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Planning for Mobility of the Urban Poor

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INTRODUCTION

CITIES CONTRIBUTE around two-third of GDP in India. They play a major role in contributing towards growth of the economy. This in turn attracts people from catchment areas, which result in congestion and the associated environmental costs for people and business. Rapid urbanization and growth in income is also reflected in terms of growth of personalized ownership, again adding to the limited capacity of road infrastructure.

The unprecedented growth of vehicles is causing congestion on roads as well as air and noise pollution in cities. The result has health implications, significantly higher accident rates and a contribution to the greenhouse gases. The urban poor, especially economically deprived sections of the society live in congestion and are more susceptible to these risks.

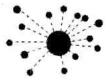
Poor communities of the society play an important role in cities work. However, when it comes to sharing of the benefits, they are given least priority. Land being one of the most valuable element of cityscape, is scarce and occupied by middle and high income groups of the society. Urban poor are often pushed to periphery or squat in incidental or environmentally inhabitable areas.

Infrastructure is planned keeping in mind the income levels and ability of the users to pay the user charges, often leaving the low income

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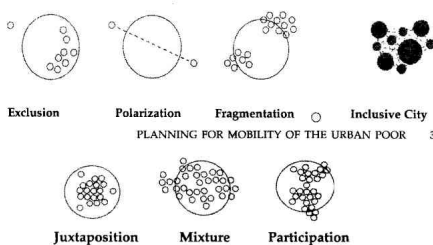
new entrants to the cities are unwelcome and no planning is done to meet their demand. The shortage on account of housing is 24.7 million at the end of the Tenth Plan, of which 99 per cent pertains to the Economically Weaker Sections (EWS) and Low Income Groups (LIG). The result of this gap between demand and supply of housing units is evident from the proliferation of slums. Similarly, other infrastructure services are also not designed taking urban poor into account. This article looks at urban transportation as an entry point for increasing accessibility and bridging the gap between work area and place of living. The article identifies strategies for article improving the mobility of poor in urban areas. It is well established that mobility is linked to productivity and in turn to the economic well being of individuals as well as society. Thus, strategies towards better mobility would indirectly be seen as a tool to poverty alleviation.

Strategy-1: Inclusive Planning



The concept of Inclusive Cities is being popularized by the UN-Habitat after the World Habitat Day 2008. In a globalized and capitalized world, cities are planned to respond to the market requirements. That is one of the reasons why most of the cities are planned to be **productive cities**, excluding all inhabitants, territory and activities that are unproductive or that do not have value for the worldwide economy (Balbo, 2003).

In contrast, the **inclusive city** is where everyone, regardless of their economic means, gender, race, ethnicity or religion, is enabled to participate in a productive and positive way to the opportunities that cities have to offer (UNCHS, 2000).



In that sense, the productive and inclusive cities have two different ways of being that are not easily conciliated. To facilitate the understanding of the level of inclusion in a city, we can divide inclusion in three categories:

- Social inclusion
- Physical inclusion
- Economic inclusion

Seven key elements have been identified to assess the performance of the city so that it recognizes right and needs of every individual. These elements are placed under three clusters as below:

Social Inclusion

1. **Education:** Full access to quality education choices for all residents. Since physical condition and accessibility of schools does have an impact on a child's ability to learn, schools need to be in good physical conditions and located near where children live.
2. **Community facilities:** Well-maintained, accessible and usable open and public spaces. These are the only urban places where people of all socio-economic levels have equal access. Additionally, parks, open spaces and urban forests, wetlands and rivers are key tools for improved air and water quality.
3. **Cultural and gathering spaces:** Spaces and places for organising social and cultural rituals like marriages, public events such as parades, weekly markets, street fairs, etc. contribute to animated and dynamic urban life, as well as provide spaces for public encounter.

Physical Inclusion

4. **Housing, basic services and neighbourhoods:** Safe neighbourhoods with a range of housing types for all income categories with access to complete basic public services. These neighbourhoods may be designed to accommodate residents with diverse socio-economic backgrounds and lifestyles.
5. **Access and mobility:** A viable, multimodal, integrated, safe and

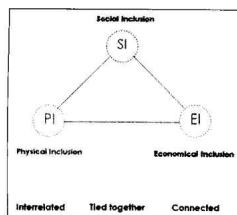


Fig : Elements of Inclusive City

environment-friendly public transit system should be planned. This system should be affordable and accessible for all people and reduce the use of single occupancy cars.

