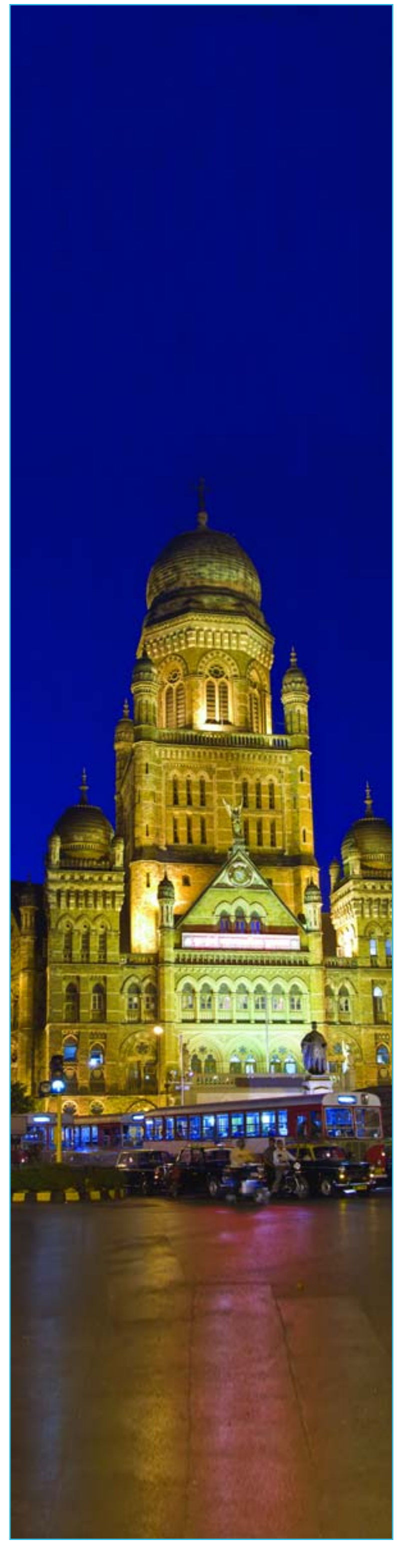
INDIA CONSTRUCTION

IMPORTANCE OF INFRASTRUCTURE CONSTRUCTION IN INDIA

15 MARCH 2009

INTRODUCTION



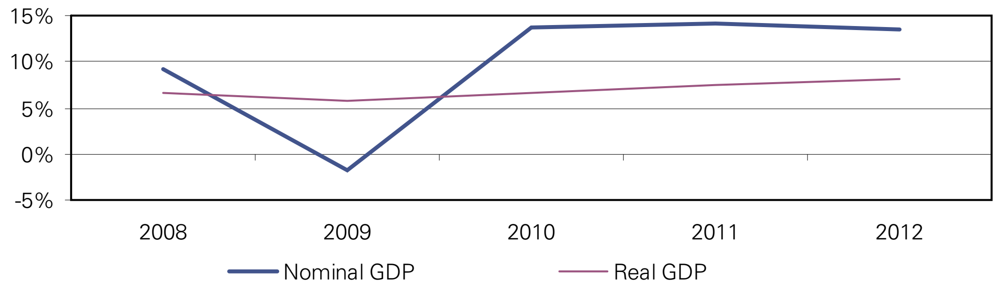
Infrastructure development and maintenance is a major input to economic development and sustained growth in an economy. As India continues down its path of development, infrastructure is no less important. Although the Indian government has been proactive in building necessary infrastructure in the energy, transportation, and urban sectors, additional investment is needed. Like many countries, private-sector involvement will be critical in escalating India's infrastructure beyond meeting basic needs and reaching an level that advances the efficiency with which India's economy operates. This paper considers the current and future role of public private partnerships (PPP) for infrastructure-related development in India. Additionally, this paper examines in detail the current state and future plans for India's infrastructure in the transportation, energy, and urban sectors. Interlaced with these plans are IHS Global Insight's own projections for construction in each of these major infrastructure sectors.

