Transport policy issues

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This paper seeks to identify the main policy issues pertaining to the problems of the transport sector in our country. It also highlights the areas where policies can be modified to evolve a more facilitative framework for the efficient development and technological enhancement of this sector.

We discuss the main issues of policy in the transport sector in India, cutting across the different modes. Though this is a complex subject, we believe that it is sufficiently important to receive the sustained and cohesive attention of the government, with a focus on being comprehensive. This is conspicuously missing in all the policy documents relating to the transport sector that emanate from the government and its agencies. For example, The India Infrastructure Report1 that was evolved under the aegis of the Ministry of Finance, Government of India has significant gaps in its coverage of shipping, railways, civil aviation and rural roads.

In order to concentrate on the most important issues, we have tried to focus on and relate transport policies to the following areas of the sector:

i) The transport market and the role of the state
ii) Modes and technologies
iii) Financing transportation

The transport market and the role of the state

In dictionaries, the verb transport means to carry or to convey. The noun is synonymous with carriage from one place to another. The concept of transport or transportation seems mundane enough. Yet it affects almost all aspects of daily life. Like any other means of communication its value is often not appreciated until there is a shortage or unless it becomes unavailable. Nevertheless, an error that is often made is to assume that the creation of transport facilities and capabilities is a precursor to development, a panacea for all other ills. This is rarely the case. At best, transport can facilitate and act as a catalyst, not take on the role of the engine of development.

This, however, should not lead to the marginalization of transport – as is often the case in India. Demand for transportation is derived from the intensity of economic activities. Transport supply in conjunction with the supply of other infrastructural elements can significantly affect economic growth. Thus, there is a two-way cycle affecting economic growth and transport (see Figure 1). Further, there is always a time lag between economic growth and the growth of transport demand. This complicates the timing and optimizing of transport supply. De facto, the current policies result in transport being supplied only when its absence becomes critical in any given situation. This needs to be reversed by anticipating demand and supplying transport in a timely fashion.

In the economic sense transport is a 'good' and it has no special characteristics that merit its being treated any differently than an item of everyday consumption. Considering the current economic policy regime (and forgetting, for the moment, the dirigiste and highly regulated arrangements that prevailed in India till 1991) it would surprise most people if the production of consumer goods were not largely left to the laws of supply and demand in the market place, with the state's presence felt only in the background, either lightly or not at all. Again, one certainly does not expect the state to produce consumer goods (though some government agencies do so – even soap!). When it comes to transport it is somehow not considered surprising that such a large part of this economic activity and of its provision should be in the hands or control of the state. We argue that it would be ideal to treat transport in the same way as we deal with other consumer goods and services, bearing in mind the characteristics shown in Figure 1.

Presently, this is not the case primarily because the changes in the economic policy regime that took place in 1991 were driven by dire economic necessity, and not from any desire to increase efficiency, or from ideological conviction. The state decided to allow private sector participation in many areas and conserve its resources for activities in social sectors. Initially, reforms concentrated on reducing or removing the 'License Raj', which was mainly concerned with the industrial sectors. Economic reforms have not yet been attempted in a comprehensive manner in the transport sector. Instead, there have been piecemeal attempts to disengage the state from this area of economic activity. The absence of a comprehensive body of policies, which would, among other matters, define the state's role in transport clearly, allows vested interests to prevent changes from taking place and the status quo to continue.
These problems are exacerbated by the backlog in transport capacity and capabilities that exist in India, almost across the board, and the long delays in decision making inherent in the present structure of the sector. The latter includes obtaining statutory clearances; dealing with a variety of rent seekers (a technical term associated with unofficial payments), resolving issues of tariffs and obtaining the land to build transport infrastructure. In this perspective, it is not the absence of reform or the lack of rolling back of state activities that is a surprise in the sector, but rather that any changes have taken place at all since 1991.

That there is a large, complex and variegated market for transport should not be a matter of surprise. The transport market is segmented on the demand side by type (passenger, freight), commodities, distance, regions, modes (including non-motorized ones), willingness to pay, price and many other factors. There are myriad niche sub-markets of various sorts within it. By and large, with the exception of the motorized road haulage freight industry, a market driven and dynamic response to this demand does not exist. A framework of market conditions is a prerequisite for such a response and it ought to be a cardinal feature of future transport policies to create such a framework.

