Application of Urban Economic Theory to Land Use and Transportation Planning in Hyderabad Metropolitan Region

Introduction

The textbook definition of urban economics is that it is a field of study which uses the analytical tools of economics to explain the spatial and economic organisation of cities and to deal with their special economic problems. The word "spatial" is significant. "Traditional economic theory omits any reference to the dimensions of space by treating all economic activity as if it took place at a single point. It refers to consumers and producers, firms and industries, but not to distance or contiguity, separation or neighborhood. The fact that population and economic activity are arranged in a spatial as well as a functional order is simply ignored" (Heilburn and McGuire, 1987). The emergence of regional economics as a discipline in the last half century attempts to integrate the dimensions of space to mainstream economics. "Regional economics", as Hugh Nourse observed, "…is the study of the neglected spatial order of the economy" (Nourse, 1968). Urban economics, a sub-category of regional economics, deals with the regions known as cities and metropolitan areas.

Urban economics concentrates on the economic relationships and processes that contribute to the important spatial characteristics of urban and regional economies, especially to their size, density of settlement, and structure and pattern of land use. It provides useful tools to investigate the urban problems and find their solutions. Unfortunately, governments and local authorities in most developing countries, including India, have not taken advantage of the tools of regional and urban economics to study the problems of urban planning, infrastructure, finance, service delivery, poverty, slums, housing, land use, transportation, and environment. These problems inherently involve the dimension of space and cannot be discussed in a meaningful manner without studying the highly complex urban-metropolitan environment in which they occur. Hence, both spatial and economic organisations of the city are to be understood clearly before urban issues are analysed and policies are determined.

Traditional economic theory assumes a spaceless framework in which households, firms and governments choose one and only one location. However, space is not only an input in production it is also an important element in cities for locational planning for economic agents and an appropriate source for local authorities to finance city development. Land use decisions introduce strong non-convexity in consumers' preferences and production technologies. Secondly, the essence of cities is the agglomeration of many people and firms in close quarters. Face-to-face communication is one of the major reasons why people and firms co-locate in a city. This introduces an element of non-price competition, which complicates the operation of market forces. Further, high density, traffic congestion, pollution, over-exploitation of resources, environmental degradation and public services involve externalities. Thus, unlike traditional economics, externalities are a common feature in the study of city problems. Thirdly, the existence of distance among locations implies that the producers of local goods (both public and private) can enjoy a monopolistic situation. Monopolistic and oligopolistic competitions are common features of urban markets. Lastly, many spatial phenomena such as migration,

concentration of population, urban sprawl, decay and renewal are inherently dynamic and cannot be studied meaningfully by the application of static economic analysis. The existence of durable buildings and other infrastructure amenities introduce indivisibilities and fixed costs. Urban land use theory and capital theory need to be combined to analyse many urban issues (Fujita, 1989).

The problems posed by spatial dimensions, non-convexity in consumer preferences and production technologies, externalities, monopolistic and oligopolistic competition, indivisibilities and fixed costs suggest that urban problems are complex and the tools of urban economics rather than conventional economic theory need to be applied in analysing urban problems and formulating appropriate policies. Some of the lessons from urban economic analysis, which have relevance to metropolitan land use and development planning, are:

1. Space, which introduces fixities and non-convexities in the choice sets, matters significantly in locational decisions;
2. History of settlements and the development patterns already attained exert inertia into decision-making on location;
3. Spatial external economies of agglomeration and congestion create divergences in private and social benefits and costs;
4. Agglomeration externalities, including those emanating from land use planning contain hidden sources of financing city development, including transportation;
5. Zero congestion is sub-optimal from the social point of view;
6. Users pay, beneficiaries pay and polluters or congestors pay are appropriate principles for financing city development and services;
7. Infrastructure development capitalises into land values and immobile land is a First Best instrument of financing city development – Henry George Theorem.

These lessons have a great deal of significance for city development planning and policy. This paper deals with the most distinctive feature of urban economies, i.e., agglomeration externalities and draws implications for land use and transportation planning in the Hyderabad metropolitan region. It specially focuses on financing of planned spatial development of the metropolitan region in the presence of empirically evident agglomeration externalities.

