project in Maharashtra has made significant progress so far.

It is also important to develop the inland connectivity infrastructure of a minor port, if it has to attract cargo. Lack of port connectivity also acts as hindrance for private investment. The state government in association with the central government should identify and expedite such port connectivity projects. It is also important to create logistics parks to facilitate cargo consolidation / distribution.

6. Infrastructure financing & the PPP approach

Infrastructure projects being capital intensive, with long gestation periods; the Financial Institutes (FIs) and the banks need to create new structures to facilitate the required funding. Most infrastructure projects are financed at a debt: equity ration of 70: 30.

The investment in infrastructure needs to increase from 5% of GDP to 9% of GDP to sustain the 9% economic growth rate during the 11th five year plan (2007-12).

Sector wise investment during the Xth and XIth five year plan

Sectors	Tenth Plan Anticipated			Eleventh Plan Expected		
	Rs. crore	US \$ billion @ Rs.41 / US \$	Sectoral share (%)	Rs. crore	US \$ billion @ Rs.41 / US \$	Sectoral share (%)
Electricity (incl. NCE)	291,850	71	33	616,526	150	30
Roads and Bridges	144,892	35	17	311,816	76	15
Telecommunication	123,411	30	14	267,001	65	13
Railways (incl. MRTS)	119,658	29	14	258,001	63	13
Irrigation (incl. Watershed)	111,503	27	13	223,131	54	11
Water Supply and Sanitation	64,803	16	7	199,127	49	10
Ports	4,096	1	1	73,941	18	4
Airports	6,771	2	1	34,748	8	2
Storage	4,819	1	1	22,378	5	1
Gas	8,713	2	1	20,500	5	1
Total (Rs. crore)	880,515	215	100	2,027,169	494	100

Source – www.planningcommission.nic.in

6.1 Constraints faced by infrastructure investments in India

Domestic banks have traditionally been reluctant to finance infrastructure projects due to long gestation period, low commercial viability and unpredictable revenue stream. However with several positive developments in policy and legislation, banks are slowly evolving appropriate financing structures for funding infrastructure projects. Following are some of the other macro-economic and institutional constraints restraining the flow of funds to the infrastructure sector

Macro-economic constraints

- Nature of savings – the overall savings are large but there is shortage of long term savings
- Fiscal discipline - Within the constraints of the Fiscal Responsibility & Budget Management (FRBM) laws, there will be limited scope for central and state governments to raise their support budgetary as well as guarantees to infrastructure (as share of GDP) in the coming years
- Availability of risk capital - key constraints in infrastructure financing is the lack of availability of risk capital to support debt raising
- Concentration of risk - The financing risks of some of the infrastructure sectors, especially the ones that require large amounts of funds, have tended to get concentrated in the hands of few financiers.

Institutional constraints

- Commercial Banks - With the impending constraints on government spending (including on infrastructure) due to the FRBM laws at a time when infrastructure spending is sought to be accelerated, the banking system's exposure to infrastructure would have to rise significantly as a percent of GDP. It is possible that sector exposure norms and maturity mismatches may prevent banks from meeting this challenge.
- Insurance companies - Eligible investors such as insurance companies have invested limited amounts in private infrastructure development. This can be attributed to regulatory restrictions, underdeveloped corporate bond markets and the absence of efficient credit risk transfer mechanisms



- Infrastructure focused central PSUs - It may be noted that these PSUs already play a significant role in infrastructure financing (accounting for nearly 40 percent of India's infrastructure spending) and would have to continue to do so in future.

6.2 Policy initiatives to be taken by Government

- Development of domestic debt capital market by implementing Patil Committee recommendations, increasing efficiency of private placement market, removing regulatory asymmetry between loans and bonds and introduction of credit derivatives
- Tapping the potential of insurance sector by harmonizing the definition of Infrastructure, liberalizing investment guidelines for debt instruments and liberalizing investment guidelines for equity instruments
- Enhancing participation of banks, financial institutions (FIs) and large Non – Banking Financial Corporations (NBFCs) in infrastructure financing - by allowing securitization of Infrastructure projects, modifying NBFCs' exposure norms, rationalizing exposure norms of financial intermediaries allowing long term Foreign borrowing for on-lending to infrastructure sector and abolishing Statutory Liquidity Ratio (SLR) requirements on long term funds

- Fiscal recommendations of Removing requirements of withholding tax for foreign borrowings, rationalization of Dividend Distribution Tax (DDT), providing tax rebate on investment in Ultra Mega Power Projects (UMPPs) and providing equal Tax treatment on unlisted equity shares of Infrastructure Company
- Facilitating equity flows into infrastructure – by liberalizing buyback regulations, allowing change in initial bidders and allowing Venture or Private Equity funds as bidding partners
- Inducing foreign investments into infrastructure - by taking steps for improving FII participation, providing separate treatment to infrastructure holding companies, allowing Refinancing through External Commercial Borrowings (ECBs) and relaxing the all-in-price ceiling for subordinated and mezzanine debt
- Utilizing foreign exchange reserves

