

Benchmarking urban transport in cities

The Union Ministry of Urban Development has now evolved a system for evaluating urban transport services in cities across India. All cities covered by the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) have been advised to benchmark their level of services for various parameters specified by the ministry. The parameters on which the cities would be graded include public transportation system, pedestrian facilities, cycle lanes, and even air pollution among others. The exercise aims to generate information that will be useful in making urban transportation systems effective.

Detailed indicators have been developed to assess the level of service (LOS). The public transportation will be assessed on the basis of presence of organised public transport system, its availability, bus route network density, service frequency, level of comfort and percentage fleet of buses as per urban bus specifications. The city wide LOS of public transport parameter will be determined by summing up of LOS of all its indicators. This will indicate how good or bad the public transport system of a city is. Four grades will be used for benchmarking. A city with a good public transport system will score one and that with the worst or no system will rank four. Likewise the city will be graded on all parameters to highlight the performance of the urban transport system in a city which would be monitored by the urban local bodies or the development authority.

The Ministry of Urban Development has advised all JNNURM cities to undertake the process of service level benchmarking for Performance Improvement Plans using information generated by the benchmarking exercise. It will address both performance monitoring for internal decision making and reporting to higher levels of government and external stakeholders.¹

The state government and its agencies and urban local bodies (ULBs) are the key stakeholders. While the Ministry will disseminate the service level benchmarks (SLBs), the state governments and its nodal agencies in the urban sector will play a critical role in driving performance of the ULBs, which will institutionalise the SLBs. The SLBs will be institutionalised through the JNNURM and other programmes of the Ministry.

Performance benchmarks for urban transport

The following parameters have been identified for the assessment of urban transport in a city

Public transport in a city: The SLBs for public transport system indicate the city wide LOS provided by public transport systems during peak hours. This would require indicators such as presence of organised public transport system, its availability, bus route network density, service frequency, level of comfort and percentage fleet as per urban bus specifications.

Pedestrian infrastructure facilities: It indicates the percentage of road length along the arterial and major road network or public transport corridors and at intersection that has adequate barrier free pedestrian facilities. The indicators include signalised intersection delay, street lighting and percentage of city covered with footpaths wider than 1.2 metres.

¹ Anon 2009, *Service level Benchmarks for Urban Transport*, Ministry of Urban Development, New Delhi.

Non-motorized transport facilities: It indicates the percentage of dedicated cycle track/lane along the arterial and collector road network or public transport corridors with a minimum of 1.5 m width. The indicators include presence of NMV track, NMV coverage, encroachment of NMV roads by vehicle parking and NMV parking facilities at interchanges.

Usage of intelligent transport system (ITS) facilities: The level of usage of ITS facilities by public transport and IPT modes will be determined by the availability of traffic surveillance system by CCTVs, passenger information system, global positioning system, signal synchronisation and integrated ticketing system.

Travel speed along major corridors: The SLBs regarding travel speed of motorised and mass transit vehicles along major corridors mean the average travel speed of all through vehicles on the key corridors.

Road safety: Many cities are witnessing accidents leading to injuries and fatalities. The indicators to measure road safety include fatality rate per lakh population and percentage of fatality rate for pedestrian and NMT. The benchmark for the fatality rate is zero which means that fatalities and injuries should be brought down to zero.

Availability of parking facilities: It indicates restriction of free parking spaces for all vehicles in a city. The indicators include availability of paid public parking spaces to cover at least 50 per cent of on-street parking spaces under 'paid parking' and to keep the maximum and minimum parking fee difference to at least 2:1.

Pollution levels: It indicates the level of air pollutants in the city. Based on the CPCB standards for pollutants such as RSPM, SPM, NO₂ and SO₂, the pollution level of a city can be designated as low, moderate, high, and critical.

Landuse transport Integration: It indicates the effectiveness of landuse transport arrangements and identifies the level of landuse transport integration expected to result in overall trip reduction and mode shift in favour of public transit. Its indicators include population density, percentage of mixed landuse on major transit corridors, intensity of development of the city and ratio of FSI on transit corridor to city FSI, pattern and completeness of the network, road network density and percentage of network exclusive ROW for transit network. A city planned in a manner which patronises public transport will have the highest LOS.

Financial sustainability of public transport: The financial sustainability of public bus transport would depend on extent of non-fare revenue, staff per bus ratio and the operating ratio.

Good initiative with missing links

After the issue of the benchmarks we immediately went round to get reaction from the transportation community for their reaction to this initiative of the Ministry. This has found support from the transportation experts especially as this gives Indian cities the opportunity to assess urban transport and make improvement. However, a cursory assessment brings out that there are still loopholes that need to be plugged.

