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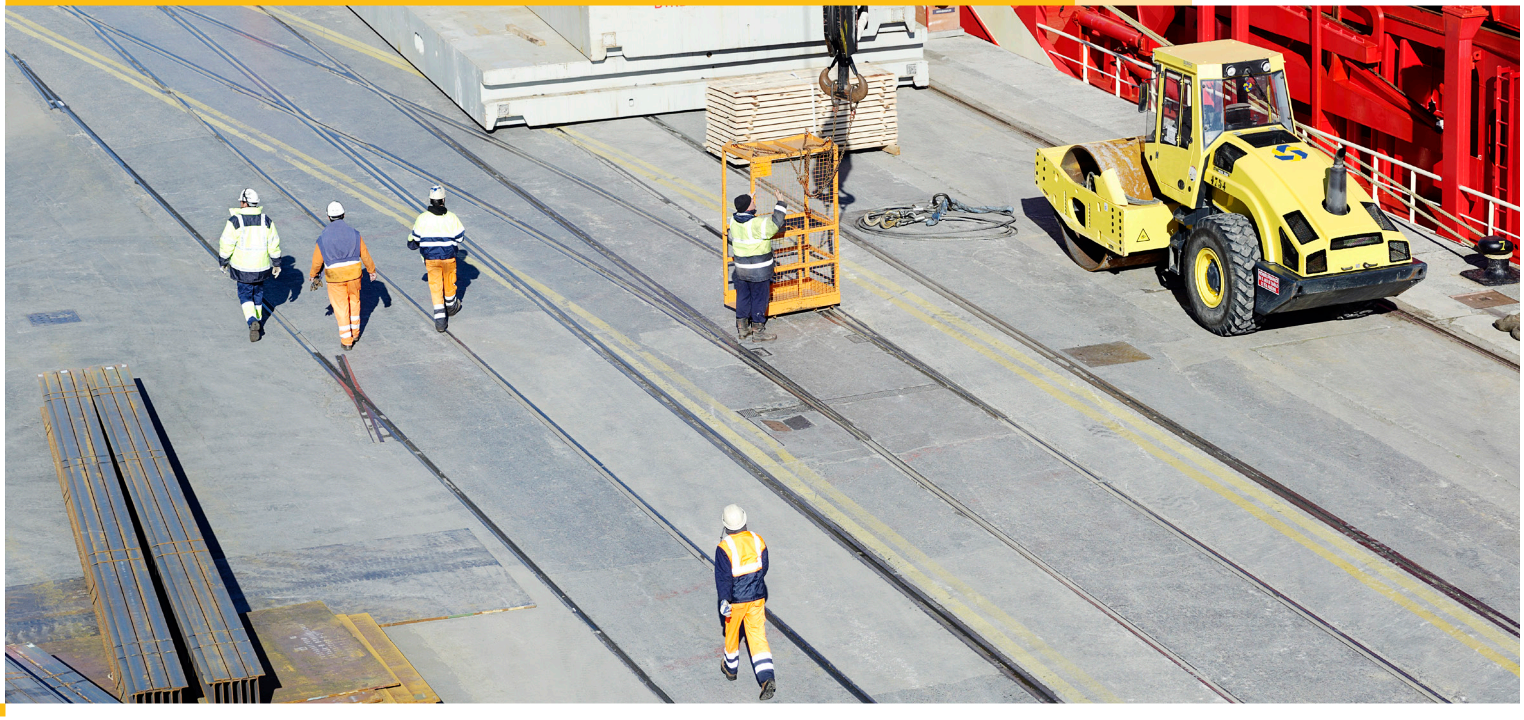
The road ahead
Highways PPP in India

ASSOCHAM INDIA



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Message

A. K. Upadhyay, I.A.S.
Secretary
Ministry of Road Transport &
Highways
Government of India &
Chairman, National Highway
Authority of India (NHAI)

The Infrastructure industry is one of the fastest growing industries in recent years. The private sector has been playing a pivotal role in the development of this sector.

Roads are the most essential part of infrastructure for providing industry and agriculture with the connectivity to markets for growth in production and trade, and more so for improving the quality of life of its citizens.

Besides expressways and highways, rural roads programme is also going ahead that aims directly at improving connectivity in our vast rural areas. The Twelfth Plan strategy calls for aggressive participation through Public Private Partnership as much as possible in service of public at large.

The National Highways Authority - the nodal agency for ensuring rapid development of roads in the country has made PPP the preferred mode for most of its projects. PPP projects take much lesser time to complete and the Government does not have to bear cost over-runs.

I appreciate the efforts of ASSOCHAM in holding this Summit on Public Private Partnership in Roads & Highways. I am sure the discussions and recommendations would be of tremendous help to all of us in the Ministry of Road Transport and Highways and the Government of India.

I wish the event a grand success.

Message

D. S. Rawat
Secretary General
The Associated Chamber of
Commerce and Industry of India
(ASSOCHAM)

India's growth-story in recent years is a most phenomenal development in the world economy. While stepping up public investment in infrastructure, the Govt. has been actively engaged in involving private sector to meet the growing demand. The creation of world class infrastructure would require large investments in addressing the deficit in quality and quantity. Therefore, it is necessary to explore the scope for plugging this deficit through Public Private Partnerships (PPPs) in all areas of infrastructure like roads, ports, energy, etc.

ASSOCHAM attempts to address issues relating to Roads & Highways in a global prospective and some of the major issues in this discipline through our International SUMMIT on PPP in Roads & Highways. The latest estimates of the government project a $1 trillion investment in the infrastructure sectors for the Twelfth Plan (2012-13 to 2016-17).

Though the PPP model has gained significant importance in the country, there is a need to refine and evolve it further to make it a successful proposition. The key issue that must be addressed is an approach to iron-out the conflicting interests of multiple stakeholders (governments, private players, financial institutions & users etc.).

It gives me pleasure to share that ASSOCHAM and PwC have worked in unison to bring out this Background Paper on Roads & Highways and the critical role being played by different stakeholders to ensure a robust development in this vertical. The mission of this conference is to discuss the current infrastructure financing scenario and future investment requirements. The conference will also provide a platform for lenders, investors and developers to exchange views and create business opportunities in this vital sector.

I am sure the Conference being held in the background of reaching our ultimate goal of vast network of Roads & Highways through Road & Highways Developers, Infrastructure Development Agencies, Institutional Investors, Financial Institutions, Banks & Private Equity (PE) Investors, Allied Industries (Cement, Iron & Steel etc) & other stakeholders will achieve its objectives.

