Chapter III
Public-Private Partnerships in Transport Sector

Traditionally, in developing (as well as many developed) countries, a large part of infrastructure finance has been provided by the state. This model of finance does not seem to have been fully satisfactory, as attested by the large (and growing) infrastructure deficits in recent decades in many countries. Experience has shown it to be particularly weak in providing steady, reliable investment budgets that can finance project construction as well as provide for maintenance and also grow overtime with inflation and population growth. Further, in recent years, the financial flexibility of the state has been enormously weakened by the burden of international debt payment as well as the steep decline in new external capital flows. Since public finance has been a major resource base for infrastructure, the budgetary vulnerability of infrastructure finance has posed critical issues for public policy. In the context of fiscal stress, it appears unrealistic to look to the state, drawing on general funds, to finance the magnitude of additional investment that will be necessary to overcome the growing infrastructure deficits. But at the same time, it is recognised that even though the share of privately funded infrastructure is rising, governments will have to continue to be a significant source of finance, either singly or in partnership with private enterprise. Such a recognition, it appears, accords a limited but focussed role for the state. This Section deals with this important issue of the continuing but a relevant, explicit role that the state needs to play in the content of provision of certain facilities like roads and other similar facilities which not only have "public good" characteristics associated with their use but also involve market failure in terms of generating external effects.

Infrastructure has been one of the fastest growing sectors in the world in terms of private participation and financing since the late 1970s when countries began turning to private sources to provide services conventionally offered by the public sector. The transport sector was no

exception to this emerging pattern; in fact, it led the process in many ways. The generally poor performance of state-owned monopolies combined with the rapid globalisation of world economies brought into sharp focus the economic costs of an inadequate transport infrastructure. Operational inefficiency, lack of technological dynamism, poor service to users have widely characterised public sector transport infrastructure providers. But the most striking indictment of public sector provision was its failure to deliver a key social objective - universal accessibility. In other words, a system was perpetuated that was neither efficient nor accessible to large sections of the population, especially the poor.

The "public good" nature of many infrastructure services deserves re-examination. Most infrastructure functions in the past have involved a number of fundamentally different tasks. These may traditionally have been bounded together in a single, publicly provided service but the justification for public intervention in a more recent context and the type of public intervention that is called for, can be quite different depending upon the task to be performed and the objective that is to be served

Traditional Dependence on State Financing

The provision of roads has been one of the most important functions performed by governments in most countries. However, the evolving financing mechanism for roads has been one characterised by changes to take care of emerging requirements. Roads have traditionally been conceived to be genuinely collective goods because a road, once constructed, is equally available to all potential users. As long as congestion did not become serious (rivalry), the road usage of one person did not reduce the services that were available for others. An adherence to this viewpoint has associated road development facilities with such functions such as administration of justice and so on- "to be conducted likewise on the basis of collective

estimate of its relation to the collective interest of society with but incidental concern for the interests and the obligations of identifiable beneficiaries" (Peterson, 1930). Accordingly, road construction and maintenance appears as a typical function of government having to do with the aspects of social-well being. To begin with, the main function of roads was access to property and it was believed that adjacent property owners should pay for them. Thus, the roads were primarily considered a local government responsibility funded by taxes, the major source being property tax. With the growth of vehicular population and an increasing demand for more and better roads, the main sources of road financing, especially the property tax, were inadequate and local governments became incapable of developing roads to the degree that was required. The state / provincial government began searching for additional alternative revenue sources. According to Buchanan (1966) "this traditional conception of the road or highway function was, of course, essentially correct" (p.555).

The possibility of construing the road function in common welfare terms weakened over a period of time. Essentially, this was because the road no longer served primarily as a means of providing access to property and as a means of general communication among localities. Highway services began to constitute a major input for the production and distribution of a significant portion of national income. In other words, the great volume of traffic and particularly the long-distance movement of men and goods came to rapidly endow the roads with a transportation significance of a very definite sort that outweighed their more general social implications. The result was the acceptance of the idea that road service, unlike other basic government activities, could be developed by ordinary investment standards and financed by specific beneficiaries rather than the public. Thus, emerged the concept that the modern road network

can more appropriately be classified in the public utility category. In other words, the road in its most essential characteristics resembles the public utility more than the collective good. Though, the "public utility" conception of road function has never been fully accepted, nevertheless the fiscal pressures on Government have forced a de facto recognition of this modified view of the road. Regarded from this viewpoint, roads were to be improved, financed and controlled entirely with reference to their value and cost as a transport facility serving the traffic moving over them. Such recognition of the private and divisible nature of highway services has suggested the implication that, for reasons of both equity and efficiency user prices should be used. However, since by definition, a genuinely collective good cannot be directly priced, highway user taxation has been a universal phenomenon. In some sense the road function was singled out for different treatment(Zettel, 1954).

Although user taxes do represent genuine user prices to a large extent, many governments have never seen it fit to set these taxes in accordance with accepted public utility pricing principles. From a demand point of view, highway infrastructure is most complex: high network effects widespread intermediate inputs, difficulty of operating highways competitively, etc. Highways thus require most different solutions. Further, there has also been a failure in a number of cases to experimentally determine explicitly the effect upon fuel consumption, tyre wear and other aspects of vehicle operations of various types of improvements which may be effected on a road as a basis for ascertaining the expenditure that is warranted. Moreover, with ever- increasing vulnerability of budgetary provisions, there have arisen serious problems of inadequate or extravagant investment. It is in this context, that the issue of the separation of highway (road) tax revenue (or ear marking) assumes great significance and relevance.

Road Financing: The Indian Experience

Road planning and financing in India has always been the responsibility of both the Central and State Governments, with the Centre being responsible for the construction, operation and maintenance of the National Highways (NHs) and the State for all the other type of roads such as State Highways (SHs), Major District Roads (MDRs) except certain special categories of roads. The State Governments on an agency basis execute the actual work on National Highways. Though NHs and SHs constitute less than 10 per cent of the total road network in the country, this arterial network contributes for over 75 per cent of the total road based traffic. The NHs network alone is estimated to be carrying over 40-45 per cent of the traffic carried over the arterial trunk route system(GOI, 1999).

Sources of Finance

Basically, the sources of funds available presently for construction and maintenance of the road network in India are as follows:

a) The Central Road Fund

The Central Road Fund was set up by the Government of India in 1929 (following the recommendations of the Jayakar Committee (1927)) for promoting road development. The rate of accrual to the fund was initially fixed at 2 Paise per litre of petrol in 1931 and later at 3.5 paise. No levy was placed on diesel. The rate was not revised till 1988 in spite of the steep increase in the price of petrol. The fund was utilised entirely for the development and maintenance of the state roads. The state was allotted funds from this Fund on the basis of petrol sales in the state and was required to spend this amount on road programmes specifically approved by the Ministry of Surface Transport which administered this Fund. The Parliament in 1988 adopted a resolution which provided for setting aside an amount not less than 5 per cent of the basic price out of the duty of

customs and excise levied in petrol and diesel. Moreover, 35.5 per cent of accrual were to be used for development and maintenance of National Highways. Accruals to the Fund have been of the order of Rs 300 Crores annually- a small sum by any standards when compared with the requirements.

b) Budget allocation for roads from general revenue (and depending on other competing requirement) at the central and state levels.

In India, as in many other countries, revenues generated from road taxes go to the general revenue and have not been earmarked specifically for road development. Road user taxes in India mainly consists of :

a) Sales tax and excise duties on fuel and lubricants
b) Motor Vehicle Registration taxes and fees
c) Taxes on passengers and goods traffic levied by the state
d) Customs and excise duties on motor vehicles and accessories

The National Road Transport Policy, 2005 (draft) has proposed rationalization of motor vehicle taxes, creation of equipment leasing companies, accredition of vehicle body manufacturers, and a differential taxation system to encourage multi-axel vehicles. Heavy vehicles like buses and trucks are expected to see modernization and upgradation as a result of the new policy.

