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# Strategic Planning for Public Private Partnership in Indian Infrastructure Projects – A study of National Highways by SAP-LAP Analysis

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**Abstract**

*India has the second largest road network in the world with an extensive road network of 3.3 million kilometres. For a country of India's size, an efficient road network is necessary both for national integration as well as for overall socio-economic development. The government had taken initiatives for infrastructure development but issues and questions while formulating an investment programme for various sectoral needs is to be addressed properly. The most important of these initiatives is relying on Public Private Partnership (PPP) for implementation of highway projects. The SAP-LAP analysis shows that PPP used as an investment tool for infrastructure project can bring substantial improvement in efficiency and risk management, and recent policy initiative by the government will inculcate the interest of investors in PPP projects.*

***Keywords:*** *SAP-LAP Analysis, Public Private Partnership (PPP), Infrastructure Development*

## Introduction

Despite the unanimity among economists and policy makers regarding the crucial role of infrastructural investment in promoting growth and other basic economic and social objectives, since the early 1990s there has been a sharp slowdown in such investments in India. Between 1991-92 and 2002-03 capital formation in infrastructure as a proportion of GDP was nearly halved, from 6.34 to 3.5 per cent. The main reason behind this fall was pursuit of a macroeconomic adjustment programme under which the government tried to rein in fiscal deficit through a cutback in public investment in general and infrastructural investment in particular. During 1991-2003 while the ratio of public investment of GDP came down from 8.8 to 6.1 per cent, for public investment in infrastructure the fall was steeper. Not that the government was unaware of the importance of road network, but apart from the overwhelming importance attached to reduction of debt financing, it was also presumed that private entrepreneurs would move to make up for the fall in public investment in this sector. The presumption proved unfounded and the country had to pay a heavy price in terms of production and employment with increasing infrastructural bottlenecks (Investment in Infrastructure during the eleventh five Year Plan, GOI, 2011).

In recent years the government has been trying to undo the damage and provide a boost to investment in infrastructure through a number of policy initiatives. Foreign Direct Investment (FDI) in highways sector is already 100 per cent open. The government had taken initiatives for infrastructure development but issues and questions while formulating an investment programme

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for various sector needs of each sector is to be addressed properly. The most important of these initiatives is relying on Public Private Partnership (PPP) for implementation of highway projects. The most important issues are related to the criteria for selection of investment projects, their financing, recovery of costs; role and form of PPP; and fiscal burden of alternative modes of implementing the projects. Other most important initiative consist of allocation of part of the cess revenue from petrol and diesel to the National Highways development and improvement (Guidelines for Financial Support to Public Private Partnership in Infrastructure, GOI, 2011).

The overwhelming part of investment under the National Highway development Programme (NHDP) during 2005-15 will be undertaken through toll based Build, Operate and Transfer [BOT (Toll)] system. Under this mode of PPP private entrepreneurs will undertake construction and maintenance during the concession period; financial support, also called Grant/ Viability Gap Funding (VGF) – the gap between the financing needed to implement the project and the public fund available, is limited to an upfront grant which cannot exceed 40 per cent of the cost of each subproject; and the concessionaire recoups the cost through tolls.

## Scope of Study

The objective of PPP is a partnership between the public and private sectors to deliver services to the public. Various studies shows that PPP should not be the default option for a public investment projects but properly assessed on a case to case basis i.e. when PPP should be used should be pragmatic not ideological (Burnett M, 2007). There are several reasons for investment likely to be suboptimal under PPP, but compared with other alternatives it imposes a heavier burden on the Treasury in the long run. In view of the dominance of fixed over variable cost, large externalities, and the huge gap between the private and social rates of discount, there is a significant difference between socially optimal and commercially viable levels of investment in highways. This is apart from the fact that commercially oriented tolls tend to be grossly distortionary.