On the supply side, besides the generality of responding to demand, the transport business comprises both the provision (and maintenance) of transport infrastructure and the delivery of transport services. As in other economic sectors, there are degrees of integration in the two sets of activities, economies or otherwise of scale, etc. On the supply side we suggest market forces should be brought into play, particularly in areas where there is a reasonable size of market and adequate paying capacity. This is in order to seek and obtain the efficiencies of transactions and operations that are inherent in the open market. At the same time, the inefficiency associated with bureaucracies and state structures could be avoided.
This does not imply that the state has no role to play. In fact, there are activities that are best undertaken only by the state. These include:

(i) Formulating policy and preparing and enacting the legal framework for undertaking economic activities in this sector by facilitating and allowing market forces to come into play.

(ii) Ensuring satisfactory safety regimes for different modes.

(iii) Enabling the functioning of regulatory authorities. (It is a matter of some importance that an eclectic view should be taken of the independence of such regulators. One reads about administrative moves to curb regulators\textsuperscript{2} with some disquiet.)

(iv) Ensuring the avoidance of anti-competitive behaviour and market failures.

(v) As a corollary, ensuring that user charges aim to meet full costs and at least cover marginal costs initially.

(vi) Evolving criteria for the provision of transport subsidies. If there are segments of the community or products that require transport subsidies for reasons of policy (which should occur only on the basis of strict economic criteria), identifying, targeting and delivering these should be organized with resources provided by the state. For example, connecting the north-eastern states with an air service ought to be a targeted activity with a tender to run a least cost service, not a matter of cross subsidies from trunk routes.

(vii) Eliminating rent-seeking activities. It has been estimated by the Asian Development Bank that directly unproductive rents can add between 20\% and 100\% to costs for goods and services in several Asian countries\textsuperscript{3}.

(viii) Paying attention to transport infrastructure development that is economically (and socially) justified but not commercially viable. For example, the provision of rural roads has high social but low financial returns. The state needs to provide resources for this activity. The provision of the roads themselves could be a private sector activity contracted out with such funds. Further, transport services in rural areas can also be operated by the private sector.

These tasks constitute a formidable, major workload for the state. It is probably fair to say that, while attention is being paid to some of the roles mentioned above, the majority of these are not being carried out at all or, at best, are being carried out badly. The administrative and managerial resources of the state are stretched too far to permit all of these tasks to be conducted and for the state to simultaneously take a direct role in the provision of transport infrastructure and services.

An argument that is raised sometimes is that competition in transport would result in wasting resources in the creation of duplicate transport infrastructure and capabilities. The example of road freight operations should put all such thoughts to rest. The industry is almost entirely privately owned. It has developed and prospered from very small beginnings to become the dominant surface transport mode in the country. The state and its agencies have tried to circumscribe it in many ways, and have positively hindered road operations through the system of octroi and check posts prevalent on our highways. Yet intense competition, with a large number of operators, has resulted in an impressively efficient industry.

Modes and technologies

For several decades there has been a debate within the government regarding the role of various modes of transport in the Indian economy. The Planning Commission investigated the issues at least twice\textsuperscript{4,5}. These and other studies expressed concern at the reducing share of freight and passengers that used railways as compared to roads. Targets for retrieving the situation were recommended in terms of percentages of traffic to be shared by the two major modes. It should be remembered that these exercises took place in the earlier economic policy environment where state intervention in transport and its control of the planning process was complete. The current situation is that the main mecha-nized surface transport modes in this country are road and rail. Table 1 shows their relative market shares over the years.

To facilitate the businesslike development of the various modes of transport and to encourage the use of efficient technologies the policy framework should:

i) Be neutral in permitting the choice of modes by users of transport.

ii) Ensure the recovery of marginal costs from users.

iii) Permit choices in technology on business considerations.

iv) Reduce the role of pressure groups in business decisions in the sector.

v) Encourage research in efficient technologies.

There is room in the Indian economy for every mode of transport to play a role in meeting the requirements of the large transport market. If the policy framework for transport provides level fields for the development of various modes, within a decade transport infrastructure and capability can grow significantly by market-driven developments. In particular, the use of pipelines for petroleum products, liquids and slurries and the use of inland water and coastal shipping for the movement of freight of all kinds can become serious possibilities.
However, presently transport modes in India are not treated uniformly by the state. The most glaring of the contradictions is in the provision of resources and the taxation applicable to road and rail transport. The road transport industry pays the entire gamut of taxes (many of which cascade), that are applicable to all facets of its working, ranging from the purchase of vehicles and fuel, licenses for operations, imposts at state and city borders, etc. There are no inexpensive avenues for truck owners to raise financial resources to purchase vehicles and arrange for working capital. Railways are run departmentally by the government as a modal monopoly. The Indian Railways receive funds from the central government at highly subsidized rates that bear no semblance to interest rates for loans provided by banks. Though the quantum of such funds has been reducing since 1991, the railways continue to seek increased capital from the government’s annual budget to the tune of 35% of their requirements. Further, much of the inputs used by the railways do not attract the levels of sales taxes and other levies that are applicable for road transporters.

