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EVOLUTION OF MODEL CONCESSION AGREEMENT FOR NATIONAL HIGHWAYS IN INDIA

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ABSTRACT

Economic liberalisation in 1990s necessitated development of a world class road network to trigger the economic growth trajectory for India. To overcome the huge investment required for the development of National Highways, private sector participation emerged in mid nineties and entrenched itself during 2000–10 as the most preferred mode of delivery in the construction of National Highways in India. This paper discusses the evolution of Model Concession Agreement for National Highways, the vital framework on which the success of Public Private Partnership lies. The balanced and proactive approach that evolved out of a series of discussions between the Indian government agencies on issues like Grant vs Premium, Site Handover, Omnibus Bipartite State Support Agreement, etc., made the Model Concession Agreement comprehensive, less ambiguous and justifiable for both concessionaire and the Government. This is reflected in the improved performance of BOT (Toll) projects over a period of time for the development of National Highways.

Keywords: Public Private Partnership, Model Concession Agreement, National Highways, Grant, Premium, Framework, Revenue Sharing, Site Handover, State Support Agreement.

INTRODUCTION

In 2011-12, the National Highways Authority of India[1] (NHAI) awarded an all time high of 48 Public Private Partnership (PPP) projects for a length of 6380 km. This has been a consequence of a journey of evolving a PPP framework through an appropriately designed Model Concession Agreement (MCA) since the mid nineties.

By 1995-96, road was the dominant mode of transport with 60% and 80% share in freight and passenger traffic respectively. 38,500 kilometres (km) of National Highways (NH) formed

[1] NHAI is the execution agency of Government of India for National Highways Projects

about 2% of the nearly two million km total road network, but carried about 40% of total road traffic (MoF,1996). With liberalisation of the Indian economy, India witnessed great strides in road development especially after the inception of National Highway Development Programme (NHDP) in 1999. Of the 55,448 km of two/four/six/eight lanes earmarked under NHDP Phases I to VII, 14,740 km was completed, and 9,628 km is under implementation by 2010-11. Among NHDP projects, PPP in the form of Build Own Transfer (BOT) (Toll)[2] projects picked up well since 2005. The share of BOT (Toll) mode of delivery in NHDP projects increased to 89% and 74% respectively in 2009 and 2010 (NHAI, 2011). Increased adoption of BOT (Toll) was facilitated by policy initiatives of Government of India (GoI) and the evolution of a well balanced MCA document for BOT (Toll) road projects.

LITERATURE REVIEW

The literature on various aspects of PPP in infrastructure evolved with the introduction of Private Sector Initiative in UK in 1990s and even more so in 2000-12. Zhang (2005) identifying barriers to PPP suggested measures like appropriate terms for contract monitoring, termination and step-in rights, development of an appropriate PPP scheme, etc. Chen and Doloi (2008) identified significant general impeding factors for adopting BOT like complex financial arrangement, complex contractual arrangement, high up-front cost, complex process, and high risk in addition to certain China specific impeding factors. Aziz (2007) found that the success of a PPP program depended on degree of achieving eight principles like comprehensive PPP legal framework, standardization of procedures and contracts, PPP unit for policy development and implementation, etc. Ortiz and Buxbaum (2008) highlighted that although PPP model has advantages, the long term implications of PPP like use of up-front payments, concession length, and noncompeting clauses in the development of highways were to be objectively studied and well-though-out solutions may emerge. Shrivastava and Ramachandra Rao (2011) identified 17 critical success factors for a PPP project and grouped them into eight principal factors. Thomas et al (2005) proposed a risk assessment framework for PPP projects in the presence of inadequate past data. Kwak et al (2009) classified risks in PPP projects across the globe into six categories, i.e., political, financial, construction, operation and maintenance, market and revenue and legal. Miranda (2007) stated that the failure of concession agreements in PPP projects was essentially due to lack of transparency, responsiveness, and accountability in the agreement-making procedure and the traditional mindset of creating concessional agreements as bilateral contracts. Queiroz et al (2010) narrated the indispensability of concession agreement in establishing a PPP environment with comprehensive features and the various policy initiatives and procedural steps in order to launch a PPP program in highways.

While reviewing the progress made in private provisioning of various infrastructure sectors, Patel and Bhattacharya (2010) mentioned that the MCA of the Indian government for highways development on BOT addressed wide range of issues but considered it as a over prescriptive concession structure. But, there was no study so far on the growth of PPP in NH

[2] In BOT (Toll), the private operator builds the road, maintains and operates it by levying toll from the user for the concession period at the end of which, the project is transferred back to the Government of India.

development in India in the backdrop of the evolution of MCA. This paper discusses the evolution of MCA for BOT (Toll) projects from mid nineties till 2009 in the backdrop of various policy measures of the GoI and evaluates the improvement in the performance of NH projects on various indicators and draw conclusions thereon.

THE EVOLUTION OF PUBLIC PRIVATE PARTNERSHIP

Recognizing the need to involve the private sector in the development of roads, the GoI initiated measures like empowering GoI to levy fees for improved services in the sections of NH, declaration of road sector as industry to facilitate borrowing on easy terms and permission for floating of bonds, relaxation in Monopolies and Restrictive Trade Practice Act, 1969, to enable large firms to enter the highway sector and reduction in the custom duties of construction equipment between 1992-95 (MoF,1994, MoF,1995, and MoF,1996). The huge funds requirement required for expanding NH as highlighted by the Expert Group on the Commercialisation of Infrastructure Projects headed by Rakesh Mohan in 1995-96 and Ministry of Surface Transport (MoST) led to the concept of PPP in the form of BOT (Toll). In 1995, the GoI amended the National Highways Act, 1956 to empower itself to enter into an agreement with any person for the development and maintenance of the whole or any part of a NH and entitled the person to collect and retain fees for services rendered regarding expenditure involved in building, maintenance, management and operation of the whole or part of such NH, interest on the capital invested and reasonable return (MoF, 1997). To streamline the process and to implement the NH development plans, NHAI was established in February 1995 on the basis of National Highways Authority Act, 1988 (MoRTH, 2011). The awarding of road projects by NHAI on BOT (Toll) basis began with three smaller projects including two bypasses and one Road Over Bridge (ROB) in 1995 and 1996 (MoF, 1998). Earlier, some state governments had taken initiative in developing roads on BOT (Toll) mode[3]. However, lack of a proper legal framework was identified as the reason for the delay in the initiation and large scale expansion of BOT projects in road development.