Agglomeration Externalities
The concentration of population, institutions and firms in cities give rise to agglomeration economies. The effects of these externalities on firms are two-fold. A bigger population, other things being equal, means a bigger local market, possibly an increase in the scale of production, and a lowering of average costs. As plant size goes up, use of more sophisticated and specialised equipment, complex production schedules, efficient division of labour, better training of more workers, engagement of specialists, better utilisation of by-products and logistics become feasible. In addition to internal scale economies, other advantages to firms on account of location in cities arise out of agglomeration effects from co-location of skilled and unskilled labourers, firms, and institutions, including government. The agglomeration economies are returns to external scale and constitute savings in unit costs that may accrue to individual firms sheerly because a large number of them agglomerate in the same

urban area. The production costs of a particular firm can decrease when outputs of other complementary firms increase.

Agglomeration economies can be divided into two types: localisation and urbanization economies. Localisation economies arise from the co-location of firms in the same industry or local concentration of a particular activity. Such advantages to a firm are likely to occur when

1. Scale economies exist in intermediate inputs with higher scale, rendering highly specialised services feasible, such as those from professional law firms, marketing experts or business consultants;
2. Labour market economies occur in the form of concentrated availability of a large pool of specialised, skilled labor making "spin-offs" and labor transfers with low search and other costs possible; and
3. Communication economies facilitate regular exchange of information, contacts, diffusion of technology, and lowering of search costs.

Urbanisation economies occur if the production cost of an individual firm decreases as the total output of the urban area increases. They differ from localisation economies in two ways. First, urbanisation economies result from the scale of the entire urban economy, not simply the scale of a particular industry. Second, urbanisation economies generate benefits for all firms in the urban area, not just firms in a particular industry.

The sources of both localisation and urbanisation economies are: complementarities between industries and high cost of cooperation when located away from each other. For example, firms from different industries may share common input suppliers, allowing the realisation of scale economies in the provision of specialised business services, banking, insurance, real estate, professional services, hotels and food business, transportation, etc. Similarly they may gain from concentrated provision of public services provided by various levels of government – roads, public transportation, education, health care, sanitation, water supply, drainage, electricity, telephones, and the various regulatory and developmental functions.

There are strong reasons to believe that strong agglomeration economies prevail in large cities in India like Hyderabad. Firstly, historical factors including decades of development have led to the creation of large private and public infrastructure and supportive services in cities. Secondly, the problems of underdevelopment continue to mean that some areas will remain collocationally more attractive to entrepreneurs than others. The fundamental questions in firm location and regulation concern profitability risk, the operational viability which is likely to depend on a plethora of factors such as closeness to markets and raw material sources, availability of well-qualified managerial and other manpower, critical intermediate inputs that may acquire foreign imports, credit facilities, transportation networks, information, face-to-face contacts, etc. Cities are fertile grounds which provide agglomeration benefits to firms that are unavailable in smaller areas.

Transportation & Economic Growth
In traditional economics, the demand for transport is derived from the level of economic activity. Consumers and producers demand transport in order to carry out the activities they desire. The determination of the level of economic activity is based

on the assumption that individuals and firms attempt to minimise transport costs for any given level of economic activity. This is too naive a proposition as changes in transportation costs can result in differential competitiveness among locations. For example, in an economy with constant prices of inputs in all locations and no economies of scale, the only costs which could be varied would be those relating to location. A change in transportation cost could make a substantial difference to the rate of return and lead to changes in location and composition of economic activities.

Transportation is critical for the efficiency of cities and their contribution to economic growth. A good network of roads coupled with an efficient mass transport system can make a substantial contribution to the "working efficiency" of cities and would enable them to become catalysts for social and economic transformation. For individuals, differences in transportation facilities may lead to changes in household location and commuting patterns. For business, the impact may be in terms of access to new markets, new sources of input supplies and reorganisation of production. While the growth economics literature suggests that better transportation is likely to enhance total factor productivity, urban economics suggests that transportation is associated with positive and negative external economies: agglomeration and congestion.

Empirical studies point out to the following benefits reaped by individuals due to transportation improvements:

- Reduction in commuting cost and time;
- Reduction in road accidents;
- Reduction in noise and air pollution; and
- Enhancement in work productivity.

The benefits to business firms due to improved transportation facilities occur in the form of the following:

- Ability to access new markets;
- Increased sales and deeper market penetration;
- Improved staff punctuality;
- Increased size of labour catchment areas;
- Increased access to specialised services;
- Decrease in the stock or inventory held; and
- Internal rationalisation of business.