6. *Habitat protection and safe public realm*: Connected, safe, functional and green connections, with pedestrian and bike friendly streets that reactivates the use of the public spaces.

Economic Inclusion

7. *Economic development*: Provides opportunities for everyone to participate in the economy of the city, by participating in projects that stimulate development, employment generation and training community members.

Inferences

Thus, planning of inclusive cities means supporting community with policy initiatives for creating supporting environment towards social, physical and economic inclusion. Accessibility helps to distribute city functions evenly at cost-effective locations, with high degree of accessibility by mass transit system. It is anticipated that inclusive planning helps to create a society which is not fragmented in terms of economic criteria and provides equal opportunities to all citizens.

Strategy 2- Designing the Right Modal Hierarchy

Observations

While we talk of a range of Public Transport systems, like buses, metro etc, the important fact remains that these systems do not work in isolation. Since one system is complimentary to the other, the

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efficiency of feeder system determines the effectiveness of the main system. One common form of feeder system is through walking. Walking is a form of urban transport which is almost entirely neglected by the urban planners in India. The benefits of pedestrian movement are tremendous. It keeps the city lively, does not consume energy and is the most effective feeder system for public transport. The next hierarchy of the transport system is cycling. These systems, although widely used, are still to get recognition as an important element of urban transportation.

A report published by WWF based on a study conducted in 30 Indian cities, showed that almost 40 per cent of all trips in urban India involved no motorized vehicles at all; 28 per cent walked and 14 per cent cycled. It is also observed that larger the city, more is the trip length and thus more people use public transport. Another study estimates that in cities with more than eight million population, 22 per cent walked all the way, eight per cent used cycles and 44 per cent used public transport. This adds up to 74 per cent of people who rely on non-motorised transport for at least part of the commute.¹

Inferences

In spite of this fact most Indian cities are focusing on widening roads and not on building infrastructure for non-motorised transport. It appears that cities are deliberately squeezing pedestrian walkways and other support infrastructure for road widening schemes.

Accessibility is important aspect in planning urban transport. The hierarchy of transport needs to acknowledge non-motorised modes as important elements of urban transport planning, discouraging private transport modes. This will improve accessibility and at the same time make cities inclusive, from transportation perspective. The right hierarchy of modes for inclusive planning in order of priority would be non-motorised transport, public transport and private vehicles. This calls for adopting the following measures:

- Planning pedestrian ways which are safe, visible and comfortable to walk through;
- Planning road side furniture, sitting place and small kiosks for resting while walking;
- Designing bicycle routes and network with secure parking at bus/metro stations;
- Area bans for private cars, allowing entry only to public transport,

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- non-motorised transport, pedestrians and emergency vehicles;
- Adopting traffic calming measures in residential and commercial streets; and
- Promoting park and ride facilities for CBD.

Strategy 3- Financing and Pricing of transportation system

Observations

The two aspects to be looked at while planning transport systems are—*first*, how the transport system will increase accessibility of a given area? *Secondly*, how this system will be useful for economically disadvantaged. The challenge lies in designing and implementing a system which is financially viable and at the same time affordable.

Money spent

Transportation cost for individuals can be divided into two components—namely financial cost on travel and cost of time spent in transit. The following graph illustrates how this cost varies for persons with different economic background.

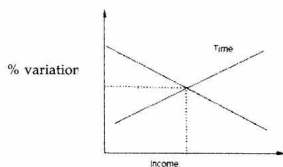


Fig. Income and Price Distribution

It is evident that the value of time goes up as the income increases and vice versa. This means that a person with high income will like to spend less time in transit. On the other hand the cost on transportation as a share to total income decreases with the increase in income slab. So, a person in high income group will not mind spending more money on transport, if he perceives saving in time.

Now putting this hypothesis in the perspective of urban poor infers that poor communities would like to spend less money on transport compared to time. This is because for them money is more

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important than time and they will compromise with cheap transportation system, even though it may be slow. Thus, pricing becomes an important issue, if we talk of planning transport system for the urban poor.