Implications

Though it is claimed that achievements have been satisfactory as far as accessibility to villages (providing all weather) is convincing, it is still a fact that nearly 250000 (out of 560000) villages have no access to an all weather road (GOI, 1997). Moreover the slow expansion of the main arterial network as also the low service levels provided by a major portion of this network have been characteristic features.

This situation has been viewed with increasing concern since the past two decades or so when the share of the road transport sector has been steadily increasing-a significant development in the country's transport situation. Assuming that its recommendations would be implemented, the National Transport Policy Committee (GOI,1980) had predicted that the eventual modal split by the turn of the century would be 72 per cent in favour of rail and 28 per cent in favour of road transport in the long distance freight market as against the base year (1977-78) share of 67 per cent for rail and 33 per cent for road. This Committee had given an over riding importance to the railways in recommending its modal split in the context of the energy crisis. In actual practice, however the Committee's predictions have not only failed to materialise but the modal split that has emerged has gone in the reverse direction (Patankar,1994). The Steering Committee on Transport Planning (GOI,1988) showed that in 1986-87, the railways accounted for 66.5 per cent of the freight traffic and roads for 30.5 per cent with coastal shipping accounting for 3 per cent. However, since the Committee's (both) estimates focused only on long-distance inter-regional traffic, the share of roads was supposed to have been underestimated. More recent estimates (GOI,1998) reveal that the share of roads in freight traffic has gone up to 60 per cent, while in the case of passenger traffic, it is as high as 80 per cent. Thus, road transport appears to have emerged as a dominant transport mode in sharp contrast to expectations. However, the funding pattern for the road infrastructure that is required to support the growing requirements has not been forth coming. When considering that the target of 66000 kms. of NHs was to have been reached by 2000, the shortfall has been considerable. Due to revenue constraints, the development of National Highways by the Centre and State highways by the respective States has been undertaken in the past as a stage development process-by spreading resources thinly and widely over the main arteries, (Gupta, 1999).

This policy has led to serious deficiencies not only in terms of road width but also structural strength besides weak bridges and poor riding quality. About two-thirds of the main road network is still single lane an unhappy situation -since it is required to have a minimum of two lane carriageway on the main roads irrespective of the volume of traffic. This is for reasons of safe overtaking passing maneuvers. Moreover a good percentage of the road network is still unsurfaced. Moreover, according to Patankar (1999) only 20 per cent of the surfaced road network is in good condition. "Thus the road length quantum of 3.29 lakh kms. is only cosmetically of respectable size. As much as half of it is not constructed for road traffic and out of the other half, 80 per cent are only crumbling roads"(Patankar,1999,p.3).

The virtual absence of an effective maintenance culture is a widely prevalent feature in almost every field of activity in India and this does not exclude the road sector. In the context of an acute shortage of funds for building up capital assets (roads), periodic upkeep of already existing assets assumes great significance. Consider the National Highways - the maintenance and upkeep of which are the direct charge of the Central Government. The general experience has been that funds placed at the disposal of the Ministry for maintenance of these crucial links have fallen short of requirements.(which are calculated on the basis of recommendations of technical groups, appointed from time to time.) "Maintenance of roads has not received adequate attention in the past primarily because of lack of funds. It was estimated that availability of funds for maintenance generally do not exceed 60 per cent of normal requirements and in case of rural roads it is still less."(GOI,1992). In fact, figures reveal that the shortfall has been increasing over the years. Even at the level of the States, the overall gap between requirements and allocations have been large and growing. If road expansion has received

only low priority under the Five Year Plans, planned, timely maintenance has been given a much lower priority. Timely upkeep and maintenance for the preservation of large public investment in roads would serve to

a) Prolong the life of the road network and bridges.
b) Optimise vehicle operating costs.
c) Maximise road user safety
d) Optimise carrying capacity of roads.
e) Reduce pollutant emissions.

The need for timely maintenance of roads has acquired great significance because of the crush load capacity traffic through out the day and night on many routes. While most of the routes have bituminous surfacing, riding quality is far from satisfactory (as observed earlier). The World Bank aided Vehicle Fleet Modernisation and Road User Charges study (W Bank,1990) found that nearly one tenth of the length of the network surveyed in the study was found to have roughness measurements above the acceptable limit of 4000 mm per km. It was also assumed that Total Vehicle Operating Costs in the country amounted to roughly Rs. 100000 crores per year and that a saving of about Rs 15000 crores could result through adequate repair and maintenance of the main arterial network. Of this saving, the fuel saving would alone be to the tune of Rs 2500 crores bulk of which is in terms of foreign exchange. There should, therefore, be no doubt that upgradation and maintenance of the existing road network is emerging as one of the key sources for road development policy. In this context, the focus of the Ninth Plan on strengthening crucial sectors of the existing highway network through phased removal of deficiencies and multilaning of high density corridors is an attempt in the right direction (GOI,1999). Thrust areas would be the highly congested corridors where traffic levels exceed 35000 PCUs (passenger car units) per day. These will be taken up for four laning while routes with daily traffic

exceeding 20000 PCUs would be strengthened in respect of existing physical parameters. Equally significant is the stress on converting single lane roads to two lanes, and the proposed improvements in geometric and riding quality of all the National Highways in general.

The structure of user taxation can be examined from two angles:

a) the distribution of tax burden by vehicle type
b) the distribution by road category.

As regards (a), the position is most unsatisfactory. Vehicle taxation in India is road damage related but levied on gross vehicle weight rather than potential axle loads, resulting in under-taxation of 2-axle trucks relative to those with more axles. The former being a major source of revenue to the states, rationalizing and strengthening the administration of this tax is likely to lead to increased revenue mobilisation (W. Bank, 1990). Considering the urgent need to mobilise additional resources, one of the key areas of concern therefore is to examine ways and means of rationalising the road tax structure with a view to ensuring that the tax structure is distributed fairly amongst different types of vehicles according to the PCUs (Passenger Car Units) occupied as well as the road damage caused by each type of vehicle. As regards (b), there is no easy charging mechanism on the basis of this criterion except by tolling which is emerging as a possibility on limited sections of the network.

Given the traditional sources of funds and thereby the past trends in allocation, additional revenue mobilisation from the road sector itself cannot be expected to result in higher allocations which is the crying need of the day. Even currently, only about 40 per cent of the revenue from road levies is spent on road development whereas the trend in developed as well as in other developing countries has been different. "Whatever may be the fiscal constraints on the Govt, strong economic demand exist for a

quantum jack- up in budgetary funds for roads to protect and preserve the existing main road network as well as for their proper maintenance, upgradation and expansion consistent with the growth of traffic"(GOI,1996, p-116). It is in line with this trend of thinking that establishment of an earmarked fund which is also robust (unlike the Central Road Fund) and administered independently enough to meet emerging requirements is being strongly advocated..

Assuming the possibility of creating a road fund, it would need to address certain basic issues. First, what road expenditure items should the road fund protect? The most commonly identified problem, systematic bias against maintenance occurs in fiscal regimes that fund both investment and maintenance. The creation of a road fund with both investment and maintenance functions need not automatically ensure against such a systematic bias as reflected in experience. This suggests that road funds be exclusively dedicated to maintenance. Several countries (including Japan, Republic of Korea, South Africa and theUnited States) introduced road funds to fund crash investment programmes. These governments considered road investments programmes too large for the general budget, thus justifying special treatment including extra special purpose taxation. In the Indian context, the adoption of the National Highway Development Plan in 1998 has raised the issue of enormity of fund requirements for the road sector including this Plan. The past few years have witnessed the imposition of a levy of Re 1 on every litre of motor spirit (petrol) to begin with, followed by a cess of Re 1 on every litre of diesel. While the cess on petrol is expected to fetch around Rs 800 crores annually, the levy on diesel would result in revenues to the tune of Rs 4000 crores. The latter collection is to be given in part for road development as well as rail safety works. As a part of special drive to mobilise huge amounts for the road programme, additional levies on diesel could be imposed. Diesel is still

relatively cheaper and this has its implications. It was suggested (World Bank, 1995) that raising the price of diesel to the OECD level of US$ 0.45 could help moderate diesel use while at the same time generate additional revenue. This additional revenue, according to the study, was almost a third of the then estimated annual shortfall in the amount spent on construction and maintenance on roads.