India purports its economic development strategy, in part, through its Five-Year Plans. The Five-Year Plan is a reflection of the economic philosophy and thinking set after the country's independence in 1947. This thinking recognizes a role of government in bringing about the changes in various fields of the economy to improve the standard of living and overall wellbeing of the society. The Five-Year Plans are designed, executed, and monitored by a central agency—the Planning Commission. The prime minister of India serves as the chairman of the commission. The country's first Five-Year Plan was from 1951-56. Currently, the 11th Five-Year Plan is on its way to setting forth the strategy from 2007-12.

India is the fourth largest economy, with a GDP of US$1,242.8 billion in 2008[1]. Between 2000 and 2008, India's GDP growth rate doubled from 5.7% in 2000 to 9.3% in 2007 before tapering to a robust 7.9% in 2008[2]. The industrial sector has predominately fueled this growth. During 2000-07, contributions by the industrial sector to India's total value-added increased from 26.2% in 2000 to 29.4% in 2007[3]. According to IHS Global Insight, India's GDP is expected to continue along a robust growth path, albeit slower than growth witnessed in recent years. Between 2008 and 2012, India's real GDP growth will range between 6.5% and 8.2%. During the same period, India's nominal GDP growth will range from 9.3% in 2008 to 13.5% in 2012, with a negative growth rate of 1.7% in 2009.

IHS GLOBAL INSIGHT

India's Nominal and Real GDP
(Percent change from a year earlier)



Source: IHS Global Insight

Composition of Real GDP
(Share in real GDP at 1999-2000 prices)

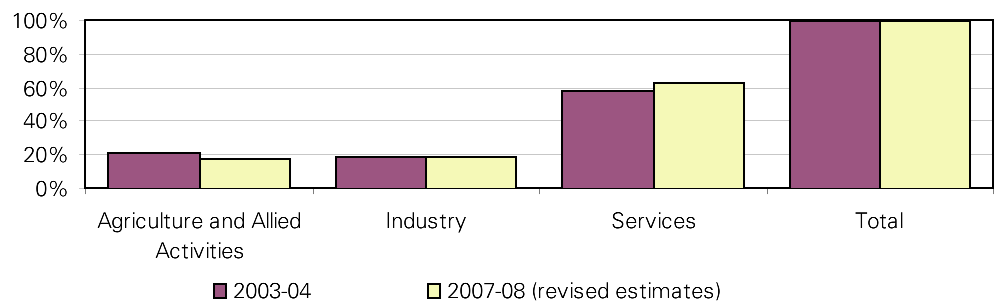
	2003-04	2007-08*
Agriculture and Allied Activities	21.7	17.8
Industry	19.4	19.4
Services	58.9	62.9
Total	100	100

* Revised estimates
Source: Central Statistical Organization (CSO)

This recent economic growth is placing increasing strains on India's physical infrastructure, not only from population growth and expanding economic activities, but also structural changes in the economy. India's economy reflects a consistent decline of primary sectors, such as agriculture, forestry, and fishing, as well as rising importance of non-primary sectors, such as services and manufacturing.

This shift away from primary to non-primary sectors heightens the demand for infrastructure investment. This heightened demand is exacerbated by the fact that India had a substantial infrastructure deficit in terms of capacity and efficiency of delivery prior to recent structural changes. Additionally, according to IHS Global Insight estimates, the Indian service sector has witnessed a tremendous growth, contributing about 69% to overall GDP during 2003-07. The growth in tourism has created demand for recreational construction such as hotels and resorts. India's medical tourism is expected to grow from US$350 million (at current prices) in 2006 to US$2 billion in 2012—17.5% growth. Similarly, the growth in information technology and outsourcing has created strong demand for office space.

