Financing Road Projects in India Using PPP Scheme

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ABSTRACT

India has one of the largest road networks in the world, aggregating around 3.3 km. Historically, the budgetary resources from the governments have been the major source of financing for infrastructure such as road projects in India. These investments have resulted in an increase in the length of the road network from 0.4 million km in 1950–51 to 3.3 million km in 1995–96. But the development of the road network has failed to keep pace with the growth in the traffic. The reduction of the budgetary allocation towards roadway upgrades on account of the competing demands from other sectors, such as social and economic infrastructure and the limitations in the traditional public procurement system, have resulted in deficiencies in the road network leading to capacity constraints, delay, congestion, fuel wastage, and higher vehicle operating costs.

In order to remove the deficiencies and upgrade the road network to world-class standards, the governments at the Union and state levels have initiated various measures. For instance, at the national level, the Union Government has introduced various structural reforms and fiscal incentives to promote private sector participation in the development of a National Highway network. The public-private partnership (PPP) models that have been used in procuring the National Highways projects include Build-Operate-Transfer (BOT) (Toll) and BOT (Annuity) models. Besides bringing efficiency gains in the implementation of the projects, the involvement of the private sector through the PPP route also facilitates private investments in the development of road projects. This paper focuses on the various approaches that have been used for financing of PPP road projects in India. The reforms, measures, and procurement strategies that have been initiated to enable financing through PPP route in view of the risk profile associated with such projects are also discussed. The degree of financing from the private sector depends on, inter alia, the risk profile and financial viability of the project. This in turn influences the selection of the type of PPP model that is considered most appropriate for the concerned project.

Keywords: BOT—infrastructure financing—PPP—project risks
INTRODUCTION

Historically, budgetary resources from the governments have been the major source of financing for infrastructure such as road projects in India. Investments in road sector in the post-independence era have resulted in expansion of the road network from 0.4 million km in 1950–51 to 3.32 million km in 1995–96. In the corresponding period, kilometers of roads with the proper surface has increased from 0.156 million km to 1.517 million km (Planning Commission 1997). On the other hand, in the period 1950–51 to 1995–96 the number of passenger buses has gone up 13-fold from 34,000 to 450,000, while the goods vehicle fleet has increased 22-fold from 82,000 to 1,785,000.

In order to keep pace with the growth in traffic, the Central Government’s Five Year Plans have emphasized the need for improvement in the road network and the need to overcome inadequacies in the roads. The seventh Five Year Plan (1985–89) indicated the need for further improvement in the road network as significant portions of the network were without proper surface and pavement width, as most of the roads were single lane (Planning Commission 1980). The report also mentioned that even in the case of National Highways, a significant portion of the roads were single lane. The eighth Five Year Plan (1989–91) also reiterated the need to overcome the problems of inadequate road pavement; and breadth, thickness, and presence of old, weak, and narrow bridges and culverts (Planning Commission 1992). The severe deficiencies in the road network and the growing mismatch between traffic needs and available infrastructure have resulted in severe capacity constraints, delay, congestion, fuel wastage, and higher vehicle operating costs.

The decline in the allocation of funds over various plan periods in terms of percentage of the total plan outlay has been identified as one of the factors partly responsible for the inadequacies in the road network. The lack of investment manifested itself in the form of non-replacement of overaged stock, slowing down of modernization, and inadequate attention to maintenance (Planning Commission 1992). Besides the budgetary constraints, the traditional public procurement system has serious weakness in planning and implementation of road projects leading to time and cost overruns. In order to augment resources, the Indian government has emphasized, starting from the seventh Five Year Plan (1985–89), the need to look for resources from nonconventional sources of funds and private sector participation in road sector (Planning Commission 1980).

The steady economic growth due to economic liberalization in the 1990s has resulted in high traffic growth with the highways becoming increasingly congested, thereby driving up the demand for improved road transport. The upgrade of the Indian road network to world-class standards has assumed immense importance in the post-liberalisation era, as the delay on the roads could result in high inventory costs, thus affecting India’s competitiveness in the international market (Planning Commission 1997).