Originally mooted in 1998 in India, the Highway fund based on the petrol and diesel levies was formally approved only recently. Faced with a burgeoning fiscal deficit, the finance ministry had been reluctant to approve of this fund. It is still not clear what is the extent of the maintenance function that is expected to be covered by the fund. It is most likely that fund would greatly favour investment not only in the immediate future but later too since such arrangements do create a temptation to misallocate funds to lower priority investments if the Fund continues to generate large amounts of revenue after real need that stimulated their creation has been taken care of. This view is reinforced by the most likely possibility that the Ministry of Surface Transport would manage the fund, and not, as suggested by us, by an independent board. Money indeed could be forthcoming but it would be managed by the same old people, most likely in the same old way.

Notwithstanding the constraints, India has emerged with the second largest road network in the world. Highway spending is going to be a key component of sustaining India's growth momentum.

NHDP has made notable progress, even though the first phase (The Golden Quadrilateral) of the NHDP has fallen behind schedule, missing the original deadline of December 2003 and the extended deadline of December 2004. Phase II, the East -West and North -South corridor linking Srinagar to Kanyakumari and Porbunder to Silchar has began, with 777 km of 7300 km transformed into 4-lane roads.

Private sector participation in transport infrastructure and services: Lessons from International Experience and Indian Scenario

Although private participation can provide immediate access to a considerable pool of additional funds and private management skills, it is recognized that it may not necessarily be a panacea for the problems confronting all infrastructure projects. Accordingly, there is a need to understand the international experience in respect of practices, regulations, institutional arrangements and risk management with a view to devising a framework that is fair, predictable, satisfactory and, above all, one that delivers services with greater efficiency.

The international experience with transport privatisation, as succinctly brought out by Gomez-Ibanez and Meyer (1993), suggests five conditions that facilitate and are, most often, crucial for successful privatization:

(i) Effective competition;
(ii) Large efficiency gains;
(iii) Few transfers;
(iv) Limited environmental problems and other externalities; and
(v) Reasonable but not excessive profitability.

Table 3.1: Status of NHDP Projects : August 2005

	Golden Quadril-ateral	NS-EW Corridors	Port Conmne-ctivity	Other NHAI Projects	NHDP Phase III Pradhan Mantri Bharat jodo Pariyojona	Total
Total Length(Km)	5846	7300	365	811	4015	18328
Already 4 laned (km)	4976	777	99	287	-	6139
Under Implementation (km)	870	2925	251	156	886	3016
Contracts under implementation(no)	50	45	7	6	2	110

Source : www.nhai.org.

The international experience indicates that private sector participation in the transport sector has usually taken the following three forms:

(a) sale of public enterprises in the transport sector;
(b) contracting and outsourcing of specific services and
(c) private financing and management of new projects in transport.

To suit these forms (and a combination of them), a wide variety of competitive, regulatory and subsidy pollicies has accompanied this process of privatisation.

This first type has occurred in the U.K and Japan where the rail systems have been privatised. The primary motivation has been a widespread belief that the private sector is inherently more efficient than the public sector. These efficiency gains, if real, eventually reduce the cost to the taxpayers of supporting state- owned enterprises.

The second form has been popular, at least, in an experimental sense according to Gomez & Meyer (1993). BOT (Build, Operate and Transfer) is the term used for a model or a process that undertakes to use private investment for application in infrastructure development that has historically been the preserve of the public sector. In other words, in a typical BOT project, a private company is given a concession to build and operate a facility that would normally be built and operated by the government. The private company is also responsible for financing and designing the project. At the end of the concession period, the private company returns the facility to the government. The concession term is determined primarily by the length of time needed for the facility's revenue stream to pay for the company's debt and provide reasonable rate of return for its efforts and risks. As seen by lenders, a BOT project involves a private sector borrower who seeks financing either on a limited resource basis or a non- resource basis. In a non-resource financial arrangement, the lenders

Table 3.2 Prospects for Privatisation in Transport Sector

	Prospects for					
Activity and Stage of Development	**Competitive Market**	**Large Efficiency Gains**	**Minimal Transfers**	**Few Externalities**	**Profitability from user charges**	**Overall Success**
Toll Roads						
Developed	Medium	Medium	Low	Low	Low	Low
Developing	Medium	Medium	Low	Medium	Medium	**Medium**
Intercity Passenger Rail (new lines)						
Developed	Strong	Strong	Medium	Low	Low	**Low**
Developing	Medium	Strong	Medium	Low	Medium	**Medium**
Urban Rail Transit (new lines)	Strong	Strong	Low	Low	Low	**Low**
Intercity buses						
Developed	Strong	Strong	Medium	Low	Medium	**Medium**
Developing	Strong	Strong	Medium	Medium	Strong	**Strong**
Urban Transit Buses						
Developed	Medium	Strong	Medium	Strong	Low	**Medium**
Developing	Strong	Strong	Medium	Strong	Strong	**Strong**
Domestic Airlines (except U.S.)	Medium	Strong	Low	Strong	Medium	**Medium**
International Airlines	Strong	Strong	Medium	Strong	Strong	**Strong**

look only to the project assets and revenue streams for payment and not to additional sources of security such as total assets or balance sheets of the project sponsor. This form has often been referred to as "Project Financing" which has been the cornerstone of the BOT approach. In practice, almost all BOT projects such as toll roads have been financed on a limited resource basis.

It is often suggested that the BOT concept had its historical origins in the concession system of the 19th and early 20th centuries. Under this system, the private sector was virtually entitled to the free use or 'exploitation' of the project with very little public participation and control by the government. However, in a properly structured BOT project today, "the host government decides on the need for the project and its scope,

requires that the design, performance and maintenance of the project be tailored to the objectives of the countries and selects the private sponsors by means of an appropriate bidding and evaluation process in order to arrive at a price that is fair to both the host government and sponsors" (UNIDO, 1997, p.3). More over, unlike the old concessions, modern BOT schemes have been designed and implemented as public/ private partnerships with private sector finance and efficiency serving the public interest.

The third form has essentially been in the nature of take over of conventional public sector functions by a process of contracting/ out sourcing out to the private sector in areas such as waste disposal, urban transit operations, sewerage and water treatment, etc. In this form, the main attraction is the prospect of immediate financial gain to government. This can be expected to happen only if private sector income exceeds costs but the prospect of some recovery is often considered advantageous.

Major lessons from the international experience of (transport) privatization are summarized below:

a. The State has an active role to play by ensuring an appropriate policy environment and providing active support at the project level.

b. Governments can significantly reduce the costs for the private sector by conducting prudent macroeconomic policies, supporting secure property rights and deregulating and liberalising the financial system so that private players can do their best to take advantage of low-cost funding opportunities. Transaction costs of privatisation projects seem to have more to do with the characteristics of the policy environment than with the characteristics of the project.

c. BOT projects are exceedingly complex both from a financial and legal point of view. These projects require an extended period of time to

develop and negotiate. In fact, it is feared that the longer negotiation time required to develop private infrastructure projects relative to more traditional forms of direct investment has been one of the factors limiting investment in transport sector.

d. Whether an infrastructure project is structured and framed under a BOT scheme or a non-BOT scheme does not alter the fundamental risks associated with it. But the key difference is the participation of the private sector in a BOT project and hence the transfer of risk from the public to the private sector which would lead to a reduction in budgetary support but give rise to the need for non-conventional financial analysis of the project scheme. Conventional financial analysis in evaluation of infrastructural projects uses deterministic estimates of important parameters with the implicit assumption of certainty. This assumption of total certainty in, say, analysis of BOT projects which are prone to risk elements would be inappropriate and could be prove expensive to both the government. and project sponsors. Many factors such as construction cost, traffic volume and toll revenue cannot be estimated with precision due to nature of the project itself.

