

## THE PRESSURE ON URBAN INFRASTRUCTURE Need to Revamp the Planning Philosophy<sup>1</sup>

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### ABSTRACT

The style of urban infrastructure provision that encourages more efficient pattern of resource consumption is the basis for development of sustainable cities. Conventional approach to urban infrastructure management was based on the premise 'Facilitating Infrastructure Supply.' But in new built developments serviced within a supply-oriented framework, any explicit consideration of various environmental and social effects is rare. The increased awareness towards environment and a sustainable society coupled with a need to make our cities worth living, demand side interference in the provision and management of urban infrastructure is being advocated. Demand side interference broadly has two aspects – managing the existing demand and channeling/monitoring the ever-increasing demand. The increase in the existing demand is correlated with the consumption pattern. The notion of modern consumerism has been deeply embedded in the present socio- cultural set up. In today's society, consumption can be seen as a set of social and cultural practices that serve as a way of establishing differences. This changing attitudinal behavior mounts pressure on the existing infrastructure system and subsequently hunts for a sustainable management. Hence, Management of existing demand requires network operators to understand the consumers to develop more intimate relationships with them in order to modify demand on 'stressed' parts of their network. On the other hand, channeling/ monitoring of ever-increasing demand covers the issues of regional planning, i.e. micro as well as macro planning covering the intricacies of rural-urban interaction. The present paper, however, encapsulates the demand side interference in the planning process (both micro and macro), with a critical analysis of the existing Indian planning approach to the urban infrastructure system and finally suggests an alternate planning philosophy to the ongoing chaos.

**Key Words:** Urban Infrastructure Planning, Facilitating Infrastructure Supply, Demand for Urban Infrastructure, Consumption as set of Social and Cultural Practices

### 1. THE GENESIS

As society changes, the demand for infrastructure also changes. The early stage of the human civilization was characterized as nomadic where human beings were completely self sufficient and were not worried for any material possession as nature was the sole supplier. The very need of infrastructure was felt when people started to move into a stable stage and the contemporary city is a vast and complex network of urban infrastructure.

As society progresses, the process of economic development and resulting urbanization get momentum which in turn creates demand for urban services and infrastructure facilities. The gap between demand and supply of essential urban services and infrastructure deteriorates the physical environment and quality of life in the urban areas. For example, the process of urbanization in India is going on with increasing momentum. At the end of last millennium about 305 million Indians, comprising 30% of its population, are living in nearly 3700 urban agglomerations spread across the country. Urban India has grown by nearly five times during the last fifty years, while the population of India has grown two and half times in the same period.

This process of urbanization has created a huge gap between demand and supply of urban services and infrastructure<sup>4</sup>. For instance, the Ninth Plan Working Group on Housing has

estimated the investment requirement for housing in urban areas at Rs.526,00 crores. The India Infrastructure Report, 1996 estimates the annual investment need for urban water supply, sanitation and roads at about 28,035 crores for the next ten years. The Central Public Health Engineering (CPHEEO) has estimated the requirement of funds for 100 percent coverage of the urban population under safe water supply and sanitation services by the year 2021 at Rs.172,905 crores. Estimates by Rail India Technical and Economic Services (RITES) indicate that the amount required for urban transport infrastructure investment in cities with population 100,000 or more during the next 20 years would be of the order of Rs.207, 000 crore.

Such a big quantum of requisite investment for supply of urban infrastructure cannot be allocated within the budgetary resources of the central and state government. Therefore, private sector participation is being envisaged. But the experience so far suggests the limitations of this approach of financing. Under such a scenario, the supply of urban infrastructure to meet the existing demand and ever increasing demand is a Herculean task, which asks for demand side interference to solve the problem of quality and availability of urban services and infrastructure. The management of existing demand requires network operators to understand the consumer to develop more intimate relationship with them in order to modify the demand in stressed part of their network. On the other hand, channeling / monitoring of ever increasing demand covers the issues of regional planning, i.e. micro as well as macro planning covering the intricacies of rural- urban interaction.