Hence for making PPP cost effective in securing basic economic and social goals, analysis of challenges and risk is necessary. First, investment in highways is long-term and attended with high risk for a private investor. Second, it is more cost effective for the government to borrow and make the funds available to builders at market rates of interest with adequate guarantee and safeguard against moral hazard. Third, in view of the low appetite of private agents for long-term risk related to demand, building and maintenance clubbed with tolling. Fourth, tolls imposed are primarily to meet the major part of the cost of highways and not for reducing congestion, pollution, etc. Lastly, can the major part of the cost of highways be met through - (a) auctioning of land adjoining to the roads; (b) parts of motor vehicle tax and capital gain tax on land; and (c) general revenue, if necessary.

This study is focused on PPP option for public investment projects on National Highways development, as the economic development of the country depends on the road transport systems. The study is intended to see whether PPP used as an investment tool for infrastructure project can bring substantial improvement in efficiency and risk management, and recent policy initiative by the government will inculcate the interest of investors in PPP projects using the SAP-LAP framework.

## Objective of Study

The objective of the study is to develop a strategic model by using the SAP-LAP framework, a flexible system methodology tool for formulating investment programme for infrastructure project. The flexible systems methodology, which helps in identifying and integrating suitable methods and tools of creative and analytical inquiry with strategic management tools, can be effectively

utilized for policy and strategy formulation. SAP – LAP framework a tool of flexible system methodology, which integrates learning and action on the one side, and analytic as well as synthetic inquiry on the other, will be developed for the PPP investment for infrastructure project.

## Methodology

This is an applied research. The analysis has been based on secondary data and application of SAP-LAP Framework of Flexible System Methodology. The SAP-LAP framework as proposed by Sushil (2001) consists of three entities in any context, viz. a 'situation' is to be dealt with an 'actor' or a group of actors who deal with it and a 'process' or processes that recreate the situation. In this framework, freedom of choice lies with the actor. A synthesis of SAP leads to LAP which deals with learning, action and performance (Sushil, 2001).

The flexible systems methodology can be effectively utilized for policy and strategy formulation. The methodology helps in identifying and integrating suitable methods and tools of creative and analytical inquiry with strategic management tools. An overall SAP – LAP model would be extremely useful in covering the whole strategic management process. Using the SAP – LAP framework, the strategic management process can be described in terms of the following steps (Saxena J P, Sushil and Vrat Prem, 2006):-

**i.** Strategic Situation Analysis (Situation, Learning)

**ii.** Strategic Capability Analysis (Actor, Learning)

**iii.** Evolution of Strategy (Process, Learning)

**iv.** Strategy Implementation and Impact (Action, Performance)

Traditionally, SWOT analysis has been in vogue for strategy formulation. This is a special kind of SAP model. For example, Opportunities and Threats (O&T) lie in the situation and are identified by situation analysis; Strengths and Weakness (S&W) lie within the 'actor' (organization) and are identified by capability analysis, and matching of S&W with O&T (in the framework of TOWS Matrix) is a 'process' that generates strategy. (Saxena J P, Sushil and Vrat Prem, 2006).