My best wishes to every one for making this initiative a success.

Foreword

Manish Agarwal
Executive Director
Head Infrastructure Practice
PwC

Indian economy has been showing tremendous growth in the recent years and investment in infrastructure has played a vital role therein. In order to sustain the growth in future, there is a need for abundant capacity creation in the form of infrastructure development. Initiatives from the government have led to increasing private sector participation in India's infrastructure development. The projected infrastructure development during the 12th Plan is expected to consume funds to the tune of about a trillion US dollars. Therefore, it is imperative to achieve inclusive development across all sectors of infrastructure like roads, ports, energy, urban infrastructure, railways, airports, etc through further increased participation from the Private sector. It has been proved beyond doubt that Public Private Partnership (PPP) has contributed significantly to accelerated infrastructure development.

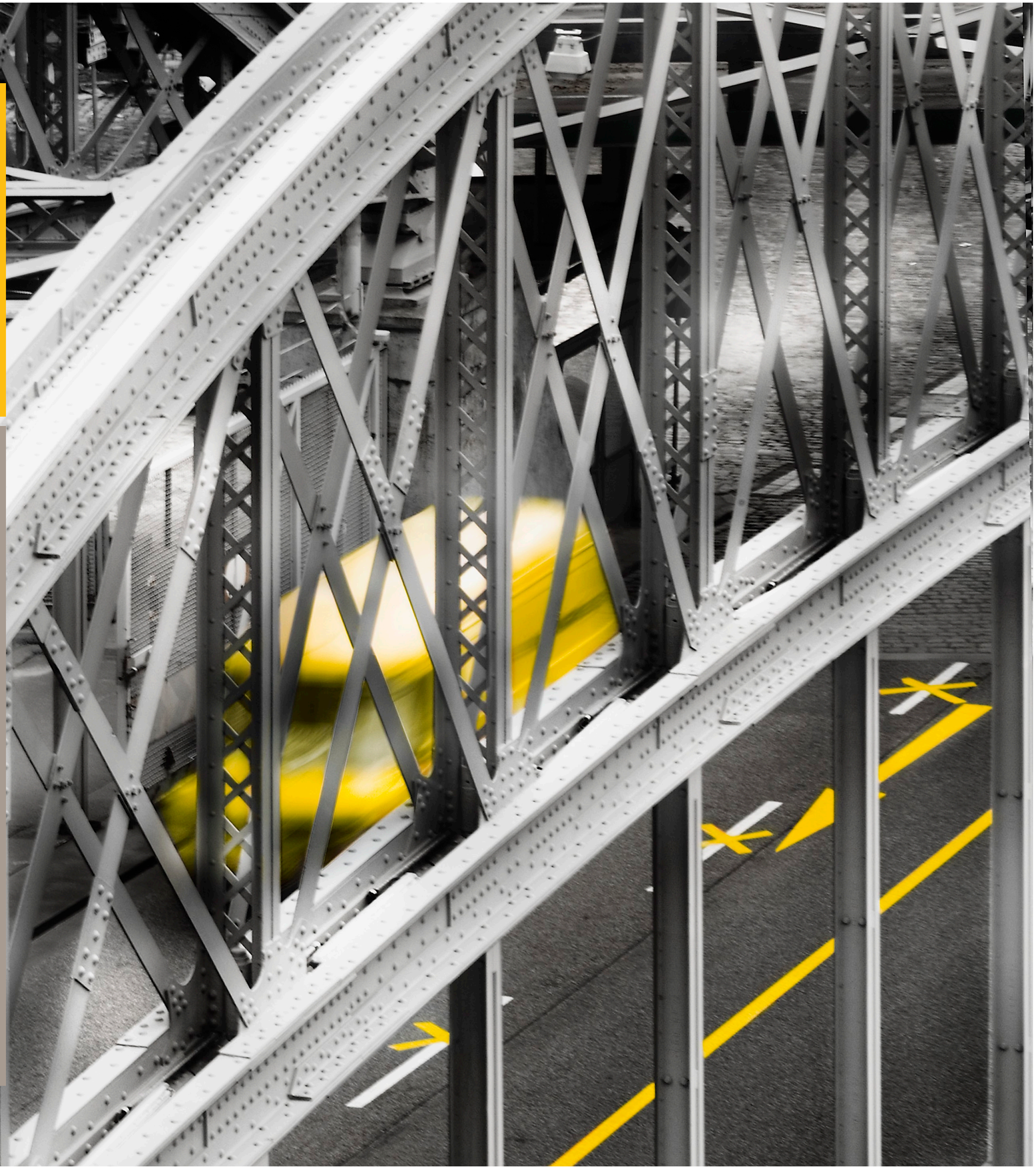
India has historically been a consumption driven economy. Therefore, development of roads sector warrants a greater priority. Funding for the Roads sector has been at about 15%-16% of the allocation for infrastructure. With increasing transport of goods, exports, highway connectivity to ports and airports; and connectivity to major cities, superior expressways are being seen as the future of road development.

Roads sector has also seen many success stories in the episode of PPP development. However, PPP framework needs to evolve further to address the future challenges facing the sector and the country. The contract structures and risk-reward mechanisms need to be tilted to ensure win-win situation for all the stakeholders.

I am pleased to share that efforts of PwC and ASSOCHAM have been dovetailed in bringing out this background paper on Highways. This conference has been organized to bring to light the issues currently being faced by the stakeholders who build the neural network of the nation (i.e. the roads). This conference is also a platform for stakeholders like developers, financial institutions like banks, NBFC's, Private Equity and other allied industries critical to the development of roads sector to come together, improve and create business prospects in highways sector.

Let's unite in making this event a grand success

Contents



Introduction 01

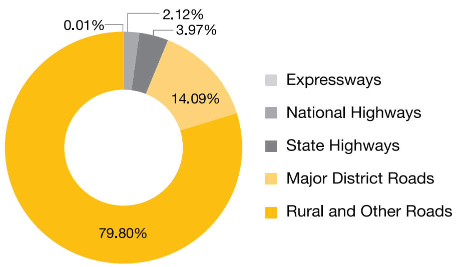
India has an extensive road network of 3.3 million km. Roads carry about 65% of freight and 80% of passenger traffic in the country. This network includes expressways, national highways, state highways, major district roads, city roads, village and rural roads etc.