6.3 Initiatives by the state on PPP projects

The initiatives taken by Maharashtra towards PPP approach are as follows:

- Formation of a cell under Secretary (Special Projects) as nodal officer
- Formation of Maharashtra Urban Infrastructure Fund with Rs. 47 crores as corpus
- Formation of Maharashtra Urban Infrastructure Development Corporation Limited (MUIDCL) with 51% private equity. MUIDCL is an asset management company with objective to promote PPP projects.
- State PPP nodal officer appointed as Managing Director of (MUIDCL)
- Rules of Business amended at required placed to facilitate growth via PPP
- PPP experts & MIS experts of ADB inducted as OSDs

The projects taken through Private Sector Participation generally fall in the following categories:

- Construction of new roads.
- Improvements to existing roads.

- Bypasses through towns.
- Construction of flyovers, bridges, ROBs & tunnels.
- Construction of expressway.
- Widening & repairing of bridges.
- Development of Government plots through privatization
- While selecting the projects, priority is being given to the works included in road development plan and efforts are being made to maintain regional balance.

The major PPP initiatives by the state have been in road transport, in which it has completed several projects successfully.

List of PPP road projects successfully undertaken in the state

S. No	Details	Cost Rs in Crores
1	Mumbai - Pune express highway (95 kms)	2168.00
2	Flyovers in Mumbai (6 Nos.)	1172.00
3	Four laning of Thane - Bhivandi by pass(23.62 kms)	69.00
4	R.O.B. with the help of IRCON (20 Nos.)	210.00
5	ROB at Latur	24.00
6	Bridge on Dharamtar Creek	15.25
7	Vadgaon - Chakan - Shikrapur Road	10.28
8	Ahmednagar - Karmala - Tembhorni Road	39.62
9	Mohol - Kurul - Kamathi Road	15.30
10	Ahmednagar - Karmala Road	32.40
11	Nasik - Niphad Road and Shilapur ROB	19.72
12	Pune - Ahmednagar (Pune - Shirur) 4 laning	105.00
13	Prakasha - Chadwel - Samoda Road	46.00
14	IRDP Baramati	25.00
15	Four laning of Satara Kolhapur Kagal Road	725.00
16	Nagpur - Aurangabad - Mumbai Road Improvement (700 km) (5 Sections out of 13 Completed)	700.00
Total		5376.57

Source: www.pppinindia.com

List of on-going PPP State projects

S. No	Details	Cost Rs in Crores
1	Bandra - Worli Sea Link	1206.00
2	IRDP Pune	260.00
3	IRDP Aurangabad	168.00
4	IRDP Nagpur	350.00
5	IRDP Solapur	92.00
6	IRDP Kolhapur	165.00
7	IRDP Nanded	77.00
8	IRDP Nandurbar	17.00
9	IRDP Amravati	115.00
10	Four Laning of Pune Satara Road	440.00
11	Mumbra Bypass	58.68
12	Nanded - Narshi Road	14.70
13	Pune - Paud Road	32.00
14	Improvement of Thane Ghodbander Road	81.82
15	Improvement of Bhiwandi Kalyan Shil Road	228.33
16	Bhusawal - Yawal - Amoda Road	23.80
17	Ahmednagar - Kopergaon 4 Laning	200.00
18	Aurangabad Jalna 4 Laning	190.00
19	Ahmednagar - Aurangabad (Wadala Aurangabad portion) 4 Laning	160.00
20	Malkapur Buldhana Chikhali	38.76
	Total	3918.09

Source: www.pppinindia.com

Apart from the above mentioned road projects there is ongoing Dighi port, Rewas port, Alewadi port, Jaigad port and Vijaydurg have been allotted to private developers. Estimated combined capital investment is at Rs. 6,544 crores.

List of projects considered for development through PPP

S. No	Details	Cost Rs in Crores
1	Flyovers in Mumbai (12 Nos.)	445.00
2	Worli Nariman Point Sea Link	2600.00
3	Sewrii - Nhava Sea Link	4000.00
4	Thane - Bhiwandi - Wadpa 4 Laning	125.00
5	Pune - Ahmednagar (Shirur - Ahmednagar portion) 4 Laning	126.00
6	Manjarsumba kej Lokhandi Sawargaon 3 Laning	84.36
7	Latur Ausa 4 Laning	48.61
8	Osmanabad Latur Nanded 4 Laning	324.19
9	Jalana Watur Phata 4 Laning	75.43
10	Watur Phata Mantha Jintur Basamat 3 Laning	74.30
11	Nanded Ardhapur Waranga 4 Laning and Waranga Hadgaon 2 Laning	43.76
12	Nashik Vaijapur Phata 4 Laning (Nashik Aurangabad)	157.50
13	Jalana Deulgaon Raja Berala Phata (Jalana Chikhali Khamgaon) 4 Laning	95.91
14	Berala Phata Khamgaon (Jalana Chikhali Khamgaon) 4 Laning	92.89
15	Venegaon, Pandharpur Road Improvement including By Pass at Pandharpur, Dharshanmandap and Bridge	45.44
	Total	8338.39

