iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** III **Month of publication:** March 2022

DOI: https://doi.org/10.22214/ijraset.2022.41085

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue III Mar 2022- Available at www.ijraset.com

Study of Hybrid Annuity Model on Maharashtra Samruddhi Mahamarg

Rahul Jichkar[1], Mayank Paunikar[2], Mayuri Walke[3], Kritika Kirpader[4], Saurabh Pawar[5], Swapnil Tandekar[6], Tejas Dongare[7], Vinod Chende[8], Yadavi Bhagat[9]

[1]*Professor, Dept. of Civil Engineering, Dr. Babasaheb Ambedkar College of Engineering & Research., Rashtrasant Tukdoji Maharaj Nagpur University , Nagpur (India)*

[2, 3, 4, 5, 6, 7, 8, 9]*Students of Civil Engineering Department, Dr. Babasaheb Ambedkar College of Engineering & Research, Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur (India)*

Abstract: ***The recent introduction of Hybrid Annuity Model (HAM) for highway up gradation projects in India marks a significant policy departure. This is aimed at revitalizing private sector led infrastructure development. The model has been pitched as a panacea to the numerous ills plaguing the highway sector, which had led to a record fall in the award of new projects, both in numbers and in value.***

Taking a dispassionate look, this paper critically examines the extent to which HAM has fulfilled its stated objectives during its introductory stage. The analysis of project award data provides mixed empirical evidence of HAM's initial success. We find that as a development imperative, HAM does encourage private participation in highway infrastructure, and it is a step forward. However, HAM also suffers from extensive de-risking of the private sector, to the extent of making them unattractive for both debt and equity investment.

By this, HAM takes the re-engagement of private sector two steps back. We concede that HAM is still in its infancy and a true performance would only be evident once enough number of projects have been delivered through this model. With this view, this paper adopts a more analytical stance, to identify possible pitfalls based upon the tell-tale signs. This is important as infrastructure projects have a long-life cycle, and an early stage dispassionate analysis and course correction is necessary, lest we move too far down the wrong path.

Keywords: Hybrid Annuity Model, Road development, Financial model, Influencing factor.

I. INTRODUCTION

Roads are an important asset of country, as the country moves on them. Roads carry about 67% of freight and 88% of passenger traffic in India and it is estimated that the road traffic has been growing at 10-15% per annum. India has the 2 largest road network in the world with over 5.23 million km at present, consisting of National Highways, Expressways, State Highways, Major District Roads, Other District Roads and Village Roads.

Among the roads, highways are considered to be more important as they connect different parts of the country and also with other border countries. As the name suggests, HYBRID ANNUITY MODEL (HAM) a hybrid — a combination of the EPC (engineering, procurance and construction) and BOT (build, operate, transfer) models. Now, HAM combines EPC (40 per cent) and BOT-Annuity (60 per cent).On behalf of the govt, NHAI (National highway authority of India) releases forty per cent of the entire project value. It is given in 5 tranches joined to milestones.

The balance sixty per cent is organized by the developer. Here, the developer typically invests additional |less| no more} than 20-25 per cent of the project value (as against forty p.c or more before), whereas the remaining is raised as debt. There are no toll rights for the developer. Under HAM, Revenue collection would be the responsibility of NHAI. Here, the govt pitches in to finance forty per cent of the project value — a form of viability-gap funding. This helps cut the general debt and improves project returns. The regular payment structure means the developers aren't taking 'traffic risk'. From the Government's perspective, it gets a chance to flag off road comes by finance a little of the project value. While it will take the traffic risk, it additionally earns higher social returns by manner of access and convenience to daily commuters. Advantage of HAM is that it gives enough liquidity to the developer and the financial risk is shared by the government. While the private partner continues to bear the construction and maintenance risks as in the case of BOT (toll) model, he is required only to partly bear the financing risk. Government's policy is that the HAM will be used in stalled projects where other models are not applicable. HAM could be a sensible trade-off, spreading the risk between developers and the Government.

©IJRASET: All Rights are Reserved

II. LITERATURE REVIEW

1) RAMAKRISHNA NALLATHIGA1 AND MONA SHAH (JAN 2014) : In line with the policy decision, a number of road development contracts were awarded under the Build, Operate and Transfer version of the PPP model and other models. Later, it discusses some of the major achievements made under the PPP model for road development in India during the five-year program period. Finally, it also addresses the major issues and challenges that have been emerging in road development under the PPP model in this sector.