In the post-liberalization era, there has been a paradigm shift in the mode of procurement of infrastructure such as road projects in India. The Central Government and state governments have adopted a public-private partnership (PPP) route in place of a traditional public procurement process for development of limited stretches of the road network. One of the reasons governments are opting to use PPPs for the development of infrastructure is to use the skills, innovations, and managerial capability of the private sector to optimize efficiency in infrastructure projects. PPP arrangements are also employed by governments with the objective of using private financing to address the funding needs, in the light of the competing demands on budgetary resources from social and economic sectors. This paper focuses on the various approaches that have been used for financing the National Highways projects through the PPP route in India. The reforms, measures, and procurement strategies that have been initiated to enable financing through the PPP route in view of the risk profile associated with such projects are also discussed.

Kalidindi, Singh
PPPs—CONCEPT AND MODELS

PPPs aim at financing, designing, implementing, and operating public sector facilities and services through partnerships between public agencies and private sector entities (UNECE 2008). One of the main reasons governments are opting to use PPPs for infrastructure development is to increase the efficiency of infrastructure projects through a long-term collaboration between the public sector and private business (Davies and Eustice 2005). Emphasizing efficiency gains from a PPP perspective, it is stated that the main consideration for public agencies for opting on PPPs should be ensuring monetary value. PPPs facilitate the project to be implemented on time and within budget. The “no service/no pay” principle ensures that the private partner is incentivized for timely delivery and operation of project assets. Better overall governance by private sector entities enables the private partner to have better control of cost overruns contrary to traditional public procurements which are often characterized by significant construction delays and cost overruns. On account of assigning life cycle maintenance obligations to the private sector, private partners are incentivized to optimize capital and maintenance expenses over the project duration. In short, by transferring responsibilities and risks to those best able to manage them under PPPs, overall cost of risk is reduced. This reduced cost of risk is the key means of delivering value for money to the public sector. In fact, in case of successful PPP projects on account of the reduced cost of risk, there is still monetary value in spite of the high cost of finance from private partners vis-à-vis public borrowing (EIB 2004).

PPPs, in the broadest sense, can cover all types of collaboration across the interface between the public and private sectors to deliver policies, services, and infrastructure. The term PPP refers to a wide range of arrangements with simple arrangement such as management contract on one extreme of the spectrum, while arrangements such as full privatization or divestiture remain on the other extreme of the spectrum. Various approaches are in use to classify the arrangements between the two extremes of the spectrum. One of the approaches is to refer to the wide variety of arrangements based on the involvement of the private and public sectors in the various phases of project life cycle (Pakkala 2002). However, the most common way of referring to the different arrangements is based on the extent to which the responsibilities and risks are transferred from public sector to private sector. Figure 1 shows the risk transfer continuum and the characteristics of the various PPP models. The risk transfer to the private sector increases as we move from maintenance management to divestiture (Hammami et al. 2006). Critical risks such as market risk are completely transferred to the private sector in PPP models such as BOT and divestiture.

Figure 1. PPP models risk transfer continuum and their characteristics (adapted from ADB [2000] and World Bank [2004])
PPPS IN NATIONAL HIGHWAYS NETWORK

National highways are the arterial roads that run through the width and breadth of the country connecting state capitals, ports, industrial and tourist centers, and adjacent countries. The National Highways, with a total length of 65,659 km, account for just 2% of the 3.3 million km road network, but carry 40% of the total traffic (DoRTH 2007a). In spite of the fact that National Highways have played a key role in the economic growth of the country, the Central Government has not been able to allocate sufficient budgetary resources to meet roadway needs due to competing demands from other sectors, especially the social sector. The Government of India, which has jurisdiction over the National Highways network regarding its development and maintenance, has sought the involvement of the private sector through the PPP route to meet the galloping resource requirements and overcome the inefficiencies in the traditional public procurement system.

