Study of Hybrid Annuity Model in Highway Projects

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Abstract— India has set out on an energetic pace of expressway advancement following the approach change in the mid-1990s that gave a high need to thruway advancement in India. The National Highway Development Program (NHDP) was propelled in 1997 to build up an enormous roadway arrange in a moderately brief timeframe. The Open Private Partnerships (PPP) model was received for roadway improvement in India, given the characteristic points of interest related with it over customary models. In accordance with the strategy choice, an enormous number roadway improvement contracts were granted under the Build, Operate and Transfer (BOT) variation of PPP model and different variations with further improvement of strategy's Design, Build, Finance, Operate and Transfer (DBFOT) models were granted lastly now National Highway Authority of India (NHAI) has embraced Cross breed Annuity Model (HAM) for thruway improvement at fast pace. This paper initially talk about the different highlights of HAM in street part of India, later it looks at the Hybrid Annuity Model (HAM) with the customary DBFOT model of street improvement in order to discover the points of interest and hazard related with HAM both for customer and contractual worker forthcoming, which will help the partners to break down the most recent patterns of HAM ventures granted by NHAI.

Keywords: Road Development, Highway, NHAI, HAM, DBFOT, Risk

I. INTRODUCTION

Streets are a significant resource of nation, as the nation proceeds onward them. Streets convey about 67% of cargo and 88% of traveler traffic in India and it is evaluated that the street traffic has been developing at 10-15% per annum. India has the 2 biggest street arrange on the planet with over 5.23 million km at present, comprising of National Highways, Expressways, State Highways, Major Area Roads, Other District Roads and Village Roads. Among the streets, parkways are thought of to be increasingly significant as they interface various pieces of the nation and furthermore with other fringe nations. National Highways (NH) cross the length and width of the nation interfacing the National and State capitals, significant ports and rail intersections and connection up with fringe streets and remote roadways and fill in as blood vessel streets for development of travelers and merchandise. The absolute length of NH (counting freeways) in the nation is 115,235 kms. While National Highways comprise as it were about 2% of the length of the nation's street arrange, they convey about 40% of the street traffic. As on March 31, 2017, out of the complete 55,886 Km (7097Km with Ministry of Road Transport and Parkways) of National Highways that are wanted to be created and updated by NHAI, 39,581 Km of National Highways contracts have been granted. Out of this 28,479 Km have been finished and deal with 11,102 Km is in progress. In addition, giving versatility to individuals, streets give genuinely necessary framework to the development of products and enterprises with the goal that the flexibly of them satisfies with need focuses. According to Annual Report of Ministry of Statistics and Program Execution (MOSPI), GOI, F.Y. 2016-17 the primary focal point of the administration on infra improvement is on street division. According to Ministry records, as on 1 October 2016, 1174 activities with an foreseen cost of Rs 16,16,457.43 crore were on the screen of the Ministry. The division shrewd separation of these 1174 tasks is appeared in the figure beneath;

Source: Annual Report of Ministry of Statistics and Program Implementation (MOSPI), GOI, F.Y. 2016-17

As appeared in the figure above, around 36.71% of all out undertakings under usage during FY 2016-17 related to Road Transport and Highways. These ventures are being dealt with by the Service of Road Transport and Highways (Roads Wing), National Highways Authority of India (NHAI), State PWDs, and Border Roads Organization (BRO).

