

MIXED-USE DEVELOPMENT AS A STRATEGY FOR URBAN GROWTH, DEVELOPMENT AND PLANNING

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Master of Town and Regional Planning at the University of Stellenbosch.



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DECLARATION

I, the undersigned, hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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DATE: FEBRUARY 2001

SYNOPSIS

South Africa has moved into a new political era in which all citizens are entitled to equal access to opportunities. Disadvantaged communities are cherishing high expectations of what the future will hold for them. To avoid trade-offs that can lead to the escalation of violence, more efficient management strategies are necessary to restructure the urban environment and address the problems of a rapidly urbanising population.

The primary goal of this study is to examine to what extent mixed-use developments can facilitate economic development within low income communities. The results indicate that the planning of mixed-use developments, can create strong, well-defined city structures which will address the current urban deficiencies experienced in metropolitan areas. Mixed-use developments offer a means to integrate those parts of the metropolitan area with no coherent and integrated structure into the larger urban environment. An increase in densities, land use intensification and passing traffic can create the necessary market thresholds to sustain a wide range of economic and social activities and facilities that are typically not found in inwardly turned, peripheral communities. This can increase the standard of living of these communities by improving their access to economic opportunities, providing employment and supporting the fulfilment of their economic and social needs.

The informal sector plays an important role in the urban economy. The creation of multi-functional markets within mixed-use development will stimulate growth and employment creation within the informal sector. The higher economic thresholds and better access to markets and supplies can improve the viability of small –scale

informal enterprises. These markets will benefit the local communities by providing a variety of economic activities and services within the same location. The stimulation of economic activity within the low income communities can improve the circulation of money and assist in the prevention of income leakage to other centres.

The implementation of mixed-use development has the potential of addressing the problems currently inhibiting economic development of low-income communities.

OPSOMMING

Suid-Afrika het 'n nuwe politieke era betree, waarin alle burgers op toegang tot gelyke geleenthede geregtig is. Die agtergeblewe gemeenskappe koester hoë verwagtinge vir die nuwe toekoms. Om te verhoed dat uitruiling ly tot 'n toename in geweld, is 'n meer doeltreffende stedelike bestuurstrategieë noodsaaklik om die snelgroeiende bevolking aan te spreek.

Die studie het ten doel om die ekonomiese ontwikkelingskapasiteit van gemengde grondgebruiksontwikkeling, te ondersoek. Die gevolgtrekking van die studie is dat gemengde grondgebruiksontwikkeling 'n goed ontwikkelde stadstruktuur tot stand kan bring, waardeur die bestaande tekortkominge van stedelike gebiede aangespreek kan word. Dit bied 'n doeltreffende manier om stedelike gebiede, sonder 'n samehorige en geïntegreerde struktuur, met die groter stedelike gebied te skakel. 'n Toename in digtheid, grondgebruiksintensiteit en deurverkeer sal die drempelwaardes, wat nodig is om 'n wye verskeidenheid ekonomiese en sosiale aktiwiteite te ondersteun, skep. Verhoogde toegang tot ekonomiese- en werks geleenthede sal die lewenstandaard van lae-inkomste gemeenskappe verhoog.

Die informele sektor speel ook 'n belangrike rol in stedelike ekonomie. Die ontwikkeling van multi-funksionele markte, binne die gemengde grondgebruiksontwikkeling, kan groei en werkskepping binne die informele sektor stimuleer. Hoër drempelwaardes en beter toegang tot markte en voorraad kan die lewensvatbaarheid van informele ondernemings verbeter. Plaaslike gemeenskappe sal voordeel trek uit die toeganklikheid van 'n verskeidenheid ekonomiese aktiwiteite en dienste binne die mark. Die stimulering van ekonomiese aktiwiteite binne lae-inkomste gemeenskappe

sal die sirkulasie van geld verbeter en die lekkasie van inkomste na ander sentrums teenwerk.

Die implementering van gemengde grondgebruiksontwikkelings het die potensiaal om die probleme, wat die ekonomiese ontwikkeling van lae-inkomste gemeenskappe strem, die hoof te bied.

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CHAPTER 1

1. INTRODUCTION

1.1 Problem statement

The recent political transformation in South Africa has set the stage in which all citizens are entitled to equal opportunities and to develop their full potential. This means that government is striving to bring about equality to enable all citizens to access resources previously reserved for only a few. The communities from previously disadvantaged backgrounds have high expectations of what the future will hold for them. High and low income areas are competing for economic security and limited resources in various fields, even if competition is unequal. More efficient management strategies to restructure the urban environment and address the problems of a rapidly urbanising population, is necessary to avoid trade-offs that may lead to an escalation of violence.

The diverse infrastructural problems characteristic of the Third World (sprawling, uncoordinated, low density residential areas, fragmented urban fabric, mono-functional land use patterns and large dormitory low income suburbs on the unstructured periphery), was the result of the absence of effective metropolitan planning and management and the preferential treatment of private transport, due to the three decades of apartheid policy (Naudé, 1991: 5-2). This resulted in South Africa being one of the least dense countries in comparison to other countries in the world, which includes both First and Third World countries.

The increase in the lower income, less skilled section of the urban population is a result of rapid population growth and migration, which came as a result of the lack of opportunities and resources in the areas from which these people migrated. According to Naudé (1991: 5-2), it is increasingly difficult for authorities to generate funds to cope with the increasing costs of providing formal housing, servicing new peripheral development and addressing the problems associated with a rapidly urbanising environment. A serious breakdown in effective service delivery has been unavoidable. The foreign debt that South Africa has accumulated over the past few decades has also had a lasting effect on the amount of money available for spending on essential services. As a result, poor communities are making their own arrangements to provide housing and commercial facilities. This has led and still leads to problems such as health risks, pollution and environmental degradation.

The quality of the environment is critical to the sustainability of the economy and quality of life. Low density urban development which consumes natural resources and the use of marginal land has a grave effect on the environment and health. A balance between development and conservation, better resource management as well as the integration of land use planning is necessary to utilise these assets more effectively to ensure environmental and economic sustainability.

Limited access to retail facilities and basic services in the lower income communities is a result of the concept of zoning and business investment policies which paid scant attention to the needs of those who have less to survive on. Economic development is limited by these low densities and social conditions in these areas and generally creates low thresholds, hence making it economically unviable. The result of this is that a major portion of income is spent outside low income areas resulting in an

income leakage. An example is the money which comes from the rural areas into the urban areas when people go and do shopping there because they do not have the same facilities in their immediate areas. A consequence of the low economic threshold potential and a high degree of income leakage is a low level of formal business activity and thus less employment opportunities to support the growing labour force, hence the current pattern of migration. The debate surrounding the brain drain is not only limited to South Africans leaving the country but also has an effect on the rural areas when educated people move to the cities for better opportunities.

The lack of formal sector employment and high levels of poverty have forced an increasing proportion of the urban population to seek employment opportunities outside the formal sector. The informal sector has the ability to contribute to employment creation, but its development has been limited by restrictive policies. The realisation of its potential as a viable means to alleviate poverty is bringing about a more positive approach by authorities to stimulate small business (Green, 1989: 4). Government ought to pay more attention to such endeavors by the unskilled, and even go to the extent of offering incentives for those who venture into such activities.

The separation of land uses has a negative effect on low income communities because they impose long, expensive trips to meet their most basic needs. Because people are removed from essential basic services and resources it place added financial and social pressure on the already marginalised inhabitants. Many rely on other methods to satisfy their needs or do without basic necessities. Low user levels and the low densities lead for example to the prevention of the public transport

system operating on a cost recovery basis. Consequently one finds that massive transport operating subsidies and a high level of investment are presently required to keep an inefficient public transport system functioning (Derek Chittenden and Associates, 1990: 4). Other ways of satisfying their needs come in the forms of “spaza shops”, shebeeens or taverns.

The quality of life of the urban poor can only improve if cities are restructured in a fundamentally different way. An effective urban development policy is required to guide new growth and development away from the dispersed and segregated urban growth patterns towards a more compact, integrated, accessible and productive urban system that can support the alleviation of poverty. The creation of a holistic urban structure with overlapping functions holds the solution for addressing a number of urban problems.

Apartheid metropolitan planning as it stands cannot be easily eradicated and will inevitably have an influence on the spatial structure of the city in the future. Immediate action is essential to overcome its prejudice and develop a new urban management policy that can address the current problems and create a quality urban environment for all the inhabitants.

1.2 Aims and objectives

The purpose of this study is to scrutinize the context in which mixed-use developments can be applied to accommodate urban growth and development within low income areas.

The specific objectives of this study are to determine:

- what mixed-use development means;
- why mixed-use developments have become so popular in recent years;
- within what framework does mixed-use developments occur;
- how mixed-use developments have been implemented in other countries; and
- how mixed-use developments have recently been implemented in South Africa.

1.3 Method

This study is descriptive in nature and is based largely on a literature study of the different aspects related to the specific concept. South African legislation and policy guidelines has also been viewed as part of the theoretical background study to see to what extent provision had been made for mixed-use development. The literature study was complemented by exploratory discussions with specialists in the fields of urban planning and engineering. The reason for consulting with these experts was to get firsthand and as wide an opinion base as possible.

CHAPTER 2

2. THEORETICAL PERSPECTIVE

2.1 Introduction

Defining and implementing mixed-use development is a complex and difficult endeavor. Its difficult nature arises because, as with all sciences, there is no definite and conclusive consensus about its meaning. The problems and discontent surrounding the definition of mixed-use development impacts subsequently also on how planning is regarded and implemented. More about a working definition of this complex concept follows under the relevant heading (2.2). As a process it can be utilised very effectively by concentrating people closer to facilities and opportunities. This leads to the effective use and functioning of urban areas, if the implementation is a success. According to Coupland (1997: 1), the mixture of different uses in the same geographical location may lead to safer, vibrant, viable, sustainable cities and also the creation of better living environments. This might also be a solution to unemployment and can also alleviate the so called "clutch of poverty". It is however necessary to correctly identify mixed-use as such, as a misidentification may lead to a loss of the worth of the concept. As Schwanke (1987: 45) asserts about the concept: "Schemes which offer few, if any, of the benefits associated with traditional mixed-use areas are, nevertheless, described as mixed-use developments: this debases the concept and risks reducing support for the idea".

Various cultural, economic, social and physical environments influence the application of mixed-use development (Rowley, 1996: 14), as a result, different mixed-use development methods should be implemented in different environments. The most applicable method of mixed-use development for every unique situation

should aim to maximise the economic viability and to improve the environment in a more sustainable manner. The concept of mixed-use development is thus not a mechanism which controls development on a quantitative manner, but has as its goal the qualitative upgrading of the environment and the community.

It is thus imperative to define the notion of mixed-use development and the different concepts related to it since the notion, according to Rowley (1996: 1) is ambiguous and multi-faceted.

2.2 What is mixed-use development?

Mixed-use development, according to the Metropolitan Spatial Development Framework Handbook (MSDF) (1999: 18), can be defined as a “horizontal and vertical integration of suitable and compatible residential and non-residential land-uses within the same area or same parcel of land.” The aim is however to integrate various types of residential, employment, educational, social and recreational opportunities which are accessible to everyone. According to Coupland (1997: 5), the term mixed-use development refers to the integration of different uses within residential areas to place opportunities within close proximity to its inhabitants and it will thus lead to areas which create more sustainable lifestyles, which are more attractive, viable and safer to live and work in.

“The economics of mixed use development derive from the notion that mutually supporting activities will have a synergistic effect on each other...” (Cohen, Internet Resources for Architecture and Urban Design). From this quotation one can ascertain that mixed-use was supposed to have had a positive effect on those whom

it was going to impact upon. It was therefore meant to give people a more integrative life, as it were. As with all other concepts, over the years, its meaning becomes more expanded and diverse and therefore more ambiguous.

Before one can move towards giving a working definition of mixed-use development it is imperative to look at different perspectives as they are very diverse about the topic. Mixed-use development is primarily regarded, by several scholars on the topic, as an urban phenomenon, hence reference to it by them as a new type of urbanism (Montgomery, 1998: 93). Since urbanism, and therefore also mixed-use, are relative and ambiguous terms, open to interpretation by its various scholars and others associated with the topic, e.g. planners from both First and Third world countries. It is therefore necessary to identify aspects peculiar to the interpretation and implementation and to note the various ways in which mixed-use developments can occur before the concept of mixed-use development and other related concepts can be defined. This way one would be able to present as holistic, and as inclusive as possible, a definition of the topic as possible. In order for a concept to be useful it is absolutely necessary to look for a universal meaning of that concept, in spite of the differences of interpretation and implementation that exists of that specific concept. It suffices to say that there are several opinions about what constitutes a mixed-use development. Authors at times are at odds, but there are also cases where they do concur. What follows now will give some indication as to these agreements and disagreements.

2.3 Aspects of mixed-use developments according to Rowley

Rowley (1996: 3) identified the following, which are embraced in the various aspects of mixed-use development (figure 1). (Relevance of these aspects will be assessed / demonstrated under the section dealing with the case studies of mixed-used development in Chapter 6).

These are: grain; setting; location; approaches; transactional quality; tenure and occupation; and the time dimension.

2.3.1 Grain

The grain of a settlement refers to the way in which its components (people, activities, land uses, buildings and spaces) are mixed together (Rowley, 1996: 3). Historic towns usually possess a fine or close grain whilst modern cities are characterised by their coarse grain. Sharpness is another, though less significant, characteristic of grain. Sharp grained textures have abrupt breaks between one homogeneous area and another; if the transition is gradual, it is said to be blurred (Lynch, 1981: 265). In practice all three textural features are closely interrelated and they greatly influence the scope for, and performance of mixed-use developments.

2.3.2 Setting

Mixed-use developments occur in different settings or scales. According to the MSDF Handbook (1999: 18), mixed-use development occurs on two scales, namely on a micro-scale and a macro-scale. At the macro-scale, it should attempt to bring job opportunities, business opportunities and entertainment facilities, closer to

residential areas. At the micro-scale, different strategies to achieve mixed land use should be adopted to create diverse, interesting and opportunity-rich environments on a small parcel of land. Putting aside the town or city wide level since all towns are mixed at this scale, Rowley (1996: 3), identified four other settings:

- within districts or neighborhoods;
- within the streets and other public spaces;
- within building or streets blocks; and
- within individual buildings.

The diversity of activities within streets and public spaces is a special situation. It is a product not simply of the mix of activities within the buildings and the blocks that are adjacent to a street but also of the design and public use of the street itself. Many of the virtues of mixed-use development, in whatever setting, only exist to the extent that they affect, and are experienced from, the public realm.

2.3.3 Location

According to Campbell (1999: 22), the issue of location is crucial to the success of cities. When we talk about mixed-use development it is very much concerned with the proximity and all the benefits which arise from it. There are four types of location where mixed-use settings are founded or may be promoted (Rowley, 1996: 6):

- city or town centres comprising the commercial and civic core of the towns and cities;
- inner city areas and on brownland sites comprising derelict, vacant or built-up land needing regeneration;
- suburban or edge-of-town locations; and

- greenfields locations where planning policy permits.

2.3.4 Approach

The maintenance and promotion of mixed-use settings are essential to any development. Rowley (1996: 3), accordingly identified three approaches.

These are:

- comprehensive development or redevelopment of areas and larger sites;
- gradual revitalisation and incremental restructuring of existing parts of towns, including infill development and re-use, conversion and refurbishment; and
- conservation of established mixed-use settings.

2.3.5 Transactional Quality

Activities and land uses differ in terms of the 'comings and goings' or the number of transactions they generate and hence the degree of vitality they stimulate (Rowley, 1996: 4). Some uses have very little direct effect on public life, whilst others have considerable potential to stimulate social activity. According to Schwanke (1987: 49), the sense of human presence and involvement experienced in cities depends partly upon this characteristic, one that is largely ignored by planning's traditional classification of land use.

2.3.6 Tenure and Occupation

This encompasses how property is held and occupied and by whom. With housing, this means properties available for owner occupation, rent and shared ownership (Rowley, 1996: 4). With commercial property, it means properties available on both freehold and leasehold together with a variety of licensing arrangements. According

to Coupland (1997: 154), interest in who occupies premises encompasses concern for the needs of all sections of society and business: provision for special needs such as sheltered accommodation for the elderly; for a mix of people with different levels of income and wealth; and for a mix of commercial activity, for example convenience as well as specialty retailing within a locality.

