

Integrated Thinking for Transport

Mode-specific silos have resulted in uncoordinated transport infrastructure and sub-optimal modal mix in India, manifest in inefficiencies of higher prices, multiple and wasteful handling, complex administrative procedures, missing critical links between modes. To respond to the emerging socio-economic challenges, this note argues, India needs to quickly adopt integrated transport thinking where various infrastructure pieces interact seamlessly in an origin-to-destination supply chain, leading to discovery of the optimal mix that improves overall efficiencies of the transport system.

Whether to respond to the government's ambitious call for 'Make in India' or to better the dismal 142 World Bank ranking on 'ease of doing business', among others the Indian transport sector will have to be one of the key enablers and evolve rapidly to support growth. It will have to connect the oft-quoted 'origin-destination (OD)' pairs to move goods, people, raw energy supplies far more efficiently than it has in the past, in order to help the country check the high losses¹ and build desired cost competitiveness².

The old school view of demand for transport service is that it is a derived demand, but as transport systems gradually achieve scale economies and get standardised, they in turn create markets for other goods and promote balanced regional growth. This understanding provides some theoretical basis for integrated transport planning and strategy, a thinking that has unfortunately been missing in India. The various transport modes in India have developed as isolated entities acting independently of each other seeking to further idiosyncratic modal interests³.

¹The logistics costs in India are estimated to account for 12-13 per cent of GDP. In the US, these costs vary between 8.5-9 per cent of GDP. A reduction in logistics costs by one per cent would yield an annual saving of \$5 billion for Indian economy. Source: India Transport Report – Moving India to 2032, National Transport Development Policy Committee (NTDPC), 2014

²If the logistics costs were brought down United States levels, it would result in about 4% reduction in prices of Indian goods making them more competitive globally. Source: Asian Institute of Transport Development: Regional Seminar on Intermodal Logistics, 2007

³The shipping ministry is weighing a plan to set up a company exclusively to implement rail connectivity projects to ports, in view of extensive delays under the current arrangement. However, experts say that

The effects of ad hoc multi-agency coordination and piecemeal investment decisions are perceptible at various scales in India. The steady decline in share of rail in both passenger and freight movement delivering a sub-optimal modal mix between rail and road is glaring. Ports connect insufficiently well with the rail and road networks⁴. The rail and road networks do not interact well to offer efficient interchange points for each to be harnessed to its best advantages, imposing higher transaction costs as rail's last-mile disadvantages prove debilitating. Rail and shipping may both benefit from a more flexible and extensive road network that ensures last-mile and intermediate connectivity, but is often deficient due to an uncoordinated approach.

Instances demonstrating such inefficient single-mode focus are rife even in urban transport context. The Delhi Metro Rail Corporation (DMRC), for example, reportedly required the Delhi Transport Corporation (DTC) to stop operations along some of its routes⁵. Even the proposals for new BRT lines to come up in the same corridors have been opposed. Such overlapping routes could in fact help ease congestion in the longer

providing rail linkage to state-owned ports is the job of Indian Railways and not that of ports. Source: Live mint, July 29, 2014

⁴Chennai Ennore Port Road Connectivity Project – 30 km road improvement project is incomplete even after 12 years. Similarly, Northern Port Access Road greenfield project has been delayed for more than 6 years. Chennai port has seen rapid growth in traffic but infrastructure projects to connect the port to road and rail networks have been stalled for many years resulting in heavy congestion and poor cargo evacuation

⁵India Transport Report - Moving India to 2032 - NTDPC, 2014

run as well as cater to varying client bases. Modal choices should be based on a rational economic assessment by the consumer, ease of access and pricing in particular, and not through elimination that forces consumption of one over the other. In order to fully exploit a transport mode, its weaknesses must be located and absorbed within an integrated network.

The division of different transport modes between ministries at the national level in India not only inhibits efficiently coordinated development, it stands in stark contrast to international practice. Most of all of the 100 largest economies, all of the OECD countries, and India's emerging market 'peers', the BRICS countries, have a Ministry of Transport or similar integrated equivalent rather than the collection of mode-specific ministries found in India. These unitary transport ministries at the federal level, particularly in Australia, Brazil, Canada, Germany, Japan, Russia and the US have been mandated to develop and administer policies to protect and promote public interests across the transport sector. The Table 1 below presents the transport policy framework in select countries.