2) MITHUN K SAWANT, AMRUTA P. KULKARNI (2018) : The HAM financial framework was introduced to revitalize the road sector and reduce the burden of equality on distressed developers.As even HAM projects face some financial hurdles such as a lack of funding and aggressive bids, NHAI has embarked on a move to provide initial funding for integration and implementation.Government building financing under HAM projects makes up 40% of the total cost and is disbursed by NHAI in five linked and historic phases of 20% of project work, while a 60% balance is set by the permit holder.

3) SWAPNIL GARG (JAN 2019) : A new public-private partnership model, that is, a hybrid annuity model was introduced in 2016, to revitalize investment in India's highway infrastructure and to address the strained relationship between public and private companies. Recognizing that true performance testing is not possible in this first phase of HAM, the paper adopts a more analytical approach to identifying potential pitfalls based on the descriptive features presented by project bidding and prize data. This study provides new insights and adjustments to studies on the role of government and other stakeholders in the newly launched PPP model.

4) VISHVANDRA SINGH MANGESH MADURWAR (APRIL 2019) : India has embarked on a rapid pace of highway development following a policy change in the mid-1990s that prioritized the development of highways in India. The Public Private Partnerships model was adopted for the development of the highway in India, considering the internal benefits associated with it in addition to the standard models. In line with the policy decision, a large number of highway development contracts were awarded under the BOT version of the PPP model and other alternatives for the continuous development of the DBFOT policy models, finally now the NHAI has approved the HAM for high speed development.

5) ANMOL TANEJA & DR. ROSY KALRA (APRIL 2019) : Road services in India could not be completed at that time due to certain problems such as the risk of toll collection, road hazards that had to be borne by the permit holder. All of these factors have led to delays in the completion of the road construction project. Therefore, in order to improve the construction industry, the government has introduced a hybrid annuity model that is more advanced than existing models.

6) NIKHIL KUMAR1 , AKASH AGRAWAL (MAY 2019) : The Public Private Partnership has really been a force for good in the development of national infrastructure in almost all sectors but a large portion of the shares are given to roads and highways development. Both of these models and similar models in the PPP play an important role in the careful allocation of alarming productive resources in the construction work. With the advent of the HAM model which is a mix of both BOT and EPC models, the financial burden is now allocated at 40:60 levels between the private and public groups respectively, which encourages more private parties to join the MCA in the PPP.

7) MAYUR GHAYAL & ROHIT SALGUDE (AUGUST 2019) : The HAM model is a contract program designed by the government to overcome limitations from the BOT model. The financial strategy of the HAM model is different from the BOT model. Also a structured representation of the HAM financial model is produced using the Model Agreement.

8) A.JAIN, F. KHAN, P.GUPTA, K. GUPTA AND S. YADAV (SEPTEMBER 2019) : The revitalization of the Public Private Partnership Model of the Department of Transport and Highway was done by introducing a hybrid annuity model in which the government decided to share funding risk by contributing 40% to the project. This work compares the two types by conducting a questionnaire survey from key stakeholders involved in such projects and identifying the challenges and risks faced as well as issues related to the delays and successes of the proposed model. The result from this work highlights that funding has been a major challenge facing PPP projects and therefore the establishment of a model is needed.