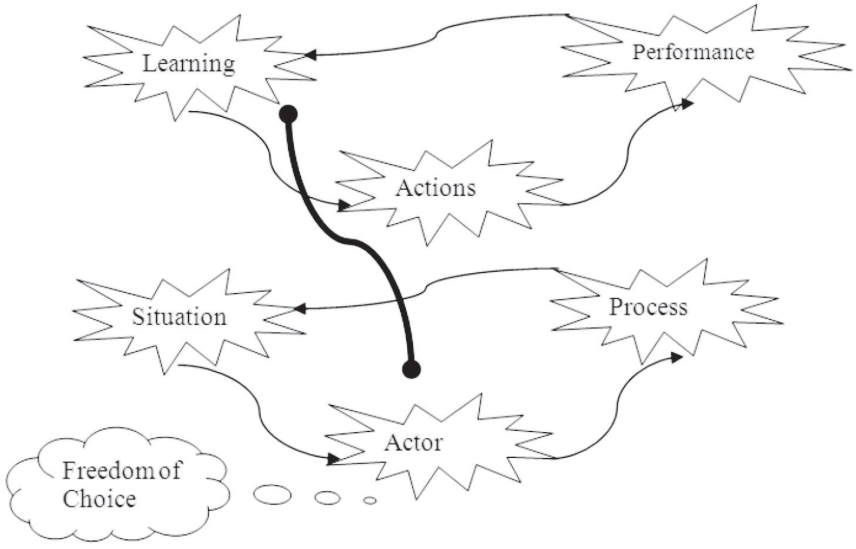



**Figure 1: SAP-LAP Framework, (Sushil, 2001)**

## Exhibit: SAP – LAP Model for Policy and Strategy Formulation

**Situation**

- What are the major opportunities?
- Where are the major threats?
- What are the seeds of change?
- Which societal sectors are affected?
- What are the needs?

**Actor**

- Which are the agencies involved?
- What are the values and beliefs?
- What are the multiple worldviews?
- What is the nature of alliances and conflicts?
- What is the level of awareness?

**Process**

- What are the alterable?
- What is the strategic intent?
- What are the activities?
- What are the policy options?
- How to select and prioritize the options?

**Learning**

- What are the objective measures?
- What are the activity measures?
- Where is the consonance or dissonance?
- Which policy options are more crucial?
- Which are the crucial elements in the whole programme?

**Action**

- How to implement policy?
- What are the short, medium and long term strategy considerations?
- What resources are required?
- How to monitor and control progress?
- How to initiate a cultural and structural change?

**Performance**

- What are the key performance indicators?
- How will policy affect the performance?
- Are we able to meet the objectives?
- Has the policy been able to manage the conflicts?

- Are the actors satisfied with the policy and its implementations?

An overall SAP – LAP model would be extremely useful in covering the whole strategic management process. SAP – LAP framework would integrate learning and action on the one side, and analytic as well as synthetic inquiry on the other. If flexible systems methodology is used for strategic management tools, a more comprehensive, and flexible strategy with content will be evolved. The tools and methods of flexible systems methodology can be effectively used, not only for policy and strategy formulation but also for creative problem solving and managerial inquiry. The applications can be made to a host of problems ranging from strategic to tactical to operational issues. For example, applications can be made in areas such as functional policies (financial, marketing, advertising, human resources, manufacturing, R&D, etc.), quality and productivity management, organizational analysis and design, continuous improvement of systems and processes, business process re-engineering, implementation of new technology, training and performance appraisal, and so on. SAP-LAP analysis was developed by Priyanka Kokil for Gyan Ganga, E-Gram projects of Government of Gujarat and Communication Information Centers (CIC) project of Department of Information Technology (DIT) and National Informatics Centre (NIC) of Government of India (GOI) (Kokil P, Internet Web Source). Similarly, SAP-LAP analysis for Public Private Partnership for Healthcare Delivery in India was developed by Bharti Birla (Birla B & Taneja U, 2010).

## Scenario of Indian National Highways

India has the second largest road network in the world with an extensive road network of 3.3 million kilometres. Indian roads carry about 61 per cent of the freight and 85 percent of the passenger traffic. All the National Highways and expressways together constitute about 71,000 kilometers (only 2.4 per cent of all roads), whereas they carry 40 per cent of the road traffic. To further improve the existing infrastructure, Indian Government annually spends about **Rs.**18000 crores (USD 3.704 billion). Road development is recognized as essential to sustain India's economic growth. Road development is a priority sector and the ongoing focus on the highway infrastructure development is targeted to projected annual growth of 12-15 per cent for passenger traffic and 15-18 per cent for cargo traffic. The project has been attracting huge 'Foreign Direct Investment (FDI) (Guidelines for Investment in Road Sector, GOI, 2010).

For a country of India's size, an efficient road network is necessary both for national integration as well as for overall socio-economic development. The National Highways (NH), with a total length of 70,548 km, serves as the arterial network across the country. The four-laning of the 5,900 km long Golden Quadrilateral (GQ) connecting Delhi, Mumbai, Chennai and Kolkata is completed. The ongoing four-laning of the 7,300 km North-South East-West (NSEW) corridor is on the verge of completion. The Committee on Infrastructure adopted an Action Plan for development of the National Highways network. An ambitious National Highway Development Programme (NHDP), involving a total investment of **Rs.**2,20,000 crore (USD 45.276 billion) up to 2012, has been established (NHAI, 2011).