Among all the infrastructure sectors, road transport contributes the most to the country's GDP. The transport sector in India has contributed 6% of the national income over a period of 10 years from 1999-2000 to 2008-2009. Of this, the share of road transport has increased from 63% in 2000 to 73% in 2009.

The Ministry of Road Transport and Highways (MORTH) is responsible for the development and maintenance of national highways in the country.

National highways in India have a total length of 70,934 km and serve as the main road network of the country. Even though expressways and national highways constitute only about 2% of the length of all roads, they carry about 40% of the road traffic. The number of vehicles has been growing at an average of 10.16% per annum over the last five years . This strains the road infrastructure. Moreover, only about 24% of national highways have four or more lanes. This demands significant improvement in highways in India

Figure 1: Road network in India



Source: NHAI

Figure 2: Contributions from different sub-sectors of transportation sector to Indian GDP in 2000 and 2009

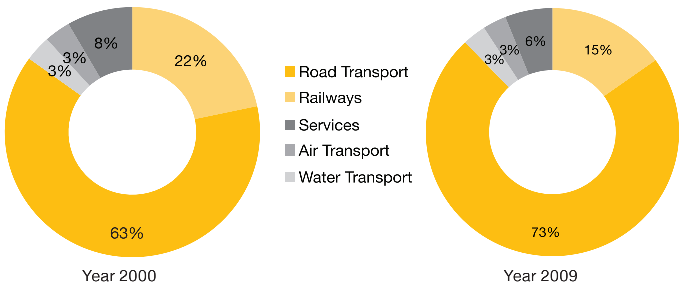
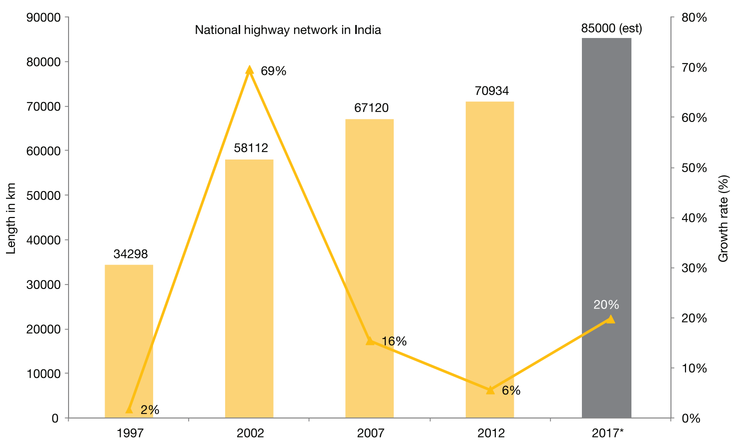


Figure 3: NH network in block of five years and estimated growth



Source: Ministry of Road Transport and Highways, Planning Commission, NHAI, PwC analysis

Growing national highway network

In 1947, India's national highway network was just around 23,000 km. This network grew gradually as there was no special focus given to it. It was in the late 1990s that the government realised the importance of improving the road network in India. The network of national highways has increased considerably over the last 15 years. In 1997, national highways had a total length of 34,298 km which shot up to around 70,000 km recorded presently. The chart alongside shows the additions to the national highway network from 1997 to 2012.

The national highway network witnessed slow growth between 1997 and 2002. This situation did not improve and the network grew a mere 16% between 2002 and 2007, and just 6% between 2007 and 2012.

Since national highways carry a major chunk of traffic, their share in the total road network in the country must increase. In line with the growing traffic, it has been suggested by the Working Group on Central Roads sector that the national highway network must be at 85,000 km by end-2017. This means a 20% rise over their current length.

Five-year plans and highway development

02

Table 1: Investment in roads and Highways in five-year plans

	10th Plan (2002-2007)	11th Plan (2007-2012)	12th Plan (2012-2017) estimated
Roads and bridges investment (US$ billion)	**32.2**	**69.8**	**145.8**
Public	30.6 (95%)	46.1 (66%)	87.5 (60%)
Private	1.6 (5%)	23.7 (34%)	58.3 (40%)
Total plan investment in infrastructure (US$ billion)	**193.7**	**456.9**	**910.9**
Roads and bridges investment as % of total infra investment	16.6%	15.3%	16%

Source: Planning Commission and PwC analysis
(1USD = 45 INR)

The previous graph shows that the maximum additions to the network were made during the Ninth Five-Year Plan (1997-2002). Since the development of highways started in a big way in the late 1990s and has been progressing, we must analyse the development of highways during the 10th (2002-07) and the 11th Five-Year Plans (2007-12). Analysing the way forward will include projections for the 12th Five-Year Plan.

The private sector participation, which was merely 5% during the 10th Five-Year Plan, is envisaged to increase to 34% during the current Five-Year Plan (2007-2012). Also, the investment in roads and highways is around 15% to 16%. If similar allocation is assumed for the roads and highways sector, the proposed investment requirement will be about US$ 146 billion during the 12th Five-Year Plan. A 40% private sector involvement will mean a whopping US$ 58 billion investment in roads and highways sector under public-private partnership (PPP).

The government of India, in its approach paper for the 12th Five-Year Plan, has stated its priorities for the roads and highways sector. The Planning Commission has suggested the following three priority areas for development of highways in the country.

- Improving connectivity to areas in the northeastern region
- Developing expressways with new alignment
- Augmenting the capacity of single lane highways in the country which are about 20,000 km long

Of the three objectives, the first one finds a place in the special accelerated road development programme while the others are part of the national highways development project.

The national highway development project: Genesis and evolution

03

The development of national highways in India has been entrusted with the National Highways Authority of India (NHAI). The national highways project in 1993 helped expand and upgrade some sections of the national highways in Andhra Pradesh, Bihar, Haryana, Rajasthan and West Bengal. The Indian government had formulated a programme for the development of national highways in India called the national highways development project (NHDP) in multiple phases. Phases I and II were launched in 1998. Phase I covered the Golden Quadrilateral (GQ) connecting the four major cities of Delhi, Mumbai, Chennai and Kolkata while Phase II comprised the East-West corridor from Porbandar in Gujarat to Silchar in Assam and the North-South Corridor from Srinagar in the north to Kanyakumari in the south with a spur line to Cochin. NHDP was expanded further to include Phases III to VII, of which 85% of the projects are being implemented through the PPP route.