The draft policy paper prepared on 'Development of National Highways and other related issues' in December 1996 in consultation with the Ministry of Finance (MoF) and MoST which included four laning, BOT, bidding, government grant, tolling, etc., was approved by the cabinet in January 1997. A High Powered Committee (HPC) was constituted to formulate BOT terms and conditions for the approval by the cabinet. Its task was to take one or two pilot projects in the expansion of existing NH and construction of new expressways for evolving standard BOT terms and conditions which inter alia included evolving the MCA.

During 1996-97, the GoI took further measures like promulgation of an ordinance for invoking eminence domain for land acquisition, exemption from environmental and forest clearances for widening existing NH, levying toll for road sections funded from the budget, allowing BOT (Annuity) model, permitting NHAI to become partner in the Special Purpose Vehicles (SPV)

[3] Madhya Pradesh government commissioned the 11.5 km Rau Pithampur stretch in November 1993, the first BOT (Toll) project. The Gujarat government's first project, Bharuch Dahej ROB was conceptualised in early 1996 and awarded in 1997. The Government of Gujarat initiated the Vadodara Halol and Ahmedabad Mehsana BOT(Toll) road projects in 1999 and 2000 respectively.

created by private players for road development, compensation to the private players for unforeseen circumstances and external assistance from multilateral agencies. Exempting land acquisition for NH from Land Acquisition Act, 1894 and notification of fee rules for different vehicles based on Wholesale Price Index by the GoI in 1997 also facilitated adoption of BOT (Toll) mode for NH development (MoF,1997).

By 2000, 20 small BOT projects (bypasses, ROB and river bridges) with an estimated cost of about Rs 530 cr[4] were awarded (MoF, 2000). But there was no interest in PPP from developers for regular road stretches. In 1998, GoI announced the first two phases of NHDP and formally launched it on January 6, 1999 (NHAI, n.d. a). Phase I included four laning 5952 km of Golden Quadrilateral (GQ) connecting the four metros (with some port connectivity) and Phase II included four laning of 7300 km of North South and East West (NSEW) corridors. As there was not enough interest for PPP mode, partly due to lack of an approved MCA, the MoST went ahead almost entirely with Item Rate Contract (IRC) for the GQ. Out of the 128 projects of GQ, only thirteen were awarded on PPP basis. PPP gained momentum in NHDP Phase II with 16 on BOT (Toll) and 20 on BOT (Annuity) out of 194 projects.

Identifying lack of standard framework for BOT mode of project execution, in 1998, a senior civil servant of GoI, Mr.Haldea, prepared and placed a draft Concession Agreement (CA) before Planning Commission (PC) for scrutiny. After further discussion with banks and financial institutions in Mumbai, he published his draft CA as a book titled 'Indian Highways: A Framework for Commercialisation' in 2000 (Haldea, 2000). Meanwhile, NHAI developed two Model Concession Agreements for projects less than and more than Rs 100 cr respectively. The three had significant commonalities. The HPC had chosen six laning of the 90 km Jaipur Kishangarh stretch of NH8 in 1998 as a test project for evolving the MCA. The project was awarded in late 2002 and was completed in May 2005 (GVK, n.d). The final version of the CA of this project drew significantly from Mr.Haldea's book.

The GoI constituted a Committee on Infrastructure (CoI) in 2004. Insisting on MCA for road projects, the CoI constituted an Inter Ministerial Group (IMG) in January 2005 to examine and evolve the MCA for (i) BOT (Toll), (ii) BOT (Annuity) and (iii) Operation, Maintenance and Tolling (OMT) projects. The PC submitted the CA published by Mr.Haldea, who by the time became Advisor (Infrastructure) in PC, with a few revisions as a draft MCA to the IMG for consideration. Recommended by IMG, the CoI approved the draft MCA of PC as a model framework for road projects. Pursuant to this decision, it was decided to follow waterfall model for execution whereby a project was first invited under the BOT (Toll) mode, with inadequate response, the BOT (Annuity) mode is resorted to, followed by IRC mode. PC also officially published three Model Concession Agreements for PPPs in 2006 for National Highways, State Highways and Operation & Maintenance of Highways. The CoI announced NHDP Phases III to VII in January 2005 with emphasis on BOT (Toll). Until approval of PC's MCA by CoI, NHAI followed the CA of Jaipur Kishangarh for all projects that were awarded on the BOT basis. The discussions between PC and NHAI from 2006 to 2009 helped in evolving and strengthening the framework for BOT projects. Following this, PC published the

[4] In the text "cr" stands for Crore. One Crore = 10 Million

improved versions of MCA and allied documents in 2009-10[5], leading to comprehensive, complete and transparent framework for PPP in road projects (Haldea, 2011).

THE EVOLUTION OF MODEL CONCESSION AGREEMENT

Although, the CoI adopted the MCA of PC, it was not followed in its entirety by NHAI till December 2008 due to prolonged discussion on various issues. Twelve key issues elaborated here show the evolution of MCA over a period of time. Each has been discussed in three phases. The first phase (upto December 2005), essentially before approved MCA, included three concession agreements, Durg bypass in 1997 (NHAI, 1997), Jaipur Kishangarh in 2002 (NHAI, 2002) and Nagpur Kondhali in 2005 (NHAI, 2005). The second phase tracks the evolution of published MCA. MCA was published as a book by Haldea in 2000 and after approval, MCA was officially published by PC in 2006 (PC, 2006) and 2009 (PC, 2009a). The third phase included the three concession agreements, Muzaffarnagar Haridwar in September 2008 (NHAI, 2008), Farakka Raiganj in April 2009 (NHAI, 2009a) and Varanasi Gorakhpur in November 2009 (NHAI, 2009b), all based on the approved MCA.