The returns to scale, scope, sharing and agglomeration occurring in urban areas due to factors such as transportation have important implications for policies of city development, especially land use planning and financing of infrastructure. Standard tools of economics cannot handle the complex urban issues and therefore, there is a need for urban economics to contribute. In the next section, we will present a model to demonstrate the divergences in social and private costs and benefits in the presence of agglomeration externalities on account of the provision of public goods like roads, public transport, etc. We will argue that the problem of city growth can be considered as one of management through interventions such as spatial planning, provision of 'leading' transportation infrastructure, growth management and resource-raising to finance local public goods following the principles of local public finance.

Agglomeration & Transportation

Consider that the metropolitan area produces one good, X with a single input Land, L. Suppose there are agglomeration economies due to the provision of a public good, namely Transportation, T. Let the agglomeration function be represented by

$$A = g(T) \qquad \delta g/\delta T > 0 \qquad \delta^2 g/\delta T^2 < 0 \qquad\qquad (1)$$

It is assumed that agglomeration function is concave, meaning thereby that there is positive but diminishing marginal agglomeration as T increases. Following the urban economic literature, let the production function be represented by

$$X = g(T)f(L) \quad \delta X/\delta L > 0 \qquad \delta^2 X/\delta L^2 < 0 \qquad\qquad (2)$$

The Net Value to the producer can be defined by the expression:

$$V = pg(T)f(L) - rL - tL \qquad\qquad (3)$$

where p is the price of X, r is the rent paid on Land and t is the tax rate imposed by the metropolitan government to finance the public good T.

The conditions of optimum size of L for the producer are:

$$\delta V/\delta L = pg(T)\delta f/\delta L - r - t = 0 \qquad\qquad (4)$$

The conditions of optimum size of L (city land area or size) from the point of view of the planner of the metropolitan economy are:

$$\delta V/\delta L = pg(T)\delta f/\delta L + pf(L)\delta g(T(L)/ \delta L - r - t = 0 \qquad\qquad (5)$$

Thus as may be seen from (4) and (5) the conditions for private and social optimum diverge on account of the term $f(L)\delta g/\delta L$ unless $\delta g/\delta L = 0$. $\delta g/\delta L$ is a measure of the strength of agglomeration economies when more land is used for city development and more tax is derived to provide the public good T. When agglomeration economies are strong, the metropolitan government, by taxing land and using the tax proceeds to finance transportation infrastructure can facilitate a shift in the production function. This process can lead to a larger city size linked to better transportation and land use.

The traditional economics literature prescribes that positive externalities need to be subsidised and negative externalities taxed. Propagated by Pigou, this literature does not address the issue of how one subsidises an externality and from where subsidy funds are to be mobilised. The urban economic analysis in the previous paragraphs show that instead of subsidising agglomeration externalities, one can have a set of financial instruments that generate resources from agglomeration benefits and congestion taxes, use the same for public goods, generate further agglomeration economies and shift the city size equilibrium upwards. This will benefit the firms and residents while accommodating more people in the city.

It is standard economic reasoning that when externalities are present, private and social costs and benefits differ. Urban economic analysis suggests that in the presence of external economies of congestion, the social costs exceed the sum total of private costs, taking which the private individuals make choices. Similarly, in the presence of external economies of agglomeration, the sum total of private benefits exceeds the social benefits that the metropolitan planner reckons while making social analysis for taxation and service provision. Urban economic theory suggests that non-distortionary taxation linked to agglomeration externalities could be a win-win situation for both policy makers and private producers to optimise agglomeration, minimise congestion and finance city development.

Urban Economic Theory & City Development
The discussions in the foregoing paragraphs suggest that the main planks of development policy in a city like Hyderabad should be the exploitation of agglomeration economies, augmentation and sustaining of high productivity, minimisation of congestion diseconomies and effective management of the problems associated with urban growth. The problem of urbanisation can thus be viewed as one of management and the role of land use planning, strategy to facilitate housing and infrastructure development, environmental protection, etc., are of critical importance. The forces of agglomeration do contain hidden resources to meet the demands of economic growth and population concentration. City growth poses both challenges and opportunities. In the ensuing paragraphs, we intend to draw lessons for the development Hyderabad City from urban economic analysis.

Like transportation, scientific land use planning can be a source of agglomeration in a metropolitan area. Unfortunately, the theory of planning adopted in India does not take into account the externality aspects of agglomeration and congestion. The traditional master plan approach makes a trend analysis, projects population for the plan horizon year, calculates the housing requirement and then the requirements of office and retail space. The space needs for recreation and transportation are calculated at the end of the planning exercise. This is against an approach which aims at optimising agglomeration economies and minimise congestion diseconomies which are linked to spatial factors. Further, the application of urban economic principles would suggest the adoption of the twin principles—(a) history matters and (b) geography matters in land use planning. Non-recognition of the two principles in the past has resulted in poor planning of cities and non-exploitation of agglomeration externalities to finance city development.