PPP in the highways sector

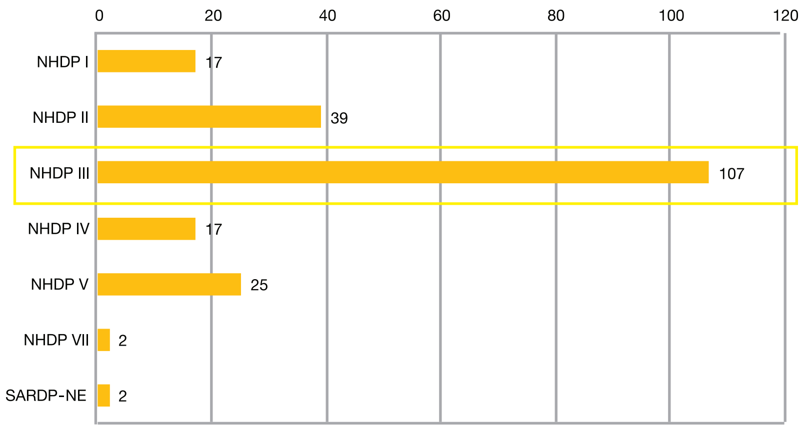
PPP in highways started with the NHDP. While the projects under NHDP Phase I and Phase II were predominantly implemented under the engineering procurement and construction (EPC) mode, the PPP mode was also experimented and projects were awarded under it. However, the PPP mode of procurement in a bigger way started with NHDP Phase III.

Table 2: Development plan of NH

NHDP-Phase	Description	Length (km)	Preferred Model of Development
I	Golden Quadrilateral, North-South and East-West Corridors	7,522	EPC
II	Mostly North-South and East-West Corridors and other national highways	6,647	EPC
III	Four-laning of certain national highways on BOT basis	12,109	PPP
IV	Upgrading single-lane highways to two lanes with paved shoulders	20,000	PPP
V	Upgrading four-lane highways to six lanes including port connectivity	6,500	PPP
VI	Expressways	1,000	PPP
VII	Ring roads, bypasses and flyovers	700	PPP

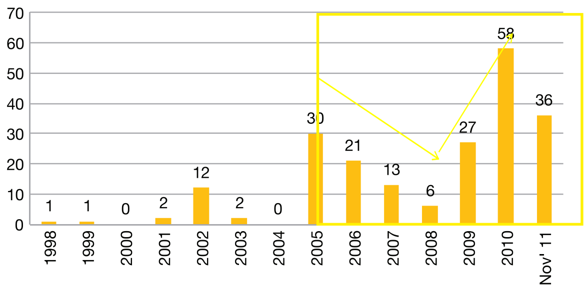
Source: NHAI

Figure 4: NHDP wise PPP projects award



Source: NHAI, PwC analysis;as on 30 November 2011

Figure 5: Year-wise PPP projects awarded by the NHAI



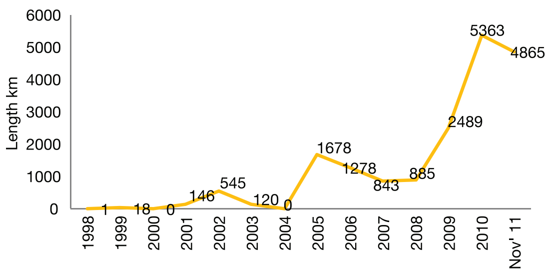
Source: NHAI, PwC Analysis; as on 30 November 2011

It can be observed from the chart here that PPP in NHDP Phase III picked up substantially and as many as 107 projects were awarded under PPP in that phase. It has been recommended by the ministry and Planning Commission that about 85% of the projects need to be developed on PPP mode in the later stages.

The chart here shows the growth of PPP in the Indian highways sector from 1998 to 2011.

It can be observed from the chart here that 209 PPP projects have been awarded up to November 2011. The chart also clearly shows two stages in NH PPP, one before 2005 and another from 2005. So, the real action in NH PPP started from 2005. From January 2005 to November 2011, 191 projects have been awarded. However, only 18 projects were awarded from 1998 to 2004. The number of PPP projects awarded reached as low as six during

Figure 6: Year-wise km length awarded under PPP



Source: NHAI, PwC analysis; as on 30 November 2011

Table 3: Status of NHDP up to August 2011

NHDP-phase	Length (km)	% completed	% under implementation	% to be awarded
I	7522	99%	1%	0%
II	6647	80%	14%	7%
III	12109	21%	51%	28%
IV	20000	0%	4%	96%
V	6500	10%	31%	59%
VI	1000	0%	0%	100%
VII	700	0%	6%	94%

Source: NHAI, Planning Commission

2008 which was primarily due to the global financial meltdown. Post 2008, the number of projects has picked up and 58 projects were awarded during 2010 alone. The length awarded was also in line with the projects awarded as presented alongside.

In 2010, the length awarded under national highway PPP saw the maximum increase to about 5400 km from about 2500 km in 2009. However, from 1998 to 2004, only 830 km was awarded under PPP. This rose to 17,401 km between 2005 and 2011 (upto November 11). This means a total length of 18,231 km has been awarded under PPP upto November 11.

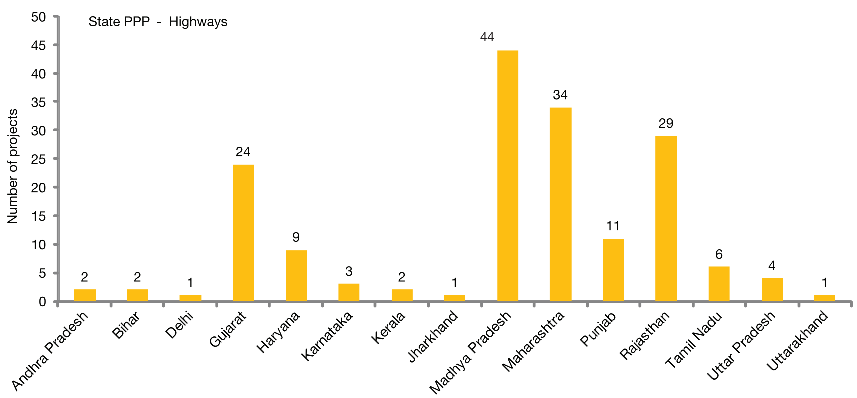
National highways development: Progress status

Presently in India, 24% of the national highways are of four-lane or higher while 52% are of two-lane capacity. The rest 24% are single-lane. The following table shows the progress of different phases of NHDP as on August 2011.

