



ROADS

April 2010

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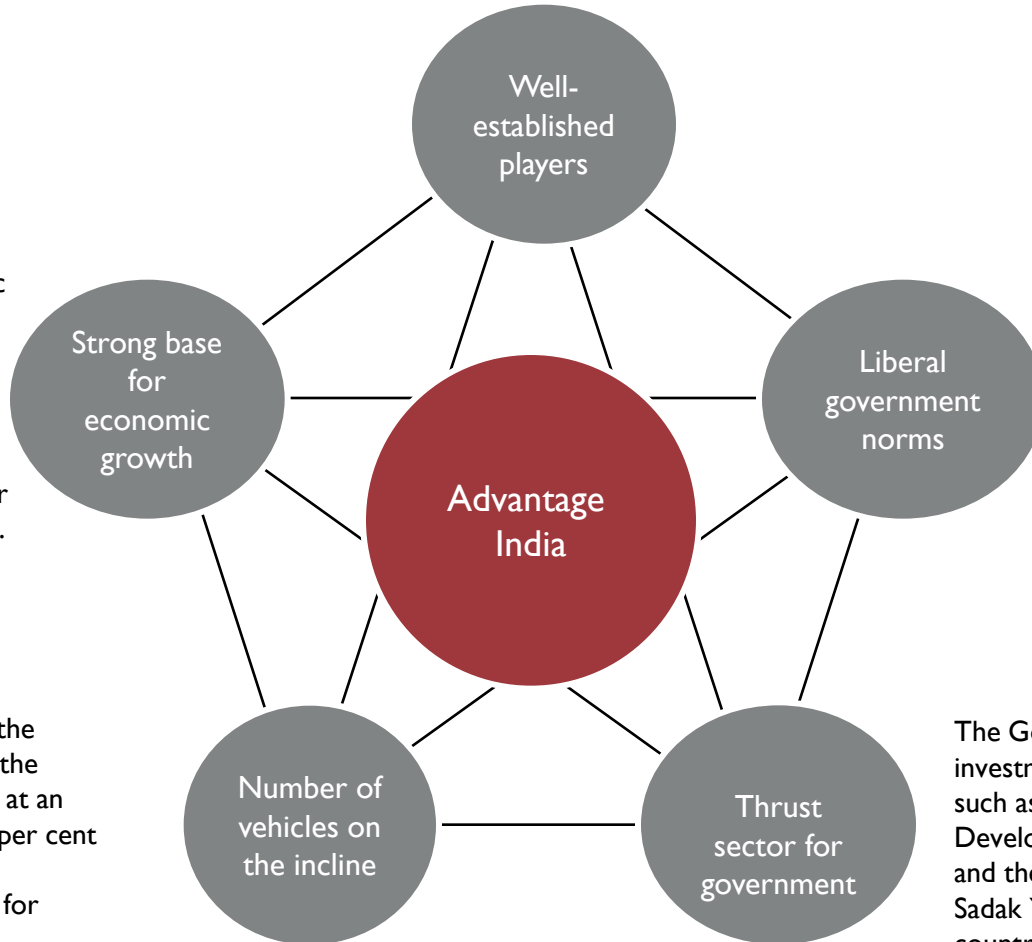
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Advantage India

With the largest road network in the world, the Indian roads sector has evolved with a strong base for major players.

Roads contribute to economic development by improving connectivity, enhancing accessibility and promoting trade relations. They also facilitate opportunities for other industries through faster delivery of goods and services.

In the past five years, the number of vehicles in the country has increased at an average rate of 10.16 per cent per annum. This has necessitated the need for better quality roads.



The Government of India (GoI) has permitted 100 per cent FDI in the roads sector and has also provided tax exemptions and duty free import of road-construction equipment and machinery.

The GoI is making significant investments through key projects such as the National Highway Development Programme (NHDP) and the Pradhan Mantri Gram Sadak Yojana to improve the country's road network.