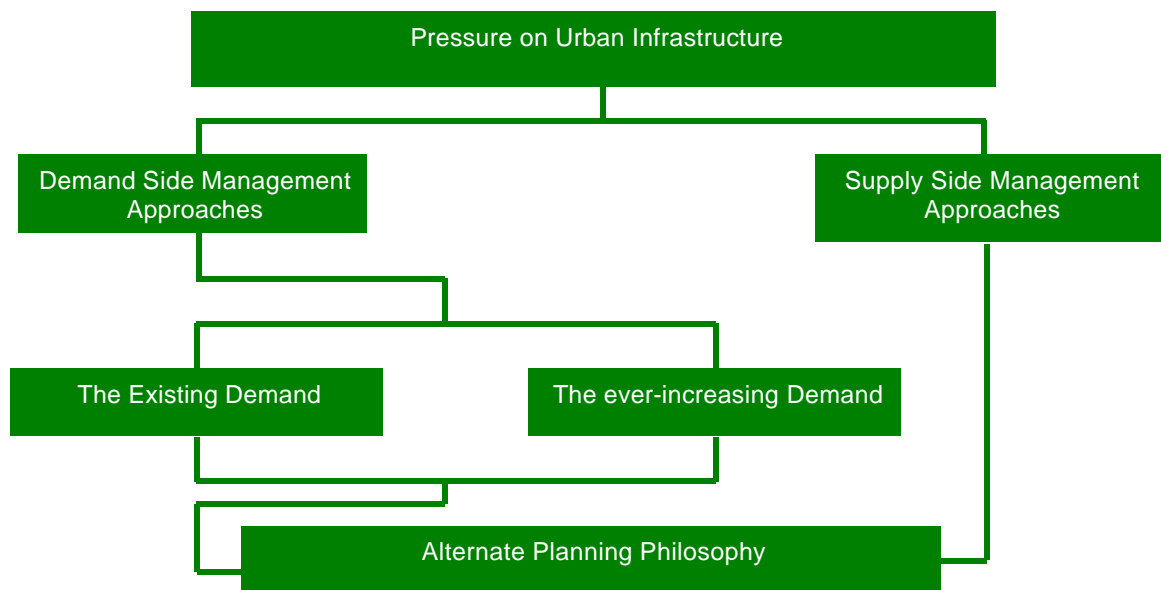


Figure 1: Alternate Planning Philosophy

## 2. THE EXISTING DEMAND

The demand for any object is tied up with many factors. Consumption patterns and life styles of a particular society shape the nature of demand, may it be higher or lesser depending upon the degree of consumption. The pressure on infrastructure due to the existing demand is directly linked with the consumption pattern of the people. In fact, postmodern culture is an effect of the logic of the commodity of late capitalism and today; the ethics of consumerism<sup>5</sup> has become a part and parcel of postmodern society. It does influence the mindset of the people and determines social classification, because the symbolic association of goods may be utilized and renegotiated to emphasize differences in life styles, which demarcate social relationship.

More over the availability of 'quality consumption' gets concentrated in the hands of certain social and spatial groups within the city because the ability to access availability is dependent on wealth, location and skills of the consumers.

The thrust for the consumption and inequitable distribution of available services and infrastructure is an outcome of chaotic postmodern consumer culture. This phenomenon of consumerism and inequitable distribution has two implications. First, it creates pressure on existing networks and ultimately reflects as the 'mismanaged demand' for urban infrastructure.

Second, Urban planning, due to the philosophical foundation<sup>6</sup> underlying it, becomes fragmented, pragmatically tuned to economic and political constraints and oriented towards stability rather than being committed to change through comprehensive plans. It becomes increasingly geared to the needs of privileged producers and the wants of specific consumer groups and less concerned with overarching notions of rationality and efficiency or criteria of public good<sup>7</sup>. The out come has been a disorganized approach that has led to a collage of highly differentiated spaces and settings.

In the above context, the need is to revamp the philosophy underlying the present planning approach. For it, the nature of existing demand pattern warrants in-depth and rational enquiry aimed at capturing the socio-psychological profile of the postmodern consumer and factors that shapes it and managing the demand accordingly.

Demand side management requires a closer form of engagement with users. The traditional linear relationship between production and consumption interests is increasingly blurred as new reciprocal and synchronous relationships are formed to balance infrastructure supply and demand more accurately. The managers of infrastructure networks are now required to segregate the market not only to focus on commercial attractiveness of their networks but also to devise the technical efficiency and maximization of the potential of demand management techniques. Once suppliers have identified the major users on their network they can develop new ways of engaging with them to re-shape patterns of demand.<sup>8</sup>

### **3. THE EVER INCREASING DEMAND**

Although urbanization in an economy is considered a positive indicator of development, but it brings associated problems also. To ease the pressure on mismanaged urban centers and ensure the equitable urbanization throughout the country the policy to develop satellite cities was adopted. Such satellite cities may relieve some pressure from big urban centers, but the reality is that such satellite cities have got their own mismanagement and infrastructure problems. In other words, the implication of such a policy approach is the shifting of a portion of the problem of big urban center to satellite cities and small towns/cities, and not solving the problem as such.

The need is to consider the process of urbanization holistically in the light of the extent and nature of rural-urban interactions in the context of comprehensive regional planning. The ever-increasing demand and thus pressure on urban infrastructure is the outcome of two trends<sup>9</sup>. First, the increase in demand originates from the reproductive behavior of present urban masses. Second and the major cause of increasing urban population and thus demand is migration of population from rural and semi-urban area to cities and metros. Such unwanted migration is the result of diverse nature and type of economic activities and opportunities in rural, semi-urban and urban area. For instance, economy of big metro cities being different from small urban centres carries its own charm to induce the ambitious and educated youth to migrate there. Similarly, small urban centres attract rural masses. Monitoring of such migration asks for diversification and decentralization of economic activities as a part of regional planning.

#### **4. AN ALTERNATE PLANNING PHILOSOPHY**

The guiding proposition of the alternate planning philosophy is that both demand and supply side should be given due consideration. As the planning so far has been supply oriented, need is to make it balanced by giving due weight to demand aspect of the problem. On the demand side account should be taken of existing as well as ever increasing demand.