Sectoral Composition of Real GDP
(Percent)



Source: IHS Global Insight

Total investment in India's infrastructure was estimated at approximately 5% of GDP in 2006-07. Here, infrastructure is defined to include electricity (including non-conventional energy), telecommunications, roads and bridges, railways (including mass rapid-transport system—MRTS), ports, airports, irrigation (including watershed development), water supply and sanitation, storage, and gas-distribution sectors. To achieve a target GDP growth rate of 9% set by the Planning Commission, gross capital formation (GCF) in infrastructure should rise to 9% of GDP by the end of 2012. This equates to an increase of GCF from 2,598 billion rupees in 2007-08 to 5,740 billion rupees in 2011-12[4]. If achieved, the 11th Five-Year Plan period (2007-12) will result in an aggregate GCF of 20,115 billion rupees (US$447 billion at an exchange rate of 45 rupees/U.S. dollar). It should be noted that India's projection of their economic growth exceeds IHS Global Insight's projections for India's GDP. As a result, India's projected infrastructure investment levels may also be optimistic.

11th Five-Year Plan Period at 2006-07 Prices

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
GDP at Market Price (Billion rupees)	41,458	45,190	49,256	53,689	58,521	63,788
GDP Growth (Percent)	9	9	9	9	9	9
GCF (Billion rupees)	2,073	2,598	3,201	3,892	4,682	5,741
GCF in Infrastructure (Percent of GDP)	5.00	5.75	6.50	7.25	8.00	9.00

Source: CSO estimates for 2006-07 and computations of the Planning Commission

The role of the private sector is expected to rise gradually, but the public sector will continue to play a dominant role in financing for infrastructure projects.

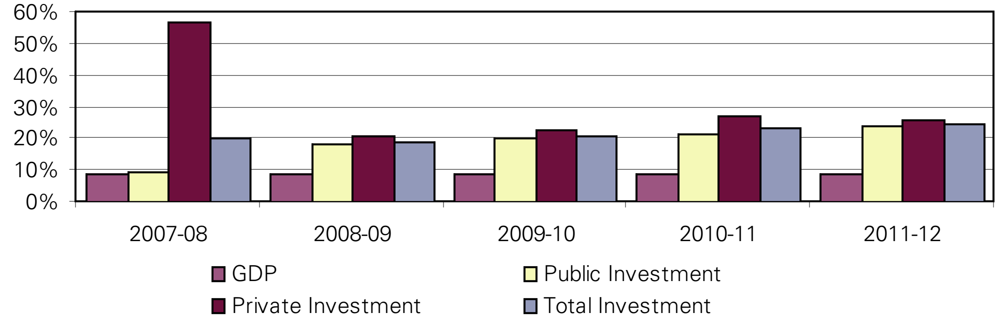
11th Five-Year Plan Period-Public and Private Investment at 2006-07 Prices

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
GDP at Market Price	41,458	45,190	49,256	53,689	58,521	63,788
Public Investment	1,754	1,921	2,273	2,735	3,324	4,112
Private Investment	499	782	943	1,157	1,468	1,847
Total Investment	2,253	2,703	3,216	3,892	4,792	5,959

Source: CSO estimates for 2006-07 and computations of the Planning Commission

Investments as a Percentage of GDP

Investment Growth Rates



Source: CSO for estimates for 2006-07 and computations of the Planning Commission

To attract private investment, there have been efforts to implement sector-specific policy initiatives that provide incentives to private investors, such as in the form of tax breaks. The detailed discussion of such initiatives is beyond the scope of this paper.

Market Risk: The paper provides a detailed description of recent progress and the future trends in the key sector of infrastructure, which presents various opportunities for private-sector investment and its role in PPPs. This section presents some of the key facts about the country's overall economic environment as well as legal and tax systems, which have implications for implementing actual infrastructure projects.