2.3.7 The Time Dimension

Sometimes, a particular building or facility is shared by a variety of activities and users, either on a regular or an occasional basis (Rowley, 1996: 5). The sharing of space in this way demands careful management, according to Schwanke (1987: 150), but the benefits include providing for activities, which could not financially support the cost of accommodation on their own, and the enrichment of social life within a community.

The life or lease cycle of property also exists. The high costs of new commercial buildings, for example, usually means that only the most profitable organisations can afford to occupy new accommodation (Rowley, 1996: 5). This initial pattern gradually evolves, so that eventually processes and local life styles may develop. Changes of use may occur within a building or block, and space may be adapted and refurbished to suit the new circumstances and opportunities, which include occupation by less profitable activities.

INFLUENCES ON MIXED USE DEVELOPMENT

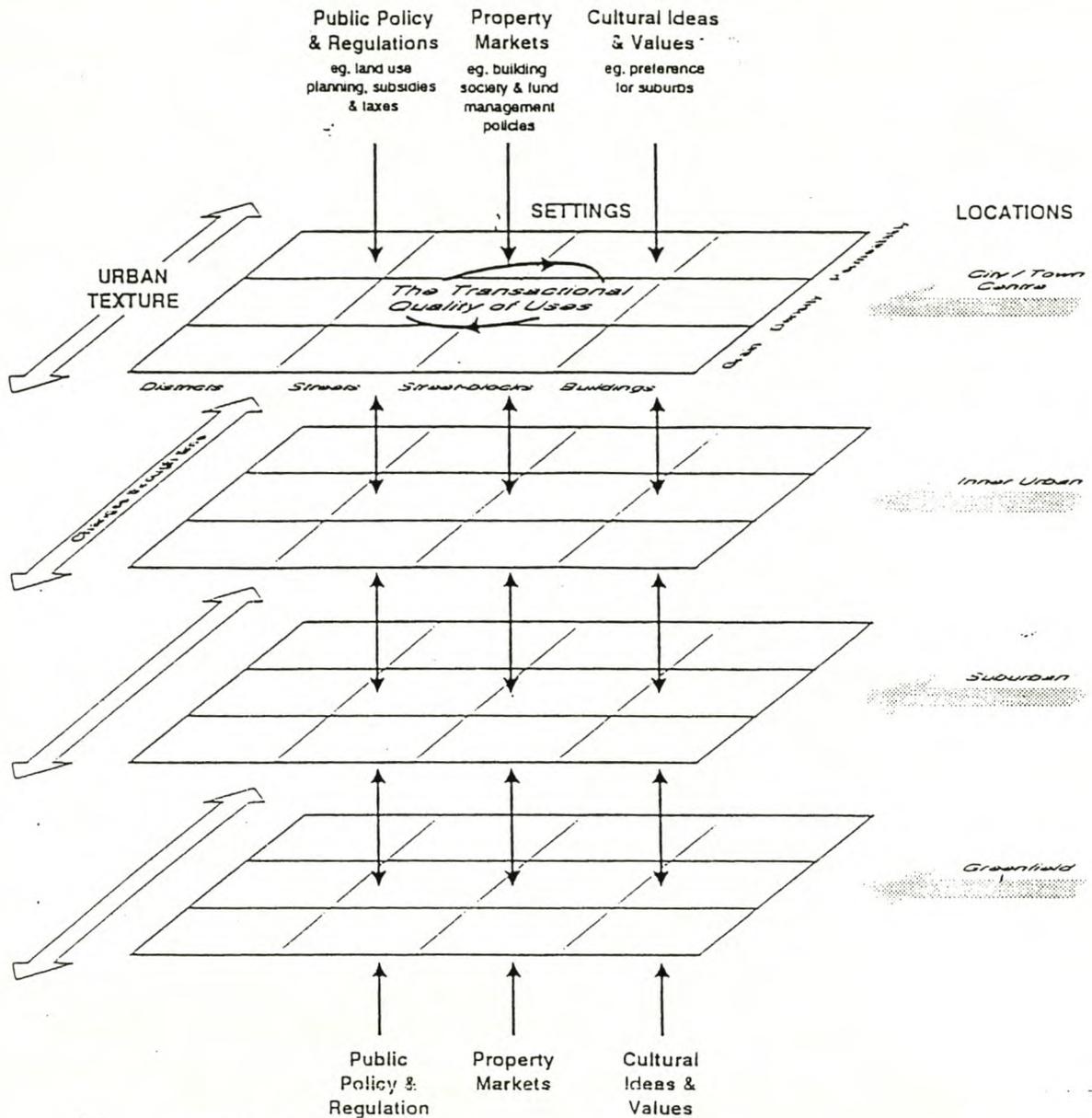


Figure 1: Conceptual model of mixed land use

(Source: Rowley 1996: 4)

Campbell, (1999: 20) however, believes, that the issues which affect the way mixed-use occurs in city centres are the natural form of most city centres and that mixed-use development is a consequence, and it can't be prescribed, it is not something that can be zoned. It is something that happens as a result of different factors. Campbell agrees with Rowley to a certain extent, specifically about the following aspects, time dimension, tenure, and location, but subsequently lists several other

important aspects. Campbell mentions the following integral aspects which are overlooked by Rowley:

2.4 Aspects according to Campbell

2.4.1 Ownership:

Campbell regards mixed-use as a consequence of ownership, meaning that for it to take place one needs a diversity of ownership. That is, that it is necessary to have a load of different facilities to create wide-ranging opportunities to interlink in order to call it a mixed-use area.

2.4.2 Land value:

Land value is considered central to the development of mixed-use areas. The marketing of a land and how its value fluctuates determines who gains access to such land. This may lead to social exclusion of the poor to land which could have enabled them to improve their own standard of living.

2.4.3 Density:

Density is a highly controversial and contentious subject as authors disagree about what actually constitutes sufficient density. Sufficient density here means the correct, not too low or too high, number of living units per hectare on a parcel of land necessary to make it viable.

2.4.4 Built form:

Buildings makes part of the mixed-use development. Here he refers to the ability to have buildings converted and changed as the need arises.

Furthermore Campbell refers to two more aspects which he thinks should be taken into consideration when mixed-use development is taking place; interface- which is

the placing of the building, and also attitude – referring to the attitude of the developers and others involved in the development in order for it to be successful. Developers should always keep an open mind and not let their previous experiences or prejudices cloud their sense of objectivity.

Jacobs (1961: 65) in contrast, concentrates the above-mentioned aspects into just four; when she states the following as the prerequisites for mixed-used development to be considered as such:

- All districts in a city must serve more than one primary function, and preferably at least three, so that there will be people on different schedules using facilities in common.
- Short blocks and distances scaled to pedestrians.
- A mixture of buildings of varying age and condition, so that there are cheap rents for enterprises just starting out as well as high quality space to keep successful enterprises from leaving the area.
- Dense concentrations of people to support diverse activities within a compact area.

CHAPTER 3

3. THE PURPOSE AND AIMS OF MIXED-USE DEVELOPMENTS

3.1 Introduction

Mixed-use is linked with the effective utilisation of land uses. Land is one of the most scarce resources of our time, thus it is necessary to utilise these resources optimally. With the current worldwide urbanisation tendency, it has become necessary to manage the spatial settlements pattern of town dwellers. Mixed-use development can thus serve as an instrument to accomplish various positive circumstances. The usefulness of mixed-use development is affected by the following:

3.1.1 Increased accessibility

People become more and more aware of the social, cultural, economic and recreational opportunities presented by the city. Thus opportunities should be accessible to the majority and the creation of opportunity in the small business should also be considered (Dewar, 91: 66). The concept of mixed-use development is also a way to increase densities. The tendency is actually to decrease densities with an increase in distance from the core of the city as illustrated in the figure below.

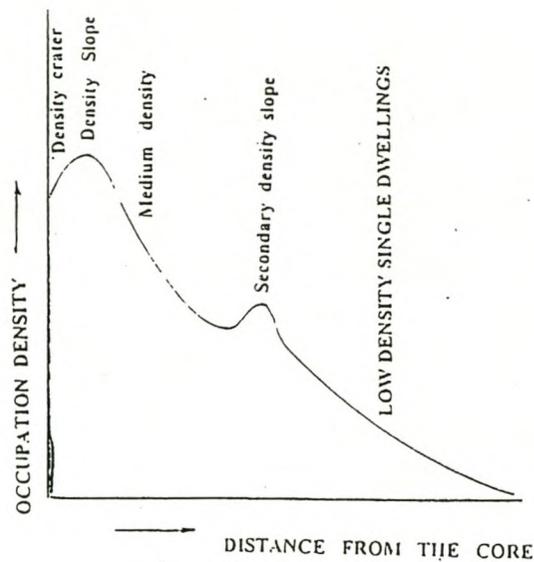


Figure 2: Decrease in density with an increase in distance from city centre.

(Source: Van der Merwe, 1987: 187)

It is thus advantageous through the concept of mixed-use development, to get a greater number of people to establish near the centre of the city, to gain maximum or optimal access to services and facilities. Thus it also reduces the distance between residence and work place. Accessibility, is actually not only limited by the size and the amount of inhabitants of a city but it is dependent on the way in which an urban area is structured. Figure 3 shows that an increase in density leads to greater accessibility of the city-centre.

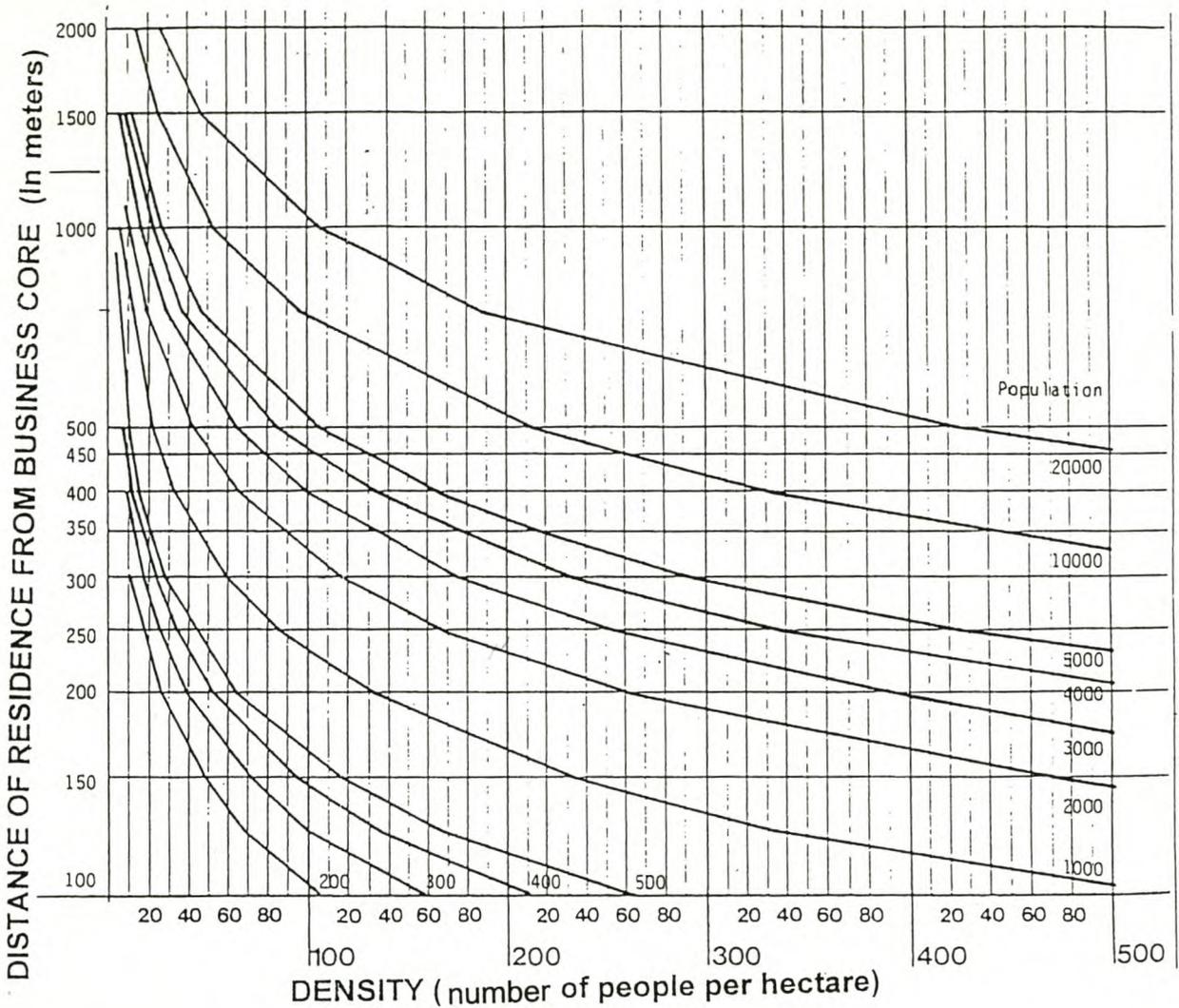


Figure 3: Increase in densities leads to greater accessibility

(Source: Senior et al 1988: 4.3)

3.1.2 Effective Public Transport

Public transport can only be provided in a sustainable and effective way, when a greater number of people move in a relatively small area, in other words, where high densities occur (Verreyne & Steyn, 1997: 5). The increase in the sustainability of different types of public transport with increasing densities is illustrated in figure 4.

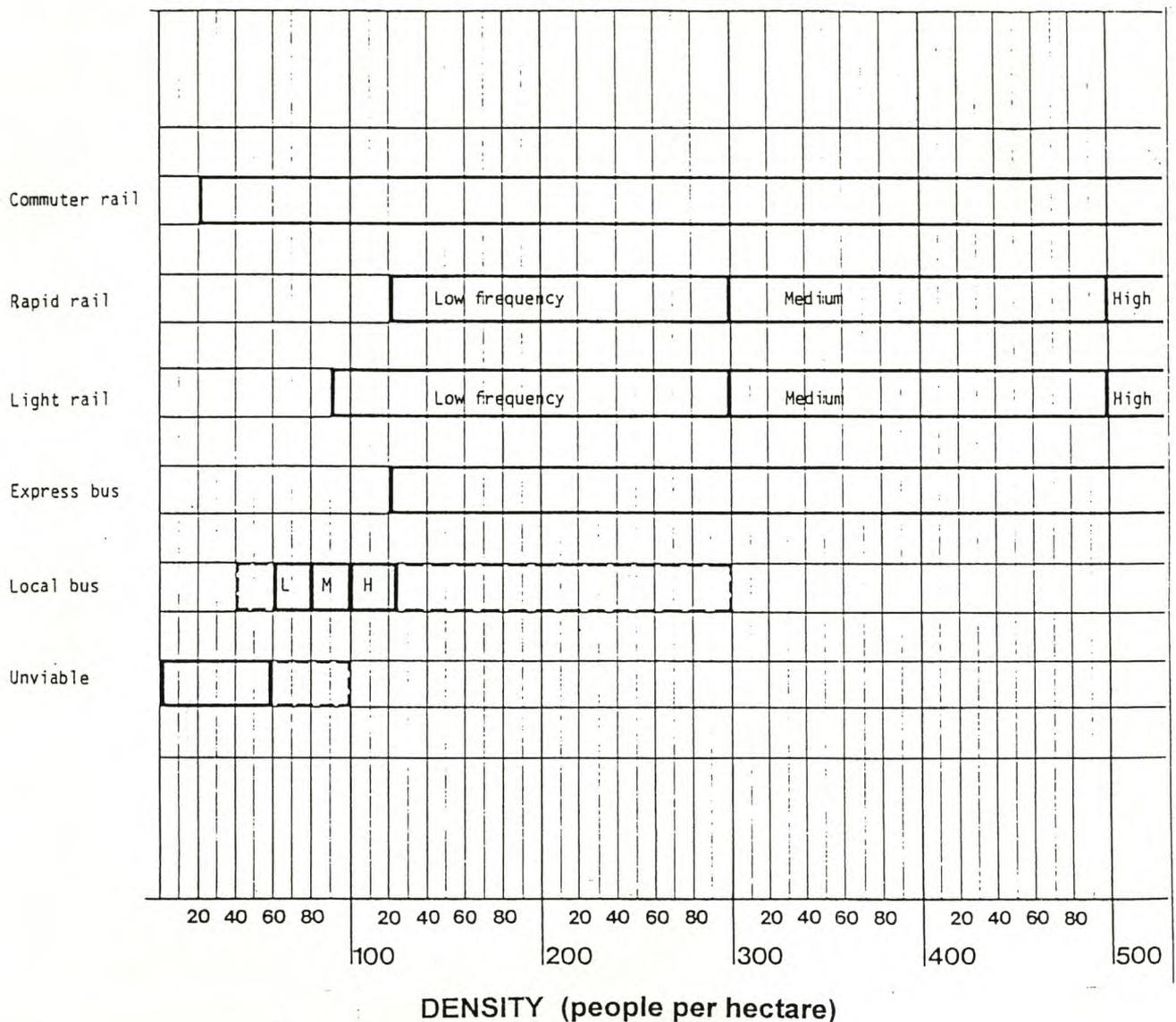


Figure 4: Sustainability of public transport at different densities.