PPPs in state highways

04

Figure 7: State-wise PPP projects awarded



Source: PPP in India database

PPP in state highways started much later compared to the national highways. This is mainly due to the absence of a body like NHAI and a proper PPP policy at the state level. States were also apprehensive of their institutional strength to manage PPP.

However, things have changed over the past five to six years and as many as 15 Indian states have adopted the PPP model in the highways sector. In all, there have been 173 state PPP projects in the highways sector. States such as Gujarat, Madhya Pradesh,

Table 4: Investment committed in state highways PPP

State	Projects	Cost (crore ₹)
Andhra Pradesh	2	124
Bihar	2	2,419
Delhi	1	408
Gujarat	24	8,485
Haryana	9	3,533
Karnataka	3	416
Kerala	2	126
Jharkhand	1	55
Madhya Pradesh	44	6,877
Maharashtra	34	8,126
Punjab	11	786
Rajasthan	29	2,088
Tamil Nadu	6	1,786
Uttar Pradesh	4	42,838
Uttarakhand	1	26
Total	**173**	**78,093**

Source: PPP in India database

Rajasthan and Maharashtra have been frontrunners with each having more than 20 PPP projects under implementation or operations. The following table shows the distribution of state highway PPPs across states.

However, considering the investment in PPP projects in state highways, about 78,000 crore INR has been the overall commitment to the sector. Uttar Pradesh leads the pack with an investment of more than 40,000 crore INR. Though the state has only four projects, the single project Yamuna expressway costs 30,000 crore INR. The table here shows the break-up between investments in state highway PPPs.

Though some progress has been made in state highways, it has a long way to go because many states still do not have an appropriate policy, institutional framework and willingness to invite the private sector in highway development.

Different PPP models in the highways sector

05

Table 5: Various modes of PPP

Mode of development	Development risk	Financing risk	Traffic risk and accrual of toll fee collection	Net cash outflow for the government
BOT-Toll-Premium	Concessionaire	Concessionaire	Concessionaire	No
BOT-Toll- Grant	Concessionaire	Concessionaire	Concessionaire	Yes
BOT-Annuity	Concessionaire	Concessionaire	Authority	Mostly Yes. Net payment to be made is the difference between the toll collection and the annuity payable. The annuity payments to be made to the developer mostly exceed the toll collections.
OMT	No development except in case of paved shoulders	Concessionaire	Concessionaire	No

National highways

The highways sector has evolved over the past decade, especially in the national highways segment, and is reaching the stage of maturity. So far, NHAI has awarded PPP projects under Build Operate and Transfer (BOT-toll) and BOT (annuity). NHAI makes efforts to award projects under BOT (toll). In case the project is not commercially viable, the BOT (annuity) mode is adopted. NHAI has also decided to award some projects under the operation maintenance and transfer (OMT) mode. Recently, NHAI invited requests for qualification for 21 OMT contracts and as many as 80 applications were received.

Since sections typically do not experience much traffic in case of OMT contracts, augmentation of capacity in the form of lane additions may not be imminent. In such cases, just the operations and maintenance of the facility are entrusted to the developer.

The developer assumes the traffic risk in this case and agrees to pay a pre-determined premium (escalating at 5% per annum).

Out of the 209 projects awarded on national highways PPP basis as of November 2011, 159 were awarded on BOT (Toll) mode and the rest were awarded in the BOT (Annuity) mode.

The following table shows the number of projects that have been awarded on PPP as on 30 November 2011.

It can be observed that three out of four projects on a average are being awarded on BOT (Toll) mode. Considering the investment in PPP projects in national highways, 81% of the investment is in BOT (Toll) projects while the remaining 19% is in BOT (Annuity) projects. Also, maximum (20 projects) under BOT (Annuity) was awarded under NHDP Phase II. The OMT contracts are still in the nascent stages where there is no road construction involved.

Table 6: Investment under various PPP Modes in NH

	No of Projects	Investment (crore ₹)	Length (km)	Completed (no of projects)	Under implementation (no of projects)
BOT (Toll)	159	1,26,394	14,981	44	115
BOT (Annuity)	50	28,934	3,251	17	33
Total	**209**	**1,55,328**	**18,232**	**61**	**148**

Source: NHAI, PwC Analysis

Project	State	Payment components in the hybrid annuity model	
Chennai Outer Ring Road	Tamil Nadu	Fixed Project support fund of ₹300 crore INR during construction period	Annuity every six months
KSHIP	Karnataka	Fixed lump sum payment at 50% of the construction cost during the construction period	Annuity every six months

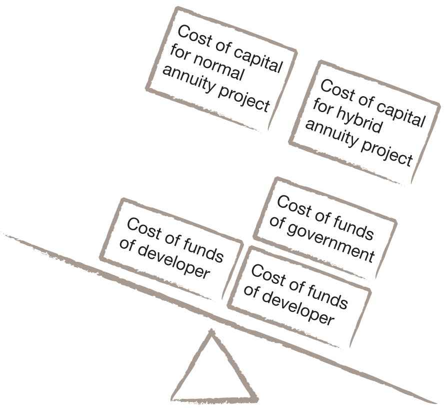
Source: PwC Analysis

State highways

Having seen the success of national highways PPPs, state governments too have used the models adopted by NHAI. The typical PPP contract structures include BOT (Toll) and BOT (Annuity). Recently, states like Tamil Nadu and Karnataka have gone a step ahead and adopted innovative PPP models which have not been tried at the Central level. Tamil Nadu has adopted a hybrid annuity model for its Outer Ring Road project near Chennai. The hybrid PPP model for the Greenfield project comprises both grant and annuity. The state would provide the developer a project support fund during construction and semi annuity during the operations period. Similarly, Karnataka has adopted the hybrid annuity model for the upcoming four projects under the KSHIP (Karnataka State Highway Improvement Project) programme being funded by the World Bank. The government would pay 50% of the construction cost during construction and pay annuity during operations. The following table elucidates the project structure in case of hybrid annuity model.

In the case of a PPP project, the private sector has a borrowing cost which is higher than that of a state government. Hence, a fraction of the cost on project financing in case of hybrid annuity is less than the normal annuity framework. In the annuity model, the entire cost of project is financed at the cost of capital of the developer. The annuity receivable by the developer has to be higher to meet the return expectation which is over and above the cost of capital.