Thus, in both the provision of capital and in the cost structure of transport services the state subsidizes rail transport services compared to roads. During the past twelve months, in addition to other levies, the central government imposed, and subsequently withdrew, a service tax on the transportation of goods by road. This tax was opposed for a variety of reasons. Surprisingly, at no stage was it pointed out that if the tax was sustained the state would be, unabashedly, skewing the cost structure of freight tariffs by five per cent in favour of railways.

A study conducted under the aegis of the World Bank in 1987 demonstrated that the road transport industry more than met all of the state’s expenditure for the provision and maintenance of roads in the country (by a factor of 2.3 times in 1991). Yet, despite this the condition of road infrastructure in India was considered deplorable. The point is that the state has a crucial role to play in ensuring that various modes of transport are taxed uniformly. In transport, as in other economic activities, taxation should be structured to firstly meet the expenditure of the state in that economic area of activity. Secondly, as a resource base for the general exchequer for such activities as defence, maintenance of law and order, education, etc., for which all economic sectors have to provide funds. If taxes are skewed across modes there must be economic justification for such a process, such as meeting mode specific environmental costs, etc. This area of policy requires substantial attention in the coming years.

The development of inland water and coastal shipping is inextricably linked with the development of ports, which are crucial nodes in water transportation. India’s major ports are constituted as trusts but work under the control of the central government. In addition, there are minor ports working under the state governments – some of which are little more than harbours for fishing vessels. There have been many initiatives to improve the ports sector since 1991. But for these nodes to become efficient, develop, serve their hinterland well and compete with each other, it would be necessary to establish a market framework in which they can operate and establish multi-modal links for the main users inland.

Presently, a framework for the adoption of appropriate modern technologies and open market structures in ports does not exist. The result is poor port-operating productivity, opposition to containerization (as in the case of a container vessel berthing for the first time at New Mangalore Port) and higher costs. India’s containerized overseas trade is largely fed through Hong Kong, Singapore and Colombo. Indian importers and exporters have to pay for the additional handling and time costs involved in this transhipment. There is a continuing avoidable net transfer of our resources to the three ports mentioned above, attributable to the lack of coherent policies. India may also be losing export markets and investments as a result of higher prices and delays.

Even air transport would benefit from an improved policy framework. There is a nagging suspicion that the real agenda of the state may be the protection of the airlines it owns. Why else should the state reserve so many powers of approval in the running of the airline business? Ultimately, the state needs to ensure safety in the air transport industry. It ought not to be involved in, for example, the use or otherwise of leased aircraft to provide a service. So long as the state does not guarantee lease rentals, the decision to lease aircraft should be left to airlines. Similarly, the state interferes with the market and enforces cross subsidies between heavily trafficked routes and some routes with low traffic. Instead, a policy of direct subsidies for eligible routes is required.

India has the skills and knowledge base to develop and choose transport technologies. However, the ab-
sence of a coherent policy framework for the transport sector has resulted in technological choices being dictated for reasons other than economic efficiency. Two examples where inappropriate technological paths were chosen by the country in the past fifty years highlight this issue.

The first is opposition to containerization. This was caused by unabashed acquiescence to break bulk oriented labour practices and pressure groups in ports. The railways also did not develop infrastructure for moving standard containers. The benefit of containerization has been that it has reduced the movement of goods to anonymous, secure and quickly transportable metal boxes, usable in both internal and external trade. As Carr has explained, like a packet of electronic data a container is a box with an address. Container routes have the economies of a network: the more the users, the greater the benefit. As more and more hauliers adapted to carrying containers across modes, efficiencies mounted rapidly. It has been estimated that containers have reduced typical costs of transport to 1–1.5% of product costs compared to 5–10% before their introduction. Further, container ships spend less than twenty four hours at a time in ports compared to two weeks per visit by break bulk vessels. Some 60% of sea-borne trade, by value, is now containerized. By and large India has missed out on the benefits of this revolution.

The second example is the curious neglect of the option of adopting fail safe electronics based technologies for the control of train operations in India, coupled with the use of computer software to enhance efficiency in freight movements. The immediate benefit of computerized Centralized Traffic Control systems is always a vast improvement in the utilization of that most expensive of railway assets, the track infrastructure. Yet, in India, we have systematically chosen the methodology of expensively doubling railway lines whenever sectional throughputs exceed twenty pairs of trains a day, instead of improving track capacity utilization with signalling and advanced train control systems, which cost less.