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Market overview ... (1/3)

India has one of the largest road networks in the world, aggregating a total length of 3.3 million km.

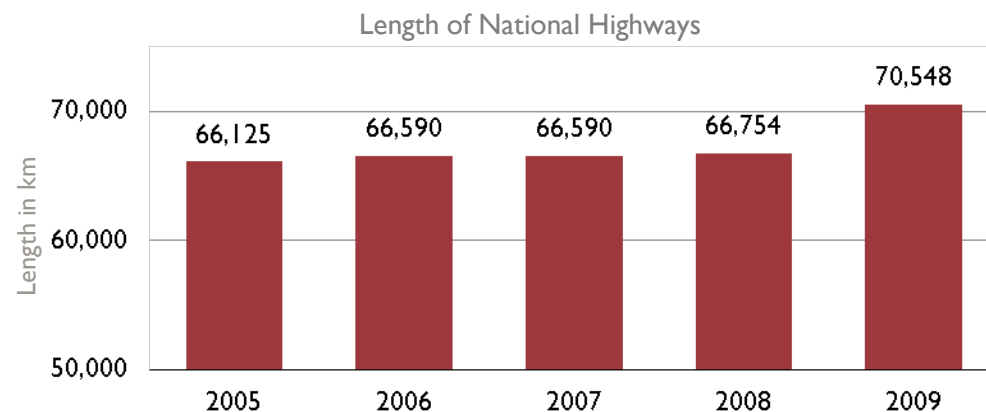
Indian road network (length in km), 2008–09	
Expressways	200
National Highways	70,548
State Highways	1,31,899
Major district roads	4,67,763
Rural and other roads	26,50,000
Total length	33,20,410

- Roads are the most preferred mode of transportation and account for 85 per cent of passenger traffic and 65 per cent of freight traffic in India.
- Road density, in terms of population, is 2.75 km per 1,000 people. In terms of land, it is 770 km per 1,000 sq km.
- Broadly, the road network in India is divided into the primary (the National Highways) and secondary system (the State Highways and major district roads).
- In addition, the network comprises expressways and rural and other roads.

Source: “Indian Road Network,” *National Highway Authority of India website*, www.nhai.org/roadnetwork.htm, accessed 21 January 2010.

Market overview ... (2/3)

- The National Highways account for only 2 per cent of the total road length and carry 40 per cent of the total road traffic.
- Of the total length of the National Highways, about 27 per cent is single laned/intermediate-laned, 54 per cent is two-laned, and 19 per cent is four-laned.



Market overview ... (3/3)

- The State Highways and major district roads (MDRs) carry 40 per cent of the total road traffic and constitute 13 per cent of the total road length.
- Funds to implement road and highway projects are generally available from a number of sources, including budgetary allocations by the Central and State Governments, multilateral agencies, the Central Road Fund and, of late, through private participation.

Financial structure of NHAI (US\$ million)

Year	Cess funds	External assistance		Borrowings	Budgetary support
		Grant	Loan		
2005-06	681.20	500.00	104.17	268.54	145.83
2006-07	1,334.89	329.69	82.40	312.50	22.92
2007-08	1,362.80	372.67	93.17	63.58	55.21
2008-09	1,452.60	315.63	78.96	228.39	33.13

Sources: "Roads and highways," "Department of roads transport and highways website," www.morth.nic.in, accessed 26 January 2010; Roads: Economic Survey 2008-09," Union budget and economic survey website, www.indiabudget.nic.in, accessed 26 January 2010 .

Government initiatives — the National Highways ... (1/2)

The Gol has undertaken several initiatives to optimise the development of the roads sector.

National Highway Development Programme:

- The Gol has launched the NHDP to improve and develop the National Highways in the country.
- The project aims to develop more than 50,000 km of National Highways in seven phases.