Involvement of the private sector in the development of road projects in the National Highways network are through PPP models such as Build-Operate-Transfer (BOT) and Design and Construction (or Design and Build/EPC) contract. BOT (Toll) and BOT (Annuity) are the two variants of the BOT model through which capital from the private sector is invested in the development of road projects. In a BOT (Toll) Model, the concessionaire (private sector) is required to meet the upfront/construction cost, operational cost, and the expenditure on annual and periodic maintenance. The concessionaire recovers the costs along with the interest and a return on investment out of the future toll collection. A capital grant is also provided in order to bridge the gap between the investment required and the gains arising out of it and increase the viability of the projects. With respect to the BOT (Annuity) Model, the concessionaire is required to meet the entire upfront/construction cost and the expenditure on annual maintenance. The concessionaire recovers the entire investment and a predetermined cost of return out of the annuities payable by the granting authority every year.

The Central Government of India has undertaken the ambitious National Highways Development Program (NHDP) to upgrade the National Highways in seven phases. The Government of India in January 1999 formally launched NHDP to develop the Golden Quadrilateral network (the National Highways network connecting the four metro cities of Mumbai, Chennai, Kolkata, and Delhi) under NHDP Phase I and north–south and east–west (NSEW) corridors under NHDP Phase II. The National Highways Authority of India (NHAI) was mandated to implement this program, which was estimated to cost 540 billion Indian Rupee (INR) (in 1999 prices). NHAI planned private sector participation in certain stretches of the National Highways network under the NHDP project and anticipated private investments to the tune of INR 40 billion (in 1999 prices). NHAI involved the private sector in the NHDP projects through the two PPP models: BOT (Toll) and BOT (Annuity).

The scope of NHDP has been further expanded when the Government of India included five more phases (i.e., NHDP Phase III to NHDP Phase VII) to the program under the government’s ambitious plan to upgrade the National Highways in a phased manner in the period 2007–2012 (see Table 1).

The Committee on Infrastructure, Government of India, estimated that investment to the tune of INR 2,272.58 billion, including INR 524.34 billion for completion of NHDP phases I and II, will be required to complete the program (DoRTH 2007a). The major portion of the investment is expected from the private sector since the government, as a matter of policy, has decided that all sub-projects in NHDP Phase III to Phase VII would be taken up on PPP basis, i.e., through BOT mode (Ministry of Finance

1 1 US$ = INR 48.3 on July 20, 2009
Implementation of projects through design-build contract will be only in exceptional cases, where private sector participation is not possible at all.

Table 1. National Highways Development Program for 2007–2012 (Adapted from DoRTH [2007b])

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Likely Cost (in INR Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of GQ and EW-NS corridors</td>
<td>524.34</td>
</tr>
<tr>
<td>4-laning of 11,113 km under NHDP Phase-III</td>
<td>724.54</td>
</tr>
<tr>
<td>2-laning with paved shoulders of 20,000 km of National Highways under NHDP Phase-IV</td>
<td>27.8</td>
</tr>
<tr>
<td>6-laning of selected stretches of National Highways under NHDP Phase-V</td>
<td>412.10</td>
</tr>
<tr>
<td>Development of 1000 km of expressways under NHDP Phase-V</td>
<td>166.80</td>
</tr>
<tr>
<td>Construction of ring roads, flyovers, and bypasses on selected stretches under NHDP Phase-VII</td>
<td>166.80</td>
</tr>
</tbody>
</table>
| Total                                                                           | 2,272.58                     

ENABLING FRAMEWORK FOR PPPS IN NATIONAL HIGHWAYS

The Central Government of India has introduced various reforms and initiatives in order to create an enabling framework for private sector participation in development of National Highways. One of the important steps taken up by the Central Government in this direction was the constitution of NHAI with the enactment of National Highways Authority of India Act, 1988 (Ministry of Law and Justice 1988). NHAI, which was put into operation in February 1995, has been responsible for the development, maintenance, and operation of the National Highways. The Government of India has also reformed the legal framework and paved the way for private sector participation in development of National Highways with the amendment of the National Highway Act, 1956 in June 1995. This act has enabled private investors to levy toll and allowed participation in construction, maintenance, and operation of National Highways.