e. The private sector is generally willing to undertake those risks that it considers it can best handle while seeking government support for only those risks it feels it is unable to control. But the experience is that infrastructure privatization in the developing world has frequently been accompanied by extensive residual risk bearing by governments which not only threatens to vitiate its efficiency benefits but also confronts governments with large financial liabilities. Typically, private investors seek to reduce risks by asking for Government support in the form of grants, preferential tax treatment, debt or equity contributions or guarantees.

f. In effect, the Government substitutes a contingent liability for a recurrent liability in the form of a variety of guarantees some of which are specifically project oriented such as traffic guarantees in the case of toll roads while others relate to macro-level parameters such as exchange rate, interest, etc. Given the experience in developing countries, guarantees can be expected to efficiently support private infrastructure where participation programmes are an interim measure while the reform process is being set in place to allow various elements of the market to handle the relevant risks. While issuing guarantees, government must consider the expected value of commitments. In other words, whichever risk a Government takes on, it needs to consider how it can measure the value of (expected) commitments and incorporate it in its accounts and budgets. Various techniques in this regard are prevalent. Valuation of guarantees enables decisions to be made on the basis of real rather than apparent costs and benefits.

g. The global trend towards infrastructure privatisation has pushed regulatory issues to the forefront, because regulation is complicated by three related considerations: (i) prices are invariably based on political pressures/ considerations; (ii) investors are aware of these pressures. In the absence of credible government commitments, capital will be more expensive which results in higher tariffs. In terms of privatisation, this translates into smaller proceeds from sale of existing enterprises and higher financing costs for new (greenfield) projects; and (iii) the long-term nature of most infrastructure investment makes credible commitments difficult. It is necessary to devise systems of regulation and support that provide the encouragement and room for maneuver that the private sector needs while at the same time minimising government exposure to the host of commercial and financial risks surrounding the projects.

h. The synchronization of demand and supply of transport finance through coordination of government privatization programmes and release of contractual saving towards funding transport infrastructure and services is very important.

A Detailed account of the International Experience is enclosed as Annexure II.

Private Sector in Transport: The Recent Indian Experience

The private sector has, traditionally, played a fairly significant role in the provision of transport services such as bus services, road freight services, etc. Currently, more than 50 per cent of passenger movement by road is undertaken by the private sector (varies from state to state) while nearly all the freight movement is in private hands. The private sector also has a significant share in the provision of shipping services - both coastal and international. But in the provision of basic infrastructure like Road, the State has played an overwhelming role in the provision of these facilities in the past. In these transport infrastructure, new forms of public-private mix have recently been tried out in India.

Roads

Though we have envisaged an almost exclusive role for the State in the provision of roads, the experience under the efforts undertaken by the Government in encouraging private sector participation at the margin would be useful to review. Privatisation of roads as a concept has been in the limelight ever since the Government of India came out with an offer to the private sector in 1985 to finance, build and operate toll roads/ bridges of their choice. Under this initial scheme, the private sector was to be allowed to build and operate the facility for a designated period of time and authorised to levy tolls to recover the firm's investment at a pre-determined

rate of return before the facility was to be handed over to the Government Thus, the offer was under the BOT approach. The decision to implement such a scheme was, as emphasised earlier, made in the context of a growing realisation on the part of the government to build a new generation of limited-access expressways to meet the increasing traffic flows and emerging constraints on public sector finances. Under this scheme, the private sector would have to raise funds through open market borrowings and toll rates would be set on commercial principles. The government also identified the following projects as potential candidates for private sector participation: a) Expressways, b) Major bridges and Tunnels, C) Bye-passes, d) widening of existing two-lane National Highways to four lanes or more.

To begin with, the private sector's response was lukewarm. In fact, the government was flooded with requests for a number of concessions in the absence of which, the private parties contended, they would be unable to undertake the projects (Koshy, 1991). Notable among the concessions sought was the land required for the purpose would have to be acquired for the project by the government and handed over to the private firm. Further, the private party would have to be in a position to develop the lands adjoining the corridor on a commercial basis.

It must be noted, however, that the planning for an expressway network began in the early eighties when the World Bank approved a loan for the construction of eight inter-city expressways, the first of which was to be the 92 km. long link between Ahmedabad and Vadodara. And keeping in line with the then existing thinking (World Bank) that tolls must not be levied, the facility was to be a toll free one. The estimated cost of this high-standard facility was to be around Rs. 140 crores. However, dithering on part of the concerned state officials resulted in the Bank's withdrawal from the project although construction had already begun. A feasibility study conducted at that point of time by a private firm revealed that toll

charges would be very high if the project was to be financially viable (Sinha, 1989).

In a study undertaken by the Central Institute of Road Transport, Pune (CIRT, 1989) on the financial viability of toll-based expressways on 3 major corridors: Delhi-Kanpur, Vadodara-Mumbai and Mumbai-Nashik, it was found that the proposed facilities could hardly be financially viable based on toll revenues alone, given the then existing and emerging levels of traffic. On all the three corridors, it was found that when tolls were to be fixed at 30 per cent of the savings in Vehicle operating costs (as is the normal practice), toll collection would hardly be in a position to service the debt. In a more broad-based study undertaken by the Ministry of Surface Transport, Government of India on behalf of the Asian Development (ADB, 1991), it was found that there was an immediate need to improve and upgrade the existing road network throughout the country. The arterial road network (the main routes) would alone be required to be developed as follows:

1. about 10000 kms. of expressways to be built in phases during the period 1995-2015.
2. 4 - laning of 15000 kms. of existing 2- lane National Highways
3. 2- laning of 4000 kms. of existing single lane National Highways
4. Strengthening of about 16000 Kms. of existing 2-lane National Highways
5. Construction of 44 bye-passes.

The expressway network was expected to cost about Rs.50000 crores (more recent estimates put the figure at Rs.80000 crores or more). This network would constitute about 70 per cent of the existing high-density corridors in the country and would provide connections to all the major metropolitan cities. Though these proposals have served as a basis for

plans to upgrade the highway network in the nineties, the more recently announced (1998) National Highway Development Plan incorporates them only to some extent with the plan for the Expressway network almost completely shelved. The Ninth Plan document (GOI, 1999) which reflects this plan of action remarks that large scale introduction of expressways is not feasible in our circumstances though "there may be some scope, albeit limited, of constructing expressways where traffic density is exceptionally high, there are alternative routes for slowing moving local traffic and the need for cross traffic is low"(GOI, 1999, p.). In fact, the ADB study (1991) had indicated that the expressways were found to have the potential to generate high economic internal rates of return (EIRR) - in some cases, even more than 50 per cent - although in financial terms, the returns were expected to be much less. Accordingly, it was suggested that even on these corridors where tolls are expected to be the major revenue source, there would be a necessity to offer substantial incentives to the private sector since traffic levels to sustain a high-standard network would be low to ensure attractive financial returns.

A study (CES, 1997) showed that the proposed Faridabad -Noida-Ghaziabad Expressway could prove to be economically viable with an Economic Internal Rate of Return (EIRR) of 22 per cent even without considering time savings in the benefit stream which can be substantial from project. But a value EIRR only reflects the measure of a project's success to the government thereby satisfying the minimum criteria to be a potential candidate project. However, the Financial Internal Rate of Return (14 per cent) did not qualify the project for private sector participation without some level of subsidy or seed capital from the government.