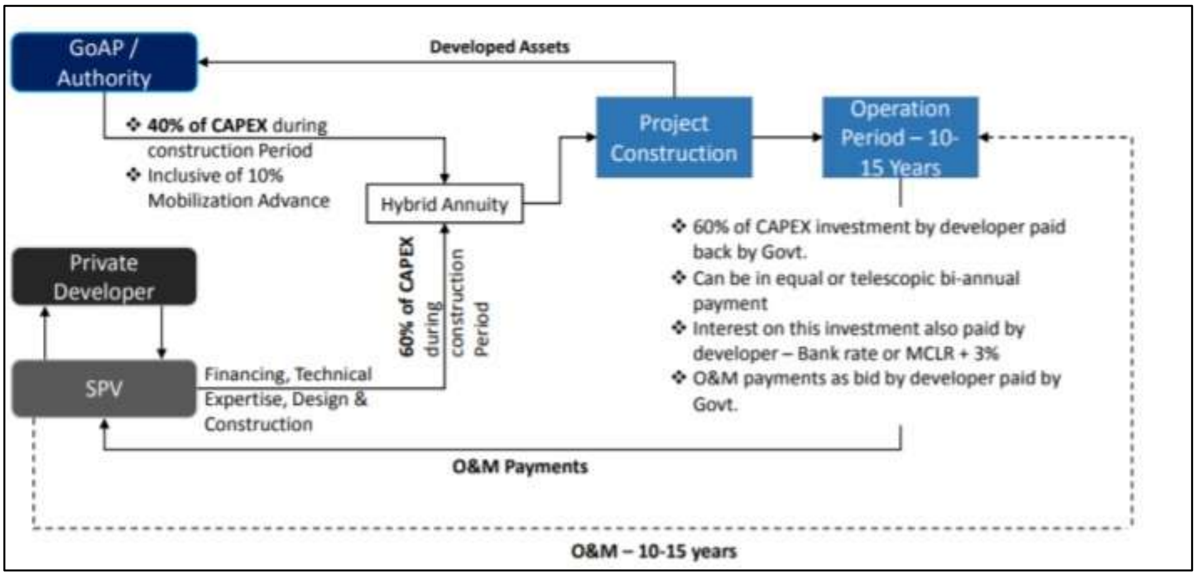
In this way concerning the improvement of the national parkways in India the administration has chosen to present HYBRID ANNUITY MODEL (HAM) to restore PPP (open private organization) in roadway development. At present, three distinct models – PPP Annuity, PPP Toll and EPC (Engineering, acquisition and development) were trailed by the administration while receiving private area investment. Dispatch of the new model is because of the different issues with the current ones. Enormous number of slowed down ventures are blocking infrastructural improvement and simultaneously including NPA's of the financial framework. In this specific situation, the GOI has presented in January 2016, HYBRID ANNUITY MODEL (HAM) to restore PPP. By alternatives the HAM might be a consolidate between the current 2 models-hatchling ordinary instalment and EPC.

Consequently to get HAM, we should know the essential highlights of the current PPP models.

1) The Build Operate Transfer (BOT) Annuity Model- under BOT Annuity, a designer constructs the expressway, works it for the predetermined span and move it back to the administration. The administration begins instalment to the designer when the dispatch of business activity of the venture. For the most part Payments are made on half year premise.
2) BOT TOLL Model- In this Toll based for the most part hatchling Model, a street engineer builds the street and he is permitted to recoup his speculation through cost assortment. This cost variety will be over a measure of almost thirty years much of the time. There is an administration instalment to the engineer as he acquires his cash contributed from Toll.
3) Engineering, Procurement and Construction (EPC) Model- Under this model, the worth is absolutely borne by the govt. Government welcomes offers for building information from the private designers. Acquisition of crude materials and development cost are met by the administration. The private area cooperation is least and is restricted to the arrangement of designing skill. Downside of the models is high money related weight to the legislature.

A. *HYBRID ANNUITY MODEL (HAM)*

As the name proposes, HAM's a cross breed — a blend of the EPC (designing, procurance and development) and hatchling (assemble, work, move) models. Presently, HAM joins EPC (40 percent) furthermore, BOT-Annuity (60 for every cent). On benefit of the govt, NHAI discharges 40% of the whole venture esteem. It is given in 5 tranches joined to achievements. The equalization 60% is composed by the engineer. Here, the engineer ordinarily contributes extra |less| no more} than 20-25 percent of the undertaking esteem (as against forty p.c or more previously), though the remaining is raised as obligation. There are no cost rights for the designer. Under HAM, Revenue assortment would be the obligation of NHAI.HAM emerged out of a need to claim a progressively vigorous cash instrument for street advancement. The hatchling model saw barricades with individual players about approaching to guess. As a matter of first importance, the individual player needed to totally compose for its accounts — be it through value commitment or obligation. NPA-perplexed banks were transforming into careful of attitude to those comes. Likewise, if the pay structure didn't include an immovable pay (such as annuity), engineers needed to require on the total danger of low rider traffic. Before, a few suppositions on traffic had gone amiss contacting returns as of now, they are reluctant to submit enormous totals of cash in such models. HAM could be a reasonable exchange off, spreading the hazard among engineers and the Government. Here, the govt contributes to back 40% of the venture esteem — a type of feasibility hole financing. This helps cut the general obligation and improves venture returns. The ordinary instalments structure implies the engineers aren't taking 'traffic chance'. From the Government's point of view, it gets an opportunity to signal rough terrain drops by account a tad bit of the task esteem. While it will take the traffic chance, it also procures higher social returns by way of access and comfort to every day suburbanites. Accordingly, there is incredible breadth of expressway improvement through HAM model, this paper will help to comprehend the different properties of HAM concerning customer and temporary worker imminent for extends by NHAI.