1. Grant vs Premium (Revenue Sharing vs Negative Grant)

As part of the competitive bid, the concessionaire could either seek a grant or pay a premium, depending upon his assessment of viability. Durg bypass CA had no provision for Grant or Premium. In Jaipur Kishangarh CA and Nagpur Kondhali CA, the Grants were Rs 211 cr and Rs 57.11 cr respectively. In MCA 2000, the cap on grant as 'equity support' was payable at 25% of Total Project Cost (TPC) with stipulations. The balance grant, if any, would be released towards Operations and Maintenance (O&M) at 1% of TPC per quarter after Commercial Operations Date (COD). MCA 2006 reduced the equity support from 25% to 20% and the release towards O&M as 5% of the equity support per quarter after COD. MCA 2009 retained the same. However, the cap for grant was 40% of TPC in MCA 2006 and MCA 2009. For concessionaires willing to pay a premium, the MCA 2000 provided for a revenue share from the 9th year after the appointed date. MCA 2006 provided for payment in the form of an increasing revenue share (beginning at 2% and increasing by 1% in the following years), starting with a year to be specified by the concessionaire. If this date was before COD, it was to be converted to an equivalent higher revenue share.

During the first phase of concession agreements, NHAI used negative grant. For two years from approved MCA, NHAI insisted on negative grant whose payment schedule was known upfront. Past experience indicated that upfront negative grant led to aggressive bidding, whereas revenue sharing was difficult to administer and created uncertainty in the minds of bidders (Bahadur, 2008 and Shah, 2006). PC stated that there was no adverse previous

[5] They were MCA for PPPs in National Highways, National Highways (six laning), State Highways and Operation & Maintenance of Highways, Model Request for Qualification for PPP Projects, Model Request for Proposal for PPP Projects, Model RFP's for Selection of Technical Consultants, Selection of Legal Advisers, and Selection of Financial Consultants & Transaction Advisers, Manual of Specifications & Standards for Two laning and Four laning of Highways, etc.

experience for NHAI on revenue sharing. Infrastructure projects in other sectors were bid on revenue share model. Upfront payment could delay financial closure of the project as procuring debt for projects with large upfront payment could be difficult. Increased risk could prompt the concessionaire to put a premium on this risk and make a lower bid to NHAI, resulting in revenue loss to the exchequer (Ranjan, 2008 and Chouhan, 2008). PC felt that the revenue sharing model provided the necessary balance by equitable sharing of profits and losses among both the parties. In the first phase of concession agreements, revenue sharing was not considered as an alternative to Grant. However, it evolved in MCA 2006 and retained in MCA 2009. Among the third phase concession agreements, Varanasi Gorakhpur CA followed the negative grant model and the other two followed revenue sharing model.

2. Site Handover

The Durg bypass CA provided for site handover within 60 days from the date of agreement whereas Jaipur Kishangarh CA and Nagpur Kondhali CA specified 150 days from the date of agreement. MCA 2000 did not commit on site handover. MCA 2006 provided for 80% site handover on or before the appointed date and procurement of permits related to environmental protection and conservation of the site. NHAI said that as land acquisition was time consuming and further compounded where buildings were involved and hence this clause would lead to heavy damages being paid to the concessionaire by NHAI (Bahadur, 2008). Moreover, handing over 50% to 55% of site upto 2006 in over 40 BOT projects was accepted in the industry and facilitated start of construction without much delay. PC preferred handing over of 80% as either any revenue loss on account of delayed commencement of toll collection would be claimed from NHAI or the users would be paying toll to the concessionaire for the partially completed stretch (Shah, 2006). PC disagreed with NHAI's plea for inclusion of the concessionaire in the land acquisition process stating that land acquisition was a sovereign function and risks were to be allotted to the parties best suited to manage them (NHAI was better positioned to handle land acquisition). However, considering the request of Ministry of Road Transport and Highways (MoRTH), the CoI decided that 80% may be reduced to 50% till 31st December 2008. Since 2009, the 80% site handover has been incorporated, as in the Varanasi Gorakhpur CA.

Durg bypass CA had a provision for compensation for delay in site handover in the form of extension of concession period. In Jaipur Kishangarh CA and Nagpur Kondhali CA, NHAI had to pay damages at the rate of Rs 1000 per month per 1000 sq meters for the area that was not handed over. Such damages could be raised to Rs 2000 per month after COD. The MCA 2000 recommended Rs 100 per day per 1000 square meters from the appointed day. The MCA 2006 specified damages of Rs 50 per day to be applicable from 91st day after the appointed day. However a Group of Joint Secretaries examining this issue recommended just Rs 25 per day (Ranjan, 2008). PC did not agree to this. MCA 2009 and the third phase concession agreements retained the damages at Rs 50 per day.

The Durg bypass CA did not mention about linking provisional certificate with delay in site handover. In MCA 2000, the issue of provisional certificate was not to be delayed due to delay in site handover. This was retained in Jaipur Kishangarh CA, Nagpur Kondhali CA and

MCA 2006. NHAI stated that this would permit the concessionaire to start tolling with unfinished road inviting public criticism. But, PC said that if the concessionaire was not allowed to collect toll due to the holding up of a small part of land in litigation, he could claim the resulting revenue loss from NHAI. The clause on provisional certificate remained undisturbed in MCA 2009 and third phase concession agreements.