Since the Government of India decided in April 1995, to involve private sector in road development, several institutional reforms and fiscal incentives have been introduced besides the legal reforms to encourage private sector participation in the upgrade of the National Highways network. The key broad and road-sector–specific institutional reforms and the fiscal incentives introduced are highlighted below (DoRTH 2009):

1. Government to bear the cost of project feasibility study, land for the right-of-way and wayside amenities, shifting of utilities, environment clearance, cutting of trees, etc.
2. Foreign Direct Investment up to 100% in road sector
3. Provision of subsidy up to 40% of project cost to make projects viable; the quantum of subsidy will be decided on a case-by-case basis
4. 100% tax exemption in any consecutive 10 out of 20 years after commissioning of the project
5. Duty free import of high capacity and modern road construction equipment
6. Road sector has been accorded the status of an industry via Section 18 (1)(12) of the Infrastructure Act
7. Easier external commercial borrowing norms

As part of the initiative to encourage private sector participation, the Central Government of India has developed model concession agreements (MCAs) for PPPs in the road sector, such as MCAs for major road projects costing more than INR 1 billion undertaken under BOT (Toll) basis, MCAs for minor road projects costing less than INR 1 billion undertaken under BOT (Toll) basis, and MCAs for road projects undertaken under BOT (Annuity) route. Another model concession agreement was developed by Planning Commission, Government of India, for road projects taken up on a Design-Build-Finance-Operate (DBFO) basis. These standard concession agreements will facilitate standardization of terms and conditions and ensure uniformity in the various agreements for PPP road projects (Planning Commission 2002). In addition, the model concession agreements also spell out the precise policy and regulatory framework put in place for PPP road projects (Planning Commission 2006a). This framework addresses the issues that are typically important for limited recourse financing of infrastructure projects, such as mitigation and unbundling of risks, allocation of risks and rewards, symmetry of obligations between the principal parties, precision and predictability of costs and obligations, and force majeure and termination.

In addition, standard documents have also been formulated for the two-stage bidding process for PPP projects. The first stage is generally referred to as the Request for Qualification (RFQ) stage, which is to pre-qualify and short-list eligible bidders for stage two of the process (Ministry of Finance 2009). The second and final stage of the bidding process, which is generally referred to as the Request for Proposal (RFP) stage, is aimed at obtaining financial offers from pre-qualified bidders after the RFQ stage (Ministry of Finance 2007). Detailed guidelines for inviting applications for pre-qualification and short-listing of bidders, submission of financial offers, and criteria for selection of bidders are provided in the model RFQ and RFP documents. The Government of India has also created different guidelines for PPP projects of different project costs on the formulation, appraisal, and approval of the projects in order to ensure speedy appraisal of projects, and have uniformity in appraisal mechanism and guidelines (Department of Economic Affairs 2008a). Finally, a Public Private Partnership Appraisal Committee (comprising secretaries of Departments of Economic Affairs, Expenditure, Legal Affairs, Planning Commission, and the department sponsoring the project) has been set up, which will facilitate appraisal and approval of PPP projects of all sectors, including projects under NHDP where the capital costs are above INR 5 billion (Department of Economic Affairs 2005).

The Government of India has taken various initiatives to meet the unique financing needs of infrastructure projects. In order to provide long-term finance (debt or equity) to infrastructure projects, the Ministry of Finance, Government of India evolved the scheme for financing commercially viable infrastructure projects in various sectors such as roads, power, solid waste management, and water supply through a special purpose vehicle called the India Infrastructure Finance Company Limited (IIFCL) in 2006 (Planning Commission 2006b). A corpus fund titled India Infrastructure Project Development Fund (IIPDL), with an initial contribution of INR 1 billion has been set up to provide financial support to the state and central ministries for quality project development activities (Department of Economic Affairs 2008c). Finally, a Viability Gap Funding Scheme was launched in 2004 to meet the funding gap of economically essential projects and make it commercially viable for private sector participation (Department of Economic Affairs 2008b).
Private sector participation in the development of road projects in the National Highways network takes place through the two variants of the BOT model: BOT (Toll) and BOT (Annuity). The risk allocation framework and the bidding process for these models are discussed in detail in the following sections.

**BOT (Toll) Model**

In the BOT (Toll) model, the commercial and technical risks relating to construction, operation, and maintenance of the projects are allocated to the concessionaire. The traffic revenue risk, which is one of the critical risks associated with PPP road projects in India, is also allocated to the concessionaire. The risk allocation framework as per MCA for the BOT (Toll) project developed by the Planning Commission is presented in Table 2.