III. CONCLUSION

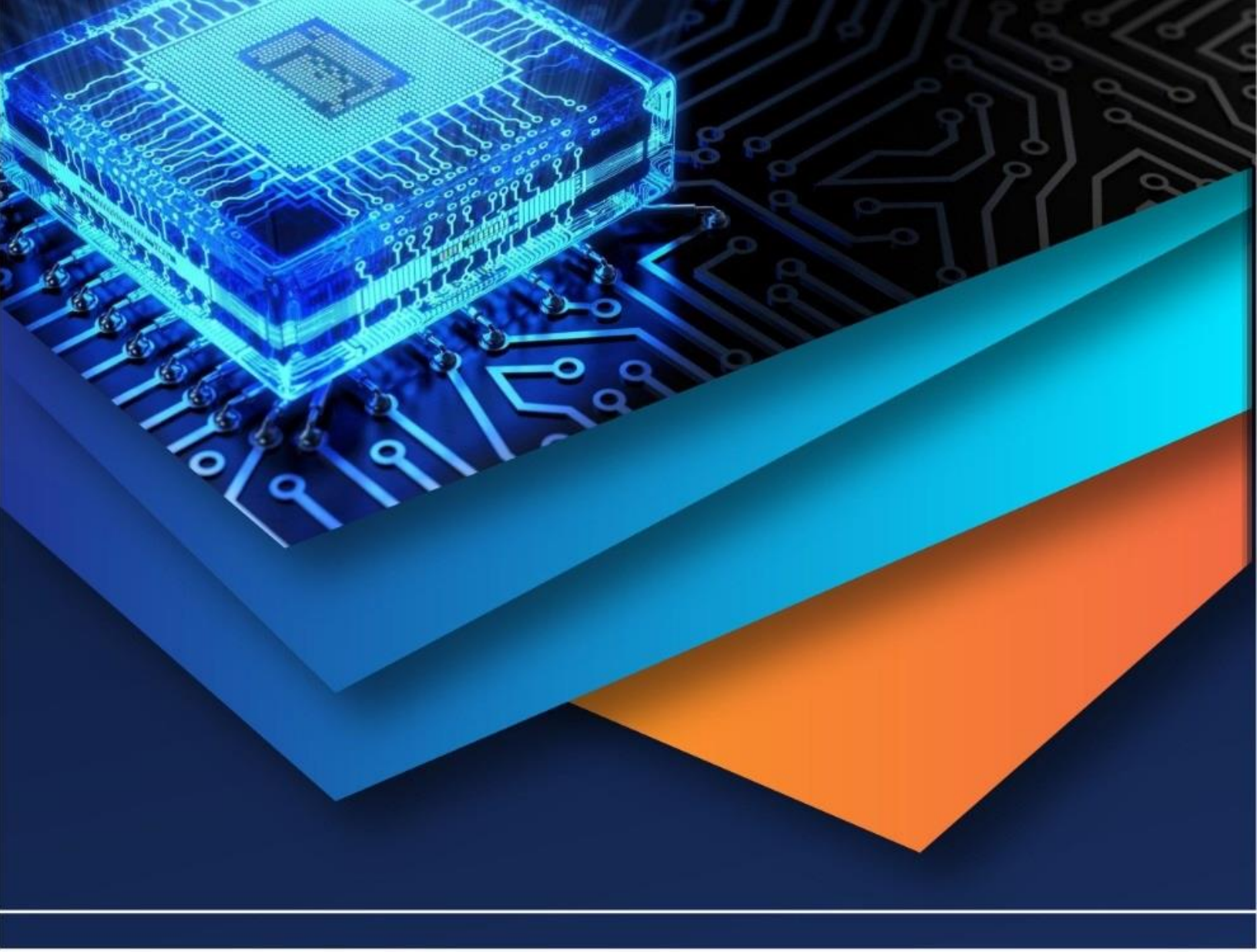
From this work, firstly it can be deduced that delay in PPP project is due to various factors among which prominently influential factors are funding through government and lack of transparency. Secondly, financial risk is the most strongly rated risk faced in implementation of any PPP project. Thirdly, funding of HAM projects can be a challenge for government in short span of time and can also be considered as reason of delay in such projects and can lead to overall project delay of around 20%. Due to inefficient revenue management necessary modifications should be done on financial parameters in order to make the existing HAM model more effective. The alternative model which can be taken into consideration is Toll Operate Transfer (TOT).

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

REFERENCES

[1] Paper presented at the international conference on “public private partnerships: The need of the hour” Held on january 23-24, 2014 by institute of public enterprise (ipe), hyderabad and international centre for promotion of enterprises (icpe), slovenia.
[2] Analysis of hybrid annuity model (ham) for ppp in highway project mr. Mithun k sawant, ms. Amruta p kulkarni(assistant professor kartikkadam,vishal kumar, atamjain (student) department of civil engineering dr. D. Y. Patil institute of engineering, management and research, akurdi, pune, india.
[3] Hybrid annuity model: Hamming risk allocations in indian highway public–private partnerships – january 2019.
[4] Hybrid annuity projects: - “study of ham in highway construction projects-owner and contractor prospective”.
[5] Analysis of hybrid annuity model in construction by anmol taneja & dr. Rosy kalra.
[6] Comparative study of bot & ham models of public private partnership nikhil kumar1 , akash agrawal2 pg student1 , assistant professor2 , department of civil engineering1,2 (construction engineering & management), sam higginbottom university of agriculture, technology & sciences, allahabad (prayagraj), uttar pradesh, india.
[7] Effect of hybrid annuity model on road project mayur s. Ghayal, rohit r. Salgude august 2019.
[8] Challenges faced in ppp and ham model and the need for an alternative a.jain, f. Khan, p.gupta, k. Gupta and s. Yadav* national institute of construction management and research, pune, india.
[9] Https://www.mahasamruddhimahamarg.com

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)