Created Block-graph gives an outline of the HAM Model

B. HIGHLIGHTS OF HYBRID ANNUITY PROJECTS

1) Bid parameter: Undertaking life cycle esteem sketched out as net present worth (NPV) of the cited offer venture worth and NPV of the activities and support (O&M) esteem for the whole tasks time frame is the offered boundary. Offer is granted to the designer citing least NPV for venture life cycle esteem.
2) Cash Construction Support: Forty percent of the offer task esteem will be granted to the concessionaire by the expert in 5 equivalent portions coupled to physical advancement of the task. Concessionaire will need to from the outset bear the parity 60% of the undertaking an incentive through a blend of obligation and value.
3) Escalation clause within the project cost: Task cost will be expansion ordered (through a file number Numerous) (PIM), which is the weighted normal of Discount Value List (WPI) and Shopper record number (CPI) (IW) inside the quantitative connection of 70:30. The offer undertaking esteem balanced for variety between the worth record happening between the reference list going before the offer date and reference record date like a shot going before the selected date will be regarded to be the offered venture esteem at beginning of development. Offer task esteem will be changed to variety in PIM on month to month premise until the achievement of business activities date (COD).
4) Stable cash flow of annuity payments: Semi-yearly annuity instalments will be made to the concessionaire by the Expert on culmination of the venture for the equalization hour of the last offered venture cost. The instalments are lined up with run of the mill income profile for street comes. Alongside the annuity instalments, intrigue will be paid inside the sort of award on decreasing equalization of extreme development esteem. Loan fee for steady will be rebate rate + three nothing (as of now ten % per annum).
5) Assured O&M pay-outs by authority: O&M instalments will be made to the little specialist in combination with lease by the Position, as per the amount cited which can be swelling ordered. Concessionaire will remain responsible for the upkeep of the undertaking until the tip of the concession sum.
6) Revenue for authority: Cost collection will be the duty and income of the position.
7) Concession Period: It will contain development sum, which will be venture explicit, with a set activities measure of fifteen years.

II. HAM- GOVERNMENT PROSPECTIVE

A. Ease the cash flow pressure

As on account of EPC contracts govt. needs to support all extend cost according to the running bills in this way there is a money related weight to the govt. be that as it may, by receiving HAM ventures govt. is subject to pay a fixed annuity sum that additionally at fixed achievement level in this way there is a simplicity in income strain to the govt.

B. Source of Revenue

The authority is assigned to gather cost during operational period which is required to structure great wellspring of income against instalments made to concessionaire as annuities.

C. Attract more private sector participation

The fundamental object of the cross breed annuity model is to realign chance designation dependent on ground level real factors of the market along these lines realizing a recovery in financial specialist certainty. This will draw in progressively private interest in the roadway foundation.

D. Speedy completion of projects

To guarantee the undertaking fulfilment on schedule, this model has having sharp punishment for government just as concessionaire if there is any postponement in satisfying their commitments. Pace of execution is likewise expected to improve because of rigid provisions for the harms and encashment of execution just as extra execution security in the instance of postponement by concessionaire as contrasted and regular DBFOT model.

E. O & M by Private sector

Activity and support by private player. Better ability, better nature of administrations as the private area is better prepared to guarantee effective development, upkeep and activity of foundation ventures.