3. Omnibus Bipartite State Support Agreement

The State Support Agreement (SSA) was an all inclusive agreement that called for necessary support from the state, in the matters of land acquisition, right of way, removing encroachments, shifting of utilities, rehabilitation, maintaining local law and order, etc. During the first phase, in the absence of SSA, MoSRTH / NHAI had to approach states for approval for different issues in every project. To standardise the whole process, PC through its MCA 2006, proposed an Omnibus Bipartite SSA between MoSRTH / NHAI and state governments. This agreement would be valid for all future highway projects in that state and prohibited states from construction of 'competing roads' in general. The PC suggested an omnibus bipartite SSA on the logic that the party that was better to handle the risks was to be assigned the same and to avoid repetitive processes it volunteered to secure the consent of the state governments for an umbrella SSA. After initial difficulties, the state governments accepted and signed these agreements. SSA was not mentioned in the Durg bypass CA. Jaipur Kishangarh CA and Nagpur Kondhali CA had a tripartite SSA. MCA 2000 also insisted on a tripartite agreement. The MCA 2006 adopted the omnibus bipartite agreement. But, NHAI continued with a tripartite SSA in Muzaffarnagar Haridwar CA and Farakka Raiganj CA even after adopting the MCA 2006. In Varanasi Gorakhpur CA, NHAI adopted the bipartite umbrella agreement.

4. Specifications and Standards

Non availability of a comprehensive set of specifications and standards was an issue NHAI had been raising even after the CoI approved MCA in 2005. This MCA referred to a manual of specifications and standards prepared by the PC with the help of the Indian Roads Congress. The same manual was published as a book in 2008 (PC, 2008).

5. Security to Lenders

Project financing for road projects (and in general for infrastructure) under BOT had been perceived to be tricky by the lenders. The concessionaire had no ownership over the created / upgraded assets and had to recover the investment (both equity and debt) by collecting toll over the concession period. This subjected the lenders to higher provisioning and capital adequacy norms with quantitative restrictions consequently restricting the availability of debt, making it more expensive. The MCA 2000 provided for collateral of concessionaire's assets other than the specific project assets and assignment of rights and obligations covered by the substitution agreement when lenders could substitute a defaulting concessionaire. MCA

2006 and 2009 retained the same. The first phase concession agreements did not have any provisions in this regard. The third phase agreements followed MCA 2006.

6. Supervision

Durg bypass CA had no provision regarding the Independent Engineer (IE). The inspecting authority consisting of representatives of NHAI and lenders (and Railways for ROB) were the de facto IE. MCA 2000 incorporated various aspects of supervision elaborating the appointment of IE with his duties and functions, period of tenure, remuneration, termination of appointment, etc. Jaipur Kishangarh CA and Nagpur Kondhali CA followed MCA 2000 with a few changes. In the selection of IE, MCA 2000 offered the role of IE to the firm that quoted the lowest financial bid among the shortlisted three eligible firms. MCA 2006 improved this by offering IE to the firm which scored highest on technical and financial scores (with the weightage of 80:20) among the top three technically scored firms. The fee for the IE doubled from 1% of the TPC in MCA 2000 to 2% of the TPC in MCA 2006. In addition, MCA 2006 streamlined other aspects of supervision like: appointment of the IE for three years from a panel of 10 firms within 90 days from the date of CA, elaboration of Terms of Reference pertaining to duties and functions of the IE, remuneration of IE equally shared by the concessionaire and the authority, provision for the concessionaire to make a written representation to seek termination of appointment of IE followed by a tripartite meeting to resolve the representation and Dispute Resolution Procedure. This was retained in MCA 2009. All the three third phase concession agreements followed MCA 2006.

7. Change of Scope

Durg bypass CA mentioned the change of scope briefly. Jaipur Kishangarh CA and Nagpur Kondhali CA added clauses on maximum change of scope and procedure and payment for the same. MCA 2006 and MCA 2009 provided increased clarity in the basic definition and procedure for change of scope. Durg bypass CA had no clause for payment for scope change. In Jaipur Kishangarh CA and Nagpur Kondhali CA, NHAI had to pay the concessionaire an amount equal to the costs certified by the Independent Consultant (IC) for the change of scope. In MCA 2000, the authority was to pay for all costs related to change of scope, as assessed by the IC. 20% of the cost was to be paid in advance and the balance within 30 days of submission of bills. MCA 2006 assigned all costs arising from change of scope order issued during the construction period to the concessionaire, subject to a ceiling of 0.25% of the TPC (part of actual capital cost) and any costs beyond this to be reimbursed by NHAI. If change of scope was less than 0.25%, the balance was to be credited to a safety fund by the concessionaire. For change of scope exceeding 0.25% during construction period or orders issued after COD, the authority had to make payments as stated. These conditions were retained in the MCA 2009 and third phase concession agreements.

The concession agreements of first phase had no clauses on restriction of change of scope work. In MCA 2000, either the concessionaire was not required to undertake ‘change of scope’ work or if it did, the delay arising from it was not to be reckoned for determining the

completion of project. The concessionaire could refuse to take up works, if the change of scope orders during the preceding three years cumulatively added up to 5% of the TPC. MCA 2006 added a clause where the concessionaire could refuse the work if the cumulative change of scope exceeded 20% of the TPC at any time during the concession period. These clauses were retained in the MCA 2009 and the third phase concession agreements.

The first phase concession agreements had no clauses on the power of the authority to undertake change of scope work. In the MCA 2000, the authority could, undertake change of scope works by itself or award to any party on the basis of open competitive bidding. The MCA 2006 added that the concessionaire would have the option of matching the first ranked bid subject to (i) their participation in the bid and not varying from the first ranked bid by more than 10% and (ii) payment of 2% of bid amount to the authority. These conditions were retained in MCA 2009 and third phase agreements. This reduction in scope of the project was not envisaged in the first phase concession agreements or MCA 2000. In the MCA 2006 the authority could charge 80% of cost saved from the concessionaire in case of failure to complete construction on account of force majeure or reasons solely attributable to the authority. This was retained in MCA 2009 and third phase concession agreements.