**Government Initiatives** (MoRTH, 2011, and Planning Commission & COI, 2011)

***Target***

- Developing 1000 km of expressways
- Developing 8,737 km of roads, including 3,846 km of NH, in the North East
- Four-laning 20, 000 km of national highways
- Four-laning 6,736 km on North-South and East-West corridors

- Six-laning 6,500 km of the Golden Quadrilateral and selected national highways
- Widening 20,000 km of national highways to two lanes

***Potential***

- Road development is recognized as essential to sustain India's economic growth
  - The Government is planning to increase spends on road development substantially with funding already in place based on a CESS on fuel
- A large component of highways is to be developed through public-private partnerships
  - Several high traffic stretches already awarded to private companies on a BOT basis
  - Two successful BOT models are already in place - the annuity model and the upfront/ lump sum payment model
- Investment opportunities exist in a range of projects being tendered by NHAI for implementing the NHDP
- A **Rs.**41,200 crores (US $ 5 billion) project plans to lay 6 lane roads over 6,500 kms of National Highways on the Design Build Finance and Operate (DBFO) basis

***Approach***

- National Highways Authority of India (NHAI) is the apex Government body for implementing the NHDP. All contracts whether for construction or BOT are awarded through competitive bidding
- Private sector participation is increasing, and is through construction contracts and Build-Operate-Transfer (BOT) for some stretches - based on either the lowest annuity or the lowest lump sum payment from the Government
- BOT contracts permit tolling on those stretches of the NHDP
- A large component of highways is to be developed through public-private partnerships and several high traffic stretches already awarded to private companies on a BOT basis.

***Policy***

- 100per cent FDI under the automatic route is permitted for all road development projects
- 100per cent income tax exemption for a period of 10 years
- Grants / Viability gap Funding for marginal projects
- Formulation of Model bidding documents
- Cabinet Committee on Economic Affairs (CCEA) has agreed upon the National Highways Fee (Determination of Rates and Collection) Rules, 2008 to establish uniformity in fee rate for public funded and private investments projects.
- An increment in the overseas borrowing amount of infrastructure sectors, to US$ 500 million from US$ 100 million.
- Offering cheaper loans for highway projects that will speed up the projects worth more than US$ 12. 70 billion under separate phases of the NHDP.

**Public-Private Partnership – Some Critics**

- PPP projects cannot be regarded as miracle cures or quick fixes for the large infrastructure projects, as they carry risks both in implementation and operation from social point of view. They should rather be regarded as an option amongst the range of alternatives that can be used for the purpose of public services.

- PPP arrangements should not be entered into merely for the sake of undertaking a PPP project. A costs and benefits analysis of private sector involvement versus public alternative must be undertaken to ensure that a PPP enhances the public benefit. The degree of private involvement needs to be carefully matched to the objectives and needs of the project and public.
- There is no one method for deciding which type of PPP approach will best serve the needs of a project as this depends on the project characteristics and public perception of the need for PPP. Each PPP structure has strengths and weaknesses, which must be recognized, integrated and applied only where suitable and when clear benefits and advantages can be demonstrated.
- It requires political determination of a high order to introduce a PPP. It is no coincidence that some countries that have done so have faced serious difficulties of one sort or another, in stimulating the right levels of investments in public infrastructure. The requisite support is easier to build if PPP represents an answer to an investment shortfall readily perceived by taxpayers at large.
- The consensus, once achieved, can be fragile and so private finance must accept the challenge of continually delivering results, if it is to command continued political commitment from a government. So it is required not only to invest political capital in sponsoring PPP programmes, but also to ensure that the programme is a success in practice.