It is important for India to now start thinking of transport infrastructure development as an integrated strategy where the pieces interact as a circulatory system for moving goods and people. When arguing for an 'integrated' approach to transport planning, it might be worthwhile to clarify that it does not mean centralised decision making, rather facilitating coordinated transport thinking feeding on robust information systems and an interactive dialogue between stakeholders. Integrated national transport policies transcend or augment individual modal interests and achieve superior coordination. In keeping with the argument, it is desirable to eventually integrate the different transport ministries to result in a super transport ministry. The recently concluded report of the National Transport Development Policy Committee (NTDPC) rightfully underpins the need for multi-modal transport and observes that consistent with almost all other countries, it is desirable to set up a unified Ministry of Transport for India with a clear mandate to deliver a multi-modal transport system that contributes to the country's larger development goals. The NTDPC however recognises that it is neither feasible nor desirable to set up a unified transport regulator in the short-term and must remain a long-term vision.

While debate around unification of transport ministry is expected to continue for a while and its possible implementation still longer, sector regulation should be improved in the short-term. To this end, steps need to be initiated towards simplifying the complex legal structure that presently overwhelms each transport sector.

This would mean consolidating the numerous sector-specific legislations into a single statute in order to simplify procedures and control avoidable ambiguity. Such unification of the legislations must be supplemented by the setting up of a statutory regulatory agency for each transport sector, at the appropriate level. The recent Road Transport and safety Bill 2014, meant to replace the Motor Vehicle Act 1988, envisages improving transport regulation and multi-modal coordination but prescribes multiple institutions which can again erode their usefulness. Instead, a single National Road Transport Authority is recommended with specialized functions undertaken by distinct departments, while safety issues can indeed be handled by a separate technical body. Without losing sight of the ultimate goal, these will be the initial steps to facilitate establishing a unified super transport regulator in the long run.

The need for strengthening the regulatory framework is felt given the peculiar character of transport and the inevitable collaboration between the public and private sector. The concept of public sector 'Ownership' long adopted primarily due to monopoly characteristics and social externalities is waning with public influence wielded through policy and regulation. Private sector participation will require creating independent and effective regulatory mechanisms to ensure fair returns to private investment as well as mechanism of dispute resolution, protection of consumer interest, including safety and affordability.

Transport infrastructure and service, often considered as 'public good', rarely allows its pricing to reflect the full marginal social costs incurred, thereby creating for the State a decisive role in determining the prices and the quantity and quality of transport infrastructure and services through appropriate policy measures. Distinctive characteristics of transport infrastructure that subject it to special policy and regulatory intervention include:

- Extensive economies of scale and scope that generally lead to market concentration and limit

competition. Regulation, therefore, has to continue to ensure desirable social outcomes.

- High upfront costs and long payback periods
- Services deemed essential to a broad range of users, making their provision and pricing politically sensitive.

In most countries, the public policy role of the Transport Ministry (unified) has been separated from the economic regulation and safety regulation roles (see table above), which can again be relevant for

India. Importantly, regulatory agencies by design should be independent, insulated from political pressure to the extent possible. One way to ensure this is to have a transparent consultative process of decision-making and opportunities for judicial review. Finally, transport policy should be able to create appropriate technical and economic conditions so that each mode of transport is employed and priced within the system in a manner determined by its resource cost advantage.

Table 1 below presents the transport policy framework in select countries.

Country	Integrated transport policies	Railway sector strategy/policies ⁶	Economic regulation	Safety regulation
Australia	Department of Transport		Australian Competition Commission	Departments of Transport or Independent Regulators (varied by state)
Brazil	Ministry of Transport		National Agency for Land Transport	
Canada	Department of Transport		Canadian Transportation Agency	Transportation Safety Board
China	Ministry of Transport		Ministry of Railways	
Germany	Ministry of Transport		Federal Cartel Office	Federal Rail Agency
Japan	Ministry of Transport			Japan Transport Safety Board
Russia	Ministry of Transport		MOT and Ministry of Economic Development and Trade (MEDT)	Ministry of Transport
US	Department of Transport (DOT)		DOT-Surface Transportation Board	National Transport Safety Board DOT-FRA

Source: NTDPC

⁶ Railways seem to be one of the last modes of transport to be integrated into system-level planning, particularly in countries with significant histories of rail-based transport. In Brazil and Japan, this ‘integration’ took place through corporatisation, privatisation, and then policy formation by the integrated ministry. China, until recently, still had a Ministry of Transport and a Ministry of Railways. Source: NTDPC report.

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