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Urban Mass Transit Rail Systems in India

By Bérénice Bon

Many metropolitan cities in India today are concerned by urban mass transit rail systems: Kolkata (operational in 1984), Delhi (operational in 2002), Bangalore (operational in 2011), Gurgaon (operational in 2013), Mumbai (operational in 2014), Chennai, Hyderabad, and a growing number of second-tier cities as well: Jaipur, Kochi, Ahmedabad, Pune, Lucknow, Chandigarh, Patna, Indore, Bhopal, Ludhiana.

Metro projects in India are a booming sector involving tremendous market potential for local and foreign economic actors. Their implementation is associated with very high capital investments and also operation and maintenance costs. Metro projects are also often planned as dedicated spaces within the city with specific land use regulations and building rules (e.g., additional Floor Area Ratio).

This policy paper raises the crucial question of the institutional set up of these large-scale transport projects, and the implications in terms of new funding sources such as incentive-based land value capture instruments.

Institutional issues

Work on the Kolkata metro started in 1972. Railways were then the backbone of India's transport systems. Till the mid-1980s urban transport was not a portfolio of any particular ministry at the level of the central government. Thus, the Kolkata metro project was entirely implemented and funded by the Indian Railways. According to the Indian Constitution, urban transport falls under the jurisdiction of the State governments, except for Maharashtra and Gujarat. In 1986, the ministry of urban development under the central government took responsibility for urban transport and planning. Regulatory mechanisms and management responsibilities are covered by multiple agencies, some working under the central government and others under the State governments.

Yet, the main legislation that regulates metro projects, namely the Metro Railways Act, comes under the purview of the central government. As per this national law, two important regulatory functions are fixed by Committees at the national level: safety and determination of fares. The central government has the financial capability to bear a part of the capital costs in metro projects and to obtain financing in the form of international loans. Recently, various committees at the national level released guidelines for metro projects, which constitute the 2013 Metro Rail Policy. For instance, criteria for the eligibility of a city to invest in a metro are defined, but remain very general. For the time being, decisions about metro projects taken by State governments and the process of approvals by the central government are likely to remain political, as opposed to purely technocratic. The Delhi Metro Rail Corporation (DMRC) is at the centre of this loose regulatory framework. With the building-up of a political and technical power, coupled with legitimacy in the eye of the public as a result of the successful implementation of the Delhi metro, the model put forth by the DMRC has since been transposed on most metro projects in India. Nowadays, the DMRC is the prime consultant for these projects, in charge notably of the preparation of the Detailed Project Report. Therefore, it

recommends the organizational and management arrangements for each case to the Ministry of Urban Development.

In mid-1990s in a context of structural and organizational changes, the DMRC was set up as an equity joint venture between the Delhi State government and the central government under the Company Act of 1956 and funded with a soft loan from the Japan Bank for International Cooperation. The DMRC was conceived as an administrative and implementing body. The Delhi Metro Railways Act (2002), approved a few months before the opening of the first metro line, gives full authority to the DMRC for the operations and maintenance of the Delhi metro rail under the responsibility of the central government. If the board of the DMRC is constituted by an equal number of nominees of the Delhi government and the central government, each member is accountable to the central government. Therefore, the Managing Director has considerable powers. In 2009 the Delhi Metro Railways Act was amended to be applicable as a national law, with jurisdiction all over India.

Each regional State has the responsibility of putting in place the institutional arrangement. In practice, a large majority of the metro projects today are following the model of the DMRC, i.e., on the basis of an equity joint venture between the State government and the central government under the Metro Railways Act. A part of the capital cost is funded mainly with soft loan assistance from international agencies or with a long-term debt from the market (this is the case of the Bangalore metro).

A second model is the public-private partnership. Metro projects in Hyderabad and Mumbai (the two first corridors) are being developed on a PPP basis with a financial support from the central government in the form of Viability Gap Funding (VGF). Their DPR were prepared by the DMRC, but the State governments control the bidding process. The driving force behind each of these projects is the State government.

In Hyderabad, the concession agreement is based on the Model Concession Agreement for Urban Transit prepared by the Planning Commission in 2009. Larsen & Toubro Metro rail Private limited won the bid in 2010 as it asked for the lowest VGF. Hyderabad Metro Rail Ltd (HMR) has been set up as a Special Project Vehicle (SPV) between the State government and the concessionaire L&T. The State and the central governments provide around 40% of the projects cost, and L&T 60%. A consortium of ten banks provides the loan. The main obligation of the concessioning agency (the State government) is to provide all the land to the concessionaire. Moreover, it is to be a 'liaising' agency with the local authorities in the Greater Hyderabad Municipal Corporation and with ministries at the national level, like the Ministry of Railways. An important element of this arrangement: the concessionaire is entitled to develop, operate and maintain the real estate component of the project. De facto, the State government (as the concessioning authority) occupies the executive role in the project, and the enactment of a regional law, the Andhra Pradesh Municipal Tramways Act, has served to strengthen local autonomy over the project, and insulates it from 'interference' from the central government.