## Private Sector Participation

A KPMG report titled 'Opportunities in Infrastructure and Resources in India' reveals that investments of the order of US$ 500 billion are expected to take place in the coming years. This development would call for increased resource requirement, consumer responsiveness,

**SWOT Analysis: Contribution of PPP in NH Infrastructure Development**

| **STRENGTHS:** | **WEAKNESSES:** |
|---|---|
| • Have control of Central Govt.<br>• Road Development recognized as essential to sustain India's economic growth<br>• The Government is planning to increase spends on road development substantially with funding already in place based on a CESS on fuel<br>• 100 per cent FDI under the automatic route in all road development projects.<br>• 100 per cent income tax exemption for a period of 10 years<br>• Grants / Viability gap funding for marginal projects<br>• Standardization of bidding documents·<br>• A large component of highways is to be developed through public-private partnerships<br>• BOT contracts permit tolling by private partner | • Low quality in conventional construction and services rendered<br>• Inadequate direct public sector funding in construction, improvement and maintenance<br>• Lower priority level of Road development in comparison to other sectors viz health, education, power, telecom etc.<br>• Low technology innovation in traditional design and construction<br>• Low participation of private sector investment in past<br>• Time overrun and cost overrun is very much in traditional contract |

| OPPORTUNITIES: | THREATS: |
|---|---|
| • Road Development will help economic development of other sectors.<br>• It will facilitate growth of industrialization<br>• It will enhance employment generation.<br>• It will reduce vehicle operating cost (VOC)<br>• It will increase / provide investment opportunity to local as well as external investors<br>• It will boost transfer of technology by involvement of international giants | • As cost of borrowing is lower to Govt., so Govt. may terminate the project premature causing a moral hazard<br>• Public Resistance in the time to come for tolling at every 60 km<br>• Availability of quality material and increasing cost of materials<br>• Environmental clearance issues.<br>• Investment is long-term and have added high risk<br>• Building and maintenance is clubbed with tolling hence needs high risk taking capacity<br>• Purpose of tolling is to recover the cost and not to reduce the congestion<br>• Increased external debt financing by private sector will increase risk of repayment<br>• Local debt arranged by financial institutes for one sector will create problem of availability of funds for other sectors |

and concern for managerial efficiency. The private sector will be largely involved both at construction contracts and BOT levels.

## International Participation

Many international players have joined the league in the growth and reform of the highway infrastructure in India. Indian road construction projects have become a lucrative and emerging investment opportunity for numerous international giants. The various international companies from Malaysia, Dubai, Spain, Thailand, Korea, Russia, Germany, Japan, China, UK, USA are participating. These companies acquire equity stakes between 10 to 51 per cent in various highway projects. Foreign contractors started participating from 2000-01. It is presently estimated that 16 foreign firms executing 26 contract exclusively and 80 contract as joint venture partners in NHDP. (Guidelines for Investment in Road Sector, GOI, 2010).

## Application of SAP-LAP Framework

### Prevailing Situation

- Annual growth projected at 12-15per cent for passenger traffic, and 15-18per cent for cargo traffic
- Over $50-60 billion investment is required over the next 5 years to improve road infrastructure
- Road development is recognized as essential to sustain India's economic growth. The Government is planning to increase spends on road development substantially with funding already in place based on a CESS on fuel
- A large component of highways is to be developed through public-private partnerships. Several high traffic stretches already awarded to private companies on a BOT basis. Two successful

BOT models are already in place - the annuity model and the Toll model

- Investment opportunities exist in a range of projects of various implementing agencies

**Main Actors**

- Govt. of India and various state governments as the policy-makers
- PPPAC as project appraisal body
- Planning Commission to provide support for project planning and appraisal
- Environment Ministry – for environmental clearances
- Ministry of Road Transport and Highways – as Nodal Ministry
- National Highways Authority of India (NHAI) – Implementing agency
- State PWDs and related agencies – Support for implementation e.g. Land acquisition etc.
- Bidders/ Concessionaires – as project developers
- Equipment Manufacturer – Plant and heavy machinery providers
- Construction Material Industry – Steel, Cement, Bitumen, Traffic signage, soil stabilizers
- Consultancy firms – technical, financial and legal
- Lenders – as financer for the project
- Road Users – consumer of the facility on payment of toll fee