8. Change in Ownership

In the Jaipur Kishangarh CA, a clause prescribed that the consortium members representing the concessionaire should have at least 51% holding in equity during the construction period and one year following COD. In the Nagpur Kondhali CA, it was modified to three years for 51% equity and 26% equity for the rest of the concession period. MCA 2000 stipulated that the concessionaire was not to permit change of ownership without prior written approval of the authority. The MCA 2006 stipulated that acquisitions of more than 15% of total equity of the concessionaire anytime during concession period were to be regarded as change in ownership. The selected bidder / consortium members' were to hold at least 51% share in the equity on the date of the CA and upto COD, 33% for the next three years, and 26% for the remaining concession period. Each consortium member whose technical and financial capacity was evaluated for the purposes of prequalification and short listing in response to the Request For Qualification (RFQ) was to hold at least 26% of such equity during the construction period (until COD). The MCA 2009 retained them. Muzzafarnagar Haridwar CA specified this percentage as 10% of equity for consortium members and 26% for lead member. Farakka Raiganj CA and Varanasi Gorakhpur CA followed MCA 2006.

9. Breach of Maintenance Obligations

There were no clauses on breach of maintenance obligations in the first phase concession agreements. MCA 2000 introduced clauses for 'damages for breach of maintenance obligations' with penalty of 1% of average daily fee or 0.1% of the cost of repair as estimated by the IC, whichever was higher, for each day of delay. These clauses were modified in MCA 2006 with a penalty of 0.5% of average daily fee or 0.1% of the cost of repair, whichever was higher. This was retained in MCA 2009 and the third phase concession agreements.

10. Variations in Traffic Growth

Durg bypass CA had a clause that required the concessionaire to convert the two lane bypass to four lane either when the traffic crossed two lane capacity or 12 years and six months, whichever was later. Jaipur Kishangarh CA and Nagpur Kondhali CA were silent on the handling of variations in the traffic growth. The MCA 2000 linked Gross Domestic Product growth rate with change in concession period. The MCA 2006 refined this with the use of 'target date' and 'target traffic' and added clauses on 'termination of concession for traffic exceeding designed capacity' and 'remedy for exceeding designed capacity'. MCA 2009 retained them. The third phase agreements followed MCA 2006. MCA 2006 proposed that after ten years of concession period or three years prior to the end of the concession period, whichever was earlier, the actual traffic would be compared with the target traffic. If the change was more than 2.5%, then for every 1% shortfall with respect to target, the concession period would be increased by 1.5% and for every 1% excess with respect to target the concession period would be decreased by 0.75% with a limit of 20% increase and 10% decrease in the concession period. DoRTH suggested that the norm for increase and decrease of concession period be 1% for either a 1% shortfall or excess in traffic. PC stated that the MCA 2006 stipulation would give a similar Financial Internal Rate of Return for both increase and decrease in traffic.

11. Overloading

Motor Vehicles Act 1988 prohibited overloaded vehicles on the road and authorised punitive action against overloaded vehicles (Orissa Motor Vehicles Department, n.d.). The issue of overloading was not mentioned in the first phase concession agreements. MCA 2000 did not ban overloading but prescribed an additional fee for two levels of overloading. The state governments were also issuing gold card / tokens permitting overloading of trucks for a fee. In 2005, the Supreme Court (SC) quashed the issuance of gold card/ tokens and ordered the strict adherence of the Motor Vehicles Act, 1988. The SC ordered categorically that "the offence of overloading of trucks cannot be allowed to perpetuate by permitting the goods carriage to proceed on its further journey with an excess load by compounding of the offence" (FADA, n.d.). MCA 2006 and MCA 2009 empowered the concessionaire to prevent the overloaded vehicle from using the project highway until the excess load was removed, but incorporated the provision of additional fee for two levels of overloading thus violating the spirit of SC judgement. Muzaffarnagar Haridwar CA removed the clauses on overloading. The other two third phase concession agreements followed the MCA 2009.

12. Termination

The key aspects of evolution of termination clauses can be grouped broadly under the following three categories: Termination process, Default of Concessionaire and Authority and Termination payment for authority's default and concessionaire's default.

The termination process for concessionaire's default was not elaborate in the Durg bypass CA and elaborated partially in MCA 2000. Jaipur Kishangarh and Nagpur Kondhali

concession agreements followed MCA 2000 with a few modifications. MCA 2006 cleared the ambiguity with regard to providing fresh Performance Security. This was retained in MCA 2009, wherein, upon default, the authority was to appropriate performance security either fully or partially. The concessionaire had 30 days time to provide either fresh performance security or replenish it. If the concessionaire fulfilled the same, he was given 90 days time for curing the default; otherwise, the agreement was to be terminated. Failure to cure the default in 90 days time resulted in appropriation of the performance security and termination of the agreement. All the three third phase concession agreements followed MCA 2006.

The concessionaire's default in Durg bypass CA mentioned primary aspects of material breach that resulted in material adverse effect. MCA 2000 included a comprehensive list of failures of the concessionaire. Jaipur Kishangarh CA and Nagpur Kondhali CA expanded the scope by including failure on financial closure, etc. Acquiring 15% or more of total equity without the approval of the authority, concessionaire in breach of representation or warranty, false representation or warranty and or, facts in statement submitted to the authority or creating material effect on the authority and failing to fulfill any obligation for which termination had been specified were also added to the concessionaire's default in MCA 2006. MCA 2009 introduced breach of safety requirements by the concessionaire as concessionaire's default. All the three third phase concession agreements followed MCA 2006. Durg bypass CA mentioned material adverse effect caused by the material breach and breach of any representation or warranty by the authority, suspension of the performance of its obligations by the authority for more than 45 days, repudiation of the agreement by the authority or the evidence of an intention of the authority not to be bound by the agreement as authority's defaults. For the default causing material adverse effect, the authority was to cure the default within 30 days or at least by an additional 120 days, provided the authority exercised due diligence. Jaipur Kishangarh CA and Nagpur Kondhali CA modified the additional time to 90 days and included the failure of the payment by the authority beyond 90 days as authority's default. MCA 2000 listed failing to make any payment within the period specified, repudiation of the agreement by the authority, authority's action that amounted to irrevocable intention not to be bound by the agreement, default of the State and authority or the State failing to cure it, authority becoming bankrupt and change in the structure of the authority or dissolution of the authority that caused material adverse effect to the concessionaire as authority's defaults. Failing to cure any of the above defaults by the authority within 60 days led to termination. MCA 2006 modified the cure period to 90 days. MCA 2006 / MCA 2009 stipulated that the material default committed either by the authority or the State was to have material adverse effect to deem it as authority's default and removed the clauses of authority becoming bankrupt and change in the structure of the authority or dissolution of the authority from the authority's default. All the three third phase concession agreements followed MCA 2006.