Emphasis on external economies and diseconomies and historical and geographical aspects would suggest the following sequence for the future planning of the Hyderabad metropolitan region:
- Identification of areas, which are prone to negative externalities, need to be conserved: lakes, water bodies, forests, rocks, etc.;
- Examination of existing road and rail networks and drawing the trunk infrastructure plan to optimise the potential for agglomeration taking into account the existing networks, accessibility factors and future projections;
- Allocation of space for employment/traffic-generating units at nodal points, matching the size of the potential traffic and the extent of accessibility;
- Distribution of residences taking into account the accessibility to places of work, education, recreation, etc. and on the criterion of trip reduction zoning.

Augmentation of agglomeration and minimisation of potential congestion ought to be two key two planks of land use planning and transportation in Hyderabad. If we follow this approach, there will not only be planned development but also generation of adequate resources to finance the same.

Mobilisation of Resources

Urban economic theory suggests that land is the most appropriate source of financing city development. The Municipal Corporation of Hyderabad (MCH) has of late made significant efforts to improve land-based resources. The steps include property tax reforms, including introduction of the scheme of self-assessment of property tax, advertisement and trade licensing fees, use of land as a resource, adoption of users pay and polluters pay principles. The Corporation is identifying direct and indirect users of services/beneficiaries and levying user charges and benefit taxes. Polluters are also being identified and made to pay for pollution mitigation and prevention measures. The following general principles of local public finance are being followed:

- Where benefits and beneficiaries are identifiable, charge them;
- If benefits cannot be measured, but beneficiaries are identifiable, levy benefit taxes;
- If neither benefits nor beneficiaries are identifiable, levy general taxes;
- For long gestation capital projects whose benefits spread over a long time, borrowing is appropriate;
- Subsidies to the poor need to be targeted and fully transparent rather than being distortionary.

Municipal revenues have gone up considerably due to various measures initiated by the Corporation.

Property Tax Reforms

General revision of property tax as contemplated under law was not done in Hyderabad for the past few decades. In the absence of this, property owners continued to pay taxes as levied decades ago, causing heavy financial loss to the Municipal Corporation. The total number of assessments in the Twin Cities was only about 410,000 in 1998-99 with total current demand of about Rs. 490 million (Rs. 45 = $1). Attempts to rationalise and improve the property tax base made earlier were caught in legal problems. Keeping the above background in mind, Self-assessment of Property Tax scheme was introduced during the year 1999-2000. This was done taking advantage of provisions under Section 213 of the Hyderabad Municipal Corporation Act under which the Commissioner is empowered to call for information pertaining to properties located in the Twin Cities from owners/occupiers and it is mandatory on part of the latter to furnish the same. In response to the scheme, about 130,000 owners filed self-assessment returns within 4 months of the introduction of the same in 1999-2000. The collections under Property Tax by the Corporation from 1991-1992 are shown in Figure 1.

FIGURE - 1
MUNICIPAL CORPORATION OF HYDERABAD
PROPERTY TAX COLLECTED
1991-92 - 2001-2002
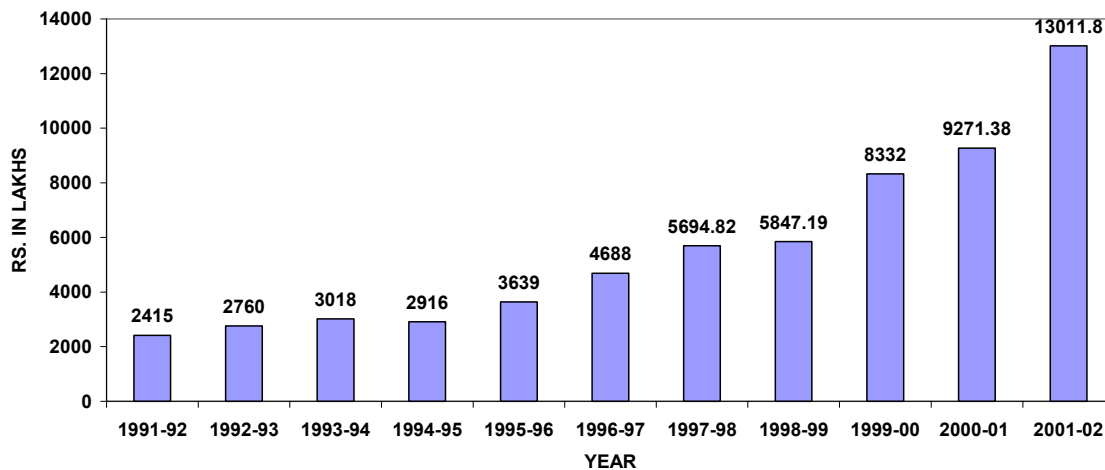
Similar to the scheme for property tax, self-assessment was introduced for advertisement and trade licensing fees. The results of the self-assessment initiatives taken by the Municipal Corporation of Hyderabad for advertisement and trade licensing fees can be seen from the figures below.