Similarly, in India, railway wagons only operate for an average of six hours a day and run about 150 km in that period. The benefits of applying computer software to this industry to improve the utilization of rolling stock in revenue service has been known and practised for thirty years, significantly in the USA where railways are privately owned, are profitable and compete successfully for their market share of traffic. As in the case of containerization, this electronic revolution has passed us by.

It is necessary to change our mind set. It is becoming one of our inbuilt characteristics that we no longer have faith in our own ability to select technologies, prepare designs, etc. We feel that we must look to the outside world for all new sources of knowledge. A recent example is an advertisement from a Port Trust for consulting services, which says that only limited tie-ups would be permitted with Indian firms. Surely, if it was felt that the nation did not have knowledge available, the advertiser should have made it an essential requirement that bidders must associate in all aspects with local firms. How else can we absorb new knowledge and technologies?

Clearly technological leaps are required to make up for lost decades. We can only do so if the views of entrenched interest groups are subordinated to a policy framework and environment where the most appropriate and inexpensive, transport technologies can be adopted in this country for reasons of economic efficiency.

Besides using containers for internal and external trade, the thrust areas in adopting new technology, cutting across all modes, should be in the use of electronic hardware and software, including satellite-generated data. Electronic hardware is freely available and inexpensive. Software is clearly seen as an activity in which India excels.

Further, it is a shibboleth that all technologies used should be employment oriented. The invention of the wheel has been one of humankind’s most efficient discoveries. It probably also destroyed a lot of potential jobs. An industry based on this labour-saving device should not be saddled with creating employment. To employ a vast army of low skilled workers in transportation does not add value to this service industry. Again, it is the market that should make these choices, not administrators and politicians.

The approach to the technology-linked subjects of environmental protection and safety in transport should be eclectic. Environmental clearances for transport projects are rapidly deteriorating into discords in committees and the generation of new breeds of rent seekers. Transport projects cannot be established without using land. Even a single acre of forest land (even wastelands) used in a transport project necessitates formal permission from the central government. We need a better policy framework incorporating the best methods of safeguarding the environment for developing transport infrastructure. Per contra, presently railways are exempted from the purview of environmental standards for noise pollution and emissions. A greater contradiction could hardly exist!

We need quick attention to the question of removing lead in petrol and the use of catalytic converters. Every study conducted has shown how high levels of lead in the blood of children damage intelligence levels and vital organs. Yet we seem satisfied with paying lip service to the concept that our future belongs to our children for whose sake the environment should be protected. Faiz et al. have pointed out that two stroke two wheelers and three wheelers can be modified to reduce pollution to acceptable levels with very low investments.
Yet, we are slow to ban lead in petrol and insist on vital technological changes in the vehicles plying on our roads.

The environmental and safety areas have further problems of lax standards and poor implementation of existing laws. As an example, we have very similar road traffic laws to those existing in the developed world. Like them we have the traffic police to enforce laws. Yet, barring the metropolis of Mumbai, traffic laws and road safety norms are openly flouted in our cities, villages and highways. While the soft options of education, training, etc. need emphasis and must be pursued, we cannot escape from enforcing laws and standards if we wish to improve road safety and reduce pollution from road traffic.

If we have a framework of policies which encourages an efficient and market-oriented transport sector, applied research and development activities would evolve to increase efficiency, reduce costs and improve safety. We could greatly benefit from applied research contracted out to universities and research organizations with such an orientation. It is pertinent to note that when the Indian railways operated commercially, their research products (resistance curves for wagons, design principles for a rail section) were adopted by railways all over the world. In contrast, very little research of outstanding merit has emerged from that organization since the mid-seventies.

**Financing transportation**

In the first part of this paper we mentioned that one of the problems in attracting private participation in this sector was the high cost of money in this country. This forces entrepreneurs to focus on projects and economic activities with perspectives of less than five years. The Reserve Bank of India has started a trend which aims to lower bench-mark interest rates for loans gradually over a period of time. A discussion on the steps being taken to achieve this objective is clearly outside the scope of this paper. It will suffice to say that the reduction in bench-mark interest rates towards 10-12% from 20-22% would be greatly welcome in the transport sector. Ten and fifteen year perspectives for investments could then to be considered by private companies for activities in the sector.