In Durg bypass CA, for the termination of agreement due to authority's default, the authority had to pay cost of construction, uplift at 17% per annum compounded quarterly minus net revenue already received by the concessionaire within 30 days of termination along with refund of performance security with lenders having the first charge on this payment. In Jaipur Kishangarh CA, it was debt due plus 100% of equity subscribed and paid in cash plus

interest on the equity at State Bank of India Primary Lending Rate+3% till date of termination during construction period. During the operations period, the authority had to pay debt due plus 100% of net present value of future cash flows to equity as mentioned in the agreement, computed at 17.95% on the date of termination less due cash balance on the date of termination with restrictions. In Nagpur Kondhali CA, it was total debt due plus 120% of the total subordinated debt plus 150% of the equity (subscribed in cash and actually spent on the project but excluding the amount of equity support provided by the authority) for termination due to authority's default upto three years from the appointed date. MCA 2000 provided for termination payment as debt due plus 140% of adjusted equity plus 140% adjusted foreign equity for termination due to authority's default. MCA 2006 streamlined the same as debt due plus 150% of adjusted equity and MCA 2009 retained the same. All the three third phase concession agreements followed MCA 2006. In Durg bypass CA, for termination due to concessionaire's default, the authority was not liable to pay damages but had to discharge all the debt service obligations of concessionaire on the date of termination. MCA 2000 stipulated that it was 90% of the debt due less insurance claims. For any of the insurance claims that were not admitted and paid, the authority had to pay 90% of such unpaid claims. Jaipur Kishangarh CA and Nagpur Kondhali CA followed MCA 2000 with a cap of 80% for unpaid insurance claims. MCA 2006 prescribed no termination payment on account of concessionaire's default occurring prior to COD and retained termination payment prescribed in MCA 2000 with a cap of 80% for unpaid insurance claims. MCA 2009 retained the same. All the three third phase concession agreements followed MCA 2006.

B K CHATURVEDI COMMITTEE

B K Chaturvedi Committee (BKCC) was constituted in 2009 to develop a revised strategy for implementation of the NHDP in terms of framework and financing. The major recommendations of BKCC pertaining to MCA were (PC, 2009b):

- The entire grant was to be given as 'equity support' with a cap of 40% with a limit of twice the concessionaire's equity, subject to existing disbursal conditions.
- If the traffic exceeded the average daily traffic mentioned in the CA for four consecutive accounting years, the concessionaire had to be given an opportunity to augment the capacity so as to get 16% post tax return on equity per annum, by extending the concession period with a cap of five years.
- The damages to be paid by the concessionaire for the breach of maintenance obligations had to be tenfold, if the actual traffic exceeded the designed capacity even for a year or part thereof.
- Redefined the change of ownership as the bidders' share in equity dropping below 51% any time until two years after COD. Further, each member of the consortium evaluated for the purposes of prequalification and short listing in response to the RFQ was to hold at least 26% of such equity until two years after COD. While requiring the bidder to hold 51% until two years after COD, BKCC relaxed the need to hold any equity after this.
- The lenders of BOT projects was to have the first claim over the escrow account, thus bringing credibility to the debt and encouraging lenders to finance BOT projects. A charge on the escrow by the lenders was also to be included in the permitted assignments and charges.

PC accepted equity support with a cap of 40% with a condition that the amount above 20% should be against an irrevocable bank guarantee, should the concessionaire default. PC accepted the recommendations of the BKCC with a few exceptions. Regarding tenfold increase in damages for the breach of maintenance obligations, PC cited that the issue of traffic exceeding the designed capacity had already been dealt with through a reduction in concession period. PC wanted the bidder to continue to hold 26% equity from two years after COD for the rest of the concession period with the permission of the authority and as per prevailing regulations. PC wanted only senior lenders be given entitlement to create a lien on the escrow account of the project.

EVALUATION OF PERFORMANCE OF BOT PROJECTS

The benefits accrued from the introduction and evolution of MCA for BOT (Toll) projects have been measured in terms of increase in PPP projects awarded, reduced construction time, reduced cost overrun, reduction in litigation for dispute resolution and compensation, increased interest of bidders at RFQ and Request For Proposal (RFP) stages.

Increase in PPP projects awarded

The growth of PPP projects is shown in Table 1. The approval of MCA in 2005 and the subsequent publishing of MCA for PPP gave a fillip to PPP projects in 2005-06 with 29 projects totalling 1686 km. Due to the global economic depression, there was a lull in 2007-08 and 2008-09 with 10 and 8 projects on BOT Toll and Annuity modes. With the improved MCA 2009 and policy preference for BOT (Toll), the PPP projects awarded between 2009-10 and 2011-12 went up substantially. The average length of stretches awarded on PPP mode also increased from 50 km in 2002-03 to 108 km during 2009-12. The PPP data update note 68A from the World Bank highlighted that India was a top recipient of Private Participation in Infrastructure (PPI) since 2006, the year in which the structured MCA was made available. India's 43 new projects on PPI in the first semester of 2011 were almost half of the investment for new PPI projects for developing countries (Izaguirre, 2012).

