



URBAN TRANSPORT IN INDIAN CITIES

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Urban travel in Indian cities predominantly happens through walking, cycling and public transport, including intermediate public transport (IPT). Despite high growth rates of motorised two wheelers and cars in the last two decades (15 per cent and 10 per cent per annum respectively), car ownership remains at 3–13 per cent of the households and two wheelers at 40–50 per cent. The latter is same as the bicycle ownership in cities of different sizes. The variation in modal shares among these three seems to have a relationship between city size and per capita income. Small and medium size cities have a lower income than the mega cities. Therefore the dependence on cycle rickshaws and bicycles is higher in smaller cities. In some medium-size cities (populations of 1 million to 3 million), private buses have been introduced. Public-sector-run state transport corporations have been responsible for running inter-city routes. Other than the four megacities (Delhi, Mumbai, Kolkata and Chennai) Bangalore and Pune are the exceptions in which municipal corporations have been running significant number of buses. Other cities have skeletal bus services provided by the city municipality. Intermediate public transport (IPT) modes like tempos, cars and cycle rickshaws assume importance as they are necessary to meet travel demands in medium size cities in India like Lucknow, Hubli, Varanasi, Kanpur and Vijayawada. These vehicles have minimal regulations in terms of road worthiness certifications issued by the transport authorities. Their operations have been left to the private operator. Often they have been found to cause serious emission and safety violations. However, there is no policy or project that can improve the operation of para-transit modes. Often the fare policy stipulated by the government is not honoured by the operators, and the road infrastructure also does not include facilities for these modes. As a result, the operators have to violate legal policies to survive.

Of India's 285 million urban residents, nearly 100 million people live in urban slums. Travel patterns of people living in informal housing or slums are very different from residents in formal housing. Generally, cycling and walking account for 50 to 75 per cent of the commuter trips for those in the informal sector. The formal sector is dependent on buses, cars and two wheelers. This implies that despite high risks and a hostile infrastructure, low-cost modes exist because their users do not have any choice. They are the captive users of these modes. Public transport is the predominant mode of motorised travel in mega cities. Buses carry 20 to 65 per cent of the total amount of passengers excluding those who walk. The minimum cost of public transport use accounts for 20 to 30 per cent of the family income for nearly 50 per cent of the city population living in unauthorised settlements.

Since transport is a state subject in the Indian constitution, central government did not have a policy or investment plan for urban transport infrastructure until 2006. City governments attempted to solve transport crises as isolated road improvement projects. Despite investments in road infrastructure and plans for land use and transport development, all cities continue to face the problem of congestion, traffic accidents and air and noise pollution. All these problems are on the increase. Investments in road-widening schemes and grade-separated junctions which primarily benefit personal vehicle users (cars and two wheelers) only, have dominated government expenditure. For example in Delhi, the total funds allocated for the transport sector in 2002–2003 have doubled in 2006–2007. However, 80 per cent of the funds have been allocated for road-widening schemes benefiting primarily the car and motorcycle users. In 2006–2007, 60 per cent of the funds have been earmarked for public transport, which primarily includes a metro system. Cars are owned by less than 15 per cent of the households in Delhi. Therefore, an investment in car-friendly in-

frastructure is not meant for a majority of the commuters.

In the name of promoting public transport, demand for rail-based systems (metro, LRT and monorail) has been pursued by several cities. This is despite the fact that the rail-based systems are capital intensive; capacity is underutilised and the system requires capital and operating subsidies. The existing metro systems in Kolkata, Chennai and Delhi carry less than 20 per cent of the available capacity. All three systems are running with operating losses. Despite this the government in Delhi has decided to expand the metro system. Similarly the state governments of Maharashtra, Karnataka and Andhra Pradesh have decided to invest in metro systems. These systems will cater for a small proportion of the total amount of journeys (less than five per cent). Yet they are being pursued by the city authorities and promoted as investment projects in which the private sector can participate. The Mumbai metro rail project has been approved as the first MRTS project being implemented as a public private partnership (PPP) project.

Traffic and transport improvement proposals prepared by consultants before the JNNURM (Jawaharlal Nehru National Urban Renewal Mission), include proposals for road widening, grade-separated junctions and metro systems. While the road-widening and junction-improvement schemes were implemented in only a few cities, public transport remained in the reports only because the finances required for metro projects are beyond the capacity of state or city governments.