FIGURE - 2
MUNICIPAL CORPORATION OF HYDERABAD
ADVERTISEMENT FEE COLLECTED
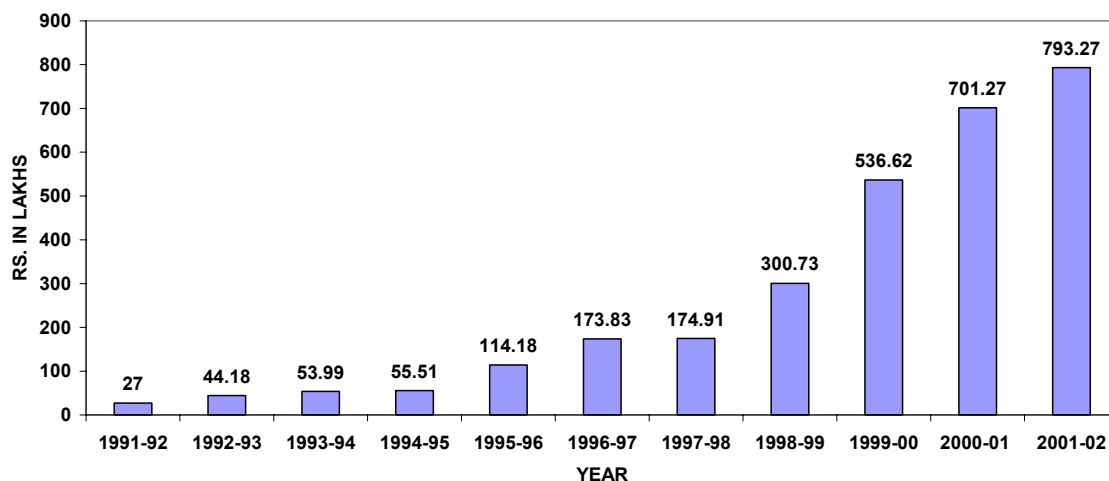**1991-92 - 2001-02**
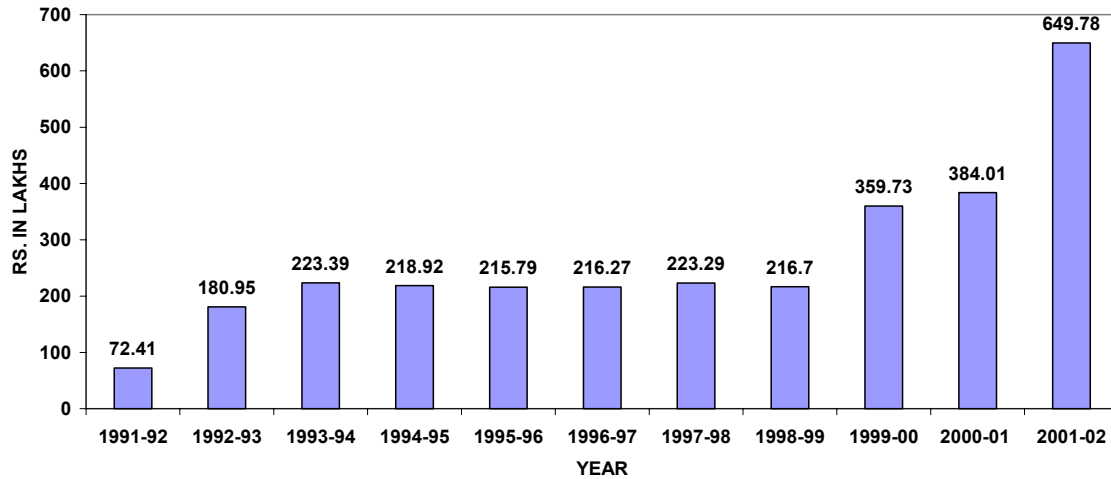
FIGURE - 3
MUNICIPAL CORPORATION OF HYDERABAD
TRADE LICENSING FEE COLLECTED
1991-92 - 2001-02