Through a two-stage bidding process, the concession is awarded to the concessionaire. In the first stage (also known as qualification stage) bidders provide the information specified in the RFQ. The pre-qualified bidders are then invited to submit their bids. Bids could be invited for the project on the basis of the lowest financial grant that would be required for implementing the project. Instead of seeking a grant, the bidders could also offer to share the revenue or make upfront payment to the granting authority for award of the concession. The grant/revenue sharing constitutes the sole criterion for evaluation of the bids and the concession is awarded to the bidder quoting the highest revenue sharing. In the event that the bidder is not sharing the revenue, then the concession is awarded to the bidder seeking the lowest grant.

**BOT (Annuity) Model**

BOT (Annuity) is a traffic risk-neutral PPP model. In this PPP model, the concessionaire is selected through the two-stage bidding process. In the first stage, the interested parties are invited to furnish their technical and financial strength. The pre-qualified parties are then invited to submit the financial bid, which is the cost of construction, operation, and maintenance of the facilities, and a percentage of returns thereon quoted on a semi-annual basis throughout the concession period. The contract is awarded to the bidder with the lowest quote of the annuity. The granting authority pays the concessionaire annuities on each annuity payment date as per the annuity payment schedule, after adjusting for non-availability of the lane and delay or early achievement of commercial date.

In this PPP model, the concessionaire assumes risks relating to construction, technical, operation, and maintenance, while the other critical risks relating to land acquisition, permit/approval, traffic risk, and toll collection risk are allocated to the granting authority. The risk allocation framework for BOT (Annuity) projects as per the MCA for BOT (Annuity) is presented in Table 3.
## Table 2. Risk allocation framework for BOT (toll) project

<table>
<thead>
<tr>
<th>Risk</th>
<th>Allocated to</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit/ approval</td>
<td>Granting authority/ Concessionaire</td>
<td>Applicable permits relating to environmental protection and conservation of the site to be obtained by the granting authority, other applicable permits are to be obtained by the concessionaire</td>
</tr>
<tr>
<td>Delay in land acquisition</td>
<td>Granting authority</td>
<td>Granting authority shall pay damages calculated at Rs 50 per day for every 1,000 sq. m commencing from 91st day of the date of financial closure and until such right-of-way is procured</td>
</tr>
<tr>
<td>Delay in financial closure</td>
<td>Concessionaire</td>
<td>In case the financial closure does not happen within 300 days of signing concession agreement, then concession agreement shall be deemed to have been terminated by mutual agreement of the parties. The granting authority can encash the bid security.</td>
</tr>
<tr>
<td>Traffic revenue risk</td>
<td>Concessionaire</td>
<td>MCAs provide for extension of the concession period in the event of a lower than expected growth in traffic. Conversely, the concession period is proposed to be reduced if the traffic growth exceeds the expected level.</td>
</tr>
<tr>
<td>Time overrun during construction</td>
<td>Concessionaire</td>
<td>In the event the concessionaire fails to meet the project milestone, he or she has to pay damage at 0.1% of the performance security amount (which is about 5% of the total project cost) for each day of delay. However, the damages paid will be refunded in case the project achieves completion on or before the scheduled completion date.</td>
</tr>
<tr>
<td>Change of scope</td>
<td>Granting authority/ Concessionaire</td>
<td>Granting authority will bear all the costs arising out of any change of scope order if the costs exceed 0.25% of the total project cost. Otherwise, the costs shall be borne by the concessionaire.</td>
</tr>
<tr>
<td>Operation and maintenance risk</td>
<td>Concessionaire</td>
<td>In case of lane closure beyond the specified time limit, concessionaire shall pay damage calculated at 0.1% of the average daily fee for every stretch of 250 m or part thereof, for each day of delay.</td>
</tr>
<tr>
<td>Competing roads</td>
<td>Granting authority</td>
<td>The granting authority will pay the concessionaire compensation equal to the difference between the realizable fee and the projected daily fee until the breach is cured.</td>
</tr>
<tr>
<td>Change in law</td>
<td>Granting authority/ Concessionaire</td>
<td>The effects of the change in law in terms of increase in costs or reduction in costs shall be borne by granting authority and concessionaire as per the agreed schedule.</td>
</tr>
<tr>
<td>Force majeure risk</td>
<td>Granting authority/ Concessionaire</td>
<td>The parties shall bear their respective costs.</td>
</tr>
<tr>
<td>Indirect political risk</td>
<td>Granting authority/ Concessionaire</td>
<td>One-half of all the costs exceeding the insurance cover shall be reimbursed by the granting authority to the concessionaire in case the events happen after financial closure.</td>
</tr>
<tr>
<td>Political risk</td>
<td>Granting authority</td>
<td>All the costs attributable to the event will be reimbursed by the authority to the concessionaire.</td>
</tr>
</tbody>
</table>
## Table 3. Risk allocation framework for BOT (annuity) project