III. HAM- CONTRACTOR/LENDERS PROSPECTIVE

A. Reduces sponsor's risk for funding equity commitment:

Forceful offering, high obligation levels and expanding working capital power just as execution challenges had commonly influenced the credit profile of a portion of the enormous designers has expanded the subsidizing hazard all through development part and diminished interest of engineers in DBFOT model. Simultaneously, designers with solid execution ability what's more, acceptable money related adaptability are better positioned to get the sizeable open door in the street division. HAM model involves lower support commitment during development period considering 40% development support from power and subsequently relieve the subsidizing danger to a degree. Besides, arrangement of assembly propels from NHAI is likewise expected to offer some help to concessionaire in the underlying period of development.

B. Reduction in construction risk:

Development hazard is incompletely decreased because of accessibility of 80% length of task previously designated date and NHAI's endeavours for giving quicker clearances just as help in recovery. Arrangement of esteemed end and statements to give last COD just in instance of fruition of 100% work on the grounds offered at spans one hundred eighty days from designated date conjointly ensures the interests of engineers and moneylenders to a significant degree.

C. Inflation indexed project cost albeit with some issues in fixing the loan amount:

Swelling recorded offer venture cost secures the concessionaire against value acceleration to an degree. In addition, degree of value heightening is hard to factor at the hour of money related conclusion. Thus, value heightening is probably going to be financed through award from NHAI and support commitment in the proportion of 40:60 which can be along these lines repaid by the loan specialists in the venture obligation/value once approaching at conclusive task esteem post COD.

D. Protection of lender's interest in the event of termination:

Banks are incompletely made sure about in case of concessionaire occasion of default before COD. As per concession understanding, in case of end, obligation due is determined dependent on the lower of NHAI cost and offer task cost. Given that current pattern shows moderately lower varieties between the NHAI venture cost and bidder venture cost, the banks are ensured to an impressive degree contrasted with ordinary DBFOT model.

E. O&M risk partly mitigated:

O&M hazard is additionally mostly balanced because of fixed instalments as annuity which is too ordered to expansion developments. Notwithstanding, concessionaires would at present face the danger of sharp increment in the O&M cost because of more than observe mileage.

F. Assured cash flow in the form of annuity payments:

During operational stage, income is guaranteed as annuity instalments on semiannual premise covering 60% of the task cost alongside the intrigue.

G. Reduction of interest rate risk:

Intrigue will be paid on decreasing equalization of cost. Pace of enthusiasm for the equivalent will be Bank rate + 3 % (at present 10.00% per annum). However, adequate slack between fall in bank rate and decrease in base rate by bank will downsize the edge of wellbeing Partner in Nursing increment rate hazard to a degree.

H. NO tolling risk:

Private gatherings are diminished from the danger of ringing in this model as cost assortment under this model would be finished by government through NHAI.

IV. Conclusion

With an end goal to improve the roadway organize in India, GOI presented the National interstate turn of events plan (NHDP) in 1997 to build up the NH through PPP model. In any case, because of enormous number of slowed down ventures under PPP model because of money related precariousness, GOI has presented Cross breed Annuity Model (HAM) in Street advancement to restore PPP. The target of the current investigation was to comprehend the different highlights and most recent patterns of HAM in street segment in India, to achieve this target we contrasted the HAM and the ordinary DBFOT model of thruway advancement, in order to separate the favorable circumstances and hazard related with HAM.

Right off the bat, a brief presentation of street advancement program like open private association (PPP) in India is introduced. At that point the Paper portrays the different conditions and characteristics of HAM. At that point, the DBFOT and HAM are contrasted with recognize the favorable circumstances and hazard related with HAM model both for NHAI and temporary worker forthcoming.

Besides, we recognize that, HAM is one of the likely answers for street advancement as it circulates the monetary hazard among government and the private players. HAM is relied upon to profit the street division with the expansion in the pace of grant of agreement and tending to the disadvantages of the prior cost based and annuity based tasks. While the HAM settle the vast majority of the issues influencing the task advancement under prior models, for example, BOT (cost), potential worries that could emerge later on are degree of government subsidizing that could be made accessible year on year to reserve such enormous requesting ventures. Such government financing are constrained as was found if there should be an occurrence of annuity based tasks. A second hazard could be the Administration capability of gathering tolls on explicit tasks against the neighbourhood/political pressure which may prompt prospects of colossal defilement.

At long last, the discoveries of this paper will help the thruway offices just as the private firms in huge improving the development procedure and venture the executives, which will at last outcome in improved interstate undertaking arranging and decreased introduction to case with limiting the hazard to the concern players.

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