In the case of the Mumbai Metro, for the first corridor a SPV has been set up with the Mumbai Metropolitan Regional Development Authority (MMRDA) and a consortium formed by the Indian conglomerate Reliance and a French company. MMRDA (controlled by the state) has a planning and executive role. The third corridor is going to be implemented through the DMRC model with a soft loan assistance of the JBIC, a decision justified by the heavy cost of this corridor (more than ten times the cost of the first corridor) and by problems raised within the decision making process of the PPP, particularly on the determination of the fares.

Implications for incentive-based land value capture mechanisms

State government budgets for urban transport consists of their own revenues and fiscal transfers from the central government. Some municipalities, cities and states have set up

their own Urban Transport Fund by pooling various sources of fund such as property taxes, advertisement fees, the sale of special building permits (FAR) along the mass transit corridors, and by levying dedicated taxes and surcharges. However, these revenues remain exceptional at the national scale.

Released in 2012, national guidelines, called Transit Oriented Development (TOD), recommend raising funds from various tax and fee based land value capture instruments and by encashing additional FAR and enhancement of property taxes in a delimited mixed land use zone of influence along the metro corridor. TOD is a tool to control new urban developments and to 'unleash the economic potential of the land', paving the way for large infrastructure project. These guidelines also recommend setting up an Urban Transport Fund at different levels of jurisdiction and a Unified Metropolitan Transport Authority.

Since 1999 the Delhi Metro Rail Corporation has applied this model of incentive-based land value capture mechanism (such as the sell of development rights to private developers). However, DMRC is of the view that the real estate component should remain a minor component of the transport project. This has been also stipulated in the national guidelines in 2012. The increase in land value is garnered by the DMRC by selling the development rights to land developers at a price much higher than the original price of the land at the time it was granted to the agency (at concessional rates notified by the central government). An analysis of the annual revenues of the DMRC since the opening of the first metro line shows that the highest revenues were between 2005 and 2009 due to the up-front payment received from developers for residential projects (90 years lease) and commercial projects (30-50 years lease). At that time, it represented around 30% of the annual income of the DMRC. In the last few years, the financial contribution of real estate developments has significantly decreased, due particularly to conflicts in the public sphere. The real estate component of the DMRC does not fall under the specific rules and regulations of the operational structure of the transport project. However, all the stages associated with the real estate component are decided within the DMRC without prior interaction with local authorities. This example underscores the absence of municipal government in urban transport projects, which are implemented through higher levels of government in conjunction with specialized agencies and increasingly, with private sector actors. There are no mechanisms in this process to ensure public accountability and oversight, also for the real estate component planned in a technical manner.

For the PPP model, such as the Hyderabad metro, the concession agreement anticipates that revenue from property development will be equal to the revenue from the fare box. 269 acres of land have been already transferred to the private concessionaire for mostly commercial properties around the depots. Contrary to the Delhi case, city-based actors (such as the Greater Hyderabad Municipal Corporation) engage directly with the State government and the private interests through the SPV to coordinate and facilitate both the transport structure implementation and the real estate component. The Comprehensive Long Term Transport Plan for Hyderabad (2014-2041) was approved in 2013 with the Unified Metropolitan Transport Authority as a nodal agency, with a projection of 360 km of metro network as part of in integrated transit system linked to the creation of new urban centres. The goal is to facilitate private investments within and outside city limits by creating a unified administrative and political body controlled by the State government, with the mass transit corridors as the backbone of a flexible land use and building policy. Civil society groups have opposed this plan, which will allow the State government to transfer additional land from its urban development department to the Hyderabad Metro Rail Ltd and to private concessionaires. Indeed, the Hyderabad model has been heavily criticized since the start for irregularities around real estate deals involving kickbacks to serving politicians.

As this brief indicates, India is currently experimenting with several contrasting models of institutional arrangements and funding mechanisms for building urban mass transit rail projects, each with its own implications for governance.

EADI
Kaiser-Friedrich-Strasse 11
D-53113 Bonn
Tel.: (+49) 228 . 2 61 81 01
info@chance2sustain.eu
www.eadi.org
www.chance2sustain.eu

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