Figure 8: Cost of fund comparison under hybrid and normal annuity



Whereas, in the case of hybrid annuity, the capital is financed at a rate which is the weighted average cost of capital of government and the private developer. The weighted average cost of capital under hybrid annuity project is always less than the cost of capital in case of normal annuity project. This results in marginal benefit for the government. Therefore, hybrid annuity is being considered by many other state governments.

An innovative PPP model like this one has to be thought depending on the project dynamics and market condition to maximise benefits to the awarding authority and bringing in maximum efficiency of the private developer.

Financing for the highways sector

06

The Central sector financing for highways had predominantly been through the following five different sources:

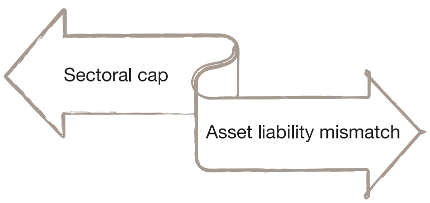
1. Central road: Through cess on sale of petrol and diesel
2. Budgetary allocation
3. Toll revenues on sections tolled by the government or NHAI
4. Negative grants or premium from certain projects awarded on BOT (Toll) mode
5. Multilateral funding

The Planning Commission has suggested that 1,66,738 crore INR would be required for NHDP during the Five Year Plan from the private sector. The Working group on Central Roads sector has suggested that the ongoing NHDP phases I, II, III and V have to be completed by the end of the plan period 2012-17. The period envisages augmentation of 32,750 km of highways with four or more lanes. As envisaged, if 85% of the projects have to be on PPP, it calls for substantial requirement.

Financing of PPP by the private sector

07

Figure 9: Major problem of banks in infra financing



With increasing private participation, the responsibility of financing PPP projects rests with the private developer. The financing is mainly through equity and domestic debt. In addition, foreign funds in the form of private equity and external commercial borrowings have not made sufficient inroads into the Indian highways sector. The absence of long-term sources of funds have forced Indian commercial banks to stretch beyond their limits in extending support to PPP in highways. Banks perennially suffer from issues such as high cost of deposits and asset liability mismatch (tenor of liabilities such as bank deposits are short term in nature while infrastructure loans are long term in nature). Banks fund long-term projects with a view that existing deposits would be rolled over and the growth in fund base would be exponential. The fund requirement for new projects too is rising. This would lead to lack of availability of funds for the sector in the future. Also, according to RBI, the exposure of banks to seven of their top 20 borrowers exceeded 40% net worth of the bank. In another 37 cases, the amount of funding was in the range of 30% to 40%. Banks which have reached the sectoral caps with respect to infrastructure lending are finding it difficult to lend further in this sector. This issue needs to be addressed with new sources of funds with longer tenors and lower costs.

Debt financing

To overcome issues faced by the private sector and commercial banks, efforts are being made to create long-term sources of financing. Sources such as insurance, pension funds which possess long-term capital do not lend directly to the infrastructure sector. The corporate bond market in India is also not liquid enough to provide long-term debt. To bridge this gap, the India Infrastructure Debt Fund is proposed to be created with a capital outlay of 50,000 crore INR exclusively for PPP projects. The objective of this fund will be to overcome the problems faced by banks in infrastructure financing. These funds would be used to refinance the loans by banks to the extent of 85% of the outstanding project debt. This restructuring will in turn release a good amount of funds to commercial banks which could be lent to new projects. Though SEBI and RBI have separately released guidelines to set up the fund under Mutual Fund and Non-Banking Financing Corporation route respectively, little action has been taken on this account. However, India Infrastructure Finance Company Limited IIFCL has announced that it will set up US$ 1 billion Infrastructure Debt Fund by February 2012. As per IIFCL, Asian Development Bank and HSBC will contribute 25% each to the fund and the remaining will come from IIFCL (26%), IDBI Bank (14%) and LIC (10%).

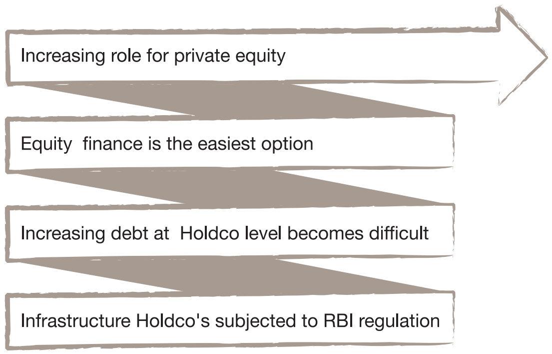
Another initiative to deal with asset liability mismatch was taken by way of Take Out Financing Scheme. The much talked about scheme which refinances the existing set of lenders in an infrastructure project has been doing the rounds since 2010. However, in September 2011, IIFCL, LIC and IDFC entered into an agreement to provide up to 30,000 crore INR to infrastructure projects. Under this agreement, IIFCL and LIC will take 20% each of a project cost, and IDFC the remaining 10%. This will help banks take exposure in more projects and also mitigate the risk of asset liability mismatch.

Equity financing

The equity requirement for projects has been sourced mainly from the promoter's funds. However, private equity too has been an important contributor to the provision of equity requirement for infrastructure projects. There have also been cases where non-banking finance companies (NBFCs) have made equity contribution to highway projects. Also, NBFCs and private equities are significant in providing necessary funds for the highways sector. The government too has provided tax incentives to NBFCs for raising infrastructure bonds.

In addition, there are many promoters who have the capabilities to build roads but face shortage of funds. These would typically be holding companies of infrastructure special purpose vehicle (SPV). These are subject to regulations by the RBI as they have been classified as systemically important core investment companies. Hence, leveraging at the level of the holding company will become difficult. Thus, private equity players will play an important role in financing projects in the highways sector.

Figure 10: Increase in importance of private equity



Development of Highways: Key challenges

08

Delays in project awards

For the past two years, there has been shortfall in PPP project awards by NHAI. In 2010-11, a mere 56% of the target kilometres that was planned for award was actually awarded. The next year, the situation was similar with just 51% of the target achieved.