**Process**

- Preparation of feasibility study to demonstrate the financial and economical viability of the project to check its practical feasibility
- Due diligence by Government given the substantial contingent liability that could devolve on the State in such projects
- Government fulfilment of its commitment towards inclusive growth which makes it obligatory to fix the tariffs based on the capacity of the common man to pay, while attracting the private sector for commercially viable projects and to inculcate the discipline of 'user pay principle' and making provision of these services based on payment of tariff
- Phasing of development of National Highways network (Phase I to VII) and prioritization of implementation plans
- Standardizations of bidding documents and Manual for standards and specifications
- Selection of Sponsors / Concessionaire through fair and transparent bidding process
- Selection of Consultants for feasibility study, financial evaluation and legal vetting
- Obtaining environmental clearances, General Arrangement Drawings (GADs) for bridges, land acquisitions and Right-of-Way clearances & other project related clearances
- Executing financing agreement documents and achieving financial closures
- Implementation of project and achieving commercial operation as per concession agreement

**Learning**

- Under the current Indian political system, due to political urgency and compulsion (with aim to maximize number of project awards) the preliminary designs are made in such a way that the project becomes financially viable by even omitting the provisions of grade-separators,

service roads, pedestrian/cattle underpasses etc. Firstly, this gives rise to innumerable disputes with change of scope and secondly such designs seriously jeopardize the safety of traffic operation (Sikdar & Bhavsar, 2011)

- The government had taken some initiatives for policy changes during last two years for awarding the projects and to create increased investors interest. However, government is not able to resolve the lingering issues of land acquisition, environmental and forest clearances, delay in decision making, poor performance and disputes, as well as serious safety related issues (Sikdar & Bhavsar, 2011)
- Adaptation rather than application: There are many points of similarity between privatization and PPPs. Both represent a redrawing of the traditional boundaries between the public and private sectors. A country could adapt the privatization model to suit domestic administrative structures, legal requirements, business culture, economic circumstances and political realities. So for PPPs to be replicated, considerable adaptation is required to suit local needs.
- Controversial in nature: Private finance is often controversial since it represents a significant change to the status quo of public procurement, and challenges a number of vested interests. So government should need to build political support before introducing a PPP programme.
- Perception: Private finance is sometimes labeled as privatization of public services, as the distinction between state responsibility for the provision of public services and state ownership of the means of delivery is not widely understood, and becomes blurred in debate. Opponents can also contend that public safety may be put in jeopardy, in sectors like transport or hospitals. In developing countries, PPP programmes often trigger overseas private investment into sectors previously the exclusive domain of the state, lending in addition nationalistic overtones to the debate.
- Effectiveness: An overriding concern, which is often debated, is Value for Money (VfM). It is argued that how can recourse to private finance be better when private sector borrowing cost and equity return are so self-evidently higher than the public sector's cost of funds? From a political perspective, the problem is not that there are no satisfactory answers to challenges of this sort (invariably there are), rather it is that the answers are complex and may not be easily understood in public debate or by the media.
- Accountability: Public officials sometimes fear a loss of control over the design and construction process, without any corresponding reduction in their political accountability for the quality for services provided to the taxpayer. Further, finance departments need to control the growth in future liabilities from servicing PPP contracts, and the loss of budgetary
- Design Freedom given to concessionaire: before the bidding process the Authority prepares a preliminary design for the purpose of cost estimation, which is grossly misleading as by detailed engineering only correct cost estimate can be obtained. This results into cost and time overrun and various disputes between parties at a later stage.
- As realization of estimated traffic cannot be guaranteed by any of the party in BOT projects during the concession period, hence it becomes a real challenge to allocate the risk of future traffic in transport infrastructure projects.