Different Indian cities are either implementing or looking at new public transport systems, be it a metro, high-capacity buses or a sky bus. The argument given for introducing new technologies is that they will serve the high-density demands expected on a few corridors in the city. In the last fifteen years, comprehensive traffic and transport plans have been made for at least twenty cities. Travel forecasts for the next 34 years have been used to justify the proposals for light rail or metro systems. Indian cities have high-density developments in the form of urban slums. Even a subsidised metro system is too expensive for slum dwellers. Cities have grown as multi-nucleated centres with mixed land-use patterns. Often formal and informal housing coexist, which in turn results

in short journey lengths. This is one of the reasons why the demand for metro systems in Indian cities is low. Metro systems are capital-intensive systems (Rs.2,000-3,000 million/km, or US\$51-76 million/km). It is not suitable to meet the mobility requirements of the majority of city residents. For the same price a 30-50 km bus network can be developed, including the use of modern buses. This would benefit 30 to 50 times more people than a metro system. The cost of a single metro trip is at least Rs.45 (US\$1.14) compared to Rs.15 (US\$0.38) for a bus trip. Since car and personal two wheelers provide a flexible door-to-door service, it is not easy to attract these users to a metro, even if they can afford the cost. Tickets have to be subsidised at least 10 to 15 times more heavily than a bus ticket for the same journey. All rail-based systems depend on buses, three wheelers and rickshaws as feeder modes to increase their catchment area. Only long-distance travellers (with journeys of at least 15 km) are likely to use a feeder mode. Therefore, in order to realise the social benefits of metro systems the city structure has to change completely.

A draft national urban transport policy was introduced in 2004 and adopted in 2006. At the same time the national government introduced the Jawaharlal Nehru Urban Renewal Mission to upgrade the crumbling infrastructure of urban areas. Under JNNURM, the government of India has identified 63 cities for which it will provide assistance in upgrading its road infrastructure. Detailed guidelines have been provided to ensure that public transport gets priority in these cities. For getting approval for transport projects, the guidelines recommend that the transport infrastructure improvement schemes are in compliance with the NUTP (National Urban Transport Policy). Since NUTP's focus is public transport, pedestrians and bicycles, cities are modifying the earlier road expansion projects to Bus Rapid Transit (BRT) and bicycle-inclusive plans. BRT and bicycle-inclusive plans have been approved by the central government for five cities and another five cities are at different stages of preparation. It seems that pedestrian and bicycle facilities are not the focus of these projects. In six-lane arterial roads, two lanes are reserved for public transport buses, although there is a reluctance to provide quality facility for pedestrians and cyclists. This is reflected in the priority for space allocation for various modes in a restricted right of way. In order to accommodate two

lanes for cars and an exclusive lane for buses, pedestrians and cyclists have been given less than desirable space. This is despite the fact that nearly 50 per cent trips are made on foot, by bicycle, or by intermediate public transport systems. The main motivation for preparing BRT projects have been to become eligible for the grant aid offered by the central government at the earliest. It is yet to be seen whether public transport, NMV and pedestrian-friendly infrastructure is created when these projects are implemented.

Implementation of BRTs has commenced in Delhi, however, at times it seems that accommodating the demands of the major stakeholders like the 'Transport Industry' in the Delhi Metro Rail Corporation (DMRC), the public works department, Light Rail Transit and monorail industries in the planning and investment agenda is the primary focus. Providing an efficient and safe transport to the majority, and using public money in the most efficient way is not the driving force for implementing BRTs in Delhi. The company which has been instituted to implement the project, the Delhi Integrated Multimodal Transport System (DIMTS), is also preparing plans for light rail transit and monorail. BRTs road designs have been modified to 'improve' car flow so that after the construction of the BRTs lanes, car users do not suffer, even if it means reducing safety and convenience to pedestrians and bicyclists.

In view of the recently implemented measures and current investment priorities we should expect an increase in the use of private vehicles (both motorised two wheelers and cars) by high- and middle-income households in all Indian cities and use of bicycles and walking by low-income urban residents despite the hostile environment. At present over 20,000 people a year are the victim of fatal traffic crashes and another 400,000 are seriously injured in urban areas. This number is likely to double in the next decade, creating a major public health crisis. With the increase in the use of two wheelers and cars, congestion and environment pollution will continue to deteriorate.

It is clear that the public-transport agenda has failed in Indian cities. With the fascination for capital-intensive rail-based projects, investments in pedestrian, bicycle and road-based public transport infrastructure continues to be neglected. Today public

transport users are largely the people who are using these modes not out of choice, but because of financial constraints. With a rise in income the ownership of private vehicles is increasing, people prefer to use private vehicles which can provide them door-to-door connectivity.

The failure of the public transport agenda also reflects the failure of our democratic process because the present mechanism of planning and decision-making does not allow inclusion of the demands of the majority of the city residents who are pedestrians, bicyclists and public transport users. On the one hand, the policy makers are concerned about the growing levels of congestion and pollution. At the same time transport policies continue to encourage the use of private vehicles.

Notes

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- [2] Traffic and Transport Policies and Strategies in Urban Areas in India', final report prepared for the Ministry of Urban Affairs and Employment, Government of India, 1998.
- [3] Ministry of Transport and Power, Government of National Capital Territory of Delhi, Delhi, 2006.
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