Table 7: Status of target and achievement

Target awards	2010-11	2011-12
Target kms	9,000	7,995
Actual kms awarded	5,059	4,083#
Achievement	56%	51%

Source: Planning Commission, NHAI; #upto 30 November 2011

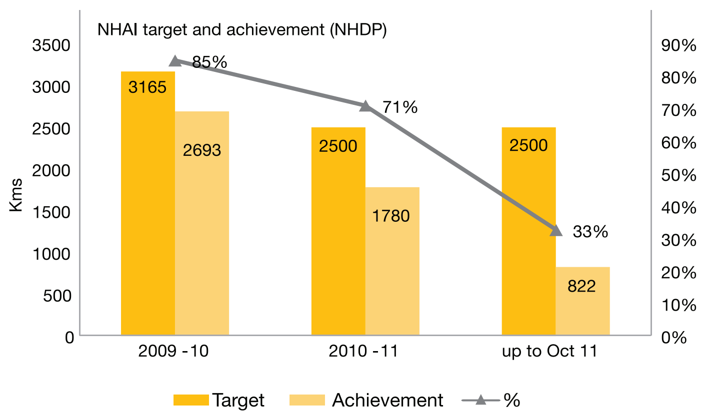
The target construction of national highways is set at 20 km per day. This translates to an annual construction of 7,300 km. Assuming that the general development period for a project is 30 months including the period for financial close, the total length of projects under construction must be in the range of 20,000 km. Hence, the achievement of project awarded needs to be around 8,000 km yearly if we are to build 20 km of road per day. It is understood that NHAI is planning to have cumulative work in progress in about 23,080 km as on 1 April 2012 to achieve higher road construction per day. However, that appears to be highly challenging considering the progress so far. The same is the case with state highways projects and many state governments are finding it difficult to create the shelf of PPP projects.

Delays in project execution

In the past few years, there has been consistent decline in execution of national highways. It is a serious issue as it will affect the target of the construction of 20 km per day.

In 2009-10, the target length of road (NHDP) to be constructed was 3165 km. This has to be increased by about 200% to 7300 km to achieve 20 km of road construction per day. However, the construction during the year was only 2693 km showing achievement

Figure 11: NHAI target and achievement



Source: MORTH

of 85%. The speed of construction fell further in the year 2010-11 to 1780 km (71% achievement) and to 822 km (33% achievement) in year 2011-12 (upto October 2011). In financial year 2011-12 (up to October 2011), only 4.5 km road was constructed per day on an average. This is far below the set target. Also, a sample of 25 PPP projects which were awarded earlier and were likely to be completed by November 2011 were studied to assess the compliance with project schedule. It was observed that the minimum delay is four months and the maximum delay is 37 months. The average delay per project was around 22 months.

Table 8: Delay in project execution

Delays in project execution	
No of PPP projects studied	25
Minimum delay	4 months
Maximum delay	37 months
Average delay	22 months

Source: NHAI

This delay can be attributed to land acquisition, delays in procurement and construction by the developers or contractors, etc. However, historically, most PPP projects in India have achieved financial closure within the given deadlines. Hence, these delays could be due to handing over of entire land in time, utilities shifting, inefficient project planning and management by the authority and the developer communities. Similarly, most state government projects are running behind their schedule too.

The delays in land acquisition can be overcome if the cases related to land acquisition are put on fast track. The Indian government has taken efforts to table the new land acquisition bill which provides for high compensation in case of land being acquired for public purposes. The bill provides for compensation for parting of land to the owner and also for loss of livelihood. This bill will solve the issues of land acquisition, rehabilitation and resettlement and provide adequate compensation. Once the bill is passed, the process of land acquisition might become faster and will not impact the project construction.

Delays due to lapses by the private sector can be addressed by improving project management practices. These issues need to be addressed if we were to achieve the desired target of 20 km road construction per day.

Issues related to Dispute Resolution

As many as 1646 cases related to NHAI projects are under litigation at different levels. As of March 31st, 2011; funds amounting to the tune of 11206 crore INR is under dispute across various contracts involving NHAI.

Table No 9- Disputed Cases in NHAI

	No. of Cases	Amounts (Crore ₹)
Arbitration Tribunal	1105	10227
Courts	541	879

Source: MORTH

Litigations in Highway projects arise due to various reasons, these include Land related issues, approval related issues, delays in submission and acceptance of drawings/documents, deviations from agreed terms, difference in interpretation of certain clauses. Challenges arose in speedy delivery of verdicts in these cases. Once awarded, the funds locked in would be released and these could be used in new projects. Hence, a committee under the chairmanship of Mr. B.K. Chaturvedi was constituted to give recommendations on improving the dispute resolution procedure. The committee came up with its recommendations to classify the cases based on the amounts involved in these disputes. Based on these recommendations;

a. Category A disputes – Where amount involved is less than Rs. 10 crore or 5% of contract value (whichever is lower) to be referred to a committee consisting of retired High Court judge, former

CAG, vigilance commissioner and technical expert.

b. Category B disputes – Where amount involved is between Rs. 10 crore and Rs. 100 crore. In such cases, the recommendations of the arbitration tribunal may be accepted

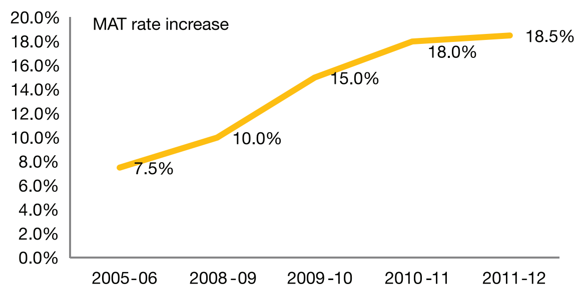
The committee has recommended review of the verdicts by the dispute resolution board by a separate technical expert to increase the credibility in the process of dispute resolution. We believe that, the recommendations having been accepted by the ministerial panel would aid to putting the resolution of disputes on fast track.

Issues impacting the viability of highways PPP

Infrastructure projects in general have a long gestation period before profits are generated. The critical factor determining the risk of viability of a project is the capital cost. The agreement provides for adequate compensation due to changes in regulatory environment impacting the costs of the project by provisions related to change in law. However, the change in law does not protect the project company from increase in rates of direct taxes. On the other hand, government provides tax holidays to infrastructure projects. However, project companies are liable to pay minimum alternate tax during the years where the book profits are higher than the taxable profits. Credit can be availed on the minimum alternate tax that was paid in the subsequent years where there is a need to pay corporate tax. The minimum alternate tax has been consistently rising over the year as given in the figure alongside:

The minimum alternate tax which was at 7.5% in 2005-06 was increased steadily and is currently at 18.5%. This impacts the project viability greatly.