External Betterment Charges

The Hyderabad Municipal Corporation Act, 1955, originally provided for the levy of betterment charges to meet the costs of internal infrastructure and services in the case of development projects. The Government of Andhra Pradesh amended the Act to enhance the scope of such levy to include external betterment. Under this concept, the municipal authority is empowered to collect external betterment charges at the time of according approval to layouts or sub-divisions of plot or issue of building permit. These charges are collected for the laying of major infrastructure such as freeways/major roads, regional parks, flyovers, etc. At present MCH is collecting external betterment charges at 30% of the regular betterment charges.

Use of FSI as a Resource

With a transparent policy of according planning permissions and keeping in view the need for road widening, the Government has permitted the Municipal Corporation of Hyderabad to undertake widening of roads by using Floor Space Index (FSI) as a resource. The Commissioner of MCH is authorised to grant building permissions for additional construction area over and above that permitted by the Zoning/Building Regulations. Land surrendered horizontally is compensated by additional construction vertically. The Corporation rebuilds the demolished compound walls/other structures and grants permission to go vertically. The extent to which vertical construction is to be permitted depends on the extent of land surrendered by parties and the prevailing FSI in the area. If there is no scope for going vertical, the landowner can avail Transferable Development Rights for using the same elsewhere or selling to others. In some cases, even the construction of buildings for non-residential use (commercial/institutional) is permitted to induce landowners to part with valuable residential land for road widening.

Through the process of using FSI as a resource, the Municipal Corporation has been able to acquire lands costing more than Rs. 5000 million free of cost covering widening of 65 roads.

Impact Fees

The Government of Andhra Pradesh has permitted the Municipal Corporation of Hyderabad to levy Impact Fees to mitigate the impacts of construction of commercial buildings that lead to increased traffic and necessitate decongestion measures. Distinction is made between on-site and off-site (local area) development cost and city-wide impact. The Impact Fees are meant to address city-wide problems emanating from high density commercial development. These fees – levied at Rs.25 per square feet - are to be deposited in a separate account of the Municipal Corporation and utilised for implementation of the Capital Improvement and Decongestion Plan, i.e., for works such as Road Widening, Link Roads, Slip Roads, Parallel Roads, Junction Improvements including Traffic Signals, Fly-overs, Rail Over-bridges, Rail Under-bridges, etc. Under no circumstances, the amount is to be spent for salaries and maintenance works, etc. It is proposed to extend impact fee to all major commercial constructions (more than 1000 square feet) in the city to create resources for decongestion activities.

Open Space Contribution

To augment resources for enhancing lung space in the city, the Municipal Corporation of Hyderabad has introduced Open Space Contribution to be collected from persons applying for development permission. This is required only in the case of lands belonging to layouts, which have not provided 40% statutory open space (for roads and parks). The contributions are used to take up avenue/parks/woodlot/green-belt plantations and compensatory greening. It is proposed to rationalise charges and contributions for the creation of a Green Hyderabad Fund.

Building Regularisation Scheme

The Municipal Corporation of Hyderabad undertakes daily enforcement operations to ensure that zoning and building regulations are followed. Lack of adequate checks in the past had resulted in several unauthorised constructions coming up in the Twin Cities and it was realised that demolition of all the structures was an impossible task. Accordingly, the Government introduced the Building Regularisation Scheme under which, subject to public interest and public safety considerations, a one-time chance was given to those who violated building/zoning regulations to regularise their structures by paying penalty and town planning-related charges. The scheme has been able to generate significant resources for the Corporation. The Regularisation scheme applies to minor building violations only.