Inference

It appears that pricing and efficiency are sensitive issues while designing a public transportation system. Poor communities are price sensitive and prefer to use inefficient transportation system, if it is cheap. While, well-off communities will use public transport system only if it saves time. In Delhi, two modes of public transport system prevail. While Delhi metro caters to the higher income groups, DTC and other modes cater to the needs of urban poor. It appears that the present transport system is causing a fragmentation of the society. To make the city inclusive, the following is suggested:

- Pricing of transportation system be so devised, that it does not increase the cost of commuting for the urban poor.
- If uniformity of the fare is difficult to implement, cheaper version of transport should be made reliable and safe. It is for this reason that bus based transport system is more popular for low income group compared to the metro system.
- Budgetary allocation should be used to improve and augment public transportation system, while user charges may be imposed to generate revenues for improving infrastructure for personalized vehicles.

Strategy 4- Integrated Land Use Planning

Observation

Mobility management affects landuse indirectly, by reducing the need to increase road and parking facility, providing incentives to businesses and consumers to favour more accessible, clustered development with improved transport choices. Conversely, most mobility management strategies become more effective if implemented in compact, mixed, walkable communities. Smart growth can be considered the landuse component of mobility management, and mobility management can be considered the transportation component of smart growth.

Land use effects on travel behaviour tend to be cumulative. As an area becomes more urbanized, use of personalized vehicle declines and more travel is by walking, cycling and public transport. A Report

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published by Victoria Transport Policy Institute shows that residents of higher density urban areas make about 25 per cent fewer automobile trips and more than twice as many pedestrian and transit trips as the national average.²

The sprawl index developed by Ewing, Pendall and Chen (2002) is based on 22 specific variables related to land use density, mix, street connectivity and commercial clustering. The results indicate a high correlation between these factors and travel behaviour.

Accessibility requires mixed land uses, where arteries are not blocked by congestion. Historically, many Indian cities have measured up well to this deal, with a range of services and amenities located in each neighbourhood. In recent times, indiscriminate land use has forced residents to make greater use of motorized transport. The remedy is to plan compact cities, by judiciously prioritizing land uses that reduces residents' need to travel and cuts back on urban sprawl, pollution and congestion.

In the coming decades, most of Asia's population increase will take place in urban areas. Asia's cities are expected to grow by over 40 million per annum at the same time urban densities may fall as a result of increasing wealth, declining household size and central area redevelopment.

Inference

The underlying principle to design inclusive cities is to exploit the relationship between land use and mobility. The underlying principle being to cut travel demand, reduce trip length and promote the use of non-motorized transport means. This calls for the following:

- Develop cities with frequently used facilities and amenities within walking distance. This type of development is widely practiced in developed countries and is popularly known as "Compact city" model.
- Promote the construction of inclusive townships, which provides jobs and housing amenities in close proximity. Incentives need to be provided to promote development of such suburbs.
- New towns should provide inclusive neighbourhoods with jobs, workcentre and essential social/cultural facilities in the vicinity. These facilities need to be well connected by transit system.

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Strategy 5—Transit Oriented Development

Observations

Transit Oriented Development (TOD) is a new concept which promotes inclusive city concept by planning high density development in a radius of 400-800 metre from a Transit Node. TOD is a measure to address the growing traffic congestion and environmental degradation in large cities. It allows people to access residences, workplace, recreational centres, educational institutions etc. either by walk or by using public transport system.

Inference

TOD envisages developing mixed land use (residential and commercial) areas designed to maximize access to public transport, and incorporate features to encourage transit ridership. It is beneficial to the urban poor since the urban sprawl is reduced, thereby resulting in shorter trip length, reduction in commuting time, better quality of life, improved infrastructure facility and less dependence on personalized modes.