(Source: Senior et al 1988: 4.7)

Transport routes along a central axis, together with shorter commuting distances, should be able to lead to a decrease in the use of private motorcars. Shorter commuting time results in more recreational time, which can be applied to social and family activities. Higher densities lead to more pedestrian movement and better usage of the public transport system. The minimum number of residential units per hectare required for effective usage of the public transport system is 30 units per hectare, (Hans Blumenfeld in Cervero & Bosselman, 1998: 183). From figure 4, it

can be seen that densities of less than 60 units per hectare does not really make a public transport system sustainable.

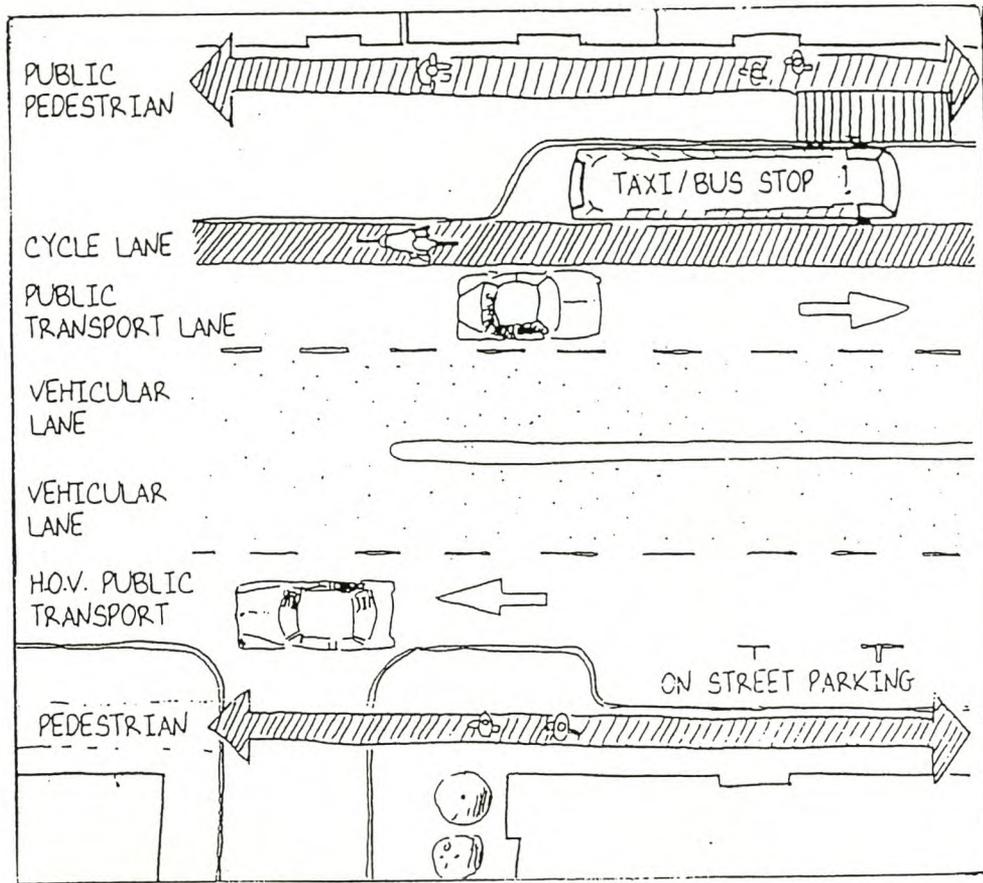


Figure 5: The integration of various modes of transport

(Source: MSDF Handbook, 2000: 74)

3.1.3 More affordable service provision

The idea of separate development and low densities also results in less compact cities, which results in expensive infrastructure and greater commuting distances (Kok and Gelderblom, 1994: 128). Figure 6 illustrates how costs and service provision can be reduced with the implementation of more compact and higher density development. Less pipes would then be necessary for water provision,

sewage and storm drainage, over short distances, although internal services are sometimes more expensive to handle a bigger load, (Behrens & Watson, 1996: 240).

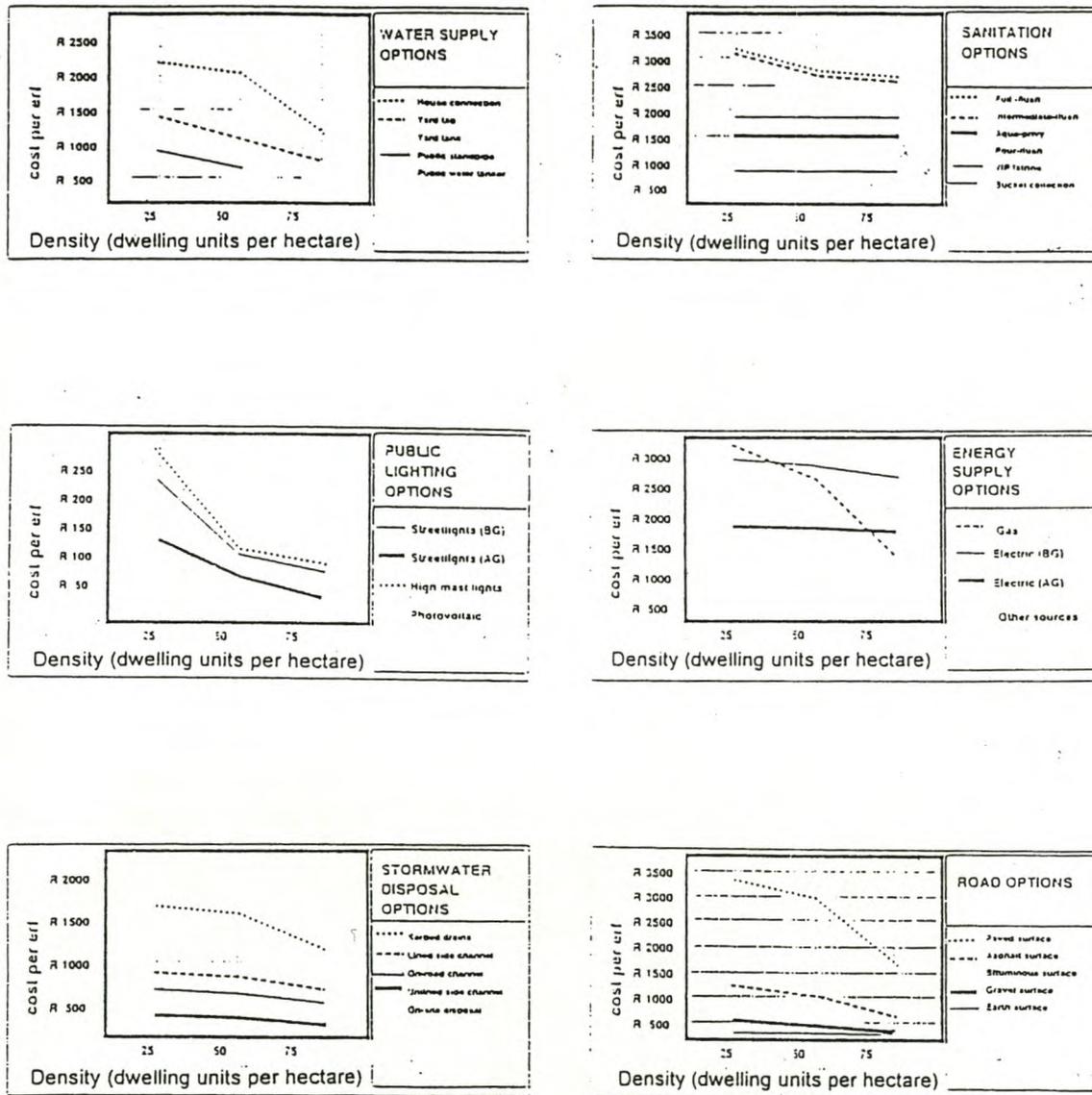


Figure 6: Decrease in service costs with an increase in densities.

(Source: Behrens & Watson, 1996: 240 – 243)

3.2 The implications of mixed-use development

3.2.1 Introduction

Before mixed-use developments can achieve its high potential for success as well as make a positive contribution to the urban environment, numerous problems must be recognised and overcome. The focus of this section is thus to highlight the advantages and disadvantages to the individual and the community that mixed-use developments will bring about.

3.2.2 Disadvantages to the Individual

According to Coupland (1997: 4), the operation of businesses from home can sometimes impose restrictions upon the space especially if the nature of the operation is space intensive and when the business is expanding. However, this problem does not apply to the majority of home based businesses, and it is important that alternative reasonably priced and close facilities are available, should the entrepreneur wish to expand into formal industrial or commercial premises.

The lack of access to customers is one of the disadvantages suffered by people who operate their businesses from home, especially if the area in which they live is mainly residential. This is particularly the case if they are selling products and rely on passing flows of people to generate sales (Watson, 1992: 16).

Complaints and pressure from neighbours, which might be legitimate, often limits working hours, the extent of business activities or the noise levels, smells and increased traffic which may be caused (Schwanke, 1982: 45).

3.2.3 Disadvantages to the Community

Watson (1992: 16) identifies various potential disadvantages which stems from the nuisance effect, which industrial and commercial uses can have on residential land use. These are as follows:

- Noise, particularly if this occurs in the evening and on weekends;
- Smells;
- Air pollution, sometimes involving substances that are harmful to health;
- Water pollution, particularly if industrial waste products are emptied into sewage systems or drainage systems designed to cope with domestic products;
- Generation of greater volumes of traffic which can cause parking problems for residents and safety problems for children;
- Litter problems.

This clearly highlights the severe degree of these “nuisances” and its variety and it also depends on the nature and size of the non-residential land use which is the cause of it.

It is often argued that the reduction in the value of residential land is often a result of the nuisances which are generated by industrial and commercial uses.

3.2.4 Advantages to the Individual

A person operating a business from their home often does so in order to save cost of paying for additional premises. Specialised factory and office accommodations is frequently difficult to secure and is generally more expensive than residential property. Operating from home, reduces business overheads and allows for higher profits (Watson, 1992: 13).

Operating a business from home, or from a place nearby home, reduces daily transport cost and time. One of the most important facts of the separation of land uses under zoning systems, is that it has imposed major transport costs of individuals.

Operating a business from one's home or nearby one's home, allows for greater flexibility in terms of working time. A convenience store operating from a house, can be effectively open until everyone goes to bed – thus increasing the possibility of sales and increasing convenience for customers (Watson, 1992: 13). A mechanic, operating from his garage, can continue working during the evenings and over weekends and is not constrained by formal working hours of a commercial or industrial premises.

Operating a business from home allows women to combine childcare and domestic work with productive work: a significant proportion of the informal sector operators are generally women, for this precise reason. It allows those who are less mobile for other reasons (age, disability, etc.) to generate an income (Watson, 1992: 13).

Operation of retail or service outlets (both formal and informal) in residential areas, places them closer to customers and hence increases the potential for sales (Coupland, 1997: 4).

3.2.5 Advantages to the Community

The ability to operate a business from home, at minimum cost and with maximum flexibility, can act as an important counter to problems of poverty and unemployment. In many third world countries, up to half of the economically active population may be supported in this way. Reduced unemployment and poverty results in reduced societal stress and political conflict and a general improvement in the quality of life (Watson, 1992: 14).

Mixed-use developments reduces pressure on a city's transport infrastructure and can affect major cost savings for the city's population.

The rigid separation of land uses, which currently characterises many cities, generates excessive travel: people have to make lengthy and specialised trips to get to work, to shops, to health and education facilities, and the recreation facilities. The accommodation of these movement patterns in turn requires large scale public investment in roads, public transport and parking facilities (Coupland, 1997: 4).

This transport infrastructure is usually inefficiently used, when land uses are separated, since traffic flows take place in one direction in the morning (from residential to work areas) and in the reverse direction in the evening. At off-peak

times, the infrastructure is highly utilised. Further transport infrastructure takes up large quantities of valuable land and freeways divide and segment the city (Watson, 1992: 14) .

The enforcement of large scale daily movement patterns places a particularly heavy cost burden on city residents, and it is generally the poorer communities, who live on the edges of the city, who have to travel the furthest and pay the most. This in turn exacerbates problems of poverty and income inequality (Watson, 1992: 14). The large amount of time spent in commuting also impacts negatively on the community: parents who leave early in the morning to get to work and arrive home late at night from work are less able to rear their children effectively, leading to high levels of delinquency, gangsterism, school dropouts and moral decline (Schwanke, 1982: 45).

Mixed-use development and particularly the integration of retail service and social facilities with residential areas, results in general improvement in the level of convenience for households. The imposition of land-use separation has meant that people have to use transport (or walk long distances) to gain access to the lowest level of retail and social facility: cafes, clinics, pre-schools and primary schools, post offices, libraries, etc. This is a particular burden on people who are less mobile (women with small children, old and disabled people).

Mixed-use development can contribute to the reduction of high crime levels in certain parts of cities. Oc (1991) points to the crime which in British cities, has tended to concentrate in those areas which are deserted at night as a result of a pattern on unifunctional land-use. Central city areas, in particular, empty out after working

hours and the level of surveillance drops. Such areas become particularly dangerous for women who have to work late or night- shifts.

The same principle applies to residential areas during the day time when a large proportion is away at work. The level of surveillance drops and crime is less easily detected.

According to Coupland (1997: 4), mixed-use development can result in more efficient use of public facilities and public investment in terms of current planning philosophy and the provisions of the zoning ordinances, facilities such as libraries, halls, playing fields and schools are seen as separate entities and are funded and administered separately. This is costly and inefficient as these specialised facilities are often unused during parts of the day or week.

A more rational approach would be to integrate these functions where possible (Watson, 1992: 15). For example, there is no reason why a school hall or library should not also function as a community hall and library, school playing fields as community playing fields after hours, etc. A more efficient use of public funds, in this way is likely in the future to become a necessity as funds for these kinds of facilities are always under pressure.

A mixture of land uses gives variety, diversity and excitement to what are otherwise monotonous and dreary unifunctional areas. Residential areas which comprise row after row of housing units, and little else, can be extremely boring and depressing (Watson, 1992: 15).

Monotonous and unifunctional living environments also have a retarding influence of the learning experience of children. Some of the most important educational experiences of children, come from interacting with the real world, which exists beyond their doorsteps, and when this experience is devoid of people and activity, the child's acquisition of knowledge is slowed (Watson, 1992: 15).

In many cities, the revenue base of local authorities is the property tax and this is usually levied more heavily on non-residential land uses. Areas which have a mixed land use, are therefore able to generate a higher level of income for local authorities thus allowing for greater public investment in the area.

3.3 Conclusion

There is a shift away from the rigid application of conventional exclusionary zoning systems which result in the strict separation of land uses, towards a more flexible approach to land use control and a greater acceptance of the principle of mixed-use development. Clearly there is a need for a "middle road" with regard to land use control with the exact form taken by this control depending very much on the context within which it is applied.

There are strong arguments to support the need for greater mix of different land uses, and there are important community and city-wide advantages to be gained from greater mix. None the less, the potential "nuisance" factor is a real one, and is one which gave rise to land use control in the first place. Some form of control is needed which allows for a far higher degree of land use integration, than is presently the case, but which is also able to curb access negative externalities which may

arise. The system of performance controls has the potential to meet this need, and deserves further investigation (Watson, 1992: 17) .