At the same time the gradual opening up of insurance in our economy will lead to more funds being made available for long term infrastructure projects, including those in the transport sector. This is because insurance funds seek sound investments with a longer perspective and this tenure of loans would match the requirements of transport projects. Thus, two areas of reforms in macro economic policy can have beneficial effects in creating better market conditions in the transport sector.

Nevertheless, the long term nature of developing transport infrastructure leads to uneasiness on the part of lenders of funds. There is concern as to whether politics will not take a hand in interfering with agreements reached for implementing projects. The main concerns are with regard to project revenue streams – that is, meddling with tariffs and fares – and in arbitrary nationalization of business. Little comfort can be obtained from the history of our transport sector in the last fifty years on these two issues.

The third concern of lenders is that privately-funded transport projects are based on project specific 'special purpose vehicles' associated with the promoters. In other words, promoters do not back green field transport projects with their balance sheets. In this situation, given that the state desires to bring in the efficiencies of the private sector and the market into the transport business, what should it do to facilitate the process and reduce project risks? The state should seek public-private partnerships for transport projects, using unambiguous criteria for selecting the projects. The state should take this approach only in projects where economic returns (which are different from financial returns) are higher than a threshold of, say, 12%. Further, there should be some benefits, such as environmental, that would accrue to the population at large to justify the state’s participation with the private sector in a transport project.

To develop such projects we need much greater practice of skills related to evolving project structures and cost benefit analyses, both financial and economic. To
implement such projects we also need a cohesive focus on tackling such investments, without getting bogged down in internal governmental fights and disputes on jurisdictions. For example, an innovative approach for just such a partnership to establish a light rail system in Bangalore has got mired in disputes regarding the jurisdiction of the railways and the state government. (The innovations included the state collecting a small cess in a dedicated fund to meet 25% of the project costs and identifying station and other sites on empty plots of land in the control of various arms of the government.) The dispute has gone to the extent that the Central Ministry concerned has neglected planning orders issued by the State and built houses on empty land reserved for the project.

Parkinson’s Law of Delay states that ‘Delay is the deadliest form of denial’. We should not permit environmental clearances to become the last bastion of the License Raj. Policies and procedures need to be evolved which will allow clearances for worthwhile projects quickly, while catering for legitimate environmental concerns. Without this, lenders will not commit funds. If our approval systems continue to be creaky, sources of funds, particularly overseas ones, will dry up out of sheer fatigue.

The financing of transport by market forces will also be enhanced substantially if regulators are established by the state for various transport modes to ensure fair play and other desirable market conditions. The regulators will need to function with independence.

Infrastructure projects are allowed income tax incentives that have to be availed in the first twelve (twenty for roads) years of activity. The period for availing these concessions should be twenty years for all modes, because project revenue streams invariably result in losses during the first decade, making the value of the current concession meaningless. Further, our analysis shows that taxes and excise duties often increase capital costs by a third. If a transport infrastructure project meets economic viability criteria, capital inputs should be exempted from levies of all sorts, in order to reduce capital costs and make projects financiable. It does not make economic sense to burden a new activity with imposts even before it can start functioning.

A process of conducting sensible economic appraisals of projects and seeking innovative ideas to structure public–private partnerships would lead to a large number of initiatives to resolve transport bottlenecks in our country, both for the movement of freight and passengers. More than two thirds of the financial burden of providing expensive infrastructure in roads, railways, ports, inland water, shipping and pipelines could be raised from the market. This would reduce demands on the financial resources of the state. It would also permit the state to concentrate on establishing rural roads and rural transport arrangements to facilitate the improvement of living conditions in rural India.

Conclusions

Transport, though a catalyst, is an important (and, in India, often neglected) component of development. A framework of coherent policies is required to make the sector market oriented, in order to enhance its efficiency and make it responsive to the needs of this country.

The role of the state needs to be defined clearly. It should reduce its activities as a primary provider of transport and lay more emphasis on the important areas of policy formulation, safety, independent regulation of the market, etc.

The choice of modes and of technologies should be based on market-driven criteria of efficiency. Together with an improved policy framework, technological leaps are necessary to make up for lost decades. The thrust areas include containerization and the use of electronics. Further, it would be beneficial for applied research to be contracted out to universities and research organizations.

Some of the macro-economic measures being implemented will enhance the avenues for financing transportation. Transport projects will become more financiable if attention is given to reducing delays in approvals and in getting government bodies to act cohesively. Innovative project structures are required to develop private–public partnerships for transport infrastructure. These could significantly reduce demands from the sector on the state’s financial resources.

8. The Times of India, 19 May 1998.