Figure 12: Increase in MAT rate



Contract management and value for money analysis

As India moves further on the scale of PPP projects in highways, management of contract and effective monitoring will be equally important to achieve the efficiency of private sector. Therefore, it is important that the awarding authorities (Central and State level) are geared to have robust contract management plan and effective institutional framework or mechanism in place so that following can be achieved:

3. Sound contract administration
4. Performance monitoring
5. Effective service delivery
6. Cordial relationship management

In addition, Draft National PPP Policy 2011 requires value for money (VfM) for all PPP projects in future. To analyse VfM, there is a need for historical information on national and state highways projects. However, finding historical information on state highways projects with respect to capital cost and operation and maintenance cost is a big challenge because state authorities do not maintain such information in a way which is required. Therefore, conducting VfM for state highways PPP projects will be a challenge. State highways authorities need to create a database of historical projects with details like time and cost which would help in VfM exercise, if required.

Recent initiatives by the NHAI

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Initiatives such as annual pre-qualification of applicants and e-tendering have been welcomed by the industry. Annual pre-qualification is a process adopted by NHAI recently. Earlier, developers were asked to submit applications for qualification for each and every project. That not only made the process repetitive adding to redundancy but also resulted in a lot of time being consumed in this task. NHAI, with the advent of request for annual qualification (RFAQ) process, has released a list of developers who have been adjudged as qualified for the year with the cost of projects for which they can submit bids. This has reduced a lot of paper work without compromising the transparency of the bidding process. With players becoming more and more aggressive in bidding for road projects, developers feel that the annual qualification process has helped them assess competition better. Developers also feel that they are able to assess the appetite of each other developer in bidding for highway projects.

In addition, the e-tendering mode of submission of bids too has reduced paperwork to a great extent.The option for making payment for purchase of applications has also been made available online to the developer.

Outlook and opportunities 10

In India, the number of developers entering the road development space has been on the rise. While it demands more vigilance on the part of the government to ensure that only the capable players are entrusted with the responsibility of road development, it has also increased competition and augmented the capacity of the country as a whole in increasing the speed of development (more players in the industry ensure parallel development of highways at multiple locations within the country). The main hurdle in the development of highways at a faster pace is the delay in land acquisition and statutory clearances. In the absence of stronger land laws, land acquisition becomes a contentious issue in a country like India with a large population. Effective legal framework and proper execution with respect to land acquisition is needed for a faster development of roads. Government must ensure faster procurement of all statutory clearances. 100% of the land and right of way required for a project should be handed over to the developer before the start of construction. It is also required at the state level to have effective highways PPP policy in place before inviting the private sector to develop highway projects. Many state governments still do not have highways PPP, toll policy and a proper institutional arrangement to effectively manage the contract. Therefore, authorities at state level have to pro-actively initiate the steps in this direction to be better prepared for highways PPP projects.

With increasing private participation, critical risks are transferred to the private sector. Government assumes the role of a monitoring authority where projects have pre-determined project milestones stipulated in the concession agreement. The authority appoints an independent engineer who monitors the progress of projects and periodically reports to the authority. The concessionaire is hereby motivated to complete the project within the stipulated time and without compromising the safety standards and quality. Moreover, the substantial transfer of risk to the developer can help the government focus on a large number of projects across a larger geography. Hence, the authority needs to have sufficient manpower and organisation to manage large size projects across geographies. They must work together with the concessionaire, state government and other stake holders to ensure project success.

It has been felt that congestion levels have been increasing at the toll plazas. A lot of time is spent in exchange of cash and receipts at toll plazas. To overcome these issues, electronic toll collection is important. Although a committee set up in this respect has given its recommendations on, its early implementation will be a challenge as all national highways in the country need to be integrated.

While the highways sector in India is likely to face some challenges in future, it offers significant opportunities of investment. The investment in the road sector has been rising and is estimated to increase to US$ 69.8 billion in the 11th Five Year Plan from US$ 32.2 billion in the 10th Five Year Plan. The estimate for the 12th Five Year Plan suggests that the investment requirement by private sector could be well above US$ 145 billion. This shows a huge potential for private sector participation in highways building in India.

Notes

About Assocham

The knowledge architect of corporate india

Evolution of Value Creator

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 400 Chambers and Trade Associations, and serving more than 4,00,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country.

Today, ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'.

ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally.

ASSOCHAM derives its strength from its Promoter Chambers and other Industry/Regional Chambers/ Associations spread all over the country.

Vision

Empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the barrierless technology driven global market and help them upscale, align and emerge as formidable player in respective business segments.

Mission

As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, Health, Corporate Social responsibility and environment to be the critical success factors.

Members – Our Strength

ASSOCHAM represents the interests of more than 4,00,000 direct and indirect members across the country. Through its heterogeneous membership, ASSOCHAM combines the entrepreneurial spirit and business acumen of owners with management skills and expertise of professionals to set itself apart as a Chamber with a difference.

Currently, ASSOCHAM has more than 100 National Councils covering the entire gamut of economic activities in India. It has been especially acknowledged as a significant voice of Indian industry in the field of Corporate Social Responsibility, Environment & Safety, Corporate Governance, Information Technology, Biotechnology, Telecom, Banking & Finance, Company Law, Corporate Finance, Economic and International Affairs, Tourism, Civil Aviation, Infrastructure, Energy & Power, Education, Legal Reforms, Real Estate and Rural Development to mention a few.

Insight into 'New Business Models'

ASSOCHAM has been a significant contributory factor in the emergence of new-age Indian Corporates, characterized by a new mindset and global ambition for dominating the international business. The Chamber has addressed itself to the key areas like India as Investment Destination, Achieving International Competitiveness, Promoting International Trade, Corporate Strategies for Enhancing Stakeholders Value, Government Policies in sustaining India's Development, Infrastructure Development for enhancing India's Competitiveness, Building Indian MNCs, Role of Financial Sector the Catalyst for India's Transformation.

ASSOCHAM derives its strengths from the following Promoter Chambers: Bombay Chamber of Commerce & Industry, Mumbai; Cochin Chambers of Commerce & Industry, Cochin: Indian Merchant's Chamber, Mumbai; The Madras Chamber of Commerce and Industry, Chennai; PHD Chamber of Commerce and Industry, New Delhi and has over 4 Lakh members.

Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

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