CHAPTER 4

4. STIMULATING FACTORS THAT LEAD TO SUSTAINABLE MIXED-USE DEVELOPMENT

4.1 The Economic Threshold

An understanding of the extend of urbanisation prevalent in the metropolitan areas in South Africa today, the increase in unemployment and poverty, the inability of the majority of the poor urban to afford a motor car, changes in the existing public transport modes and the growth of the informal sector is fundamental to the way planning for low income people needs to be examined. Planning in this context should emphasise the range of opportunities to increase the economic threshold, and to give access to different facilities to previously disadvantaged communities.

All commercial and social facilities need a certain number of people to make it sustainable. This minimum level of support for a business to survive is known as economic threshold (Green, 1990: 14). The economic threshold is dependent on the amount of people who is living in the vicinity of the specific facility. If the density of a city is increased it will increase the economic threshold of that city.

Range is the maximum distance which people are willing to travel to make use of a specific facility. It is dependant on determinants such as the product being sold, diversity of products, the scarcity of service, etc. (Green, 1990: 15). The more people living in the vicinity of a facility's range, the stronger the threshold of the facility.

A linear system does not have to be limited to a single route, but can have routes with different scale with corresponding activities incorporated. Therefore activities which have a higher economic threshold need to be placed along the main axis route. That's how the level of economic activities can be increased.

4.2 Factors that can increase Economic Threshold

Economic threshold consists of a critical factor which will determine if a mixed-use development will work or not. There are various factors which can increase the economic threshold and as a result make the mixed-use development sustainable (Green, 1990: 15).

4.2.1 Higher Residential Density

As has already been said, residential densities in South Africa are relatively low. An increase in a city's residential density means that there are more people within walking distance living in close range of a facility. This will increase and strengthen the economic position of the facility and consequently the facility will become economically stronger. By letting more people move into a residential area, the density will increase. This increase in the economic disposable income due to increase in population makes the establishment of new businesses and facilities possible.

According to Chittenden & Associates (1990: 12) the optimal residential density for a city is approximately 300 people per hectare. Cape Town has an average density of 50 people per hectare. The concentration density in a mixed development may differ.

Where there is a higher concentration of facilities the density will be higher, but the densities at parks and open spaces will be less.

4.2.2 Through traffic

The more traffic channeled into a mixed-use development corridor, the more people will see the facilities in that corridor. More people will stop and make use of the facilities. This will increase the economic advantage of the different facilities in the mixed development (Green, 1990:18).

This concept becomes clear with the illustration of what throughways can do for any small town's economy. There should always be a balance between throughways and local traffic, because immediately when there is too much traffic in the corridor, a congestion level will be reached and people will start to ignore the corridor. This will have a negative impact on the activity corridor's economy (Green, 1990: 18).

4.2.3 Residential Scale

Neighbourhood planning in countries like Canada, the USA and even here in South Africa, creates a logical concurrence between family housing and schools. This cellular system (family housing and schools) actually also has its negative consequences: for example, provision is not made for households during other stages of life. Consequently the population that supports one primary school is too small to support other basic social and commercial services, such as water and electricity, health services, shops and malls. The economic question of whether three or four neighborhoods together will actually be adequate to justify services such as shopping centres, meeting places, entertainment facilities and blocks of flats (Carver,

1962: 48). The answer to this question is that the planning of residential areas be comprehensive and that it should be on a bigger scale than on a single neighborhood.

4.2.4 Socio-economic situation

The level of income of an area's inhabitants is important, because it does not help an area if numerically there are enough people to support the facility, but have inadequate earnings to support the facility. The sustainability of a facility in a low income area depends more on the number of people residing there than in a high income area. Therefore the continuing existence of the facility is dependent on the level of income in the area.

The economic threshold, however needed by a specific facility to exist does not rely solely on the income and density of the surrounding area, but also on the demand of the people for that facility. The demand for a certain facility changes according to the different stages of growth and development of a community. Certain groups such as age, cultural groups and different levels of education, determine the need of a certain facility (young kids have e.g. a need for a playground; while senior citizens have a need for something else).

If people with different incomes can share a facility it will be to the advantage of the low income groups. The reason for this is that the low income groups do not have the financial capacity to justify a specific facility (e.g. a theatre or museum), but the provision of such could be achieved if higher income groups also have access to this facility (Green, 1990: 19).

4.2.5 Mobility Levels

Where public transport is not available, the ability of people to move from place to place is dependant on access to private transport. In poor societies the majority of the people do not have access to a private car. They are then dependent on walking, or other less expensive form of transport (cycles or public transport). Therefore in areas with a low mobility, facilities must be within walking distance from the inhabitants' homes. Here planning's motto should be 'closeness'; bringing facilities in close proximity to the people. (Green, 1990: 20).

4.2.6 Integration within the Metropole

Areas that are integrated within the metropole with easy access will attract more clientele from other areas, than areas which are isolated from the metropole. Suburban areas which are divided from the corridor by an obstruction (e.g. a rail line) will never be part of the corridor. The facilities within the corridor lose that area's people as possible clientele and shopping power. The attraction and accessibility of a location is dependent on the needs of the people and its interaction with nearby areas and facilities (Green, 1990: 21).

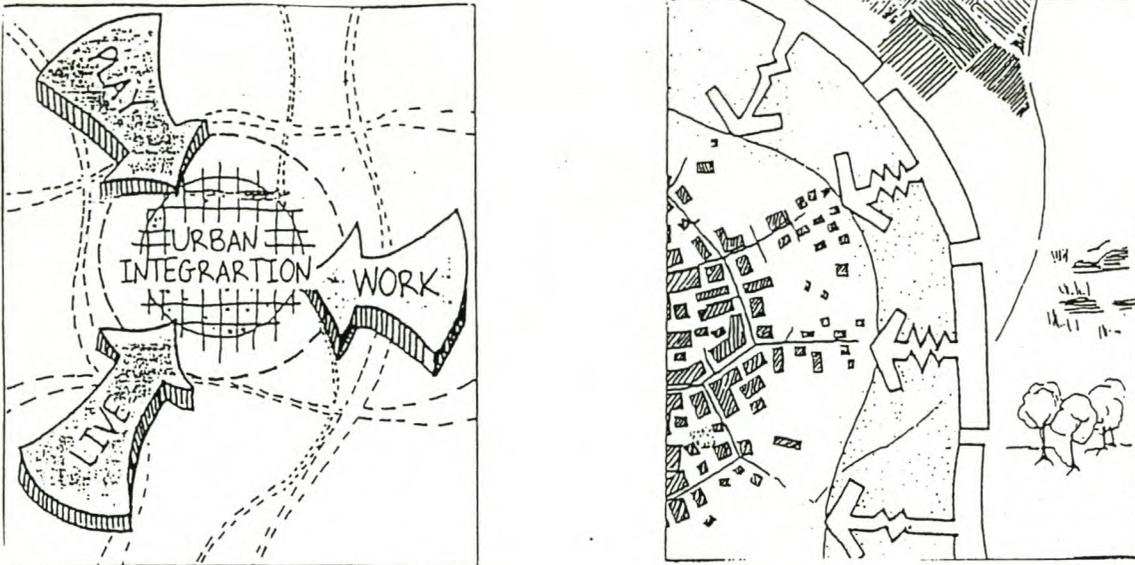


Figure 7 & 8: Urban Integration and Containment of Urban Sprawl

(Source: MSDF Handbook, 2000:7 & 9 respectively)

4.2.7 Diversity of land uses

Inhabitants of a low income area spend their money somewhere else, because the facilities which they need, is sometimes not in their areas. Their money is then to somebody else's advantage and as a result to their own area's disadvantage.

The areas which create opportunities for the inhabitants to spend their money in that specific area, will have less income leakages. Thus to increase economic viability, it is important not to plan neighborhoods as single residential cells. There should be a land use component providing for shopping and job opportunities as well.

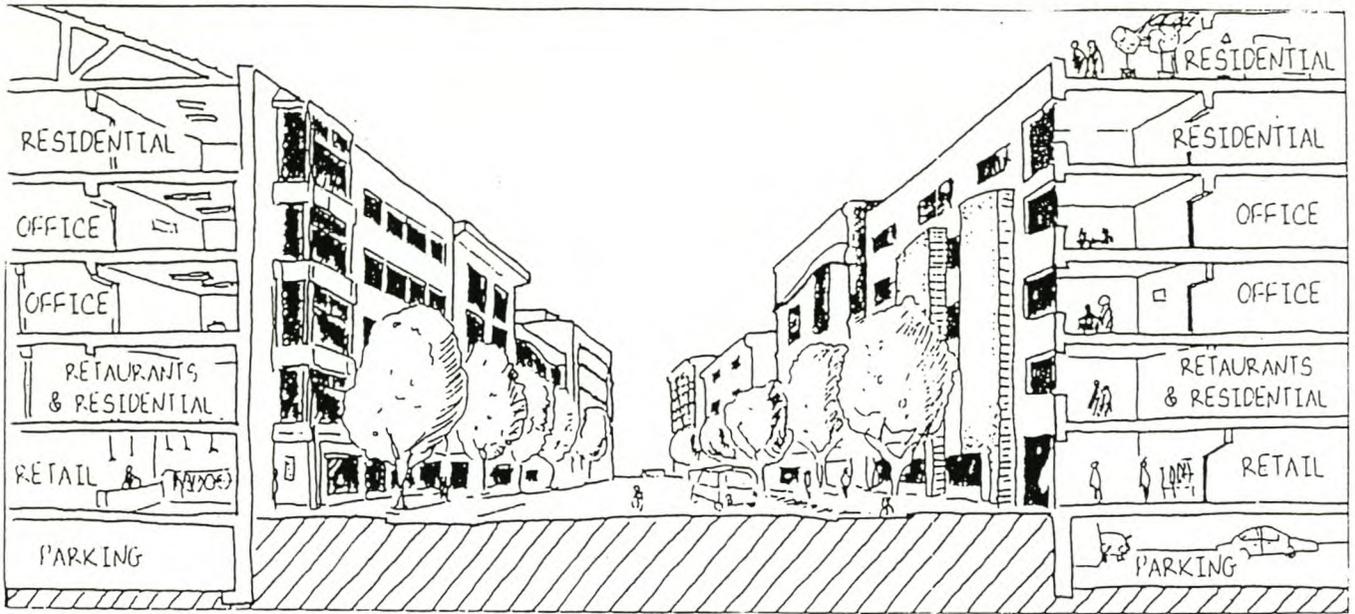


Figure 9: A vertical mix of uses

(Source MSDF Handbook, 2000: 18)

The development of a diversity of social and commercial facilities in a low income residential area, so that inhabitants can contribute to the economic growth of their area should be aimed at (Tomlinson, 1994: 237).

4.2.8 Spatial structure

As mentioned previously, facilities along a corridor street are more accessible than facilities which are arranged around a point. Integration is much easier and people mix easier in the context of other spatial forms. When activities and people locate around a point, accessibility could be very difficult. With a linear spatial structure, accessibility is very easy because activities are allowed to locate around the axis. This will help to stabilise the economic threshold of an activity corridor (Chittenden & Associates, 1990: 10).

4.2.9 Image and Safety

The image of facility is very important. If a facility has a good and positive image, it will pull more clientele and also a better type of client. Furthermore, the safer the area where a facility is located, the safer and easier clients will feel and they will make more use of this specific facility. This will lead to an increase in the economic threshold of the facility (Biemborn et al, 1990: 171).

4.3 Guidelines for the design of mixed-use development

In the planning of mixed-use development, the physical design is an important aspect of the success thereof and is a topic in its own right. For the purpose of the study, activity corridor guidelines will be looked at.

4.3.1 Urban Form

To implement the activity street concept on residential level, a policy which supports linear development on metropolitan level should be accepted. This will ensure a hierarchy of connected routes which cluster together instead of activity streets which are scattered around in the urban structure and will ensure frequent use of these streets instead of streets which lays dormant and underused (Green, 1990: 33). The most important purpose of the town planner, then, is to understand the physical environment and to shape it in such a way that it will be to the advantage of the community (Lynch, 1990: 355). If mixed-use development is implemented, it is important that linear flow should be accommodated through the urban form. A radial system or a simple linear system will accommodate the activity streets in mixed-use development. A grid pattern is actually known for distorting flows and this won't be viable in a low income area (Green, 1990: 33). In the same vein the Local

Government Management Board (1996: 109) states that :”Functional linkages between activities should be a key determinant of siting decisions”. They substantiate this by asserting that the potential for dual use of space, traveling and multifunctional design will be greatly enhanced.

4.3.2 Density

Densities, like residential densities, play an important role in the effective functioning of cities, it also refers to the intensity of human activities, that’s why densities don’t only deal with physical elements, but also with high population densities. The higher an areas density, the stronger its economic threshold (Chittenden and Associates, 1990: 12). High residential densities make more economic sense provided the tenants are economically active.

To maximise advantages of a linear development, the densities of both sides of the mixed-use development should be as high as possible. Planners should strive to a nett density of at least 50 living units per hectare (the optimal density is actually 60 units per hectare). Density, as has already been mentioned remains a contentious issue, as no consensus has been reached concerning what the best number would be. Jacobs (1961: 221-225) in contrast states that between 100 and 120 living units per hectare would be sufficient. The MSDF (1996: 47) concurs with Jacobs about the number of units that represent sufficient density, which is 100 dwelling units per hectare. In the author’s opinion it would be safer to assume a number which ranges between these two; that is, between 90 to 100 is an acceptable and also sufficient number, specifically in the Central Business District (CBD). In the CBD densities should be higher but away from the CBD, lower densities should be used, because

people seek or want more living space, rather than have access to facilities (Green, 1990: 35).

4.3.3 Socio-economic Relationship

When mixed-use developments are planned, there should be an attempt to give people from different economic groups access to the same business areas. Facilities such as banks, building societies, filling stations, etc. are seldom seen in low income areas, because inhabitants don't have (money) financial capacity to support these facilities. According to the Local Government Management Board (1996: 109) the development within these areas of these facilities is not just necessary but essential, when it asserts the following: "Commercial centres should combine office, retail, leisure, civic, and high density residential uses in close and overlapping patterns, knit together by pedestrian network". This would ensure the survival of these services in these areas. Thus with a mixed-use development, inhabitants of these areas get access to these types of facilities. The survival of the facilities are also higher, because it gets support from the large and much more diverse population.

With planning of mixed-use development, there should be an attempt to have a mixture of socio-economic groups next to activity streets. Unfortunately, market forces will guard against this and can lead to the exclusion of low income labour. Because low income areas traditionally have low mobility levels, the mixed-use development can improve access and movement facilitation to the advantage of all the different socio-economic groups. The activity corridor is really an interesting urban structure to accommodate the needs of people with low mobility (Green, 1990: 36).

4.3.4 Zoning

It can happen that the natural development of land use can lead to unwanted placing and bottlenecks in the city. In the process, the optimal functioning of the urban structure is being impeded (Van der Merwe, 1991: 113). That is why it is important that zoning for a mixed-use development should be provided.

An activity zone which defines the activities in the surrounding area, must be incorporated into a zoning scheme. The zoning regulations shouldn't be prescriptive, because informal business normally starts in a house. In the Delft structure plan, the zoning regulations provide for living units as the primary use, but with automatic permission for any person to open a shop adjacent to your house on your erven, only as long as the owner lives there (Green, 1990: 36).

With the activity corridor and activity street, permission for housing businesses must not be limited to the central zone, but also to the lower order route, because business are also needed in these areas. This doesn't mean that house business should be allowed everywhere, but that it should be allowed on routes along traffic that carry pedestrian and motor car traffic. Therefore, in areas with low mobility, businesses should also be allowed to settle along pedestrian routes and shops will be in walking distance of inhabitants (Green, 1990: 36).

4.3.5 Design Concept

According to Green (1990: 38), there are certain basic principles to be followed with the design of mixed-use development.

- An important activity (e.g. a station or crèche) needs to be located on both parts of an activity street.
- Routes of mixed-use developments, need to have high intensity nodes, which will serve as a growth point for linear development.
- Route must make provision for alternative traffic routes, in case of congestion.
- If a separate through-traffic road is planned and must be built, only after the activity route is established.
- The activity route should not be too wide, to control speed and better safety insurance (this presuppose enough walking space for pedestrians).
- Provision must be made for later upgrading or improvement of the routes.
- Efforts should be made to protect reserved land for the through road against illegal use.

