

Need for Realistic Projections

Experts say there is a need to base metro development decisions on realistic data in order for them to be viable.



Photo courtesy: Balaji Railroad Systems

Globally, there are many more options available like tramway, light rail, monorail and rapid transit, to name a few, opines **Sunil Srivastava, Managing Director, Balaji Railroad Systems.** “The selection of the system should be dependent on the number of passengers to be carried but somehow the authorities in India seem to be fixated with only the metro-rail system and do not look at other options. If the correct system is chosen based on realistic ridership figures, more cities can have efficient and reliable public-transit systems. Essentially, it is not so much the technology but the choice of rail system that can make a metro more efficient.”



Here’s the crux: the decision to develop a metro must be based on an accurate projection.

In practice, the opposite appears to have been happening in India.

Our very own Metro Policy 2017 lists various mass rapid transit system (MRTS) options and recommends rigorous assessments, including alternate transit mode analysis, to ensure that the most cost-effective MRTS gets selected. A metro rail is only advised for routes where 40,000-80,000 passengers per hour per direction (phpd) are expected. But after the release of the Metro Policy 2017, every state government has been seen to be adopting the metro-rail option irrespective of the anticipated phpd figure.

Is this simply because the Government set the target for 1,000 km of metro track and a ridership of 1 crore per day by 2022, the 75th year of Indian independence? This, when India was far from those ambitious figures?

“When the Delhi Metro got the sole right of preparing the detailed project report (DPR) for all

the metros, potential ridership figures on every project report were assumed on the higher side to justify a metro for a city," points out **Surjit S Madan, Head - Rail Systems, Andhra Pradesh Metro Rail Corp.** "Not surprisingly, many metro systems in India post losses."

Annual filings for a pre-pandemic year (FY18-19) show that the Chennai Metro faced net losses amounting to Rs 714 crore on an income of Rs 183 crore. Bengaluru earned Rs 536 crore but faced net losses amounting to Rs 498 crore. Mumbai, which has only one operational line, also faced a net loss of Rs 236 crore on revenue of Rs 322 crore. The Delhi Metro earned Rs 6,462 crore, and posted a net loss of only 7 per cent.

If you drill down to Jaipur, more issues with the projections emerge.

Jaipur did not even need a metro-rail system till the year 2025, according to a CAG report. With a population of 2.3 million in 2011 as against the minimum 4 million mandated for a metro, Jaipur was not even directly eligible for a metro-rail project. The Rajasthan government did not prepare a Comprehensive Mobility Plan (CMP) to realistically assess the need for a metro in Jaipur, according to the same report. Instead of preparing a CMP, alternative analysis and then a detailed project report (DPR), the state government directly prepared a DPR, transportation study as a part of the DPR and, thereafter, a CMP.

The more feasible corridor of Sitapura to Ambabari, which had higher projected ridership and peak-hour, peak-direction trips (phpdt) was not the first to be implemented. Instead, the Mansarovar to Badi Chaupar corridor, which had lower phpdt, lower ridership and lower average lead was. Further, the lower-costing, light rail transit technology wasn't adopted. The procurement of rolling stock in advance for Phase-IB blocked Rs 72.30 crore and also reduced the useful life of the asset by at least four years. Phase-IA of the Jaipur metro performed poorly. The average ridership during the first 22 months of operation was just 19.17 per cent and the operating revenue was Rs 18.87 crore against operating expenses of Rs 85.56 crore. Earnings during 2015-17 translated to 16.34 per cent of the projected non-fare box revenue. The metro could neither commercially exploit the allotted land parcels nor lease out the available area in nine metro stations. Important safety equipment like the rail-cum-road vehicle wasn't utilised for want of mandatory



certification, thereby compromising the safety of the metro system. The capacity of the electricity supply system installed for Phase 1 was much more than present and projected demand.

The CAG report concludes: "Due to defective planning and hasty decision making, a financially unviable metro system was introduced in Jaipur city."

No metro line anywhere in the world is financially remunerative; that's just the nature of the project, says



Ameya Pimpalkhare, Sustainable Energy & Transportation Expert. "However, it is feared that many metro-rail projects needlessly sanctioned in 2018 may become grossly unviable after completion and require financial support to run smoothly."