Even the scaled down plan incorporating the upgradation of the National Highway corridors connecting the major metropolitan cities would, it appears, require substantial government support to be viable

commercially even in those limited stretches which are proposed to be developed by the private sector. Koshy (1991) had contended that for ensuring an early and effective entry of the private sector into the field of construction, operation and maintenance of road projects, issues requiring active government intervention and support were to be tackled on a priority basis. While some of these related to legal requirements mainly concerned with imposition of tolls, others were concerned with incentives to be provided to the private sector. Accordingly, the Government has come up with a number of measures and offered a number of financial incentives. These include amendments to the National Highway Act to permit imposition of tolls on existing roads, no compulsion to have a toll-free facility, relaxation of MRTP provisions to enable large firms to enter the sector, acquisition of land for the facility which would be given to the firm on lease for the period of concession etc. As a result nearly 20 National highway projects have gone on stream on a BOT basis (GOI, 2000). Of the nearly 10 road projects (others being bridges), two - the Udaipur bye-pass and the Thane-Bhivandi bye-pass are fully operational while others are at various stages of planning (physical and financial) / construction.

At the State level, some progress has been made. In the early nineties, the Government of Maharashtra took a decision to invite the private sector to develop roads on certain conditions. Under this scheme, certain roads/ bridges were to be built and operated on a BOT basis by private parties who would recover the costs through tolls. Only one project arose out of the scheme- the Kolhapur-Jaysingpur bye-pass, which went in to operation in Feb.1992. But by May 1992, the toll collection had stopped due to stiff opposition. Thus, the first road privatisation exercise did not succeed due to non-acceptability of the concept of payment of tolls for the facility provided to a rural section of the population (Parchure, 1994). According to Borkar (1994), the rural population is unable to perceive timesaving, savings in

vehicle operating costs and other indirect benefits. It is suggested that a toll concept may be more acceptable to the travelling public in urban areas. This is most probably true since the other private toll roads - the Rau Pithampur road near Indore and the Thane-Bhivandi bye-pass have been successful. The Rau-Pithampur road began doing well only after two and half years after it was commissioned. The sole source of revenue for recovering the cost is the toll collection. In the first year of its operations, collections remained well below the expected level of Rs.30000 a day. But once one of the remaining approach roads was completed, toll revenues increased to such levels which was considerate adequate to service the loan of Rs.7 crore which was sponsored entirely by the Infrastructure Leasing and Financial Services (IL&FS)- a financial institution. The organisation of the facility was restructured by transferring it to M.P. Tolls Ltd., a special purpose vehicle. The IL&FS held 80 per cent equity in this company while the Madhya Pradesh Industrial Development Corporation holds the rest. In Gujarat, a special purpose vehicle called the Gujarat Toll Road Company undertook the construction of two major toll roads - the Vadodara- Halol highway and the Ahmedabad-Mehsana highway. The private partner is the IL&FS, which is also promoting the Noida-Delhi Toll Bridge One of the challenges before each of these projects has been financing. Although the basic financing structures differ, each project has essentially used the deferred payment mechanism under a BOT structure where the objective is cost recovery through tariffs. Almost all the projects had funding limited to the project's cash flows with varying support mechanisms. In the case of the Durg bye-pass project, the debt repayment was supported by the National Highway Authority of India - a sovereign entity. In the case of the Coimbatore bye-pass, the concept of "take-out financing" has been used for the first time in India. Such a structure allows lenders to exit from the project loan without really recalling the

loan. More specifically, the Infrastructure Development Finance Company (IDFC)- a public financial institution - has structured a "liquidity support" arrangement for the project under which cover will be extended for Rs.30 crores being the loan given by the State Bank of India (SBI) to the project. Such a support enabled SBI to access long-term funds even as the bank will have a refinancing option at the end of a certain period of time. IDFC will be taking in only the bank risk while the bank itself will continue to bear the project risk. On the other hand, the Moradabad bye-pass involved a unique arrangement. It was the first project to be promoted by the NHAI on a commercial return basis. The NHAI for the first time made a foray in to the debt market through a special purpose vehicle -the Moradabad Toll Road Company Limited (MTRCL) - which helps it to multiply its leveraging capability. The entire financing was to be done on a limited recourse basis with the only assurance being that a sovereign owned subsidiary will operate the project. However, the financial restructuring envisaged some comfort to the lenders: the toll revenues were to be credited into an escrow account on which the debtors will have the right of charge. NHAI was expected to divest from MTRCL when it goes into the operation and maintenance phase. This has been recommended in order to create a benchmark in financial markets for future such disinvestment either by the private sector BOT operator or by the NHAI and also help raise additional resources for such investments.

A problem in funding such projects faced by financial institutions has been the issue of providing physical asset cover. Most financial institutions either insist on corporate guarantees from the promoters or extend long-term finance only by mortgaging the physical assets of the project. In fact, financial institutions have demanded a physical asset cover of 1.5 times of the loans extended by them - which is in line with existing term loan conditions. But collaterisation of physical assets is virtually

impossible in national highway projects. This is because BOT operators neither have the leasehold nor ownership rights over the land used since the ownership is vested with the government and not the special purpose vehicles set up for the projects. Moreover, mortgaging of physical assets is not necessarily the solution to all the problems nor does it insulate creditors from defaults. In fact, it only provides some comfort in the books of the creditors. This apart, mortgages do not necessarily ensure prompt repayment of either the principal or the interest amount and the level of comfort is restricted to recovery of dues through the sale or auction of physical assets. In some cases, where only part of the credit is likely to be recovered such auctions can actually lead to losses whereby creditors find themselves with huge write-offs in the form of non-performing assets. The scenario is worse in the case of roads as FIs are not in a position to sell the projects. As a result, in addition to or as an option to mortgaging assets, the FIs are insisting on government guarantees in the form of traffic flows. But the Ministry of Surface Transport, Government of India has rejected the idea of traffic guarantees especially in the context of fiscal pressures which is already constraining the ability of the Central Government to meet such obligations. Accordingly, it is felt that creditors would have to bear the risk on the basis of project cash flows that are either in the form of direct tolls or shadow tolls. But since according to a study of the Ministry only 22 percent of the projects are viable on a toll basis, cost recovery on a shadow tolling basis (payment to investors on the basis of traffic flows instead of levying tolls) is being mooted. This would imply that investors would be sharing the risk with the NHAI on the traffic. The BOT operators would also be responsible for maintenance of the highways to specified technical parameters. In addition to shadow tolling, the NHAI has also plans of taking up projects on the basis of annuity based payments. While it is true to say that such methods of project funding enable elimination of

multiple cost recovery methods which could lead to user resistance, it is to be recognised that these methods would be required to fall back on earmarked revenues (given that such a system is in place) which is badly required for the expansion of different parts of the network. In such a situation, it is best to seek assignability of concession pacts and bridge loan support from the NHAI or an escrow cover that would provide the creditors the first charge on a project's cash flows.

Seaports

India's coastline is dotted with eleven major ports- six on the West Coast and five on the East Coast. Besides, 163 minor and intermediate ports are situated along the coastline and at sealands. Of these 124 are located on the West Coast, mostly in Maharashtra and Gujarat. The primary responsibility for the development and the management of minor and intermediate ports rests with the concerned State Government while the major ports are under the executive responsibility of the Central Government

As on March 1997, the aggregate capacity of the major ports stood at 217.21 million tonnes annually. In 1999-2000, the 11 major ports handled 271.86 million tonnes as against 251.73 million tonnes in 1998-99. The traffic handled by the major ports accounted for nearly 93 per cent of the total handled in the country including minor ports. According to the India Infrastructure Report (NCAER, 1996), most major ports have been operating at over 100 per cent of their capacity which has been one of the major reasons for the high vessel turnaround time and high levels of port congestion.

Port throughput, which includes export, imports and transshipment, was estimated at 425 million tonnes by the terminal year of the Ninth Plan, that is 2001-02 while it was expected to be double this amount by

the year 2007-08. This translated into a compounded annual rate of growth of more than 12 per cent over the base year figures. The actual growth during the Ninth Plan was far below this figure. While it was around 10 per cent during 1997-98, there was virtually no growth in the following year. Accordingly, the output is expected to be around 360 million tonnes by 2001-02 (Indian Ports Association, 1999). This means that the actual growth rate is likely to be 8 per cent. The shortfall in capacity would be of the order of 150 million tonnes. According to the Ninth Plan, the additions to the capacity from the ports' own resources were expected to be around 160 million tonnes through carry over schemes from the previous Plan and creation of fresh capacity of which at least 45 million tonnes was expected to come from private sector investments in the major ports. In addition, a series of private sector ports was planned both on the west and east coasts for handling bulk and liquid bulk cargo.