Government initiatives — the National Highways ... (2/2)

Status of NHDP projects as on February 28, 2010										
Projects	GQ*	NSEW** Phase I and II	NHDP Phase III	NHDP Phase V	NHDP Phase VI	NHDP Phase VII	NHDP Total	Port connectivity	Others	Total by NHA1
Total length (km)	5,846	7,300	12,109	6,500	1,000	700	33,455	380	965	34,800
Already four-laned (km)	5,766	4,863	1,478	163	-		12,270	274	899	13,443
Under implementation (km)	80	1,689	3,926	1,068	-	41	6,804	100	46	6,950
Contracts under implementation (No)	13	113	59	8	-		193	6	9	210
Balance length for award (km)	-	590	6,705	5,269	-	659	14,223	6	20	14,249

Source: "About NHDP," National Highway Authority of India website, www.nhai.org/roadnetwork.htm, accessed 13 April 2010.

*: GQ stands for Golden Quadrilateral

** : NSEW stands for North South East West Corridor

Government initiatives — rural roads ... (1/2)

Bharat Nirman Programme:

- The Bharat Nirman Programme was introduced in 2005 to provide road connections to about 23,000 villages with a population of 1,000 or 500 in case of hilly or tribal areas.
- Under the programme, the GoI has released funds worth US\$ 7.52 billion (INR 361 billion) and has constructed about 58 per cent of roads until March 2009.

Construction of rural roads under the Bharat Nirman Programme

Roads	Total achievement up to March 2009
Habitations coverage (in nos.)	32,269
New connectivity (in km)	85,405.18
Road upgrade (in km)	155,019.20

Government initiatives — rural roads ... (2/2)

Pradhan Mantri Gram Sadak Yojana (PMGSY):

- The PMGSY program was launched in December 2000 to provide connectivity to isolated rural habitations.
- The Eleventh Five Year Plan (2007–2012) has projected an investment requirement of US\$ 8,613.95 million (INR 413,470 million) in rural roads under the PMGSY.

Construction of rural roads under the PMGSY

Year	Length of roads work completed (km)	Expenditure (US\$ million)
2005–06	22,891	854.25
2006–07	30,710	1,521.73
2007–08	41,231	2,212.23
2008–09	52,405	3,158.75

Sources: “Roads: Economic Survey 2008–09,” *Union budget and economic survey website*, www.indiabudget.nic.in, accessed 26 January 2010; Planning Commission FY09 annual report.

Government initiatives — other initiatives ... (1/2)

Special Accelerated Road Development Programme in the North-Eastern region (SARDP-NE):

- The SARDP-NE was set up to provide road connectivity to state capitals, district headquarters and remote places of the northeast region.
- The project envisages two-/four-laning of about 5,184 km of the National Highways and two-laning of about 4,576 km of state roads. The project is to be executed in two phases.
- The first phase, worth US\$ 3.69 billion (INR 177.4 billion) involves the construction of 2,796 km of roads, which consist of 2,039 km of the National Highways and 757 km of state roads, and is scheduled for completion by 2012–13.
- The second phase involves the construction of 4,825 km of the National Highways and two-laning and improvement of state roads. Currently, the second phase is approved only for detailed project report (DPR) preparation and is pending approval from the GoI for investment.

Government initiatives — other initiatives ... (2/2)

Other incentives:

Stimulus packages:

- In response to the 2008-09 global slowdown, the GoI has allowed India Infrastructure Finance Company Limited (IIFCL) to raise US\$ 2.08 billion (INR 100 billion) through the issue of tax-free bonds, particularly for road and highway projects under Stimulus Package I.
- The GoI has also allowed IIFCL to refinance 60 per cent of commercial bank loans under the 'takeout financing scheme' for public-private partnership (PPP) projects in infrastructure over a period of 15 to 18 months.

Source: "Roads: Economic Survey 2008–09," *Union budget and economic survey website*, www.indiabudget.nic.in, accessed 26 January 2010.