<table>
<thead>
<tr>
<th>Risk</th>
<th>Allocated to</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-investment</td>
<td>Granting authority</td>
<td>The expenses toward project development have been borne by granting authority with budgetary resources</td>
</tr>
<tr>
<td>Resettlement and rehabilitation</td>
<td>Granting authority</td>
<td>Resettlement and rehabilitation of the affected people has been carried out by the granting authority with the assistance of Central and State governments</td>
</tr>
<tr>
<td>Permit/approval</td>
<td>Granting authority</td>
<td>Granting authority has obtained all the clearances and grant approvals required for the implementation of the project</td>
</tr>
<tr>
<td>Delay in land acquisition</td>
<td>Granting authority</td>
<td>Granting authority has been responsible for acquisition of the project site and handing it over to concessionaire</td>
</tr>
<tr>
<td>Delay in financial closure</td>
<td>Concessionaire</td>
<td>Failure to achieve financial closure before or on commencement would be construed as an event of default</td>
</tr>
<tr>
<td>Time and cost overrun during</td>
<td>Concessionaire</td>
<td>Concessionaire has the right to start construction at its own risk</td>
</tr>
<tr>
<td>construction</td>
<td></td>
<td>If the delay of commercial operation date from the scheduled project completion date is in excess of 120 days, then granting authority could terminate the concession agreement and appropriate the performance security</td>
</tr>
<tr>
<td>Time and cost overrun during</td>
<td>Concessionaire</td>
<td>If time overruns during operation and maintenance in an annuity period exceed 1000 lane km hours, then concessionaire shall be deemed to be in material breach of operations and management requirements</td>
</tr>
<tr>
<td>operation and maintenance</td>
<td></td>
<td>No provision for escalation of annuity payment leads to cost overrun during operations and maintenance, which is borne by concessionaire</td>
</tr>
<tr>
<td>Delay in payment of annuity</td>
<td>Granting authority</td>
<td>Granting authority is under the obligation to make payment to the concessionaire within 90 days.</td>
</tr>
<tr>
<td>Change of scope</td>
<td>Granting authority</td>
<td>Granting authority will bear the additional expenditure incurred due to change of scope.</td>
</tr>
<tr>
<td>Traffic revenue risk</td>
<td>Granting authority</td>
<td>Granting authority will assume the risk. Granting authority can exercise its right to levy and collect toll</td>
</tr>
<tr>
<td>Change in law</td>
<td>Granting authority</td>
<td>The effect of the change in law in terms of increased capital expenditure and costs/taxes shall be borne by granting authority and concessionaire as per an agreed schedule.</td>
</tr>
<tr>
<td>Non-political force majeure</td>
<td>Concessionaire</td>
<td>Concessionaire shall bear this risk through insurance.</td>
</tr>
<tr>
<td>Political risk</td>
<td>Granting authority</td>
<td>The Granting authority will bear the political risk due to any political event which has a material adverse effect. If failure to make good the effects of the political events occurs, granting authority will reimburse the affected party as the provisions of the termination event due to political risk</td>
</tr>
<tr>
<td>Performance standards</td>
<td>Concessionaire</td>
<td>In case of material breach of the operations and management requirements, the granting authority can terminate the agreement.</td>
</tr>
<tr>
<td>Lane availability</td>
<td>Concessionaire</td>
<td>Non-availability of lane for reasons due to concessionaire failure to discharge its obligations leads to deduction in the annuity amount payable to concessionaire</td>
</tr>
<tr>
<td>Interest rate risk</td>
<td>Concessionaire</td>
<td>The interest rate risk has been factored in the annuity quoted by the concessionaire</td>
</tr>
<tr>
<td>Source: Boeing Singh and Kalidindi (2006)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BOT Models—Applicability