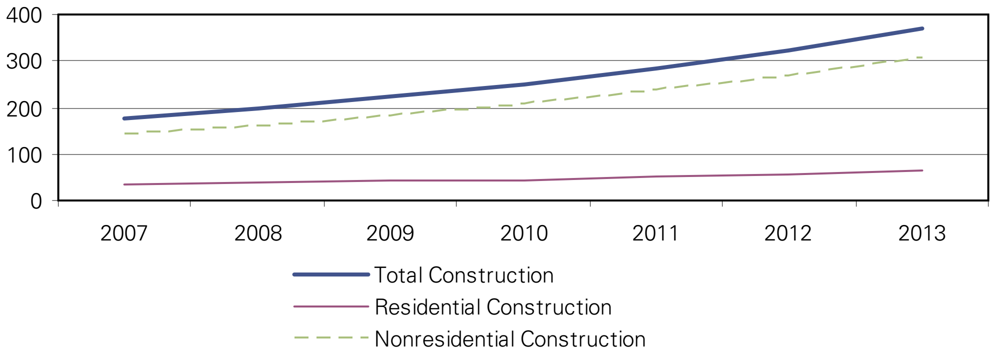
- India offers a favorable business environment and a stable political system. The one and five-year risks of investing in the Indian infrastructure sector are less than the world average. The country's infrastructure sector presents lower risks than the other sectors of the economy.
- There have been significant improvements in the legal and regulatory environments to bring the clarity and consistency in the system, especially in the area of foreign investment. Nevertheless, there is a large backlog of cases and intrinsic inefficiency in the judicial system that results in delays in closing of cases.
- The tax system of the country is relatively advanced. There is, however, a strong need to introduce more scientific and efficient methods in the tax collection process.
- The problems of corruption and security are still prevalent in the country and require substantial resources to overcome—time, money, investment in education, etc.

INDIA'S CONSTRUCTION INDUSTRY

Construction is an important part of the industrial sector and one of the core sectors of India's economy. According to IHS Global Insight, US$175 billion was spent on construction in India in 2007 after growing 156% since 2000[5]. Out of US$175 billion, US$140 billion was spent on nonresidential, and the remaining US$35 billion was spent on residential construction. Construction spending is expected to increase to US$370 billion by the end of 2013, with residential totaling US$63 billion and nonresidential registering US$307 billion. This represents a compound annual growth rate (CAGR) of 13.3%.

India's Construction Spending Outlook

(Billions US$)

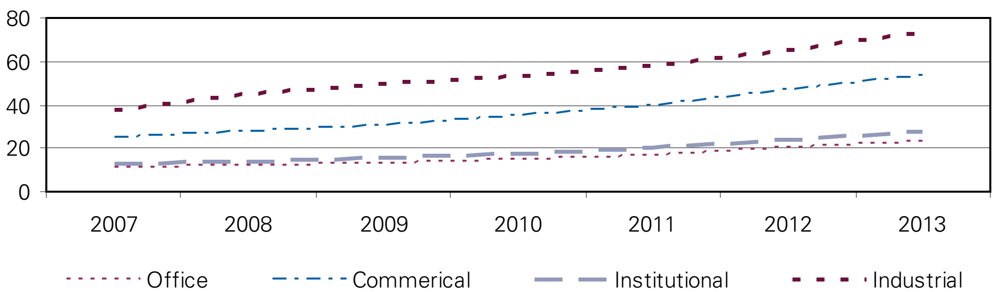


Source: IHS Global Insight

IHS Global Insight's nonresidential construction forecast for India, including major sub-categories—transportation, public health, energy, office, commercial, institutional, and industrial—is expected to rise at a CAGR of 13.9% during 2007-13.