**Action**

- Design policy to avoid rash driving of the programme and to arrest the strategy of build-build-build to evaluate the system and its processes, to identify all the pitfalls so that these new generation roads can be real assets for the nation (Sikdar & Bhavsar, 2011)

- The National Road Safety and Traffic Management Board (NRSTMB) Bill pending in the Parliament since May 2010 needs to be passed and implemented; similarly report on electronic toll collection technology prepared Nileckani Committee and accepted by government needs further action (Sikdar & Bhavsar, 2011).
- To control the effect of traffic risk, mechanism provided in the concession agreement in the form of variation of concession period, safeguard from future competition arising from parallel roads needs to be considered properly.
- Operational manual should be prepared to control the O&M
- Well-designed awareness program to be run and to inculcate the discipline of 'user pay principle' in the masses and to gain the support of all sections of the society to initiate a cultural and structural change.

**Performance**

- A well designed PPP can effect substantial improvement in efficiency and risk management through assignment of functions to private and public agencies in line with their comparative advantage in carrying them out. The strength of the private sector lies in relentless search for economizing cost and raising the revenue stream. Under PPP with suitable incentives and disincentives private entrepreneurs would generally be more efficient in avoiding delays and cost overruns in execution of projects; meeting the standards of delivery; and striking the optimal balance between the construction cost and the cost of operation-cum-maintenance. On the other hand private agencies are ill equipped to bear (long –term) risks relating to (a) the volume of traffic as well as inflation, interest rate, exchange rate or other important macro variables that may affect the commercial outcome of a road project; and (b) political changes or shifts in government policies. This is apart from the fact that private agencies cannot be entrusted with promoting social gains not realizable as commercial profits.
- Recent policy initiative and support given by the government will inculcate the interest of investors and lenders in PPP projects. There is a widening gap between our Nation's highway infrastructure requirements and our collective ability to fund them through traditional public means. Public-Private Partnerships hold great promise for addressing this gap, both by increasing funds available to finance important transportation priorities and improving the efficiency in transportation project construction, operation, and maintenance. Not only do they provide a potential mechanism for constructing new facilities, but they also can play a significant role in operating and maintaining existing highway facilities.

## Conclusion

The SAP-LAP analysis shows that the well designed PPP used as an investment tool for infrastructure project can effect substantial improvement in efficiency and risk management through assignment of functions to private and public agencies in line with their comparative advantage in carrying them out. Further, recent policy initiative and support given by the government will inculcate the interest of investors and lenders in PPP projects.

However, there are several other parameters that may influence the effectiveness of the PPPs. The more efficient the PPP model, the more the chances of sustainability of the model. Many such models may not be sustainable, and they fail not because of the flaw in the model, but more so, because of lack of operational efficiency. Since these models are based on partnership, each partner must have adequate representation and say in the process. Equally important are the key stakeholders in the form of the road users.

PPP projects cannot be regarded as miracle cures or quick fixes for the large infrastructure projects, as they carry risks both in implementation and operation from social point of view. The

| Learning | Actions | Expected Performance |
|---|---|---|
| Interference of political urgency and compulsion should be eliminated in designing of projects | Revised policy needed to generate new roads | Through a well designed PPP, substantial improvement in efficiency and risk management is possible |
| The government has to resolve the lingering policy issues | The National Road Safety and Traffic Management Board (NRSTMB) Bill needed to be implemented and report on electronic toll collection technology needs to be accepted. | |
| PPP approach should be adaptive rather than application, as it is controversial in nature: | Run a well -designed awareness program to inculcate the discipline of 'user pay principle' | There is a widening gap between Nation's highway infrastructure requirements and collective ability to fund them through traditional public means. PPP hold great promise for addressing this gap, both by increasing funds available to finance important transportation priorities and improving the efficiency in transportation pro ject construction, operation, and maintenance. Not only do they provide a potential mechanism for constructing new facilities, but they also can play a significant role in operating and maintaining existing highway facilities. |
| Perception, Effectiveness and Accountability of PPP approach needs to be properly understood | | |
| Design Freedom given to concessionaire | Operational manual should be prepared to control the O&M | |
| As realistic realization of estimated traffic to allocate the risk of future traffic in infrastructure projects. | Develop an effective mechanism to control the traffic risk | |