Managing the existing demand asks for proper understanding of the postmodern consumer and chalking out the policy and intervention instruments i.e. pricing, taxes, subsidies, publicity, enforcement, accordingly.

Management of ever-increasing demand is to be through monitoring and channeling the migration process. Such monitoring has to be in the broader context of regional planning. Regional planning should address two aspects: Micro planning and integration & compatibility of various micro plans.

Micro (decentralized) planning covers assessment of regional imbalances, local development problems, identification of community needs and preferences, through both conventional and grass root participatory appraisal exercises of appropriate scale, format, and frequency, consolidation of community proposals and priorities at the district level and the selection by a local representative local planning authority through a transparent and informed decision-making process of the project or action to undertake, formulation of selected projects with the active participation of representative groups of users or beneficiaries responsible for managing or monitoring the project implementation, adoption of a local financing plan etc. In the context of the problem of pressure on urban infrastructure, the micro planning should specifically target decentralization of economic activities and opportunities, which can lead to urbanization of population through urbanization of rural and semi-urban areas and not urbanization of population through migration of people to existing urban centres.

Decentralized planning also brings a different perspective to the relations between local-level planning and the regional-national planning system. Opening a space for local choice does not entirely eliminate the need of articulating local and regional-national planning. Many problems identified, as bottlenecks of local development in the course of local planning process are often common to several local authorities at the same time and do require a supra-local solution. They may require the set up of ad hoc consortia of concerned authorities, or may be tackled in the framework of regional-national programmes. Further two additional problems also need to be addressed. The first is how to promote inter jurisdictional cooperation between local authorities to take advantage of economies of scale in service provision and pool resources to tackle common problems more efficiently. The second is how to associate local authorities to the planning and implementation of regional-national programmes and makes such programmes more relevant to local needs and more apt to mobilize additional local resources

The guiding principle of above alternate philosophy should be sustainability aimed at balanced development in the economy.

#### **5. THE EPILOGUE**

The present paper brought out the need to adequately understand the demand side interference in the planning process (both micro and macro), with a critical analysis of the existing Indian planning approach to the urban infrastructure system and finally suggested an alternate planning philosophy to the ongoing chaos. The alternate philosophy advocates due weight to demand side of the infrastructure provision simultaneously with supply considerations and a framework has been suggested for solving the problem of extreme pressure on urban infrastructure networks.

## END NOTES

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<sup>4</sup> Informally speaking, infrastructure is physical facilities, which move people, goods, commodities, water, waste, energy formation etc. The basic purpose of infrastructure continues to be the same as in pre-historic times that is to support human activities.

<sup>5</sup> Postmodern consumerism has been widely discussed in the literature. For example see, Stephen Graham (2000), 'Constructing Premium Network Spaces: Reflection on Infrastructure Networks and Contemporary Urban Development', A. Appadurai (1986), 'The Social Life of Things: Commodities in Cultural Perspective', Y. Gabriel & T. Lang (1995), 'The Unmanaged Consumer' and C. Campbell (1987), 'The Romantic Ethic & the Spirit of Modern Consumerism'.

<sup>6</sup> The philosophical foundation (i.e. postmodern consumerism based on individual choice as determinant of social hierarchy) of contemporary urban planning is very intriguing and paradoxical. For instance, as per liberals, consumption can promote happiness, comfort, pleasure, possessiveness, individualism, escape and decontrol. Consumer societies increase opportunities for self-development, independence, control, gratification, tolerance and comfort; their contributions to the improvement of the human conditions can hardly be denied. Modern consumerism gives the importance to the individual choices. This is an absolutely intriguing account of contemporary society, which maintains that greatest possible individual freedom is provided by the encompassing social system is entirely beyond the control of consumers. In liberal modernity, reason is unable to say anything socially or morally authoritative about what interests should be pursued, unable to distinguish between good and bad social values. The idea of the 'Consumer' conjoins the idea of freedom and desire. Yet desire makes slaves out of people because possession destroys reason. If needs are not limited by moral order than nothing can satisfy them. However, effluent the economy, it will always produce frustration, unhappiness and dissatisfaction indeed. Consumers are constantly searching for authenticity.

<sup>7</sup> The two common criteria used to distinguish between public and private goods are: subtractability, i.e. how much the consumption of a good or service by one person subtracts from the ability of others to use the good or service; and excludability, i.e. the extent to which a potential user can be excluded if the user does not meet conditions set by the supplier. Public goods have low subtractability and low excludability while private goods have high subtractability and high excludability.

<sup>8</sup> For details see Simon Guy and Simon Marvin, 'Demand Side Management and Urban Infrastructure Provision'-Briefings on ESRC Global Environmental Change Program.

<sup>9</sup> Migration plays an important role in the entire development of the urban population. From 1951 to 1991 the urban population increased by 47 percent, of which was 21.2 percent due to the surplus of births and 25.8% due to migration gains.