The legal circumstances of an area is unique and therefore each mixed-use development must be adjusted to suite the circumstances (Dewar and Uytenbogaardt, 1991: 102).

4.3.6 Through Traffic

Only streets which can make provision for through traffic must be developed as activity streets. According to Biemborn (1992: 109), the provision for through traffic can happen in three ways (depending on local conditions):

- 1) A higher order road, which runs parallel to activity routes, can be planned in co-operation with the activity route. This will be used for through traffic in cases where congestion occurs.
- 2) A System with one way streets on both sides of the activity route (like in Curitiba, Brazil). This option is more suited in areas with more accessibility for private transport.
- 3) The provision of the needed reserves, for through traffic and service routes can take place in these reserves. (Biemborn, 1992: 109; Green, 1990: 39).

4.3.7 Public Transport and Routes

It is essential that activity routes will serve as public transport routes. The presence of public transport is a precondition for the development of mixed-use developments, because it can facilitate movement between different facilities, and because transport generate commercial opportunity and trade and in turn generates transport (Biemborn, et al 1990: 164). If possible passengers should be able to choose between different transport modes and destinations.

When the activity street in a pedestrian way changes (like the St George's Mall in Cape Town) alternative routes of access should be made available as existing ones becomes non-existent or redundant. this could be done in several ways, one of which is the provision of a parallel fixed rail line system (e.g. a mono-rail or a tram) in a 20 meter reserve. The purpose of a mixed-use development is actually not to become public transport corridor, but it should rather remain a transport route where access and mobility enjoy equal attention (Green, 1990: 43).

4.3.8 Public transport-end points

Public transport-end-points (locations such as bus terminuses or taxi ranks where passengers are picked up or dropped off. In between these end points there are stops where people are picked up and dropped off) and activity corridors have a complimentary relationship, and therefore they must be integrated and designed together. The design of a transport-end-point must be of the best quality, so that public transport can compete with private transport. The transport-end-points must be well managed and very much consumer friendly (Biemborn, 1990: 165).

The accepted norm for transport-end-points is one per kilometer. Where residential densities are very high, one every 500 meters is more acceptable. The transport-end-points should accommodate both bus and taxi's (Green, 1990: 43).

Shelter for passengers should be provided at each end point. During peak hours public transport should have preference above private transport. It is also important that provision should be made for informal trading at high order transport-end-points in the activity corridor (Green, 1990: 43).

4.3.9 Trading Facilities

Urban areas suffers from a lack of multi functional areas because of sectoral planning. A multi functional facility originates when two or more urban functions combine to form a significant unit (Gruen, 1973: 99). There is a further demand to an area where business get maximum exposure and areas where people who

makes use of public transport can buy goods at these points. Thus these areas are normally located at transport-end-points. TRANSNET is already busy converting some of the rail stations in multi modal transport-end-points with opportunities for both formal and informal businesses.

Provision for informal trade needs to be created, in such way that they will be seen as a spontaneous opportunity, rather than a regulatory measure. The extension of pedestrian side walks, and control over the amount of parking and the provision for infrastructure at this parking areas is but just a few ways on how to regulate informal trading (Green, 1990: 45).

4.3.10 Traffic Safety

According to Green (1990, 46), there are a few safety measures, which relate to the design of a mixed-use development.

- Maximum speed of 60 km/h is acceptable
- The use of special road signs to make drivers drive slower
- Change colours of surface texture of the road so that drivers can be aware of changing environments
- Make use of pedestrian crossings which will delay traffic as little as possible
- Where a street is wide, there should be provision of a median island or strip for pedestrians
- Good street lighting
- Limit parking in streets

If these safety measures are applied, good transport flow should be possible, but at the same time the safety of pedestrians is secured (Biemborn et al, 1990: 171; Green, 1990: 46). These suggestions by Green, though, are not conclusive and therefore final but open to challenge and criticism. There are parallels between what the National Road Safety Council states in relation to what Green suggests.

4.3.11 Public Safety

During peak hours activity streets are very busy places, especially at the transport-end-points when different transport modes simultaneously arrive and leave (Biemborn et al, 1990: 171). The safety of the users of the different transport modes must be ensured.

We live in a society where crime is the order of the day (e.g. the taxi violence), that is why we should in the design of mixed-use developments make an individual feel safe all the time. That is why it is best not to use culs-de sac or isolated areas in a mixed-use development so that if crime is being committed escape routes for victims should be available (Green, 1990: 47).

4.3.12 Geometric Design

If high mobility levels in an activity street wanted to be kept and still provide enough access for through traffic attention should be given to special bus lanes, bus stops and parallel service or access routes. The nature of access on different types of streets will change overtime. This needs to become the topic of transport impact studies and to develop the broader guidelines of this (Green et al, 1995: 150).

4.4 Preconditions for success

A mixed-use development is more than just a mixture of activities. The different activities which are created by the mixing of different uses can satisfy more than just the local needs of its inhabitants. It tends to integrate different areas. That's why for a mixed-use development to be successful, there must be certain preconditions, nl.:

The successful implementation of a mixed-use development will not only depend on the determination of planners to promote the concept and to secure the support of the whole community through inclusive public participation certain preconditions have to be met to achieve success and obtain the objectives set (City Planner's Department, 1995: 10):

- The presence of an effective transportation system which will serve the communities on a private; a local base, as well as regional level. This transport system supports the concentration of activities within the activity corridors especially at transport end points.
- The presence of a wide diversity of public services (libraries, educational facilities, community centres, entertainment facilities, etc.).
- The presence of a wide range of commercial activities to provide in the needs of the local community as well as throughway traffic.
- Residential inhabitants which are big enough (and concentrated) to support the public transport, community centre and local commercial activities and to make it sustainable.
- Safe and secure pedestrian movement must be created by urban design and landscaping.

4.5 The Node

A node is a localised concentration of working opportunities in a location that is directly accessible from one or more (major) transport route(s) (MSDF, 1994: 43). A node is a place with a high accessibility, normally where major roads cross. The more vehicles or pedestrian transport moving through the crossing, the greater is the potential for a node or a core to develop.

4.5.1 Nodes in different residential areas

The crossing of activities gives the potential for an important node to develop. A node can give character to residential area's social, economic, and physical character which can distinguish it from another area. The urban areas around a node must present an urban town with different activities in as a pleasurable environment function. (MSDF, 1994:43).

4.5.2 The most important characteristics of a node is (MSDF, 1994: 44):

- There are located at the transport end node (the greater the transport end point, the greater is the potential for the node);
- They serve as facilitator for health, entertainment, education, commercial and residential activities;
- They make provision for high density residential development;
- They create conditions for sustainable growth and development by public and private investment and increasing accessibility.

4.5.3 Potential Nodes

Lots of investment are needed to develop the good characteristics of a potential node. Of the most important preconditions will be the development of positive image in an area, and the security of potential investor's safety (MSDF, 1994: 46). A very good example of such a potential node is the development of Philippi City in the Cape Flats. Philippi City is located in the previously disadvantaged parts of the Cape Metropolitan area and at an important transport crossing. Thus, with the needed investment Philippi can develop into a very important node. If it should happen the development will have to be in conjunction with the involved communities. Consequently it will mean that development will have to be limited in neighboring communities so that development are not undermined in Philippi.

4.6 Conclusion

A successful mixed-use development incorporates important metropolitan transport routes. On this routes different transport modes, such as rail, bus, taxi's, etc. to different endpoints are present. This linkage characteristic of a mixed-use development is its most important economic asset as a result of the large volume of through traffic. The reason for this is it supplements existing consumers with additional ones.

If a mixed-use development does not satisfy the linkage criteria (ie. link the nodes), it will not develop properly. A mixed-use development must strategically connect metropolitan areas. If such areas do not exist, they should be created.

CHAPTER 5

5. MIXED-USE DEVELOPMENT IN SOUTH AFRICAN CONTEXT

5.1 Introduction

The integration of urban areas in South Africa is linked to different and diverse problems, of which most are direct or indirect the cause of a country with a great cultural diversity.

One of the greatest problems is that little provisions is made in South African legislation for the enforceability of mixed-use development. It appears that more policy frameworks put emphasis on mixed-use development. There is actually more legal recognition than ever before and encouragement for mixed-use development now.

An additional problem with mixed-use development is the implementation thereof in the Apartheid state. Traditional race divisions has led to a situation where certain groups were located further from available opportunities and services than others and it is thus the former group who need to enjoy the advantages of mixed use development.

Low cost housing also leads to a lot of problems in respect of mixed-use development. Small detached houses on small erven lead to areas which are characterised by rigidity. In general, it is also very difficult to apply mixed-use development in existing areas, but in areas with low cost housing it is different, considering that less space is available for infill development and subdivision is

almost impossible on account of the relatively compact layout of the houses. Before any steps are taken to introduce mixed-use development in South Africa as part of a development and urban strategy, the attitudes and perceptions of the bulk of the population on mixed-use development should also first be modified to render this form of housing more acceptable

5.2 Mixed-use development Policies

Present South African legislation and policy guidelines make more provision for the integration of different land uses and development processes than before. Different Acts and policy documents exist where there is direct and indirect provision made for the integration of different land uses. The following policy documents and legislation, which makes provision for the integration of land uses, is especially important for planning.

5.2.1 The Constitution: The Republic of South Africa, Act 108 of 1996 No. 108

Although the concept of mixed land uses is not directly mentioned in the Constitution, The Charter of Human Rights has a great influence on the application thereof. Various articles refer to the basic rights of people. Some of these rights can through the integration of mixed land uses be touched while other rights can particularly be protected by these policies.

According to Article 28 (1), of the Constitution, everyone has the right to have access to adequate housing. Furthermore, there are also instructions that "The State must take reasonable legislative and other measures, with its available resources, to

achieve the progressive realisation of this right.” Thus it is the obligation of the Government, to look after especially the poor, and to give them access to adequate housing. The definition of “adequate housing” differs from community to community and is determined by various factors, but refers to a living unit wherein people’s basic needs can be satisfied.

In many areas, especially those with little available developable land, the integration of mixed-uses is the only method for giving everyone access to different facilities. The right to access to adequate housing, can in certain circumstances through the integration of different land-uses and by increased densities, be achieved, but it should also be prevention against density increases, so that the right to adequate housing should not be violated.

A further basic right, acknowledged by the Constitution, is the right to the protection of the environment through “legislation and other measures that ...secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development” (Article 24(6)). Developable land should be applied economically, through the integration of different land uses and thus counter urban sprawl. Other resources can also be protected through the different mix of land uses. For example, air pollution can be controlled by provision of a good, sound, public transport system, which can with a great support base, be sustainable and thus reduce the use of the private car. Each person has the right of access to healthcare services (Article 22 (1)), basic and further education (Article 29 (1)), and also social security (Article 27 (1)(c)). These rights and various others can only realise if sufficient accessibility to these services for all can be accomplished. Mixed land use can facilitate accessibility.

5.2.2 The Development Facilitation Act No. 67 of 1995

This Act also promotes the implementation of mixed land use, although it was not explicitly mentioned. The important reference is in Article 3 (1) (c). The optimisation of existing resources, large scale infrastructure, roads and other transport facilities, are encouraged via the integration of residential and employment opportunities are also advocated (DFA 1995: 11). Land development must also be environmentally sustainable, and land and other available resources should be utilised optimally.

This Act also requires that local authorities should also compile land development objectives (LDO's), which are approved by executive council of the province. These land development objectives must emulate (Article 28 (1) (b)), which emphasis the integration of land uses and densities. The integration of low income groups in the area as a whole must also be taken into consideration, when these land development objectives are compiled (Article 28 (1)(b)(i)).

5.2.3 The Western Cape Planning and Development Act, No. 7 of 1999

The purpose of this Act is to regulate, monitor and support planning and development at all levels. Provision has been made for the preparation of integrated and sectoral development frameworks, zoning schemes, the sub-division of land and also accelerated development processes.

Various general principles for planning and development, which is applicable to the integration of different land uses and densities are proposed in Schedule IV of this Act. Emphasis is put on integrated planning and development of residential and in-service opportunities. Mixed land uses are also emphasised (which will bring

residential and employment opportunities closer to the people), and urban sprawl is discouraged. Furthermore, integrated planning is also promoted through the optimal application of existing resources such as land, infrastructure, social facilities and transport services. From these general principles, it can be seen that mixed land use plays a crucial role in the realisation of these ideals.

An integrated development framework, integrates various strategies which relate to spatial, social, economic, environmental and transport strategies to ensure optimal utilisation of scarce resources. Through mixed land uses (especially through zoning, infill development and sub-division) the integration can be easily achieved.

Mixed land use is also made easy by this Act, through the promotion of intensity zoning, overlay zonings and other forms of flexible zonings. The land uses for which different premises can be used, can easily be changed without further approvals. According to this Act, scheme regulations can be issued for the provision of various aspects applicable to mixed land use. Scheme regulations can consolidate land use control, which prevent the inappropriate low densities in accessible areas through the creation of too large erven. Furthermore it can promote urban renewal through various methods, which can include the redevelopment of other areas.

5.2.4 The Urban Development Strategy of 1995

The discussion document on the Urban Development Strategy of the Government of National Unity, was drawn up in 1995 to create objectives and policies for urban development. The purpose of the document is to help with the implementation with

the Reconstruction and Development Programme (RDP), to create cities with economic and other opportunities (Government Gazette 1995 no. 16676: 5).

The Government in this document put forward a vision for the year 2020, which includes the following ideals for urban areas:

- Integrated urban and land development strategy
- Environmental sustainability
- Integrated centre which gives access to a variety of resources
- Centres which will give access to all economic and social opportunities.

A few strategic objectives were established for reaching this ideal. These include the provision of adequate housing, reducing of traveling distances through mixed-use developments, the improvement of the urban environment and other unequal distribution of services and access to facilities. The main purpose is to create productive and effective cities and by the application of the concept of mixed-use development it would appear that this can be achieved.

Emphasis is put on the integration of effective functioning of urban areas, also the management of urban growth. This document proposes more flexible land use planning implementation (Government Gazette 1995 no. 16676: 24). Furthermore, it proposes that large vacant spaces of unused land be utilised for infill development. This must be done by focusing on the provision of low income housing close to manufacturing areas, to reduce traveling distances between living and working places, especially for poor communities. Another key policy of the strategy is that

urban development should especially be concentrated around nodes and activity corridors to encourage public investment in these areas (Government Gazette 1995 no. 16676: 24). The consequence of this concentrated development is to give greater access to a greater diversity of facilities.

It can be seen that this policy document proposes the integration of land uses through various methods such as infill development, the creation of activity corridors and the creation of different land uses. The importance of countering urban sprawl is also acknowledged in this policy document (Government Gazette 1995 no. 16676: 20).

5.2.5 Cape Metropolitan Spatial Development Framework (1996).

The Metropolitan Spatial Development Framework (MSDF) includes certain guidelines for the management of spatial development in the Cape Metropolitan area. It is clear that the importance of mixed-use development in this area with limited land and other resources, was taken into consideration in this document.

The MSDF has the creation of a quality urban environment as its objective. This ideal is highlighted by the six basic principles of the MSDF (Cape Metropolitan Council (CMC), 1996: 5).

- The sustainable utilisation of urban resources.
- The limitation of management of urban sprawl.
- Densification of urban development in existing urban areas to give access to employment and optimal transportation.

- Integrated placement of employment opportunities and services.
- The rectification of unequal development and opportunities.
- The creation of quality urban environment.

Various proposals have been put forward in the MSDF to match these objectives, including the creation of an effective public transport system. Such a system can only be achieved through mixed-use developments and can in turn reduce long traveling distances (CMC, 1996: 14).

There are four spatial elements used to accomplish a balanced development in the document (CMC, 1996: 7), namely activity corridors, nodes, urban edges and the metropolitan open space system (MOSS). Activity corridors along major transport routes and nodes, where various mutual supporting activities are concentrated, are proposed and this is thus along corridors. These elements are also applied in line with the Urban Development Strategy (1995).