Of the proposed investments in the major ports, only the container terminal that has been awarded to a BOT operator at the JN port in Mumbai. is under construction (and due for completion soon for test trials). Of the proposed private Greenfield ports, only two have been commissioned - the Gujarat Pipav Port and the Gujarat Adani Port at Mundhra - both in Gujarat. The Pipav port has been established by a joint venture company called Gujarat Pipav Port Ltd. Its owners include the State-run Gujarat Maritime Board (GMB) and a private sector party Sea King Engineers Ltd., a manufacturer of marine equipment. This port handled one million tonnes in 1998-99 and was expected to double this amount in 2000-01. It was expected to break-even when it handles 2.8 million tonnes a year. The Gujarat Adani Port has been promoted by the GMB and a private party, Adani Exports on the basis of the build-own-operate-transfer (BOOT) format. The project when completely operational would have the capacity to handle 3.5 million tonnes. This 340 crore project is being funded on a

60:40 debt equity ratio. In addition, the port has also been provided with physical cover asset for raising debt finance. Such physical asset cover is possible only under the BOOT scheme, which allows the promoters to mortgage jetties and some of the physical assets to the creditors. In fact, financial institutions have been reluctant to sanction loans on the basis of assignability of the concession pact alone. The Gujarat Maritime Board has divested its stake in the Pipav Ports and has already taken a decision to divest its equity in Adani Port after it enters a certain phase of operation and maintenance. The funds generated through such operations are to be deployed for the development of a series of ports along the coast. The divestment is in line with the state-run organisation's policy of booking capital gains and deploying the funds elsewhere. Its divestment of 26 per cent stake in the Pipav port project gave it Rs.55 crore on its investment of Rs.11 crore.

The experience in encouraging private sector participation in the development of minor ports in other states has been disappointing. The Government of Maharashtra had formulated a fairly ambitious plan for the development of 7 minor ports in the private sector in the Mid nineties. However, it was clear from the very beginning that even if the proposed investments in the State materialised, only two of the seven ports would be financially viable (Sriraman, 1996) since the traffic potential through the other ports was very limited. It must be noted that in the case of Gujarat the development of new multi-user ports (minor) was a response to the establishment of a large number of private captive jetties all along the coast to service movements arising out of huge investments that had already taken place in the eighties. In other words, with the construction of many private jetties all along the coast, it was feared that the development of these facilities would be haphazard. Accordingly, it was decided to encourage private sector multi-user ports close to manufacturing plants.

This would not only serve the existing major users but would also be available for other users in the hinterland. But in the case of Maharashtra and other states, the traffic for the minor ports is to be generated by shore-based plants which are yet to be established.

One of the major reasons cited for the lack of private sector interest in the major ports is that they cannot levy tariffs higher than the existing ones despite the fact that they are in a position to bring in more modern equipment and facility. The Tariff Authority for major ports is seriously considering a submission of the private sector that unlike them, the port authorities do not have to pay income tax or dividends and are also enjoying the advantage of depreciated equipment (Ray, 1999). But at the same time, it must be noted that the port authorities suffer from a disadvantage arising from the existence of a huge pool of labour which is not necessarily efficient. The maritime states have also added to the confusion by going ahead with their own plans without taking into account the need for an integrated development of not only the minor ports in the different states but also other elements of the multi-modal transport system that is required to be put in place. In the case of the Pipav and Adani ports, the rail links to the nearest railheads are to be established on the basis of a deal between the Ministry of Railways and the concerned private sector parties. Moreover, the landlocked states must also be prepared to invest in these facilities in a significant way if their trade with the outside world is to be smooth. In fact, it would be advisable to have a Common Maritime Board (say, for the Western and Landlocked States). While private sector participation and investment would definitely be required, the involvement of a number of states would not only enable sharing of the burden but could pave the way for more active economic cooperation.

Privatisation of Indian Railways

The Indian Railway system has been run as a departmental undertaking under the Ministry of Railways following the structural

reorganisation after Independence. The principal goal has been set in respect of financial targets they are required to achieve on capital given by way of budgetary support from the central government. The Railways have not been allowed to borrow from directly from the capital market to finance their investments. Investment programmes are financed mainly by budgetary support and internal resource generation. Capital funds borrowed from the Govt are not in the form of grants (as was the case with British Rail in the U.K.) but in the form of non- refundable loans on which they have been required to pay a rate of dividend (as fixed by railways convention committee of parliament from time to time). In recent decades the railways have come under increasing financial pressure partly due to competition from other modes and partly due to various policy constraints imposed on them. Given the competitive nature of emerging economic environment, it is increasingly being felt that unless the railways have full control over their pricing and investment policies, improve their efficiency and fully respond to user needs, there is very little chance of their survival in the long run. Accordingly, a total restructuring of the organisation by way of privatisation is being strongly advocated, by those who feel that a privatised management structure for Indian Railways would be best suited to optimise the objectives of both consumers and shareholders.

According to Dalvi (1997), this argument is unassailable in terms of the economic theory of property rights where the focus is to determine an optimal incentive structure for the principal to lay down for agents to minimise internal inefficiency. The question is : whether this framework is suitable (and adequate too) for an organisation while still functioning as a public utility? More specifically, the issue in this context would be: how to account and pay for the benefits enjoyed by the country for the non-commercial output (social burden) produced by them? While it is true

(as suggested earlier) that a careful review of social burdens needs to be undertaken to evolve an appropriate financial strategy for the railways, it must be admitted that the pursuit of development and distributional objectives is still important in the context of India's socio-economic development. Under these circumstances, a "privatised railway system would not be able to achieve these objectives as efficiently as would a publicly owned railway system "(Dalvi, 1997, p.208).

Allocative efficiency issues apart, the very logic of contestablity goes against the privatisation of the system not because the requirements of funds are huge of the sunk nature of substantial part of the investments- an age- old problem which is made formidable by the risks and uncertainties in a mode whose market has progressively shrunk in a mode whose market has progressively shrunk as a result of inroads from other modes especially the road mode.

As an alternative, Dalvi(1997) argues in favour of changing the railway structure from a departmental undertaking into an independent public corporation. The establishment of such a corporation if properly structured and armed with adequate powers for making decisions on key variables such as pricing and investment would in our view provide the management of railways the necessary freedom to run their operations on sound commercial principles. In a competitive environment, the managers come under pressure from four groups: customers, workers, owners and lenders. Customers demand good products at lower prices. Workers ask for competitive salaries. Owners seek high profits and lenders want their loans repaid. The combined pressure means that manages must run their firms well. When we look at a traditionally organised firm like the railways, we observe a publicly owned monopoly. In such a situation, the balance of forces get changed. In the absence of pressure from consumers and owners (consumers don't have a choice and govts are not as interested) the demand

of employees and lenders result in a sacrifice of interest of customers and owners. "A bank's demand for a loan repayment, for example, may be met at the expense of customer services or dividend paid to the owners" (Irwin and Alexander, 1997, p-13). Thus, the need to strengthen owner pressure to an extent through corporatisation initially. Such a model is now being attempted in the case of some major ports like the Jawaharlal Nehru Port, Mumbai. Countries have tried, with some success to restructure their state-owned firms this way.

The Konkan Railway Corporation - A Curious BOT example

The Konkan Railway Corporation (KRC), a 738-km railway infrastructure project between Roha (about 150 km south of Mumbai) and Thokur (22 km north of Mangalore), built at a cost of Rs.3375 crore (Rs.2425 crore investment and Rs.950 crore as capitalised interest) commenced commercial operations on 26th January, 1998. Out of Rs.3375 crore, Rs.800 crore was equity capital (from the state governments of Maharashtra, Goa, Karnataka, Kerala and the Central Government through the Indian Railways). The project was conceived with the objective of bridging the "Konkan Gap" and reducing the distance and travel time between Mumbai and coastal Karnataka and Kerala. Though the KRC was incorporated as a public sector company of the Central Government under the Ministry of Railways in 1990, it was envisaged as a Build-Operate-Transfer operator without, of course, a private sector investor.