The current policy framework for procurement of road projects through the PPP route is to first offer the project on BOT (Toll). If due diligence indicates the project to be unviable on BOT (Toll) in the first instance itself, then it should be offered on BOT (Annuity) basis.

The BOT (Toll) model is predominantly adopted for those stretches of the National Highways network with high/medium traffic density, which is financially viable. In certain stretches where there is a large number of commercial vehicles and a perceived low level of traffic revenue risk, the concessionaire has even agreed to share the revenue. On the other hand, where there is perceived lack of users’ willingness to pay toll and the private sector is reluctant to assume traffic revenue risk, the BOT (Annuity) model is used in those projects.

ISSUES

The Government of India has undertaken to create an enabling framework for private sector participation in the development of the National Highways network. There are, however, certain issues limiting greater participation of the private sector in the development of road projects through the PPP route. Some of the issues include the following:

- The current policy of offering the project first on BOT (Toll), then on BOT (Annuity) and then on engineer procure and construct (EPC) contract is likely to introduce delay in the implementation of the project since government approval is required at each stage.
- In case of the BOT (Toll) model, the degree of risk exposure to the concessionaire is high and the private sector is reluctant to take high-risk exposure. On account of this, there has been very low private sector participation in bidding of projects that are to be developed through BOT (Toll) route.
- Though BOT (Annuity) exposes the concessionaire to a lower level of risk, the cost of the project procured through the BOT (Annuity) route is higher. The cost of private capital is comparatively higher compared with the sovereign cost of borrowing.
- The bidding process for PPP road projects has been standardized with the introduction of model RFQs and RFPs. There has been a lack of investor interest in the PPP road projects on account of certain clauses in both the model documents. For instance, as per the model RFQ, only six applicants will be short-listed for the bidding stage based on their respective aggregate experience score. And, as per the model RFP, the bidder will be ineligible for bidding if the bidder was: (1) pre-qualified for the bid stage (second stage of bidding process) in relation to eight or more projects, (2) declared as the selected bidder for undertaking four or more projects, or (3) unable to achieve financial close for two projects within the stipulated time during the period of two months preceding the bid due date.
- As per the MCA, risk allocation has been based on the underlying principle of allocating the risks to the parties best suited to manage them. However, there are certain risks such as land acquisition risk, which in spite of being allocated to the party best suited to manage the risks, has been a major cause for delay in timely completion of the project.

CONCLUSIONS

National highways play a key role in the economic growth of the country. The Union Government of India has taken various measures to upgrade the capacity and quality of the National Highways network. PPP routes have been adopted by the government to meet the funding gap and use techno-managerial
efficiencies of the private sector to obviate the inefficiencies in the traditional public procurement system. Various reforms have been introduced by the Union Government of India to create an enabling environment for participation of the private sector in the development of the road projects through the PPP route. Model concession agreements have been developed to facilitate standardization of terms and conditions and ensure uniformity in the various agreements for PPP road projects.

BOT (Toll) and BOT (Annuity) are the two PPP models that have been used in procuring the National Highways projects in India. The BOT (Toll) model is predominantly used for development of projects in stretches with high traffic density and financial viability. On the other hand, BOT (Annuity) is the more attractive PPP model for development of road projects in those stretches of the National Highway network with medium/low traffic density. Hence, the risk profile of the projects and financial viability of the project influences the selection of the type of PPP models. The risk allocation framework for each of these models has been discussed.

In spite of the various initiatives taken by the Government, the participation of the private sector has not been up to the expectations of the Government due to a number of perceived risks by the private sector.
REFERENCES