5.3 Mixed-use Developments in Existing Areas: Problems

5.3.1 Introduction

The type of mixed-use development proposed by the different legislation and policy guidelines, embraces the redesign of existing areas. It is thus also the most viable option, considering that most facilities, services and employment opportunities already exist in these areas (Schwanke, 1987: 197). Mixed-use development is thus difficult to apply in existing areas, due to different reasons, which will be discussed

below. The following problems in the existing areas, which relate to mixed-use development, should therefore be noted:

5.3.1.1 Lack of space:

The provision of infill housing is an applicable method to increase densities within existing areas, but it is limited by the shortage of available space for housing development, which normally exist in the centre of the city or town. There should also be cautioned against the unthinking usage of public open space to provide additional infrastructure, since higher densities normally goes along with a decrease in the amount of available private open spaces and an increase in the inhabitants thereof which need much more open spaces.

The lack of space can be resolved by applying two techniques. Firstly the vertical dimension must be utilised more and additional premises should thus not be used for housing. It is actually only applicable where there is an existing infrastructure to accommodate the additional load and where different cultures can adapt to such lifestyles. Another option is through demolition and redevelopment of certain areas; especially in areas which are busy decaying and where urban renewal is needed. All these methods are actually limited through the lack of space along the axis where development is proposed (Schwanke, 1987: 197).

5.3.1.2 Limited Infrastructure

In areas where possibilities exist to provide additional housing units in existing areas, infrastructure needs to first be evaluated. Services such as sewerage, storm water drainage and electricity provision already exists in such areas, but sometimes have

limited capacity to the extent that it was originally limited to a certain amount of dwellings. It is thus very expensive and sometimes even impossible to upgrade or to lay new pipes. In most cases there is an overload in the amount of houses limited to a development is resulting in the over-extension of the facilities. Therefore the amount of people per living unit can actually lead to the ineffective functioning of the service network.

The increase in the amount of people leads to an increase in the amount of private motorcars on roads, which were built to carry a limited amount of traffic. It is normally difficult to widen or extend a road especially in old living areas. The construction of additional roads to handle the increase of traffic pressure looks to be most favourable, but it can also be difficult through the existing land uses and street patterns.

Building strength influence the possibilities of densification. In many cases building structures are too weak or buildings are too old to add more floors. It is also difficult for alterations on low cost housing, because less durable materials were used in many cases (Coupland, 1997: 151).

5.3.1.3 Location of existing buildings

Location of existing buildings on premises impede on the integration of different land uses, (Verryenne and Steyn, 1997: 8). Combination of small premises with residence units and the central placement thereof on the premises, makes mixed-use developments impossible.

If buildings are initially constructed in the middle of the premises, it is difficult to apply additional units in the surrounding areas. The part of the premises which is not covered by living units, is mostly too small to be utilised independently.

If additional living units are attached to existing buildings, building lines must be taken into account. Buildings which are built too close to the premises boundaries, infringes on the privacy of neighbours and limits available private open spaces. It is sometimes also the case that premises after subdivision, are still subject to the same building line limitations which applied before subdivision occurred, with the result the amount of land which cannot be built on, is lost. In cases where building line limitations are not strictly applied, privacy gets limited.

The problems associated with the placement of buildings can only be partially addressed by the usage of alternative planning methods. Living units should for example be placed reasonably behind or reasonably in front of a plot. This creates a possibility for a greater garden or playground and possibilities for future subdivision or construction for more rooms per unit. Semi-detached-houses (although they are linked to each other), have greater privacy, than single residential houses which have minimal distance between them and where the windows present a direct view of the neighbours' activities with no privacy. Newly constructed buildings should therefore consider the possibility of future densification (Coupland, 1997: 162).

5.3.1.4 Government Policy

It is the policy of the current government in accordance to the Constitution of the Republic of South Africa, to give access to adequate housing (Act 108 of 1996).

5.3.1.4 Government Policy

It is the policy of the current government in accordance to the Constitution of the Republic of South Africa, to give access to adequate housing (Act 108 of 1996). Housing subsidies are actually limited to an amount of seventeen thousand rand (R17 000 or more) and thus leads to the trend of housing development with assistance from state subsidies for the provision of erven- and service sites or settlements (with small top structures) on small erven (Verryenne and Steyn, 1997: 9). Therefore a larger amount of area is needed, since the development of low cost housing on small isolated areas is seldomly economically feasible.

This housing policy is actually in contradiction with policies of densification, since the acquisition of high densities leads to opportunities which are limited by the lack of large areas for cheap land close to the centre of the city. Poor people normally live on cheap land, far from services and opportunities.

A further problem is that acceptable densities are normally determined by local authorities, either in the form of densities limitations or minimum erven sizes and maximum building heights. This results in high density mass getting scattered and fragmented, which limits the sustainability of the public transport system.

5.4 Mixed-Use Development in the Apartheid City

A typical city in South Africa has a dualistic structure, which is caused by, inter alia, the Apartheid Policy. It was segmented on the basis of race and in consequence income. On the other hand, low density neighbourhoods have good structural

services where infrastructure exists and which have more integration with open spaces. The poor black areas consist mostly of subsidised houses, hostels and squatter settlements, and are on the outer periphery with coloured and Asian settlements relatively isolated in between. It is actually not only race groups that are separated. Different land uses are also separated which limits linkages between working and residential places. This urban structure does not only cause numerous problems related to the uneven distribution of resources and opportunities, but also makes densification difficult (Dewar, 1995: 408).

Various factors had an influence on the development of the Apartheid city. The Group Areas Act, the influx control policy, as well as the decentralisation policy which the government had followed, has determined the form of South African cities. The different race groups are spatially divided by buffer zones, which took the form of open land, industries or transport routes. Each race group had its own urban business management system, service provider system and housing provision system and the division was more than just the separation of spatial entities. A problem which resulted from the separate management system was the small tax base which existed in non-white areas. This led to the poor service provision systems (Dewar, 1995: 408).

The South African city is characterised by segregation as well as low building densities (mostly single floor buildings) and urban sprawl (Dewar, 1995: 408). Furthermore, high density development, where it occurred, is concentrated on isolated units. Large areas are also occupied by land reserves, for example along roads and public spaces, and low coverage results in large parts of premises which

are applied inadequately. Cities developed into a sectoral form as a result of segregation, as illustrated in figure 10.

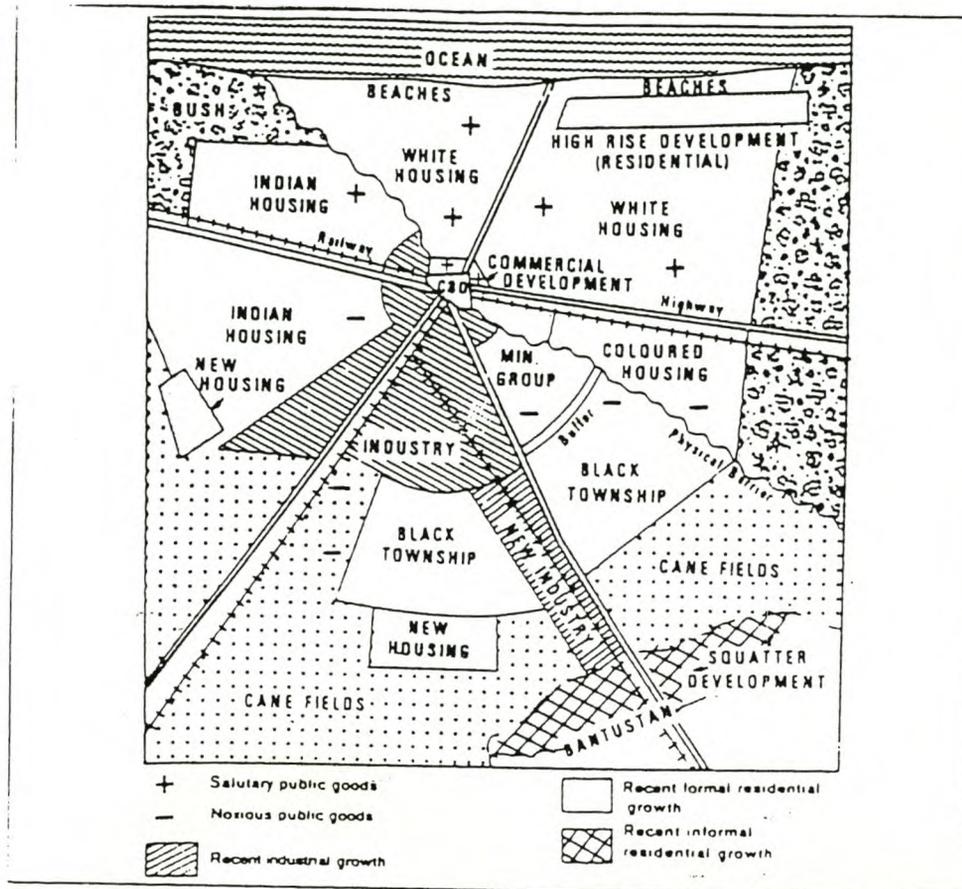


Figure 10: The structure of the Apartheid City.

(Source: Davies, 1987: 63)

In contrast with other Third World Countries, where it is attempted to decrease densities in cities, densities should thus be encouraged in South African cities. (Arrigone, 1995: 1). It is an exceptionally difficult task because the legacy of the Apartheid city imposes many limitations.

5.4.1 Spatial distribution of the poor

Firstly, the poorest part of the population is located on the periphery of the city, and is therefore reasonably far from opportunities and services. Opportunity for extension of public services in these areas is limited due to the fact that extension of these services are directed inwards, which is further from the core. To increase residential densities in these areas, without bringing job opportunities in close proximity and better service provision, is futile. This links up with the earlier question around sustainability of the area's services if its tenants lacks any or inadequate forms of income.

5.4.2 Isolated residential areas

Segregation of land uses can also result in sterile, inwardly directed, fragmented residential areas. The social relations and physical layout of the area, which led to the concentration of buildings, open spaces and facilities, resulted in isolated communities, (Van der Merwe, 1975: 32). It is difficult to densify these areas, since they are less accessible with regard to other residential areas or opportunities.

5.4.3 Management Systems

It is actually not only the spatial framework created through apartheid, which inhibited the concept of mixed-use development. The management and service systems is also in a transitional phase which hampers the effective implementation of mixed-use development. Mixed-use development should be applied in the former Apartheid city to create high densities, to get more contact with previously isolated areas of the city (Interview with Simon Bekker).

5.4.4 Transport System

The transport systems were created primarily to make provision for white peoples' needs only, and did not make provision for effective public transport systems to the periphery which resulted in long travelling distances and low mobility. It also serves as the divide between different segments of the city, which impedes the integration of the urban areas in general. Here the granting of government subsidies is also depended on to make any form of public transport system sustainable.

The Apartheid city created various hindrances. The greatest problem is that the poor people which will get benefits through densification and higher access to services, at present reside further away from opportunities while existing opportunities and services are located in traditionally privileged areas. Although after the abolishment of Apartheid legislation, people were free to locate anywhere and in any area of their choice, the majority of the inhabitants who lived in historically disadvantaged communities couldn't afford to move into a better residential areas, strengthening the so called 'clutch of poverty'. The applicable solution should rather be to try and solve the problem of poverty, but even if the macro economic policy (GEAR) is successfully implemented, it could only be the long-term solution. The aim should be to bring cheaper housing closer to the core area of the city, but since the land values are decrease proportionally as you move further away from the centre, this option seems unattainable.

5.5 Low Cost Housing

In South Africa, a relatively small percentage of the population generates the biggest portion of the Gross Domestic Product (GDP). The remainder of the population are reasonably poor and the unemployment rate is relatively high, (Dewar, 1995: 407). Low income areas are characterised by limited accessibility and mobility and have less potential to generate an income or to attract investors (Green et al, 1995: 139).

This situation, along with the fact that urban growth is fastest among poor people (Dewar, 1995: 407), leads to the fact that the demand of low cost housing is still increasing. The current tendency is that small dwellings on small plots are provided. This type of housing is not only very ineffective in terms of the scarce resources but it is extremely difficult for such developments to increase density at a later stage for various reasons which were already discussed.

It is ironic that it is actually the poorest part of the population who needs the advantages of mixed-use development. It is also ironic that most rich people can afford to live in high density developments, since they can very easily establish privacy and security (Kok & Gelderblom, 1994: 131). Poor people are normally located the furthest away from employment opportunities and services because they can only afford to live on cheap land. It is difficult to utilise certain parts of the city for infill development for low cost housing, since land values closer to the city are excessively high (Arrigone, 1995: 20), as a result that there is an increase in the total housing cost. Although the limited housing subsidies provided by the government are hardly enough for the provision of services of basic structures, low cost housing thus gets built on cheap land on the periphery of the city. Low cost housing has been

provided only as a result of the upgrading of squatting settlements. Squatters settle on the periphery of the urban development because there is a large amount of open land available. This results to the concentration of low cost housing on the periphery with poor access to services and opportunities. The upgrading of these areas will not necessarily solve the location problem of low cost housing.

Low cost housing is also provided when existing squatter areas are upgraded. Squatters often locate on the periphery of urban development because of the availability of large amounts of open land. This causes that these low cost developments are located far from the concentration of opportunities and services. The upgrading of these areas, will not necessarily solve the location problem of low cost housing.

Densities in existing areas is a difficult process to apply, which is made more difficult in low cost developments by houses and plot sizes. The location of existent buildings on erven hampers the option of extensions and further alterations and sub division of the premises. In Khayelitsha, originally erven of 72 m² (6 x 12m) were provided, which were later increased to 98 m² and 120 m² with a street front of 7 m (Arrigone, 1995: 2). The establishment of further developments on the same premises, if possible, will lead to the dramatic decrease of privacy. Low cost developments consist of detached houses which minimises privacy.

Low cost housing is thus a major problem, especially in terms of densities. Alternative methods should be found to provide small, affordable living units within acceptable distance from employment opportunities and services, since this type of

housing is the major cause of urban sprawl. Maybe developers should be encouraged (or force) to provide cheaper housing types closer to opportunities through the usage of incentives.

5.6 Conclusion

It is clear that support for mixed-use development is found within policy documents. It is very important though that planners should be aware of legal aspects which might hamper the mix of different land uses.

CHAPTER 6

6. EXAMPLES OF MIXED-USE DEVELOPMENTS

(LOCAL AND INTERNATIONAL EXAMPLES)

6.1 Introduction

In modern world cities various degrees of mixed-use developments are present. Some of these cities have been busy with this integration of uses for a long time, while others have only recently discovered the advantages of more compact cities. When South African cities are compared to other world cities, it can be seen from the low levels of density of South African urban areas that a huge backlog exists, in terms of densities and the mixture of uses. On the one hand South Africa has the advantage that there is no land scarcity in rural areas but on the other hand there is a lack of useful land in urban areas.

The problems faced by metropolitan areas in South Africa are not new or unique. By looking at the policy decisions made by cities that experience similar social, economic and environmental concerns during the 1960's, the possible long term implications of current policy decisions can be understood. The influencing factors, especially the effects of Apartheid legislation have changed, but there are enduring trends and relationships which change little over time and these provide the main indicators of likely outcomes (MDF, 1993: 26).

The aim of this chapter is to highlight, analyse and discuss the case studies using the aspects mentioned in Chapter 2. The intention is to determine whether these

case studies comply with these aspects and to see whether they were successfully implemented. An added aim is to ascertain what lessons could be learnt from these examples. To achieve these aims a number of macro scale examples of contrasting mixed-use developments, local and international, are discussed. As previously mentioned, mixed-use developments occur on two different scales, namely, macro and micro scales. The focus of this section, however, will be exclusively macro scale, for the reason that mixed-use development on a micro scale is not economically viable to accommodate the urban poor. On a micro scale, in many cases, mixed-use development leads to the development of gated communities and subsequently to separation of groups of people based on income and status, and does not encourage integration in the Metropole. Local conditions require customised and local approaches.

Firstly, a local example (Salt River / Woodstock) where mixed-use development happened before the concept of zoning (separation of different land uses) was introduced. This is followed by two international examples which are Waterfront Place in Seattle, Washington, which was planned on a micro scale and Curitiba, Brazil which was planned on a macro scale. These examples are contrasting in terms of their socio-economic class (Salt River / Woodstock and Curitiba which are both low to middle income developments and Waterfront Place a upper class type of development).