Table I – Year-wise Projects Awarded in PPP Mode: Number and Length

	BOT (Toll)		BOT (Annuity)			BOT (Toll)		BOT (Annuity)	
Year	Number	Length (km)	Number	Length (km)	Year	Number	Length (km)	Number	Length (km)
1997-98	1	1	0	0	2005-06	25	1387	4	299
1998-99	1	18	0	0	2006-07	12	825	12	570
1999-00	0	0	0	0	2007-08	8	1109	2	101
2000-01	0	0	0	0	2008-09	8	643	0	0
2001-02	3	279	0	0	2009-10	38	3451	3	177
2002-03	3	66	8	476	2010-11	25	2736	19	1512
2003-04	1	90	0	0	2011-12	46	6133	2	247
2004-05	7	455	0	0					

Source: PC, 2012

Reduced construction time

A comparative analysis of time overrun for IRC, BOT (Toll), and BOT (Annuity) modes for completed projects and projects under implementation was done. In case of completed projects, the average time overrun was 18.60 months, 6.84 months and 5 months respectively for IRC, BOT (Toll) and BOT (Annuity) modes. For projects under implementation, the anticipated average time overrun was 34.86 months, 6.21 months and 12.67 months respectively. In terms of total projects, BOT (Toll) projects was found to have lower average time overrun of 6.48 months compared to 23.04 months of IRC and 8.94 months of BOT (Annuity) projects. The inherent incentive for the concessionaire to complete projects fast so as to collect tolls from COD in BOT (Toll) mode appeared to be the reason for the reduced construction time compared to other modes.

For completed projects, the average time overrun did not improve between the BOT (Toll) projects awarded up to Dec 2005 with no approved MCA and between Jan 2006 to Dec 2008 with approved MCA. This is mainly due to 50% site handover policy followed till Dec 2008. But, with 80% site handover policy from Jan 2009, the anticipated average time overrun for the under implementation BOT (Toll) projects awarded from Jan 2009 to Oct 2011 was 1.09 months for 44 projects.

Table 2 shows the time overrun / anticipated time overrun for projects awarded under various modes of delivery from 1998 to 2011. The time overrun decreased across all modes of delivery. But, the average time overrun for BOT (Toll) and BOT (Annuity) projects was lower compared to IRC projects during 1998-2008. The anticipated time overrun for BOT (Toll) projects awarded during 2009-2011 were still lower. Adoption of 80% site handover before the appointed date for BOT (Toll) and BOT (Annuity) projects from Jan 2009 could be the reason for such drastic reduction in the time overrun given that delay in land acquisitions has been identified as the essential reason for the delay in the execution of the road projects.

Table 2: Time overrun/anticipated time overrun for projects awarded from 1998 to 2011

Year of start	Average time overrun (months)			Year of start	Average time overrun (months)			Year of start	Average time overrun (months)		
	BOT (Toll)	BOT (Annuity)	IRC		BOT (Toll)	BOT (Annuity)	IRC		BOT (Toll)	BOT (Annuity)	IRC
1998	0.00	***	4.67	2003	3.00	***	19.00	2008	11.33	4.00	14.57
1999	0.00	***	10.96	2004	***	***	32.17	2009	4.11	***	7.75
2000	***	***	9.71	2005	0.00	***	30.58	2010	0.46	0.00	4.75
2001	3.00	***	21.40	2006	11.80	8.25	31.21	2011	0.00	0.00	4.00
2002	16.75	3.13	38.85	2007	11.20	20.92	20.27				

*** - No project was awarded during that year.
Source: NHAI, 2012a

Reduced cost overrun

Table 3 shows the cost overrun for the completed projects of IRC mode of delivery from 1996 to 2009. Cost overrun was not applicable in BOT (Toll) and BOT (Annuity) projects as the construction risk was borne by the concessionaire, unless there was a significant change in

the scope of work. The analysis of 228 completed projects executed through IRC mode of delivery between 1999 and 2009 showed that the percent cost overrun over contracted amount was hovering between 18% and 86% with an average value of 30%. The delays in the completion of IRC projects deny toll revenues till COD for the authority. Assuming that the annual toll revenues would be about 15% of the capital costs with revenue sharing model, the total revenue loss over 16 months for the authority would add up to 20% of the capital costs. Further, assuming interest during delay would cost about 10% of the TPC, the total loss to the exchequer would be about 60% (30%+20%+10%) of project costs.

Table 3: Cost overrun along with time overrun for the completed projects of IRC projects from 1996 to 2009

Year of start	No of projects	Contracted amount (Rs cr)	Cumulative expenditure (Rs cr)	Cost overrun (%)	Year of start	No of projects	Contracted amount (Rs cr)	Cumulative expenditure (Rs cr)	Cost overrun (%)
1996	1	58.70	80.87	37.77	2003	3	312.47	483.41	54.71
1997	1	275.00	347.19	26.25	2004	5	1422.07	1854.72	30.42
1998	3	140.86	222.35	57.85	2005	45	10473.08	13715.27	30.96
1999	26	1544.07	2153.85	39.49	2006	12	2065.06	2977.18	44.17
2000	17	2052.57	2895.58	41.07	2007	8	1399.08	1658.68	18.56
2001	66	9681.86	11973.41	23.67	2008	2	319.99	395.07	23.46
2002	11	2788.88	3618.62	29.75	2009	2	84.33	158.96	88.50

Source: NHAI, 2012a

Reduction in litigation

The litigation data before the Arbitral Tribunal (AT) and courts for projects executed in various modes of delivery was studied (NHAI, 2012b. and NHAI, 2012c). Among the completed projects that went to AT for dispute resolution, the share of IRC and BOT (Toll) projects were 37.28% and 4.55% respectively. The corresponding average amounts pending were 18.05 cr and 1.92 cr. Although the share of completed BOT projects that went to AT decreased from 9.09% to 3.03% with the adoption of MCA, the average amount pending increased from 0.13 cr to 2.52 cr. Among the completed projects that went to court for dispute resolution the share of IRC and BOT (Toll) projects were 22.37% and NIL respectively. Among the projects under implementation that went to AT, the share of IRC and BOT (Toll) projects were 23.46% and NIL respectively. The average amount pending for IRC projects was 50.46 cr. Among the projects under implementation that went to court, the share of IRC and BOT (Toll) projects were 11.11% and NIL respectively. The average amount pending for IRC projects was 1.09 cr. From the above analysis, it was inferred that there was a clear reduction in the percent share of projects that went for dispute resolution and the also the average amount pending before AT and court for BOT (Toll) mode of delivery.