**PREVAILING SITUATION**

- 12-15per cent for passenger traffic, and 15-18per cent for cargo traffic Annual growth
- Over $50-60 billion investment in next 5 years to improve road infrastructure
- Road development is recognized as essential to sustain India's economic growth.
- The Government is planning to increase spends on road development substantially
- A large component of highways is to be developed through public-private partnerships.
- Investment opportunities exist in a range of projects

**MAIN ACTORS**

- Govt. of India and various state governments
- PPPAC
- Planning Commission
- Environment Ministry
- Ministry of Road Transport and Highways
- National Highways Authority of India (NHAI)
- State PWDs and related agencies
- Bidders/ Concessionaires
- Equipment Manufacturer
- Construction Material Industry
- Consultancy firms Lenders
- Road Users

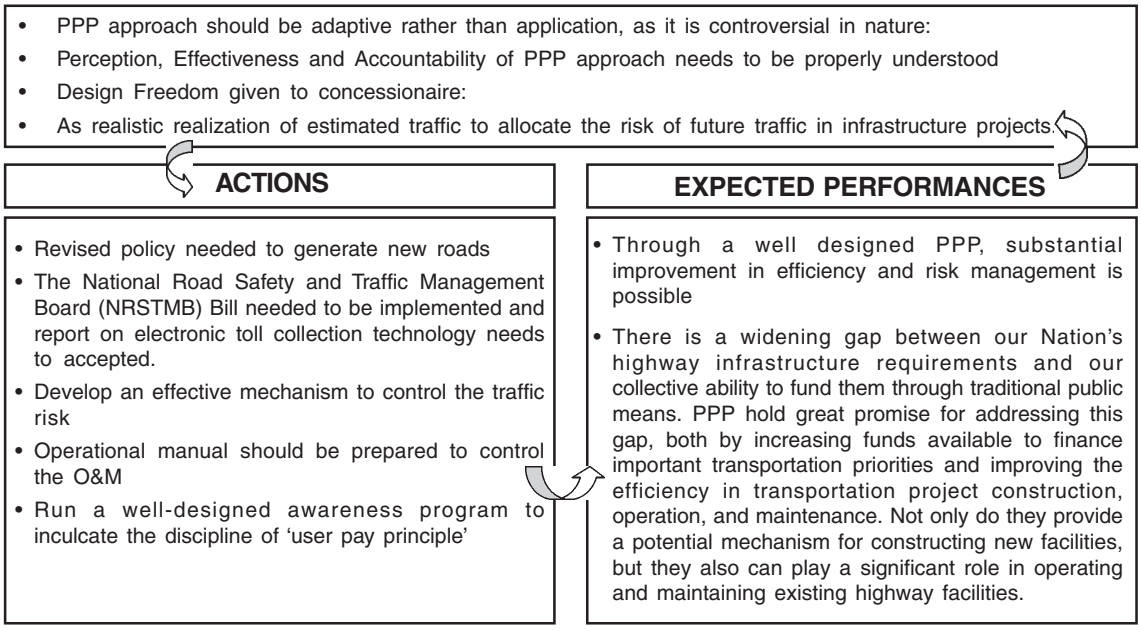
**PROCESSES**

- Preparation of feasibility study
- Due diligence by Government given the substantial contingent liability
- Government policy to be reformulated
- Phasing and prioritization of development of National Highways network
- Standardizations of bidding documents and Manual for standards and specifications
- Fair and transparent selection of Sponsors / Concessionaire
- Selection of Consultants
- Obtaining project specific clearances,
- Executing financing agreement documents

Implementation of project

**LEARNINGS**

- Interference of political urgency and compulsion should be eliminated in designing of projects
- The government has to resolve the lingering policy issues




consideration of PPP should not preclude other options including traditional public-public models. The degree of private involvement needs to be carefully matched to the objectives and needs of the project and public. An overall SAP-LAP model of the PPP in National Highways is shown in fig.1. A summarized explanation of learning, actions and the consequent expected performance is given in the table below:

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