6.2 Local Example

As referred to earlier in this section aspects as presented by Rowley are identified and contrasted against the various case studies. Firstly Salt River/ Woodstock is assessed based on these aspects. Secondly a contrast will be drawn between Salt River/Woodstock and Curitiba since both these examples are macro scale mixed-use developments. The choice of comparison between these two areas is based upon the fact that Curitiba is an area where the concept of mixed-use has been successfully implemented (Kannenbergh, 1995: 8). It is necessary to draw a comparison between these two (both low to middle income developments) and Waterfront place (an upper class development) to ascertain whether any differences are evident. Finally a discussion will follow about what lessons could be learnt by the South African community in order to make the lives of the poor easier, especially in relation to accessibility to facilities and opportunities.

6.2.1 Salt River / Woodstock (Cape Town)

Salt River has a mixture of uses which ranges from two shopping strips, an industrial area and several corner shops, and public facilities which in turn means the convenience of living is enhanced. The grain (aspects) that Rowley refers to is clearly observable from this case study. Rowley specifically considers history an important component in classifying a grain, and as such it possesses what he calls a fine grain. Since residents are located in close proximity to these facilities it offers them services and the many activities and choices presented by these activities and facilities in the area which also increases choice in the area. Because of the existing facilities and the lack of their existence in other areas people from these areas are attracted to this

area which exposes either group of people to each other and different influences, it fulfils another characteristic of Rowley's aspect of grain.

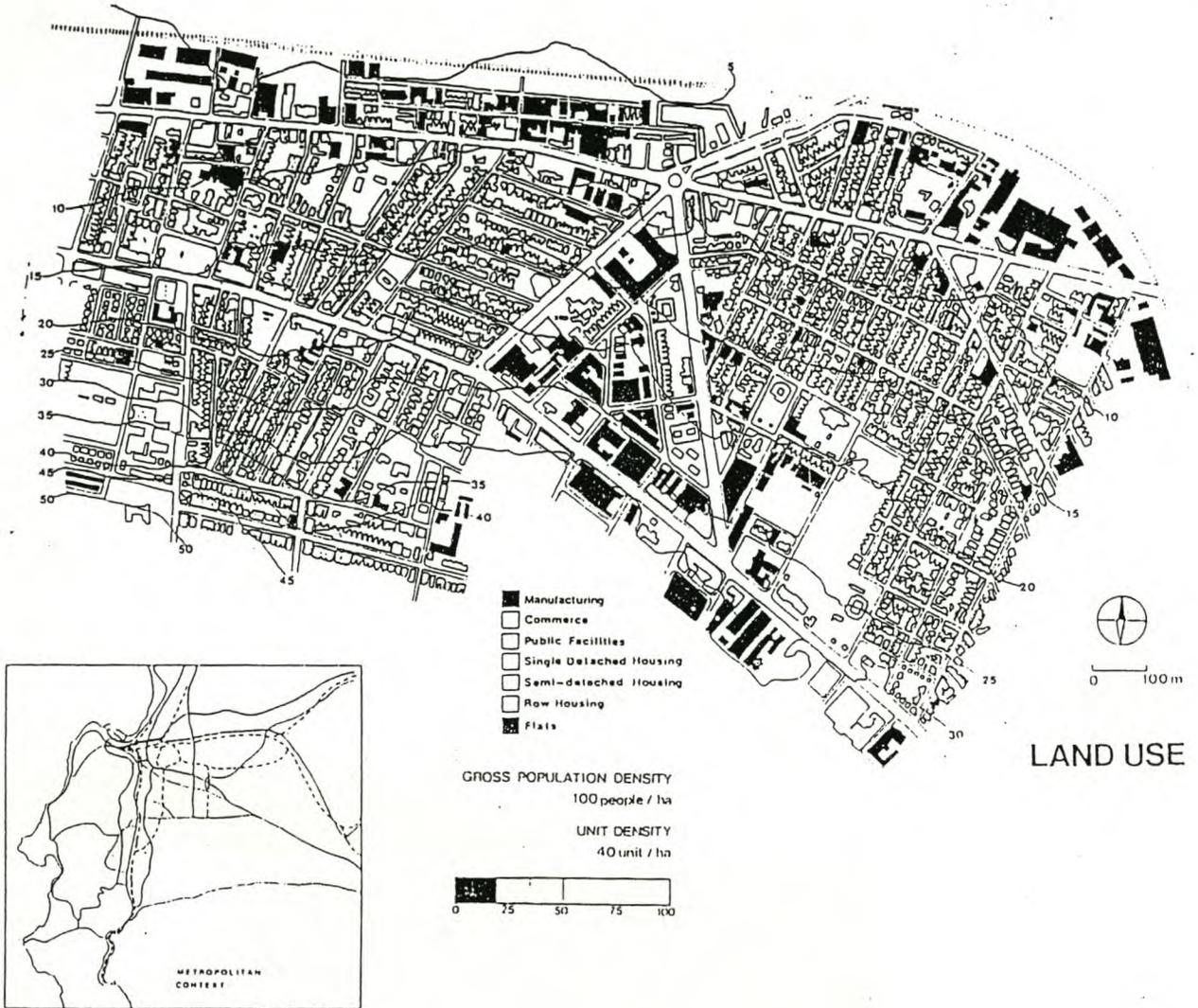


Figure 11: Salt River - Woodstock

(Source: Dewar & Uytenbogaardt, 1991:24)

Under the aspect of setting, Rowley mentions different elements which needs to be met; neighbourhoods within districts, and other public spaces, building or street blocks and individual buildings. Salt River consists and possesses all these qualities

which means it complies with almost all of Rowley's aspects. According to Dewar et al, (1987: 25) Salt River/Woodstock's ambiance and its physical layout is well integrated and consists of two broad elements, which he refers to as the major directional routes, and leads to a gridiron structure.

Because of the strategic location of Salt River in relation to the metropole, it plays a significant role in terms of the link it provides between the outlying areas and the city centre. Furthermore its location allows it to give access to the city centre by means of the roads which runs through it. Consequently the traffic in the area has been on the increase and in turn results in the generation and further development of the economic base. The major routes as highlighted by Dewar et al (1987: 21) will remain such because of the dominoe effect it has on attracting activities which in turn attracts more and more traffic to these routes. Therefore there exists a symbiotic and reciprocal relationship between through-traffic which provides access to the area, and as a result provides opportunities for business and other activities to take place in and around the immediate area.

The way the roads are laid out, the traffic these roads carry, and the activities resulting from the volume of traffic these roads carry provides the metropolitan area with it's size and shape. It supplies the integrative mechanisms to the city making it a vibrant and living community. "Because the roads serve many areas in the metropole, the activities on them can derive support from both passing traffic and local residential areas" (Dewar et al, 1987: 25).

The mixture of the different activities within the two shopping strips attracts heavy traffic because of its structural layout and subsequently may lead to the preservation of the residential structure (Dewar et al, 1987: 26).

According to Dewar et al (1987: 27) the layout in terms of its internal structure i.e. the integration of the different shops and activities offers a wide variety and easily accessible commercial, cultural, social and employment opportunities This is in accordance with the perspective of Rowley (1996: 3) when he claims that: "The diversity of activities within streets and public spaces is a special situation. It is a product not simply of the mix of activities within the buildings and the blocks that are adjacent to a street but also of the design and public use of the street itself. Many of the virtues of mixed-use development, in whatever setting, only exist to the extent that they affect, and are experienced from, the public realm". It, then, satisfies the requirement which relates to the aspect of setting of Rowley .

How the land is utilised alongside the road determines how that specific piece of land is classified. The classification of the piece of land affects the quality of the space being used. The aspect of transactional quality is discernable in this section when one considers the activities which characterises this aspect against what Dewar et al (1987: 28) states. The aspect 'Tenure and Occupation' as described by Rowley is reflected in the following paragraph by Dewar et al (1987: 28): "The reciprocal relationship which subsist between the two elements of urbanity and commercial is one that is almost inseparable." The one element leads to and also becomes, to a great extent, dependent on the other. The Salt River/Woodstock areas have reached a degree of equilibrium, where one element does not dominate the other, and integration of their commercial sectors, where the individual shops

remain under the auspices of the whole but still retain their individual identity through their unique advertising and shop windows. These shops serves another vital more personal function, because it is where people who utilise their services and facilities can come and interact with each other. This means the area not only serves a commercial function but also meets its social responsibility, contributing to the vibrancy of the community as a whole.

Drawing a comparison between the different sections of the road, one can observe that there are areas which compensate for lack of social orientation by overemphasising certain elements, thereby improving the quality of the whole. The roads are constructed in such a manner that it accommodates both the needs of the vehicle and the pedestrian, equally. In addition, the area provides added benefits to pedestrians in that it provides protection for them because of the presence of pedestrian movement at all times of the day and night.(Dewar et al, 1987: 28). This also relates to what Montgomery (1998: 107) refers to when he talks about the internal structure as being easily discernable.

According to Dewar (1987: 42) "The physical structure underlying the more private residential areas within the dominant routes is the grid." This grid pattern provides several advantages; it creates chances which, if exploited will lead to an enhancement of living conditions and provide a variety of choices to the inhabitants of such areas; it has an easily readable structure; safety concerns are addressed through surveillance which makes an impact on the crime rate.

Therefore it is clear that different uses are integrated to form a continuous and coherent social street space within the Salt River/Woodstock area, and that the aspects as presented by Rowley are evident in the planning and layout of these areas.

6.3 International Examples (Macro-scale)

6.3.1 Curitiba

Curitiba's physical structure was established by restructuring all new residential and commercial development in a highly efficient framework of five high density development corridors radiating from the city centre. Mixed-use development along the corridors decentralised residential uses creating employment opportunities which encouraged the establishment of an efficient public transportation system.

Each mixed-use development corridor was designed as a trinary road system (Figure 12) consisting of a central road that provides for two dedicated bus lanes flanked by two access side lanes. Two high capacity, one-way by pass roads on the outside of the development accommodate faster moving traffic. The trinary system was designed to preserve the original scale and fabric of the urban area, not only out of respect for the city's history and urban environment, but because of the economic realities of the lack of funds (Kannenbergh, 1995: 8-9).

The development of mixed-use developments is based on zoning regulations, which encourage the combination of high density residential land uses with commerce and services (Herbst, 1992: 24). The integration of high density land uses and public

transport ensure a high level of efficiency and service. The public transport service is always guaranteed high levels of custom and is therefore able to run on a cost recovery basis independent of external subsidies (Nicks, 1994: 7). The public transport system handles 70% of all urban trips despite having private car ownership (330 cars per thousand people compared with 140 cars per ten thousand people of the CMA in 1990) (MDF, 1993: 32).

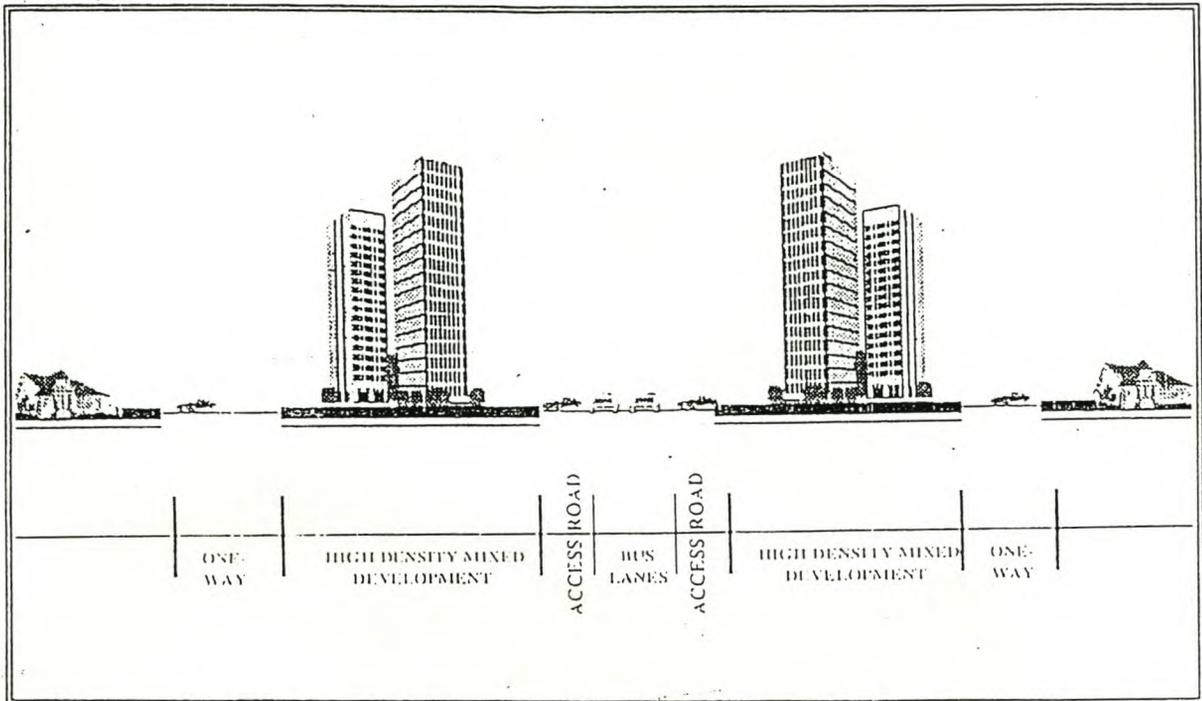


Figure 12: Trinary road system in Curitiba (Adjusted)

(Source: Kannenberg, 1995: 8)

The zoning on either side of the central spine allows for 600 dwelling units per hectare (du / ha). Curitiba has a culture of flat dwelling where one seldom find anyone owning a single residential house. Blocks of flats, up to 30 stories high (achieving 450 du / ha) were constructed by the private sector. The land fronting on

the inner sides of the two by pass roads is zoned for medium density residential and commercial use of between 200 and 300 du / ha. The low income housing consists of mostly of buildings of four stories or less. On the outer sides zoning allows for low density residential use (25 du / ha) (Nicks, 1994: 7). Development is oriented inwards onto the high density corridors which provide a high level of accessibility and concentrates thresholds to stimulate development.

Only the middle and upper classes can afford to live in the multi-storey double blocks. This is in contradiction with the city planning model that locates the poorest people closest to areas with the highest level of services. According to city officials the linear form allows low income people to locate behind the tower blocks, still relatively close to the structural axes. Despite the functional efficiency, the high rise apartments do not create satisfactory living environments. The property rates of the high rise apartments offset the cost of the infrastructure, thus paying for services that the whole city can benefit from, although many people may not live directly adjacent to them (Nicks, 1994: 9). The average home/ work trip in Curitiba is 5,5 kilometres compared to 16 kilometres in Cape Town. Even if the poor stay on the periphery, the establishment of a corridor and a more efficient public transport system brings them physically closer to areas of high opportunities (Kannenbergh, 1995: 11).

Because of the national fiscal crisis, all the public housing programmes are run on a home ownership basis. In the absence of central government subsidies, it is necessary for repayments to recover the financial cost. Only in this way can public authorities obtain a continuing supply of funds to maintain the housing programmes and to mobilise the collateral tied up in the housing stock, which is not normally available to public housing tenants. The housing programmes are carefully targeted

to cater for different levels of affordability (Nicks, 1994: 14-15). As in South Africa, Brazil's financial position requires the mobilisation of all financial and equity sources in order to address the needs of the population.

Many of the development programmes are people-centred. The city government has taken partial responsibility for the education system. By investing in the human resource potential they have drawn more private investment to the city than any incentives scheme would be capable of. Together with the improved quality of life and the efficient transport system, this has attracted industry to the city. An extensive public open space programme created a continuous, multi-purpose green system that preserves the natural resources and provides recreational facilities. This has resulted in a higher quality of life. The city's recycling programme is an environmental as well as a social programme. It provides job opportunities for 100 000 people, including street children and provides for coupons for people who collect waste (Herbst, 1992: 27). This, however, is something which our legislation would challenge since it states unequivocally that any child (which is anyone under the age of 18 years) is prohibited from working to make a living. Child labour is therefore regarded as a type of child abuse.

A strong and effective metropolitan government with the mayor at the helm has led the way to success. The corridor development was supported by long term political commitment to implement a clear vision. The council units are grouped according to functional issues rather than administrative functions and are all directly accountable to the mayor's office. Curitiba's growth has been guided by a blue print master plan. The plan derives strength from its consistency, which has facilitated the implementation of proposals, but it lacks process planning, public involvement and flexibility. The basic principles were put into place without public involvement

(Kannenberg, 1995: 15). Community or grass roots involvement is an essential element in the planning phase as ultimately whether the project will be a success depends largely on the community's utilisation of it. In the case of Curitiba the needs of disadvantaged communities were met through successful planning and implementation. This created a climate of confidence and secure public trust and support the programme.