Hyderabad City Development Bond

The Municipal Corporation of Hyderabad floated tax-free bonds to the tune of Rs.820 million during March 2002. The issue was assigned CRISIL rating AA+(SO) and ICRA rating LAA+(SO). These ratings have been the highest ever credit ratings accorded to a municipal bond in the country. The features of the Hyderabad City Development Bond are as follows:

Issue amount	Rs. 82.50 crores
Offer Opening Date	March 21, 2002
Offer Closing Date	March 27, 2002
Date of Allotment	March 31, 2002
Instrument	Un-secured , non-convertible redeemable tax free bonds in the nature of debentures

Face Value	Rs. 1,00,000/- per Bond
Minimum Application	Five Bonds and in multiples of one Bond thereafter
Credit rating	AA+ (SO) by CRISIL and LAA + (SO) by ICRA
Coupon rate	8.50% p.a. payable semi-annually
Tenure	7 years
Put/call option	At the end of 5th year from deemed date of allotment
Redemption	In two equal installments at the end of 6th and 7th year from the deemed date of allotment.
Interest on application money	8.50 % p.a.
Escrow mechanism	Escrow account of Non-Residential property tax, professional tax, advertisement tax, entertainment tax, stamp duty and town planning charges
Interest payment dates	Semi-Annually - Payable on 01 March and 01 September of each year during the tenure of the Bond.
Tax benefits to the investors	The municipal bonds are eligible for tax exemption under Section 10(15)(vii) of the Income Tax Act, 1961.
Trustee	State Bank of Hyderabad, Hybank Towers, Gunfoundry, Hyderabad – 500001.
Issue Open to:	Companies and Body Corporate including Public Sector Undertakings Commercial Banks Regional Rural Banks Cooperative Banks Financial Institutions Insurance Companies Any other investor authorised to invest in the Bonds

The proceeds from the Hyderabad City Development Bond are to be used only for development projects of regional/city-wide importance. The important project components include: traffic and transportation projects to decongest the city, stormwater drainage, sewerage and solid waste management, modern lighting and slum upgradation.

The Hyderabad City Development Bond floated by the Corporation is again based on urban economic theory which suggests the earmarking and linking of agglomeration-related taxes and other revenue sources for development works benefiting business and property. The Bonds proceeds will be utilised for development projects, which will facilitate trade, commerce and economic growth, enhance agglomeration economies, land values, business prospects and tax base. This will in turn lead to mobilisation of taxes and charges like non-residential property tax, trade licensing fee, advertisement fee, entertainment tax, profession tax, etc. These taxes will be pooled together to serve the bonds and as these taxes grow with pace of development they generate additional debt-raising and debt-servicing capacity. Thus, the "revenue mobilisation through bonds–development works–agglomeration economies-enhanced tax base–mobilisation of revenues–servicing and further borrowing through bonds–

more development–more taxes–more development" link movement will lift the city up in an upward-moving spiral.

Hyderabad Municipal Corporation Budget 2002-2003 has introduced certain innovative user charges and fees in Hyderabad city. The rationale for these has been as follows:

Incentive Zoning
Town Planning Permission is used as a resource in most countries on the principle of 'beneficiaries pay'. It is proposed to link planning permission to payment of graded fees. Selected zoning benefits can be provided to developers of commercial and residential complexes and individual buildings subject to their contributing certain facilities to the city or making financial contribution for development and decongestion programs. The test for allocation of incentive zoning is that the social benefits to the city outweigh the social costs.

Unauthorised Colony Development Contribution
Some unauthorised colonies have come up in Hyderabad over the last decades. The developers have sold plots before completing all the amenities required. While efforts are being made to track the defaulter and collect development charges as required by regulation, taking a practical stand and to ameliorate the problems faced by residents due to lack of amenities, the Corporation has decided to take up infrastructure in these colonies provided the plot-owners/residents come forward to make a 50% contribution towards this.

Special Development Contribution
For special projects of importance to the city, it is proposed to collect special development contributions from developers and provide amenities like parallel roads, slip roads, link roads which benefit the city as well as the developers – a win-win situation for both. Budget 2002-2003 proposes to identify special development projects that can be taken up with joint partnership between developers and MCH and implement the same.

Stormwater Drainage Charges
A survey has revealed that several commercial and residential buildings in the city have unauthorisedly hooked their internal sewer lines to stormwater drains without taking sewerage connection from the Hyderabad Metropolitan Water Supply & Sewerage Board (HMWSSB). As a result, while the Board is deprived of its legitimate revenues, MCH is subject to extra burden for maintenance of stormwater drains, which are subject to considerable flows even in the summer months. On the basis of 'the polluter pays' principle, MCH has resolved to levy stormwater drainage charges on those who are not in a position to connect to sewer lines due to non-availability of infrastructure. Others will be required to apply for sewerage connection from HMWSSB and till such time connection is taken they will pay stormwater drainage charges.