Shifting the focus from dressing-up projections to making increasingly accurate projections would help ensure the viability of metros. In fact, **Taha Ansari, Managing Director, Project Management (North India), Colliers,** proposes including socioeconomic aspects in feasibility assessments. "Socioeconomic feasibility assessments involve assessing the per-capita income of potential passengers in that particular zone of the cities to project farebox revenue generation, make space leasing and advertisement decisions, and make comparisons between the metro and other transportation means."



Projections mustn't be based only on past

▼ A metro-rail system cannot be the only solution to public transport.

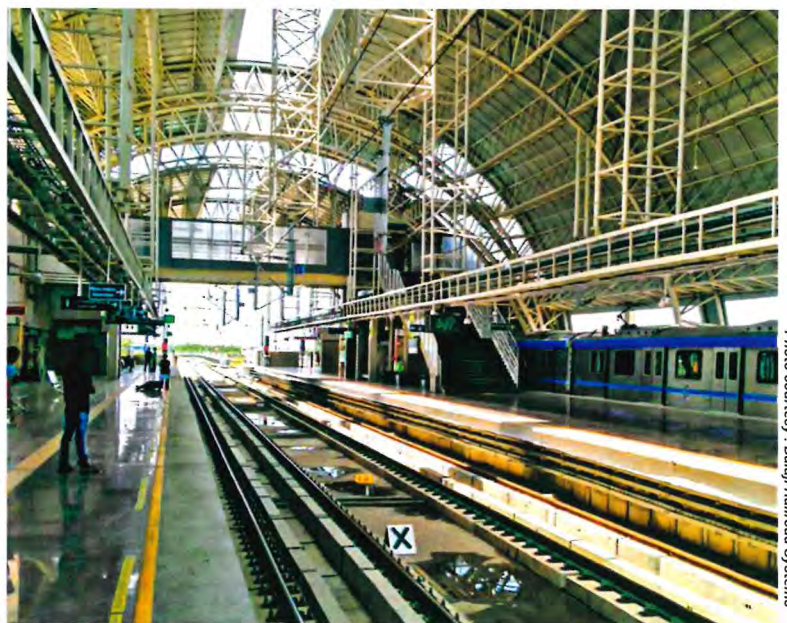


Photo courtesy : Bajaj Railroad Systems

Photo courtesy : Andhra Pradesh Metro Rail Corp



▲ The Government has set the target for 1,000 km of metro track and a ridership of 1 crore per day by 2022.

trends from the West, cautions **Sahadeva Singh, Director (Projects and Planning), Gujarat Metro Rail Corporation.** "They must be made in the Indian context of Indian cities that will not grow on the same lines as overseas cities. At the planning stage, the existing infrastructure of the city at that point in time has to be very diligently taken into account by expert agencies, stakeholders and experts who understand its past as well as future. By future, I mean how the city will grow, what societal changes it will entail, what professions and businesses will grow in the spatial context of the project and how the demand for transportation networks and utilities will grow."



In particular, development doesn't always happen the way we project, he continues. "For instance, in NCR, people thought Greater Noida would develop very fast but that didn't happen because the Dwarka Expressway project and Gurugram took the lead and developed faster, and other pockets also emerged near Ghaziabad. People make living choices based on the availability of jobs, schooling, hospitals, etc, and these often don't follow the same timeline. But these are short-term situations; in the long run, all these areas will grow and good transportation

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"The key argument is that a metro-rail system cannot be the only solution to public transport, congestion and environmental issues in cities of all sizes," says Pimpalkhare. "A good urban master plan and a comprehensive traffic and transportation study of the city under consideration will help decide if a metro is, indeed, the best choice."

Often, a metro will not be the best option.

It is only now that some wisdom has dawned, says Pimpalkhare, "and many cities are thinking of implementing the low-cost Metro Lite or Metro Neo as modes of transport as against the previous obsession of raising white elephants by implementing full-fledged, loss-making metro-rail projects with low ridership."