In the decade since its inception, the Corporation has attempted every means of finance for the project ranging from public issue of bonds, private placement, secured and unsecured loans, bridge finance, sale and lease back and external commercial borrowings. The tax-free bond has become the biggest mobiliser for KRC, accounting for 61.5 per cent of the total amount of Rs.3247.71 crore that the Corporation has raised so far.

But in years when liquidity was tight, the Corporation has resorted to inter corporate loans, bridge financing which have involved higher costs. This clearly reflected in the fact that of the total cost of Rs.3250 crore, financial charges amount to Rs.950 crore or 28 per cent. Over a BOT concession period of 10 years the IRR for the project works out to be 14 per cent.

A major source of concern for the KRC is that earlier predictions of the initial growth of freight traffic on KRC had not materialised. A recent case study of the KRC (Banerjee et.al., 2000) reveals that KRC's inability to attract traffic has been primarily due to the stiff competition for road transport and coastal shipping. Road transport scored over rail because of strong customer preference as was revealed by a survey on customer satisfaction (A.F.Ferguson, 1997). But more revealing was the unintended source of competition from the rest of the railway system. Given the declining share of the railway system over the years, it is natural to presume that the Indian Railways are facing tremendous pressure to retain its traffic on its traditional routes (by operating at some reasonable level of efficiency) than attempting to feed traffic onto a new route (though shorter - as pointed out by Banerjee et. al. 2000). But a small system (namely the KRC) which is just beginning to move forward with a huge burden of debt payment and expectations of freight traffic to cover 75 per cent of its revenue could be heading towards a financial disaster which may prove fatal to the parent system too which is itself under severe strain.

Public- Private Partnership : The Emerging pattern

One of the major advantages of privatisation is that it can reduce the role of Government bureaucracies in performing entrepreneurial activities for which they may be poorly suited. Where market forces are still weak and important public interest are at stake, the strengthening of relevant

government institution may be a pre-requisite of successful privatisation. But the most significant lesson may be that sharp distinctions between public and private apply neither to practice nor analysis. "Instead, public-private partnerships more than a chike, challenge us to think of new structure that blend private initiative with public accountability "(Mody, 1996, p.xxxii).

Thus, the public-private partnership emerges as a far more viable option in delivering the goods. What is needed is to conceptualise these infrastructural projects within the institutional framework so as to make them commercially viable and self-sustaining entities. Take the case of a BOT project, which is an intricate combination of various forces. These cost money take time and patience for successful implementation. The role of government/ public sector in providing support in one way or the other has certainly helped the cause of the BOT concept/ approach (Augenblick, 1990). The international experience offers considerable insights. The state support to share with the project company revenue from existing assets has eased pressure on capital costs, debt issues, operating expenses, etc. For instance, in the case of Dartford Crossing project in the U.K, the Sydney Harbour project in Australia, the North-South Expressway in Malaysia, existing toll facilities were made available to the project sponsor to collect revenue. Careful project appraisal competitive tendering process and Government's willingness to bail out the Project Company in case of financial difficulties has also played a major role in the success of a BOT project. This is reflected in the successful implementation of Hong Kong's East Harbour Crossing a combined road and rail tunnel under Victoria Harbors. Availability of extensive traffic data with government on corridors, which would be serviced by proposed expressways have also aided the success of BOT projects, so has a guarantee from Government on the minimum level of traffic. We have already noted

the emergence of such partnership in the Indian context in the case of roads and ports. While the role of the government in attempting to attract the private sector (National Highway Authority of India) does appear proactive, equally important is the role of specialist companies which are able to apply their expertise to identification of new facilities and are able to spread the risks over a series of projects. But with major decision continuing to be taken on political rather than economic commercialisation considerations and the private sector having an enlarged administration and managerial role in project implementation, "the public-private partnership, with its clear divsion of functional responsibilities, looks set to became the model for next period of infrastructure investment" (Farrell, 1999, p. 243).

A recent report "Public Private Partnerships, Government guarantees and Fiscal Risk" by the IMF (IMF, 2006) suggests that fostering competition in the PPP framework is also crucial for the success of PPPs. Open bidding for contracts opens up competition and restricts monopoly. An interesting example is the recent Indian initiative of negative bidding in BOT projects of NHDP. In negative bidding, private infrastructure companies bidding for contracts pay the Government a lumpsum amount arrived through the bidding process if the contract is awarded to them. Several projects are already underway. For the Ambala Chandigarh road project, GMR group has given Rs. 105 crore to Government. While Jaypee Group has provided Rs. 61 crore for Delhi-Gurgaon expressway.

Managing Risks in Private Sector Participation

The experience is that infrastructure privatization in the developing world has frequently been accompanied by extensive residual risk bearing by governments which not only threatens to vitiate its efficiency benefits but also confronts governments with large financial liabilities. Governments

are reluctant(or unable) to raise consumer prices to cost covering levels, while investors, keeping in mind the past experience, fear that Governments may renege on promises to maintain adequate prices over the long run. Thus investors ask for Government support in the form of grants, preferential tax treatment, debt or equity contributions or guarantees. All of these forms of support are subsidies(explicit or implicit). Governments in developing countries moving towards a more liberalised regime invariably find themselves unable to introduce all the reforms that would be required for privatisation without Government guarantee. The choice is often between privatisation with significant Government risk bearing and continued ownership. Faced with this choice, the country may prefer second best option of privatisation without the full transfer of commercial risks to the private sector.

As political and regulatory risks emanate from Government action, it is reasonable to conclude that these risks should be borne by Governments and hence ultimately by taxpayers. Since taxpayers are beneficiaries of Government action, they are normally expected to hold Governments accountable. This may not happen always. Risks could be transferred to the consumers rather than taxpayers-as the case is when regulatory actions provide for tariff adjustments. The distributional and efficiency implications of the process will depend on the extent to which consumers are also taxpayers, the relative efficiency of the tax system and tariff system for infrastructure services. The implications for the incentives needed for governments to act responsibly will also depend on the nature of the political system and on the transparency of the liabilities assumed by taxpayers and consumers(Irvin,1997). The higher financing and insurance costs will in the ultimate analysis, be reflected in higher prices, reduced proceeds from privatisation, or greater need for public financing of infrastructure. Reduced profitability affects Government revenues and results in lower

returns for shareholders. Thus, decisions on the allocation of risks have a number of efficiency and distributional implications. But the challenge is to reduce risks to a level at which they do not constitute a significant impediment to private sector participation. In other words, the more stable and predictable the political and regulatory environment in the host country, the lesser is the requirement on the part of investors by way of specific undertakings from government guarantees and other risk reducing instruments.

Though privatization is expected to reduce the need for recurrent financial support from Government, the latter retains some (or extensive) financial liability. In effect, the Government substitutes a contingent liability for a recurrent liability in the form of a variety of guarantees some of which are specifically project oriented such as traffic guarantees in the case of toll roads while others relate to macro-level parameters such as exchange rate, interest, etc.

But some basic questions arise:

a Under what conditions would these guarantees be appropriate?
b How important are the nature of these guarantees?
c if appropriate, what is the level of commitment in future?