Growth drivers

The Govt's thrust on infrastructure investment has increased

- According to Planning Commission estimates, around US\$ 65.4 billion is expected to be invested in the roads sector during the Eleventh Plan, as compared to US\$ 30.18 billion in the Tenth Five Year Plan (2002–07).

The private sector's participation in road infrastructure has increased

- Over the years, the contribution of the private sector in road projects has increased considerably. For instance, the contribution of the sector in road and highway projects has increased from 4.8 per cent in the Tenth Plan to 27.83 per cent in the Eleventh Plan.
- This can be primarily attributed to the introduction of policy measures such as the standardisation of bidding documents, model concession agreements (MCAs), the launch of viability gap funding, the restructuring of future road projects and the formulation of the new Tolling Policy, 2008.

Significant growth in freight and passenger traffic

- Road freight traffic grew at a CAGR of 6.9 per cent between 2000–01 and 2004–05.
- Road passenger traffic grew at a CAGR of 13.7 per cent between 2000–01 and 2004–05.

Key trends ... (1/2)

Increasing scope of PPP

- Driven by the comfortable liquidity position of the past few years and a buoyant economy, several private companies have expressed interest to invest in Indian infrastructure, particularly in roads and highways, through the PPP mode.
- The PPP models commonly used in Indian road projects include build, operate and transfer (BOT) toll, and BOT annuity.
- Some states, including Andhra Pradesh, Gujarat, Tamil Nadu, Karnataka, Uttar Pradesh Rajasthan and Madhya Pradesh, have formulated policies and established PPP cells to facilitate private-sector participation in key road projects.
- The Delhi–Noida Toll Bridge, Ahmedabad–Mehsana, Vadodara–Halol Toll Road, The East Coast Road , Bangalore–Mysore State Highway (Phase I) are some of the completed PPP projects.

Key trends ... (2/2)

Strategic alliances with international players

- With the GoI permitting 100 per cent FDI in the roads sector, most foreign investors in the Indian roads sector have formed consortiums with Indian companies to participate in the development of road projects in India.
- As a result, construction companies are now being rewarded with large order books and portfolios of BOT projects.

Tolling of roads

- Over the years, the tolling of roads has become an acceptable mode of funding. User acceptance towards toll has also increased over time.
- During 2008–09, a total road length of 1,262.51 km was brought under tolling.
- The revenue target for toll in 2008–09 was US\$ 0.33 billion (INR 16 billion), and about US\$ 0.35 billion (INR 17 billion) was collected as user fee.

Key players

Several infrastructure companies have entered the road sector space to become full-scale project developers.

Company	Key projects
DS Construction Limited	Delhi–Gurgaon Expressway, Raipur–Anurag Expressway, Lucknow–Sitapur Expressway, Sandur Bypass Project
GMR Infrastructure Limited	Tuni–Ankapalli Highway, Tambaram–Tindivanam Highway, Ambala–Chandigarh Highway, Farukhnagar–Jadcherla Highway
Hindustan Construction Company	Bandra–Worli Sea Link, Badarpur Elevated Highway Project
Larsen & Toubro Limited	Coimbatore Bypass, Jaipur–Kishangarh Highway, Ahmedabad–Mehsana Toll Road, the Chennai–Tada stretch, the Vadodra–Bharuch stretch
Ideal Road Builders Infrastructure Developers	Mumbai–Pune Expressway, Surat–Dahisar, Bharuch–Surat, the Old Mumbai–Pune stretch
Gammon Infrastructure Projects Limited	Andhra Expressway Limited, Mumbai–Nasik Expressway Limited, Rajamundhry Expressway Limited
Soma Enterprises Limited	The Pimpalgaon–Dhule section, the Panipat–Jalandhar stretch

Sources: Company annual reports

Note: This list is indicative.