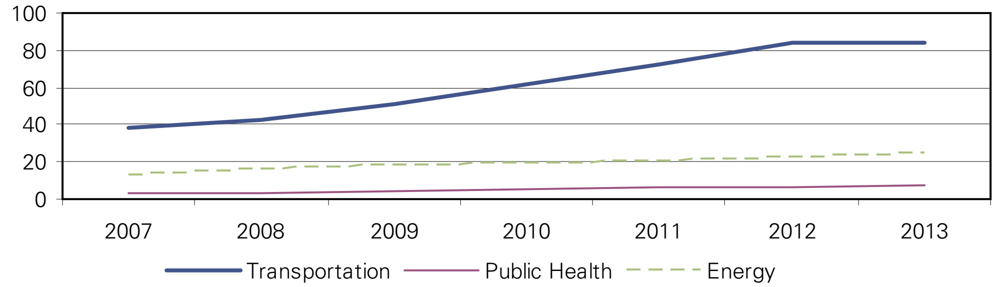
Sectoral Composition of Construction Spending

(Billions US$)



Source: IHS Global Insight

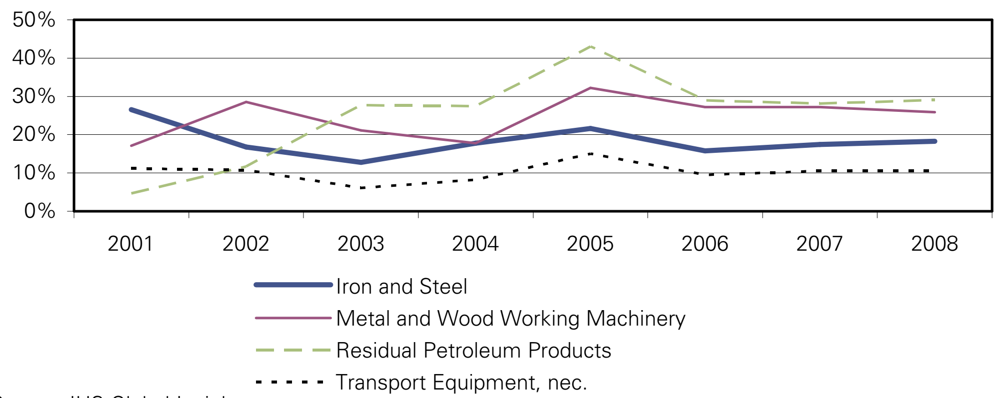
India's Sectoral Construction Spending Outlook
(Billion US$)



Source: IHS Global Insight

The construction sector is also the second largest employer in the country following agriculture, employing 18 million people directly and 14 million indirectly. Exports constitute about 5% of the size of domestic market and include construction materials, services, and cheap labor. The country's main international trading partners in this sector are the Middle East, Africa, and Malaysia. Indian companies have very limited exposure to large markets such as the United States, Japan, and West Europe.

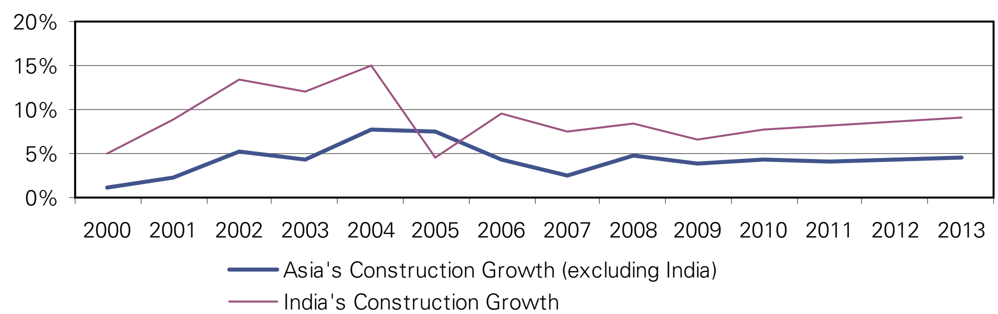
Select Exports to Malaysia, Middle East and East Africa
(Percent of total exports)