Given the experience in developing countries, guarantees can be expected to efficiently support private infrastructure where participation programmes are an interim measure while the reform process is being set in place to allow various elements of the market to handle the relevant risk. Equally important in the context of provision of guarantees is the extent of commitment.(Large commitments raise perception of country risk and affect sovereignty credit rating). This outcome can be avoided if commitments are issued in a fiscally responsible framework with appropriate distribution of risks among parties (protecting private promoter

against traffic revenue risks while obligating them to assume construction and operating costs risks). In issuing guarantees, governments must consider the expected value of commitments. In other words, whichever risk a Government takes on, it needs to consider how it can measure the value of (expected) commitments and incorporate it in its accounts and budgets. This can be done by attempting to measure and control the exposure. At the simplest level, this would require that the Government knows what guarantees it has issued and how much it might bear if the guarantee were called. This is done by estimating what the expected losses are and probabilities of greater losses. Lewis and Mody (1997) show that calculation of expected losses is feasible using relatively straightforward techniques. Moreover techniques developed in the past decades to value the financial derivatives (such as options, futures and swaps) can also be used to value guarantees and contingent liabilities. Valuing Government guarantees and other contingent liabilities help in comparing guarantees with cash subsidies. Valuation of guarantees enables decisions to be made on the basis of real rather than apparent costs and benefits.

In the Indian Context, the aggregate guarantees outstanding for seventeen major states in India was Rs 40,318 crore in 1992, which rose to Rs 1,69562 crore (provisional) by March 2001.Recognizing the growing magnitude of guarantees and its impact on the future fiscal position of states, the RBI constituted a technical committee (RBI,1999) comprising some state finance secretaries to examine all aspects of state government guarantees. The committee's recommendations submitted in 1999 were: (a) to impose a ceiling on guarantees, (b) selectivity in calling for and providing guarantees, (c) disclosure transparency, reporting of guarantees and standardization of documentation, (d) to have a guarantee fee and set up a contingency fund for guarantees and (e) monitoring and honouring of guarantees. Further, in order to ensure that the risk between investment

in state government securities and in state-guaranteed bonds issued outside the market borrowing programmeme is properly reflected, the RBI in October 1999 advised banks that with effect from 2000–1, investments in state government guaranteed bonds outside the market borrowing programmeme would attract risk weight of 20 per cent. Further, in case of a default in the payment of interest and principal of such bonds, banks would assign 100 per cent risk weight for investments in such securities and make appropriate provisions. The enhanced risk weightage applies to the guaranteed bonds of the defaulting entities.

Recently, the Report of the Group to Assess the Fiscal Risk of State Government Guarantees (RBI,2002) recommends, among others, (a) guarantees in regard to liabilities which were clearly intended to be met out of the budgetary resources, should be identified separately and treated as equivalent to debt, (b) states need to publish data regarding guarantees regularly, in a uniform format in the annual budget, (c) a Tracking Unit for guarantees may be designated (in the Ministry of Finance) at the State level,(d) Acts/policies of these central financial institutions should be amended/rationalized so that guarantees are not routinely insisted upon while extending loans,(e) at least an amount equal to 1 per cent of outstanding guarantees may be transferred to the Guarantee Redemption Fund(GRF) each year from the budget.

Need for a Strong and Credible Regulatory Framework

The global trend towards infrastructure privatisation has pushed regulatory issues to the forefront, the prominent among them being the role of regulatory agencies because regulation is complicated by three related considerations. First, prices are invariably based on political pressures/ considerations. There are numerous cases when justifiable price increases have been withheld at the expenses of investors and long- term interests

of the consumers. Second, investors are aware of these pressures. In the absence of credible government commitments, capital will be more expensive which results in higher tariffs. In terms of privatisation, this translates into smaller proceeds from sale of existing enterprises and higher financing costs for new (greenfield) projects. Third, the long-term nature of most infrastructure investment makes credible commitments difficult. Any design of a regulatory framework is thus a complex undertaking that involves the balancing of many influences/elements which include regulatory goals and resources, social institutions and sector characteristics. These elements influence the form, function and scope of regulatory policy.

Of many lessons to be learned from the Mexican toll road programme, perhaps the most important for governments developing a sector based extensively on private investments is the necessity of devising systems of regulation and support that provide the encouragement and room for maneuver that the private sector needs while at the same time minimising govt. exposure to the host of commercial and financial risks surrounding the projects. In the case of Argentina, since the privatisation programme was introduced simultaneously in the care of water, ports and railways, there was a corresponding proliferation of regulatory commissions.

One aspect of privatisation that has not received sufficient attention in Malaysia is the role of the government in the post privatisation era (Naidu & Lee,1997). When considering the scale of privatisation that has occurred, it was under recognised that the country's regulation system is adhoc and still evolving. This concern assumes significance for the simple reason that privatisation of infrastructure in Malaysia has not been accompanied by a competitive restructuring of the products or service markets. In nearly all cases of privatisation in the infrastructure sector of Malaysia, public monopolies have been simply converted to private

monopolies. In the case of privatised roads, for instance, the monopoly power of private companies is already considerable and would increase even further if, for example, the government fails to maintain public sector roads at a level where they constitute an effective alternative to the privatised roads or ensure that user's interests are not affected. Thus, "the Malaysian example underlines the need for a well -crafted and credible regulatory mechanism to serve as a buffer between private sector suppliers, who may enjoy considerable market power, and their users"(Naidu, 1997).

A Sum Up

The chapter observes that the State has a major role to play in road financing. Road planning and financing in India has always been the responsibility of both the Central and State Governments, with the Centre being responsible for the construction, operation and maintenance of the National Highways (NHs) and the State for all the other type of roads such as State Highways (SHs), Major District Roads (MDRs), except certain special categories of roads. Though NHs and SHs constitute less than 10% of the total road network in the country, this arterial network contributes over 75% of the total road-based traffic. The NHs network alone is estimated to carry over 40-45% of the traffic carrying over the arterial trunk route system. The chapter stresses that there is a need for a clear policy stance with regard to the utilisation of Road Funds in order to avoid systemic bias against maintenance expenditure. With respect to roads where toll financing was feasible, it was suggested that it would be necessary to offer substantial incentives to the private sector since traffic levels to sustain a high-standard network would be too low to ensure attractive financial returns.

In recent years, the significance of road transport has enhanced manifold, aided by the expansion and improvement in the highway network.

With a view to encouraging private sector participation, Model Concession Agreements have been finalised for (a) major projects costing more than Rs.100 crore to be undertaken under BOT Scheme; (b) projects less than Rs.100 crore and (c) based on annuity approach.

A major issue in priate sector participation is effective management of risks, including credit risk, market risk, policy risks, legal risks etc. A problem faced by financial institutions in funding such projects has been that of providing physical asset cover. Most financial institutions either insist on corporate guarantees from the promoters or extend long-term finance only by mortgaging the physical assets of the project. In fact, financial institutions demand a physical asset cover of 1.5 times of the loans extended by them, which is in line with existing term loan conditions. But collaterisation of physical assets is virtually impossible in national highway projects. This is because BOT operators neither have the leasehold nor ownership rights over the land used since the ownership is vested with the government and not the Special Purpose Vehicles set up for the projects. Moreover, mortgaging of physical assets is not necessarily the solution to all the problems nor does it insulate creditors from defaults. In fact, it only provides some comfort in the books of the creditors. This apart, mortgages do not necessarily ensure prompt repayment of either the principal or the interest amount and the level of comfort is restricted to recovery of dues through the sale or auction of physical assets.Contingent Liabilities (such as guarantees) perform a crucial role in the mitigation of risks to long term funding of transport projects. Project sponsors typically insist on government guarantees to bring in funds for road sector projects. Financial institutions, Banks and NABARD insist on guarantees while investing in infrastructure projects to contain default risk. Such guarantees are given by respective State Governments. The insistence on guarantees for project finance increases the fiscal risk of State Governments in India.

The reliance on guarantees as a substitute for debt has witnessed a sharp rise since the mid-nineties. Between 1996 and 2000, aggregate guarantees extended to state level entities grew at a rate of 24.1% as compared to 7 per cent between 1992-96. The Executive Committee on State Government Guarantees, RBI, advised institution of statutory administrative ceiling on guarantees and ensuring greater transparency. In 2002, the RBI working group to assess the fiscal risk of State Government guarantees has recommended several appropriate measures to contain the fiscal risk of guarantees.

Finally, the chapter stresses that a well crafted, credible, appropriate framework for regulation is essential for the success of effective private sector participation in the infrastructure sector.