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Investments ... (1/2)

Private equity (PE) investments

- PE players have expressed active interest in India's roads and highways. Companies in this space have successfully raised growth capital to fund their existing projects as well as other expansion plans. Some of the deals in this sector are:

Top five PE deals in roads and highways (2006 — IH* 2009)				
Date	Target	PE Investor	Value (US\$ million)	Stake (%)
February 2008	Ashoka Buildcon Ltd	IDFC Private Equity	180	16
April 2007	IRB Infrastructure Developers Ltd	Deutsche Bank, Goldman Sachs and Merrill Lynch Corporate Principal Investments Group	65	12
April 2009	Ashoka Buildcon Ltd	IDFC Project Equity	50	-
January 2008	Futura Infraprojects Ltd	Frontline Ventures	40	10
December 2007	B. Seenaiah & Company (Projects) Ltd	Amansa Capital, IDFC, L&T Capital, L&T Infrastructure Finance and Lehman Brothers Holdings Inc	38	7

Sources: "The opportunity framework—Private equity in Indian Infrastructure," Ernst & Young, October 2009, via RAD; Ministry of Road Transport & Highways, FY09 annual report.

IH*- First half

Investments ... (2/2)

Government investments

- The GoI has invested US\$ 1.94 billion (INR 93.2 billion) for the development of the National Highways and state roads during 2009.
- In 2008–09, funds worth US\$ 0.84 billion (INR 40.46 billion) were earmarked for rural roads.
- For the maintenance of the National Highways, which have been entrusted to the state public works departments (PWDs) and the border road organisations (BROs), funds worth US\$ 0.19 billion (INR 9.47 billion) and US\$ 5.48 million (INR 263.5 million), respectively, have been allocated in 2008–09.
- The GoI has increased the allocation of funds to road transport in the budgetary estimates (BE) of 2010–11 to US\$ 4.14 billion (INR 198.94 billion), as compared to US\$ 3.65 billion (INR 175.20 billion) allocated in BE 2009–2010, reflecting a rise of more than 13 per cent over the previous year.
- The GoI has increased the allocation of funds under the PMGSY programme to US\$ 2.5 billion (INR 120 billion), recording a rise of 59 per cent over the BE in 2008–09.
 - From April to December 2009, an expenditure of US\$ 2,706.89 million (INR 129,931 million) was incurred on rural roads under the PMGSY.

Sources: "Roads: Economic Survey 2009-10," *Union budget and economic survey website*, www.indiabudget.nic.in, accessed 11 March 2010; Ministry of Road Transport & Highways, FY09 annual report.

Projection of investments in roads and bridges during the Eleventh Plan

	2007–08	2008–09	2009–2010	2010–11	2011–12	Total (Eleventh Plan)
National Highways (1)	232,710	246,980	271,180	325,100	382,570	14,58,530
NHDP Public	100,770	105,130	110,380	122,820	152,330	591,430
Other National Highways (Public)	11,810	12,730	13,710	14,730	15,720	68,690
NHDP Private	120,120	129,110	147,090	187,550	214,520	798,400
State roads (2)	214,910	224,310	238,170	269,980	322,150	12,69,520
Public	175,340	181,500	188,890	206,130	248,150	1,000,000
Private	39,570	42,810	49,280	63,850	74,010	2,69,520
Rural roads: Bharat Nirman (3)	63,410	68,510	72,760	77,840	83,300	365,820
SARDP-NE (4)	7,190	8,090	9,890	10,790	11,690	47,650
Total INR million (1+2+3+4)	518,220	547,890	592,000	683,700	799,710	31,41,520
Total (US\$ million)	10,796.25	11,414.37	12,333.33	142,43.75	16,660.62	65,448.33

Source: "Projection of investment in Infrastructure during the Eleventh Five Year Plan," Secretariat for Infrastructure, Planning Commission website, www.infrastructure.gov.in/pdf/Inv_Projection.pdf, accessed 26 January 2010.