Source: www.pppinindia.com

PPP investment of ongoing projects in the leading states

States	Total number of projects	Total estimated cost in Rs. Cr
Andhra Pradesh	21	1999
Goa	3	618
Gujarat	27	18251
Jharkhand	8	732
Karnataka	26	2930
Kerala	5	3488
Madhya Pradesh	28	2615
Maharashtra	9	12498
Orissa	4	3668
Punjab	14	750
Rajasthan	42	1818
Tamil Nadu	7	1237
West Bengal	13	1216
Total	207	51820

Source: www.infrastructure.gov.in

Maharashtra is presently ranked second in the country for on-going investments with 12,498 crores of investment. Gujarat is leading the way with Rs. 18,251 crores of investment. The major difference between the two is that Maharashtra has only 5 ports being developed under PPP currently having cumulative project cost of Rs. 6,544 crores. On the other hand Gujarat has 13 ports under cover of PPP with cumulative project cost of Rs. 11,730 crores.

6.4 Role of SICOM and CIDCO in State's infrastructure development

Sicom Limited

SICOM is a premier financial institution located at Mumbai dedicated to catalyzing development in the industrial, services and infrastructure sectors by providing tailor-made financial solutions and advisory services to companies in the private & public sector and Government bodies. Since its inception in 1966, SICOM has dedicated itself to providing entrepreneurs with a range of fund-based and non fund-based products and services. SICOM is also the nodal agency for foreign direct investment in Maharashtra state. After 1994 SICOM has been offering its services for projects located anywhere in India.

CIDCO

Over 30 years' experience in urban development has earned The City and Industrial Development Corporation of Maharashtra Ltd (CIDCO) a reputation as the premier town planning agency in Maharashtra. CIDCO adopted polycentric pattern of planning and development of Navi Mumbai. The master plan was being modified from time to time as per the needs. The pattern ensured balanced land and even distribution of residential areas, job centres, wholesale markets, non-polluting industry and population density

Some of the major projects underway include –

- Navi Mumbai International Airport (NMIA)
- NMSEZ
- Mass Rapid Transit System (Railway Projects)
- Central Park
- Nature Park
- Urban Haat
- Mumbai Trans Harbor Link (MTHL)
- Integrated complex at Seawoods Railway Station
- Golf Course Kharghar

6.5 Future outlook

In India, due to policy changes and reforms, Public Private Partnerships (PPPs) have increasingly become the preferred mode for construction and operation of infrastructure services such as highways, airports & ports. PPPs can be undertaken through a range of alternatives such as BOT, BOOT etc, with the Model Concession Agreement (MCA) being used to provide a stable regulatory and policy framework. The MCA regulates the PPP contracts by defining the rights and obligation of all parties concerned. In case a project is not viable due to either long-gestation periods or inadequate returns, the government is committed to provide up to 40% funding by way of grants in some cases, called viability gap funding.

Central government and state government have both given ample stress on building of Infrastructure via PPP. The initiatives taken by the state government can be seen in the tables represented above in the chapter. The state government is actively implementing enabling mechanisms for infrastructure projects. It has also taken up massive infrastructure development in time bound planner through Public Private Partnership. However the government should also incorporate the PPP model in setting up infrastructure relating to social areas and other industries.

There are four major areas that needs to be addressed for the PPP model to be successful -

- a stronger policy and regulatory framework both at the centre and states
- appropriate market instruments and capacity to raise long term equity and debt
- credible and bankable infrastructure projects
- strengthening of government capacity to manage PPP projects.

PPPs present an opportunity to meet the State's investments needs that can be translated into a win-win situation for all.

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End note

- ¹ Includes 'equity capital components' only
- ² The region-wise FDI inflows are classified as per RBI's – Region-wise inflows, furnished by RBI, Mumbai
- ³ Represents inflows through acquisition of existing shares by transfer from residents. For this, Region-wise information is not provided by Reserve Bank of India
- ⁴ IEM – Industrial Entrepreneurs' Memorandum; Lol – Letter of Intent; DIL – Direct Industrial License
- ⁵ GER = (Total Graduates and Diploma Enrolled) / (Population in the age group of 18-23)
- ⁶ CBR – Crude Birth Rate
- ⁷ CDR – Crude Death Rate
- ⁸ IMR – Infant Mortality Rate

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