Parking Contribution
Over the years several residential areas in the city have changed their character and residential houses have been converted for commercial use. As a result, there is a considerable problem of parking. It is proposed to collect parking contribution - in

cases where there is no public interest involved and also where demolition is impractical - from those responsible for unauthorised conversion, so that compensatory parking complexes and open parking places can be created.

Demolition Charges
The Corporation has introduced Demolition Charges, which are to be paid by the violators of building rules under the 'polluters pay' principle. Today, persons resorting to unauthorised construction face demolition and also are made to pay for demolition of their own buildings. It is proposed to rationalise the demolition charges and recover the full cost of demolition so that the Corporation does not spend the taxpayer's money on the demolition of buildings of offenders.

Projection Charges
The Corporation proposes to collect projection charges from unobjectionable projections/encroachments as permitted under the relevant provisions of the Hyderabad Municipal Corporation Act based on issue of an annual written permission. Such permissions will be issued only if there are no objections from the traffic point of view.

Leasehold to Freehold
The Corporation has not been able to administer the lease of its properties for a long time. It is proposed to go in for a Leasehold-to-Freehold scheme following the pattern adopted by the Delhi Development Authority and some State Governments.

Sale of Bits & Pieces of Land
The Corporation has decided to introduce a scheme of sale of bits and pieces of lands which are becoming liabilities to the civic body. These pieces cannot be used productively for any public purpose like park or playground. Some of these are already under encroachment for a long period of time. As there is already a Government Order permitting Municipalities to sell small extents of useless bits and pieces of land, it is proposed to request the Government to permit MCH to dispose off such land in the interest of administration and also to raise resources.

Purchasable Development Rights:
The basic Floor Area Ratio (FAR) or Floor Space Index (FSI) may be taken as 1:1. The lands located in zones with higher FSI, as per the Master Plan, may be required to purchase the permissible FSI in excess of the basic FSI.

Transferable Development Rights:
The system of Transferable Development Rights (TDR) is practised in Mumbai and Hyderabad, whereby landowners, whose land is compulsorily acquired for a public purpose, are granted higher FSI for the remaining land. If TDR cannot be used for the left-over land, it can be deployed elsewhere or can be sold to other developers.

Tax Increment Financing:
Development projects that result in the enhancement of tax bases and parts of the tax increments due to these projects may be tapped towards the repayment of loans incurred in connection with meeting the costs of developments.

Accommodation Reservation:

Under this scheme, developers are required to provide public amenities as stipulated in the Master Plan such as schools and parks subject to the allocation of certain incentive FSI.

Rationalisation of Vacant Land Tax:
A tax rate of, say, 1% of capital value of vacant land can generate a significant amount of resources to finance the development of trunk infrastructure which would, in turn, enhance the value of vacant land. Recently, the Government of Andhra Pradesh has decided to reduce the rate of vacant land tax from 2% to 1% of capital value. It is expected that this decision will lead to considerable collection by way of vacant land tax.

Conclusion
Hyderabad is a city on transformation – a city determined to transform urban management practices to build a better, more livable, healthy and productive metropolis. The Municipal Corporation of Hyderabad has bagged the Clean City Award at the national level for four consecutive years. Encouraged by this, Hyderabad has introduced an unprecedented reforms programme, which will have far-reaching implications for the development of the city and its periphery. As a part of the municipal reform program, Hyderabad is the only city in India to earmark 20% of the property tax collections for implementation of community-based urban poverty alleviation programmes. While trying to break the syndrome of "rich city, poor city government", the city is collaborating with peripheral municipalities and development agencies to decongest Hyderabad and "channelise" development to well-planned and well-accessible suburbs and ring towns.

Hyderabad is an example of how urban economic theory can be used to generate resources for planned land use and development. The city is using land as a resource to a considerable extent. Externality-related fees and charges are also used in a significant way. The Hyderabad experience shows that when cities experience large benefits due to external economies it is possible to leverage resources using beneficiaries pay, users pay and polluters pay principles. Thus, the bulk of the development of a city's infrastructure should be planned when agglomeration economies are strong. The Master Plans of cities in the past have neglected the aspects of the economics of cities and financing of city development in the presence of externalities. There is need for a new paradigm of planning which integrates the economics of cities into the planning process and takes into account their history, geography, spatial linkages, agglomeration, congestion and other aspects that are so vital to the determination of the strategy of development, especially the financing of city infrastructure. Transportation planning ought to be given top priority in this strategy considering its potential to optimise agglomeration benefits and minimise congestion diseconomies.

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