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Regulatory framework ... (1/2)

- The overall development of roads in India falls under the aegis of the Ministry of Shipping, Road Transport and Highways (MOSRTH).
- The MOSRTH and the National Highways Authority of India (NHAI) administer the National Highways for policy formulation, operation and maintenance.
- The state PWDs and the road development corporations administer the State Highways and the major district roads.
- The Ministry of Rural Development manages the policy development, monitoring and coordination of rural roads in India.

Regulatory framework ... (2/2)

- Various acts have been introduced for the management of road transport, environmental issues and traffic movement in neighbouring countries. Some of the key acts include:
 - Road Transport Corporation Act, 1950
 - Motor Vehicles Act, 1988
 - Central Motor Vehicles Rules, 1989
 - Central Road Fund Act, 2000
 - Carriage by Road Act, 2007
 - Indian Tolls Act, 2008

Source: "Roads: Economic Survey 2008–09," *Union budget and economic survey website*, www.indiabudget.nic.in, accessed 26 January 2010.

Development of the National Highways

Performance	2007–08		2008–09	
Performance of the NHAI				
Physical performance	Target	Achieved	Target	Achieved
Widening to four lanes (km)	2,885.00	636.00	3,519.85	2,203.00
Construction of bridges (No)	5	2	3	1
Construction of bypasses (No)	11	2	17	3
Performance of State PWDs and BROs				
Physical performance	Target	Achieved	Target	Achieved
Improvement of low grade section (km)	25.00	25.58	80.00	47.26
Widening to four lanes (km)	34.00*	35.97*	51.00**	62.75 **
Widening to two lanes (km)	919.00	950.54	1,176.00	1,153.34
Strengthening of existing weak pavement (km)	577.00	910.78	706.00	1,009.67
Rehabilitation/Construction of Bridges (Nos.)	107	86	92	77
Construction of bypasses (Nos.)	3	6	8	4

Source: "Roads and highways," "Department of Roads Transport And Highways," Ministry of Road Transport & Highways website, www.morth.nic.in, accessed 26 January 2010.

*This includes 2.50 km of widening to eight lanes in the state of Delhi

**This includes 2.80 km of widening to eight lanes in the state of Delhi

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Opportunities ... (1/3)

Several road projects in the pipeline

- The GoI aims to build 12,000 km of highways through the financial year 2009–2010 for US\$ 20.83 billion (INR 1,000 billion) in the toll collection mode.
- Apart from completing ongoing projects under NHDP Phase I and Phase II, the following projects are planned for 2009–2010 and beyond:
 - Four-laning of 12,109 km (NHDP Phase III)
 - Two-laning of 5,000 km of the National Highways (NHDP Phase IVA)
 - Six-laning of GQ and some other stretches covering 6,500 km (NHDP Phase V)
 - The development of 1,000 km of expressways (NHDP Phase VI)
 - The development of ring roads, bypasses, grade separators and service roads, among others (NHDP Phase VII)

Opportunities ... (2/3)

Significant potential for construction and EPC companies

- Significant government investments in road space have created avenues of growth for construction and engineering procurement construction (EPC) players.
- The construction sector in India is expected to grow at about 35 per cent between 2008–09 and 2012–13.

Opportunities ... (3/3)

Private sector participation has increased

- According to Planning Commission estimates, around US\$ 65.4 billion is likely to be invested in the roads sector during the Eleventh Plan. The private sector will contribute 34 per cent of this amount.
- This will result in increased opportunities for private players as more projects will be awarded under the PPP mode. For instance, in 2008–09:
 - Of the 94 projects awarded under the BOT (toll) mode, 43 have been completed.
 - Of the 25 projects awarded under the BOT (annuity) mode, 9 have been completed.

Source: "Ministry of roads transport and highways— Outcome Budget 2009–10," *Ministry of Road Transport and Highways website*, www.morth.nic.in/writereaddata/.../OB_2009_10_English6701085845.pdf, accessed 26 January 2010.

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Industry associations

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Note

Wherever applicable, numbers in the report have been rounded off to the nearest whole number.

Conversion rate used: US\$ 1 = INR 48

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