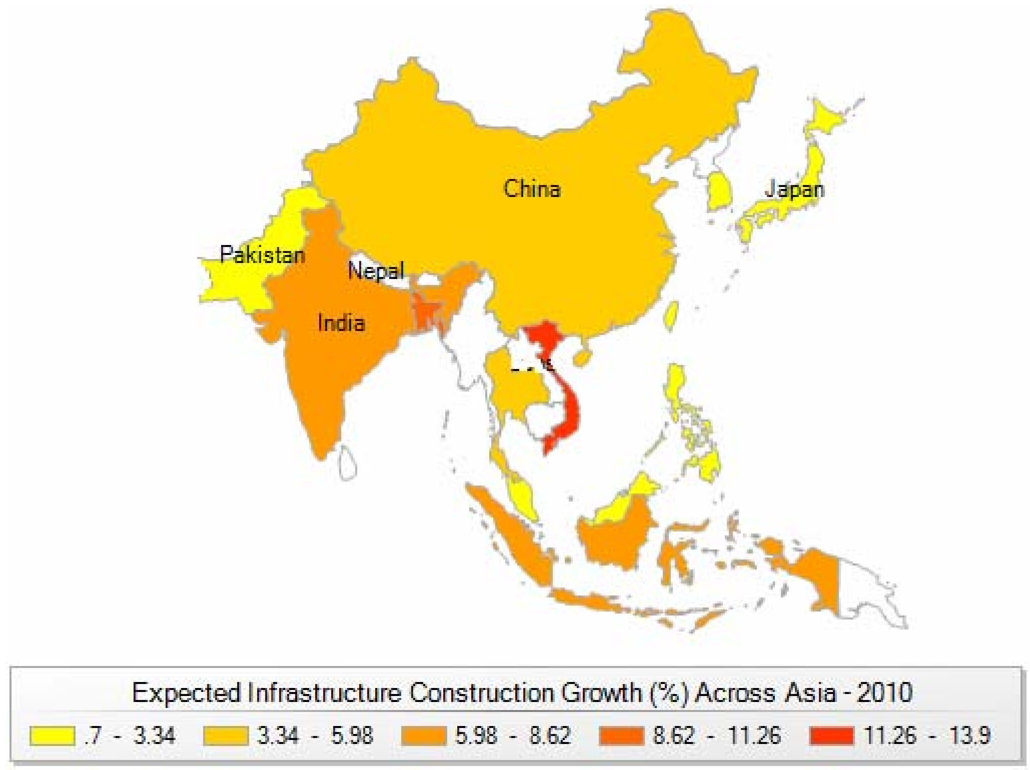
Source: IHS Global Insight

The construction sector has increased its share of India's total employment from 2.8% in 1983 to 5.4% in 2003-04. The sector accounts for about 38% of gross investment and about 45% of India's total infrastructure costs.

India's Construction Growth Relative to Asia



Source: IHS Global Insight



Source: IHS Global Insight

The Indian construction industry is highly fragmented. This is partially due to the fact that, for most projects, there are no long-term relationships between the contractors and clients. For example, government agencies such as the National Highway Authority of India (NHAI) do not provide any benefits to the long-term contractors that have worked with them in the past. Because the sector lacks economies of scale, smaller players may have better cost structures due to lower overhead costs. The industry can be broadly classified into two segments—organized and unorganized. The organized segment consists of firms and independent contractors who manage their business (design, financing, execution, etc.) on a professional basis. The organized segment operates on small, medium, and large scales. The unorganized segment primarily consists of standalone contractors that operate at a small scale. Construction activities of smaller firms in the organized segment and contractors in the unorganized segment are mainly focused on simple construction projects—building houses for individuals, repair, and maintenance for smaller buildings. Construction activities for larger firms involve complex logistics management of men, machinery, and materials.

Organized Industry Segment	Number of Employees	Number of Firms
Small	Less than 200	25,000-30,000
Medium	200-500	Greater than 500
Large	Greater than 500	250
Unorganized Industry Segment (Standalone contractors)		120,000

Source: Construction Federation of India "Gearing Construction for Growth, January 2005