Inclusive cities should promote development of transit corridors through the following measures:

- Using the influence zone of the transport corridor for high density commercial development, followed by high density residential development for low income communities and low density residential development for high income communities;
- Comprehensive redevelopment scheme for the influence area of transit system may be undertaken by readjusting activities in designated zones, so as to maximize the use of non-motorised transport;
- Pedestrian / bicycle paths may be developed from transit nodes to the areas within the Influence Zone of urban transit so that commuters may access destinations smoothly; and
- Parking for non-motorised transport may be provided at the transit nodes. Parking provisions for motorized transport may be developed on selective basis to discourage the use of personalized modes.

Strategy 6—Affordable Transportation System

Observations

The choice of selecting a public transport system will depend

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upon the following criterion:

1. Capital investment required;
2. Expenses towards operation and maintenance;
3. Capacity of the system; and
4. Suitability to local conditions and practice.

Quite often Life Cycle Analysis is undertaken to assess the feasibility of a system in a given situation. The higher is the capital investment, higher will be its operation and maintenance cost, higher will be debt servicing and higher will be the price for using this system. It is, therefore, important that transit systems may be so designed that an integrated system is created utilizing potentials of other transportation modes, as per their suitability.

Inference

It is therefore proposed that system adopted should be able to meet the local demand and aspirations of common people, maintaining the comfort of pricing. The proposal is as follows:

- Cost-effective transportation system may be revoked and reintroduced with proper system management. For example, through corporatizing the cycle rickshaw, tonga and providing opportunity for hiring of bicycles at major work centres;
- Organising de-congestion campaigns like 'car-free days', to make people use public transport; and
- Providing fiscal incentives companies and individuals for using public transport and intermediary public transport modes.

CONCLUSION

The above discussion reinforces the fact that urban mobility cannot be complete without including the travel needs of urban poor. The travel behaviour and mobility pattern become complex as the city size increases. The Census of India clearly points out the fact that one-fourth of urban population resides in slums. A much higher proportion of urban population of metropolitan cities live in slums compared with smaller towns. Since, slums are often homogeneous in nature either in terms of language, region of origin or religion etc. they increase the complexity in travel behavior pattern.

Strategies for mobility for urban poor has a range of elements

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and each element has a reasonable validity. Table 1 summarises the outcome of different elements in terms of providing mobility to the urban poor. Each element has to be used judiciously, as per the local situation to get desired result. Since, Urban mobility is the backbone of city GDP a systematic approach towards planning inclusive transportation network is the need of the day. Principles of equity and inclusiveness are essential for the growth of a city, and these apply for sustainable transport system as well.

TABLE 1: APPROACHES TO MOBILITY OF URBAN POOR

Strategy	Objective	Impact on overall population	Impact on Urban Poor	Remarks
Inclusive Planning	Promote mixed landuse and self contained neighbourhoods.	Reduction in trip length. Dense neighbourhoods.	Saving in transportation costs since most of travel can be achieved by walking or bicycle.	Energy efficient and reduction in motorized travel.
MRTS	To provide modern public transport system.	Decongestion on specific roads	Congestion in buses is reduced	Due to high fare structure, urban poor could not afford regular travel.
Transport Pricing	To promote use of mass transit and discourage use of personal mode.	Less congestion on roads and quick access.	Fast and cost-effective transport system.	Pricing is one of the tools which can encourage or discourage use of personal mode.
Compact Cities	Landuse Planning with high order accessibility by non-motorised transport.	Promotes walking and bicycle for most trips due to short trip length.	Easy and cheap commuting.	Most activities being located at walking/cycling distance will save time and cost on commuting.
BRTS	Segregate motorized traffic to give priority to public transport.	Traffic congestion and delays in personalized vehicle.	Reduction in travel time for bus users. Bicycle lane makes safe bicycle use.	Segregated traffic ensures road user safety.
Transit Oriented Development	Travel demand management.	Better connectivity and environmental friendly network.	Non-motorised transport given priority.	Reduce trip lengths help poor communities to save transport costs.
Cost-effective Transport System	Reduce the use of private vehicles.	Promoting use of non-motorised transport and public transport.	Efficient public transport and infrastructure for non-motorised transport.	Saving in energy usage in transport.

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Footnotes

¹ World Wide Fund for Nature (WWF), "The Alternate Urban Futures Report", New Delhi, p-63.

² Litman Tody (2009), "Landuse Impacts on Transport", Victoria Transport Policy Institute, Canada, 2009.