Biased towards formal systems and metro cities: One immediate reaction to this initiative is that it is biased towards metro cities and very formal systems that may not always be very appropriate for small cities. The parameters require further detailing keeping in mind the smaller cities, says Geetam Tiwari from the Transportation Research and Injury Prevention Programme at IIT Delhi. She explains, 'For example, one of the indicators of public transport parameter is presence of organised public transport system; this term is imposing the needs of metro cities. In many smaller cities, there is no organised public bus transport system; rather intermediate public

transport modes are the predominant modes of public transport. This does not mean that these cities have a bad transport system. Some indicators are needed for this important transport mode also.'

In landuse integration, the bias is towards the formal system. It is important to integrate the low income development with high density landuse pattern. Also the benchmark includes a parameter on financial sustainability of public transport by bus. Why just buses, it is important to include both roadways and railways. It should be economic viability rather than financial sustainability.

Benchmarking of non-motorized transport facilities is inadequate: Kanthimathi Kannan of the Right to Walk Foundation in Hyderabad and a champion of pedestrian rights points out, 'The first step has been taken in terms of quantifying the service levels and putting down parameters as to how to judge the quality of service. This is indeed laudable and needs to get a lot of support from all quarters. But the benchmarks miss out on many fronts like well designed, obstacle-free footpaths, pedestrian crossings for elderly and disabled and aesthetics. Street lighting is the only safety aspect that has been included.

Raising concern on the minimum width of the footpath (1.2 m) as prescribed in the document Kannan said, 'With 1.2 m minimum footpath width, two people can walk side by side. The concept of people walking in opposite directions is totally ignored. It seems as walking is only a punishment and not looked as a right. The Indian Road Congress specification seems to have been ignored. Also ignored are the people with disability since two wheel chairs require wider space.

Concures Tiwari, 'The benchmarks do not address issues like quality of footpath. Pedestrians don't like lonely footpaths; these need to be lively with presence of hawkers. Crossing facilities are important. In addition to signalised junctions, pedestrians need to cross the road wherever there are facilities such as bus stop etc. This has to be taken care of along with safety of pedestrians.'

Similarly, the intelligent transport system parameter pertains to metro cities including indicators such as traffic surveillance system with help of CCTVs, passenger information system, GPS etc. Synchronised signal intersection is also one of the indicators. It is known to increase pedestrian delays. Many small cities manage their traffic with help of roundabouts etc. Parameters such as travel speed and synchronised signals conflict with the vision of the NUTP. These need to be revisited along with the parking parameter, adds Tiwari.

Parking indicators may prove counter productive: Ashok R Datar, chairman of the non-profit, Mumbai Environmental Social Network, said the Ministry has made a sensible beginning about establishing benchmarks 'but they may be inadequate'. For example, the criteria for benchmarking availability of parking includes bringing 50 per cent on-street parking under paid parking system. This may encourage on-street parking. 'These guidelines should not be allowed to encourage excessive on-street parking. At the same time heavily subsidized multi-storey or underground parking is not an alternative,' said Datar. He added deterrent measures like hourly parking charges and higher tariff for bigger vehicles should also be introduced to discourage on-street parking in central business districts and residential areas.

Encourage better records for road safety: Road safety is an important parameter. India tops the world with highest number of road traffic fatalities. A large number of people also get injured in accidents. Though the benchmarking has specified indicators such as fatality rates for the population and for pedestrians and NMT, which are the most vulnerable, it is important to have proper records on injuries caused by road accidents. Apart from data, other measures are also important that would help reduce road fatality and injury either.

Implementation challenges

This certainly is an important beginning. But cities will need to develop enormous capacity to implement the benchmarking process. The SLB measurement is expected to lead to performance management system. According to the Ministry, 'The performance management data should be included in the set of information disseminated under mandatory public disclosure, as required by the reforms mandate under JNNURM. The next key steps for ULBs are to generate performance reports on SLBs periodically. Data can be captured either through previous studies or through specific surveys carried out at defined intervals. In parallel, the ULBs will also need to institutionalize systems for the entire cycle of performance management.'

SLB measurement would require data generation, collation and analysis. Various challenges has been listed by the Ministry such as conducting extensive surveys for each SLB, collection of secondary information from various sources as the same may not be readily available in its usable format, availability of staff with adequate technical knowledge to carry out the analysis. It also suggests, 'The entire loop of performance management will be sustainable only if disclosure, reporting, monitoring and performance management feedback, incentives and disincentives are also brought into the cycle. Else the system of measurement and disclosure of SLBs may not sustain itself.'

The Ministry has highlighted need for systems for data generation, collation and analysis of performance benchmarks etc. For example, it states 'design and implement data collection systems for data to be captured, this kind of data will be from field level staff such as traffic engineers, planners, account clerks etc, design simple data formats, special people need to be designated with the mandate to collate the field data and generate performance reports.' It is important that a special cell is created in cities which do not have the Unified Metropolitan Transport Authority to have coordination from concerned departments for the implementation of the benchmarking exercise.

Capacity building of officials who will be involved in the benchmarking exercise is another important area of concern. They need to be trained in every aspect starting from data formats, survey, collection of data and action based on the analysis.