Increased interest of bidders at RFQ and RFP stages

The response of private players at RFQ and RFP stages for projects executed in various modes of delivery was analyzed. Out of 415 projects that were awarded till October 2011, details on RFQ and RFP of only 40 projects were available from NHAI. Moreover, RFQ data

was not available on IRC projects awarded from January 2006 to December 2011 and on BOT projects awarded upto December 2005. RFP data was also not available for BOT projects awarded upto December 2005. Hence this analysis needs to be read with caution. The average number of bidders shortlisted at RFQ stage for IRC and BOT projects were 32 and 15.37 respectively.

From the above analysis, the definite conclusion is that BOT (Toll) projects performed substantially well on time overrun, cost overrun and reduction in litigation than IRC projects.

ISSUES TO BE ADDRESSED

As per MCA 2009, the concessionaire was allowed to collect tolls with the issuance of the provisional certificate. But there was no provision that stipulated the concessionaire to complete the work on the remaining 20% land as and when it was handed over. The MCA should include clauses that specify the schedule for completing the work on the remaining site.

The MCA should also remove the clause that prescribed additional fee for overloaded vehicles to discourage truckers preferring paying penalties. The MCA 2000, 2006 and 2009 dealt with the safety requirements elaborately during construction and operation period. But, the safety on Indian highways has been rapidly deteriorating over the years, although India witnessed four/ six laning of about 13000 kms of high traffic NH. The number of reported road accident deaths in 1991 and 2007 were 56,600 and 114,590 respectively and 35% to 40% of them were on the NH. Half the fatalities and more than half of the injuries incurred involved pedestrians and is estimated to increase to 150,000 in 2015 (Singh and Misra, n.d. and MoRTH, 2008, PC, 2007). In this background[6], it is essential to incorporate clauses of the safety requirements in the MCA that incentivise concessionaires for improved safety on their stretches (measured by appropriate indicators) so that they proactively (i) identify the safety measures that avoid accidents (ii) propose appropriate additional works like service lanes, flyovers and underpasses to prevent such accidents, and (iii) carry out measures to mitigate the negative post-accidental impacts, even if it results in substantial increase in TPC and increased contribution to the safety fund by the authority.

A truck in India can cover only 250-300 km a day as per a study carried out in 2007 compared to 700-800 km in US and Europe (Equity Bulls, 2009). The transport cost of a cargo container over one km in India is 50% higher than what it costs in the US (Manoj, 2008). In MCA 2009, there was no provision for quality of service like guarantee of minimum speed for the road users. The MCA should make concessionaires accountable in achieving the targeted minimum speed as measured by appropriate indicators. Compatible E tolling across BOT projects also should become a requirement in the MCA.

[6] For an instance, 120 road fatalities between June 2008 and Dec 2009 in the 15 km stretch between Palpanni and Thuvakkudi of NH 67 connecting Thanjavur - Trichy executed by Madhucon Projects Ltd on BOT (Toll) was mainly attributed to non provision of service lanes across this densely populated stretch (Skyscraper City, 2010).

CONCLUSION

The paradigm shift in favour of BOT (Toll), evident from 2005-06 onwards, was mainly due to strong framework developed in the form of MCA and adoption of the same for BOT (Toll) projects. The key contributions of MCA to BOT (Toll) projects can be summarized as follows:

- With the introduction of revenue sharing model in lieu of upfront negative grant, BOT (Toll) road projects provide a perennial source of revenue for the government. This also ensured equitable sharing of profit/loss between the concessionaire and government.
- The delay in projects was mainly due to delayed availability of site for construction. By incorporating 80% handover of project site on the appointed date as prescribed by MCA, the delay in the execution of BOT (Toll) projects has been reduced.
- With Omnibus Bipartite SSA, the repetitive process of signing SSA with state governments and the delay associated with it became extinct.
- By publishing specifications and standards along with MCA, the standardisation of framework was completed and made accessible to the competing concessionaires.
- The lenders' risk associated with financing BOT (Toll) projects was mitigated substantially by including substitution agreement in the MCA.
- The comprehensive clauses for the appointment, duties and functions, period of tenure, remuneration and termination of supervisor ensured fair and independent monitoring of the project.
- By clearly defining the various aspects of change of scope and by giving equal footing for the concessionaire and the authority, the MCA ensured that the concession agreement was well balanced for both the parties.
- The reformist clauses in change in ownership stems from the fact that the parties associated with development and OMT of roads have different expertise and hence the developers should be partly allowed to disinvest from the projects any time after COD in order for them reinvest in development of projects.
- By introducing substantial penalty for breach of maintenance obligations, the MCA mitigated the possibility of poor maintenance of the road during the concession period.
- By financially validating the relationship between increase/decrease in the concession period for the shortfall/excess with respect to target traffic, the MCA ensured that the agreement is well balanced and fair.
- By comprehensively including clauses on termination which were equally poised between the concessionaire and authority, the MCA encouraged entrepreneurship among private players in taking up road projects on BOT (Toll) mode of delivery.

The palpable benefits accrued from BOT (Toll) projects like reduction in time and cost overrun, reduced litigations, increased interest of bidders at RFQ and RFP stages, may be attributed substantially to the evolution of MCA in bringing out the best practices of BOT (Toll) mode. BOT (Toll) projects create no economic distortion as the users pay for the improved infrastructure. This, along with a consistent and comprehensive framework, which evolved in the form of MCA since 1998, facilitated both increased adoption of BOT for road projects and also effective implementation of policy prescriptions of GoI. The evolution of CA from a non comprehensive document in mid nineties to a highly structured document as MCA in 2006 has been analysed in this paper in detail. The process of involving multiple

stakeholders in the evolution of the MCA has led to an acceptable document building confidence for private sector participation in road sector development. In the process of developing the MCA, comfort and commercial return to the concessionaire was ensured thus attracting many players to this sector with aggressive bidding, while at the same time generated maximum value for the GoI. The findings of this study would help in further refining the framework for PPP in road development and also facilitate extending the framework to other physical and social infrastructure sectors.

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