Experience in South Africa has shown that people resist change to their physical environment because of uncertainty. In Curitiba the resistance was suppressed by an autocratic government. Any type of leadership which uses the top-down approach, including an autocracy or dictatorship, is the quickest way to bring about change, however, the new democratic order in South Africa calls for a transparent planning process and any structural changes will involve extensive public participation (Interview with Vanessa Watson). The success of Curitiba underlines the need for a clear, realistic, publicly supported vision, which meets the needs of all inhabitants. Curitiba achieved success because the people had the willpower to do something about their situation.

6.3.2 A Comparative study: Salt River/Woodstock vs. Curitiba

At first glance, in search of similarities and differences between the two areas, it is possible to recognise several of the aspects mentioned by Rowley and the guidelines associated with the development of a mixed-use area. Some of Rowley's aspects which is reflected intensely in both International (Curitiba and São Paulo) and Local (Salt River/Woodstock) examples are those of grain, setting, and location. From this

one can safely infer that in the initial planning of these areas cognisance was given to these aspects of Rowley.

Curitiba and Salt River/Woodstock are not very dissimilar in the conditions which subsists in each of the designated areas. When one compares the Brazilian cities of São Paulo and Curitiba with South African cities, several economic and social similarities are evident. Similarities includes levels of difference in living conditions between the poor and the rich, Autocratic rule which benefited only a minority group. This leads to a high rate of migration from rural to urban areas to look for better opportunities.

In addition when considering another area, similar to Curitiba from Brazil and Salt River/Woodstock of South Africa namely, São Paulo a Brazilian city, another similarity is to be found here. "São Paulo has similar low densities to South African cities, because it attempted to follow the Los Angeles-example of a plot for every family." (MDF, 1993: 29). Factors that led to the current status quo in the São Paulo are numerous and related to the South African experience of Salt River/Woodstock. As can be seen from the following quotation by the MDF (1993: 29) "Emphasis on private transport resulted in a poor public transport system that restricted the access of marginalised communities to opportunities and facilities. São Paulo did not have the funds to support its high growth rate and the low density development. " Historically Salt River/Woodstock was labeled an area of separate development. Areas of separate development were considered less important by the then government and hence less attention was paid to their progress, especially in terms of economic and social support. This led to them being under funded and therefore

lacking the necessary funds to develop an infrastructure and ending up with problems similar to that mentioned above.

Instead of sprawling the city of São Paulo imploded. The wealthy moved into the high rise luxury apartments in the central city, consuming the best located, safest and best serviced land. The poor were excluded from these areas through economic and political factors and lived on the outer parts, often without adequate services, access to opportunities and housing. These conditions were prevalent in the Salt River/Woodstock situation, when certain areas were reserved not only for the rich, but also for people belonging to a certain cultural grouping. In São Paulo a sectoral approach to development and a weak metropolitan government resulted in an insufficient public open spaces system, and an inadequate land planning and development system.

In addition, land invasions, which is a response by the poor to the lack of basic services and an attempt to provide for these by the poor, created unplanned, inaccessible and under serviced informal settlements. Many formal residential areas declined into slums as they were converted into multi-family accommodation (MDF, 1993: 29-30). The effect was high density, resulting in overcrowding, which meant an over use of basic services, like running water, toilet facilities, and refuse removal, giving rise to a break down of these services and unhygienic living conditions.

This example has shown that failure to manage city growth and address the needs of the poor has disruptive consequences for service provision and has serious implications for the quality of life in the city. Failure to release well located land in a

structured way disrupts the land market, triggers social instability and leads to environmental degradation (MDF, 1993: 33). High density areas should be socially and physical well planned or they will degenerate into slums.

Curitiba experienced similar conditions to São Paulo and Salt River/Woodstock but imaginative development programmes and an integrated holistic approach to address the problems have made them both models of sustainable environmental and planning practices. Salt River/Woodstock (and the larger South African planning fraternity), though, has some way to go and have to play catch up with Curitiba when it comes to certain aspects of mixed-use development. Affordable solutions rather than first world planning solutions were used to achieve sustainability. When faced with a problem it is absolutely vital to keep in mind First World planning solutions, but give preference to local solutions which are situation specific. This means keeping abreast of, in general, international development trends, for example, globalization patterns, but with the focus, specifically, on local conditions.

6.3.3 Waterfront Place (Seattle, Washington)

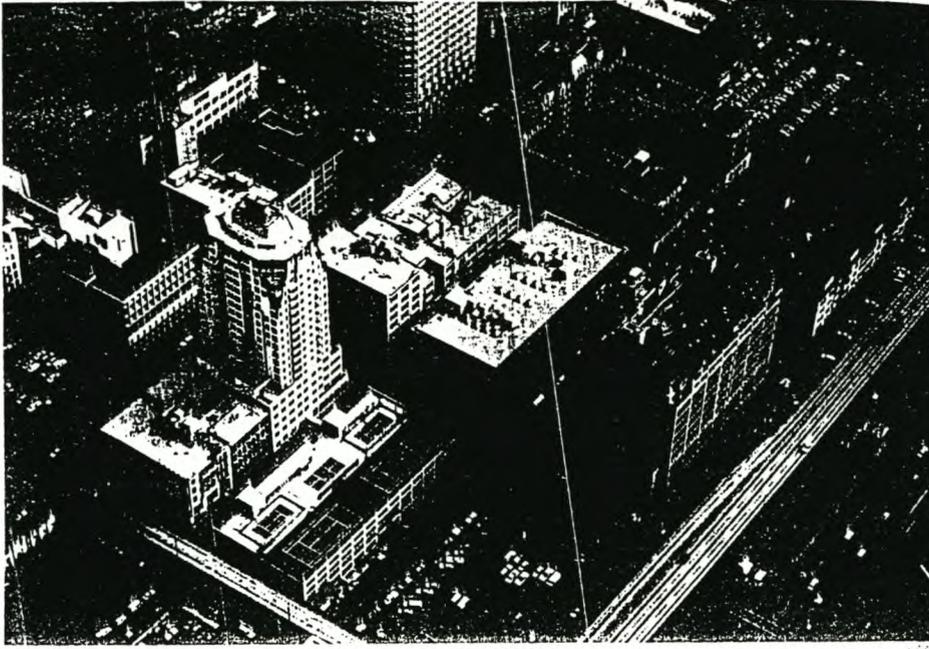


Figure 13: Waterfront Place, a mixed-use development, has both old and new buildings.

(Source: Schwanke, 1997: 244)

The areas around Waterfront Place first developed following Seattle's 1889 fire. As business moved north, spurred by the frantic gold rush in 1897 and 1898, new structures were needed, providing shopping outlets and hotels for the large number of passing travelers, dockworkers, lumber workers and ships' crews. Four of the Waterfront Place's buildings provided workingman's hotel rooms, and the National Building was one among many structures that accommodated expanded warehousing needs on the waterfront. During succeeding decades, as Seattle's economy changed, those properties deteriorated until they became uninhabitable (Schwanke, 1997: 144).

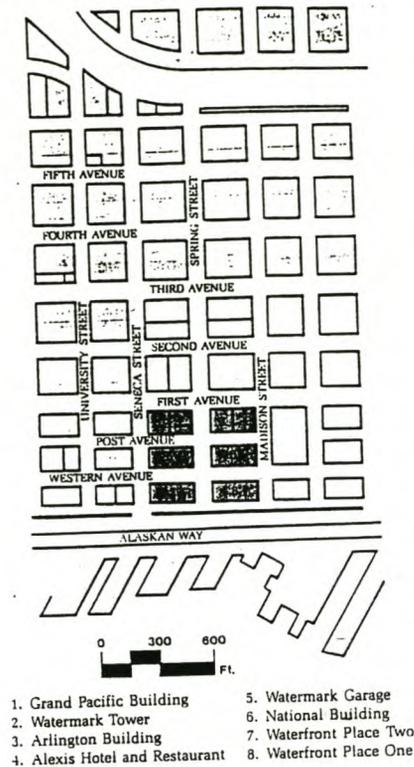


Figure 14: The project is located in Seattle's waterfront district and includes eight distinct buildings.

(Source: Schwanke, 1997, 245)

Because of its location, however, the area had been viewed for years as an ideal development site. Rehabilitating historic structures has significantly influenced the revitalisation of many central cities and has led to the advantageous development of numerous mixed-use developments incorporating older buildings in central cities. One such project is the (1 30 064 m²), Waterfront Place in downtown Seattle. This privately funded downtown revitalisation effort exemplifies the successful integration of renovated and recycled older structures with new construction within a mixed-use setting. It also illustrates how a large mixed-use development can successfully retain the integrity of the existing street block system (Schwanke, 1997: 144).

Waterfront Place combines the renovation and adaptive use of six historic buildings with four new structures in the redevelopment of a six-block neighbourhood in Seattle's central waterfront district. According to Schwanke (1997: 144) the development was carefully planned to mix rehabilitation and new construction, thus creating an urban neighbourhood that would fit into the existing fabric of downtown Seattle. Waterfront Place has also established the necessary amount of activity required to convert this portion of Seattle's waterfront from deteriorated, underused area to a vibrant bustling urban neighbourhood.

One of the largest projects of this type to be developed exclusively by the private sector, Waterfront Place includes 194 residential units (23 690 m²) on three of the six blocks: it comprises 46 451 m² of office space, 15 329 m² of street level retail space (with over 50 shops and restaurants), a 54 room luxury hotel, a racquet club, and 818 parking spaces. In addition, the project has involved the rebuilding and upgrading of the neighbourhood's streets and sidewalks and the installation of landscaping and other improvements to the streetscape. The six existing buildings that were restored are included in the National Register of Historic Places and are designated as Seattle landmarks (Schwanke, 1997: 145).

The project's objectives were to create a mixed-use development that would function as an urban neighbourhood, featuring shared use of facilities and services and a mixture of rehabilitated and newly constructed buildings. The project has been integrated into the existing streetscape, rather than hidden behind walls or gates and preserves and enhances the neighbourhood's diverse urban character.

The marketing strategy emphasises uses that are mutually reinforcing and appealing to a variety of markets, thereby reducing the risk of depending on a single market. The project's residential component offers both for-sale and rental housing with a range of unit styles, sizes and prices. The project's office and retail components offer a variety in size, character and view. Waterfront Place is an example of a project that has been carefully planned and developed in manageable stages (Schwanke, 1997: 145).

6.4 Lessons to learn from a comparison between low/middle (Salt River/Woodstock and Curitiba) and upper class (Waterfront Place) mixed-use developments.

One of the major determining factors in the planning and implementation of mixed-use development in these two different income groups' living areas hinges on just that, income and availability of resources. Developers and investors would much rather take their money and invest it in projects that would guarantee a return, than to invest in an area where there is mass unemployment and uncertainty about issues such as security. Examples of such upper class mixed-use development closer to home are the Waterfront and Century City in Cape Town. Unlike the case of the lower to middle class mixed-use areas, where facilities are open to the general public, upper class mixed-use areas often become gated communities, where status, income and education determines who may access such facilities and opportunities

When gated communities are created it has inherent in it the marginalisation and exclusion of the urban poor, around accessibility, opportunities and better quality facilities. Areas like Salt River/Woodstock and Curitiba have an infrastructure that one

facilities. Areas like Salt River/Woodstock and Curitiba have a infrastructure that one can say is integrated and considered most if not all of the aspects referred to by Rowley and Campbell, it is at a lesser extent that these areas implemented a variation of different uses. The difference with these two mixed-use areas is that greater consideration is given to the needs of the poor. Meaning that the mixed-use in low/middle class areas is of a more integrative and holistic nature. Unfortunately for the poor these upper class areas like Waterfront Place, where there is no need to actually create job opportunities, develop facilities or problems with access to services, for those who live there, since they already have secure jobs, facilities and access to these facilities, is where these opportunities are created. One of the disadvantages of the upper class mixed-use development is that in developing countries like South Africa and Brazil it is unlikely to be popular and even more unlikely that it would be successful, especially since these countries contains large rural areas. There needs to be a market and in countries, like Brazil and South Africa, where more than half of those able to work is unemployed or choose not to work and therefore live under the bread line, these markets just does not exist. It would be better to rather in these countries stick to a mixed-use development that caters for the majority of the people, lower/middle class, but not exclusively so. To ensure that these countries do not fall behind in the field of mixed-use development they should cater for those who can afford upper class mixed use development. Through this the effect of counter exclusions of the upper class is prevented. The concept of upper class mixed-use development expounds the concept of post modernism, which results in social exclusion from participation in the institutions of society, gated communities, and insecurity amongst tenants.

Having said all of this about upper class (Waterfront Place) development, one cannot overlook the obvious advantages that go with such a mixed-use development, for both lower/middle class and upper class areas. But this should obviously be done in an extremely sensitive manner when dealing with lower/middle income areas. An advantage of this type of mixed-use is that since there are tenants in these areas these activities discourages criminal activity. The renovation of buildings, public streets, amenities and landscaping in a mixed-use area are other important marketing advantages, in that they draw new businesses into the area and therefore generate economic and social activity.

In general when there is to be a new development of any sort, including mixed-use development, those whom the development will affect are rarely consulted and the project is imposed upon them. It leads to distrust and indifference on the part of those who is supposed to have benefited from the development. It is therefore essential that there is ongoing negotiations and consultation between developer and those concerned. This will ensure, to a large extent, the acceptance of the development and that the time and money invested in this endeavor will not go to waste.

CHAPTER 7

7. CONCLUSION

Mixed-use is a controversial concept and process. There is no consensus within the planning profession, about the feasibility of mixed-use developments as the long term solution for the problems of a city. What everyone does agree on, is that a new urban management framework is necessary to contain urban sprawl, conserve the resources and improve the efficiency and sustainability of the urban environment. This can only be accomplished by an increase in densities and land use intensity (Interview with Vanessa Watson). The utilization of this and other mixed-use elements is encouraged and directed by various forms of legislation and policy documents, either directly or indirectly.

South Africa's legislation, except for policy documents (which still has to become law) caters directly or specifically for mixed used development, but the Human Rights Charter affects its implementation. These includes in particular the rights to adequate shelter and protection of the environment, health care basic and further education, and social security. The release of the Western Cape Planning and Development Act is therefore a milestone in the affect of legislation on mixed-use development in the South African context. The Act encourages the planning and implementation of mixed-use, providing a legal framework to which developers have to adhere. Taken together this Act together with other legislation forms a comprehensive whole which in turn ensures that people has legal recourse should any of their rights be violated.

Mixed-use, like any other principle, consists of certain related aspects and guidelines which needs to be taken into consideration when applied. This means that one does

not work in a vacuum or pluck planning and implementation strategies out of the air, but gains direction through these aspects and guidelines. It furthermore ensures that there is consistency and therefore uniformity when the concept is used. From both the Salt River/Woodstock and Curitiba case studies it is evident that one is not obliged to go through all the aspects to produce a mixed-use development area that is sufficiently integrated. A further positive consequence is that different mixed-use development patterns (Salt River/Woodstock and Curitiba vs. Waterfront Place) or strategies can be compared and the lessons learnt from each is invaluable as one is able to reduce the possibility of repeating similar mistakes. It is evident from the comparisons drawn between these case studies that mixed-use have a situation-specific preference. Meaning that certain strategies may work under specific circumstances; what works in one situation may not do so in another. This highlights the fact that mixed-use development is not a perfect concept or solution to solve all development problems, and therefore is not static but a dynamic concept.

The mixed-use development concept has numerous shortcomings and problems that need to be resolved. Land uses have a significant impact on the operational characteristics of roads. Intensive development and uses with high traffic generation potential can have a negative impact on the operational characteristics of roads.

Even in communities that cannot afford private transport, private vehicles will have an important effect on the functioning of mixed-use developments. Curitiba is an example where even with high private vehicle-ownership, public transport plays an important role in the successful functioning of mixed-use developments. Local public transport will require a serious face-lift to establish a safe and reliable

means of transport that can be an effective alternative for private transport. Until this stage is reached, planners need to accommodate private vehicles in the best possible way.

Accommodation is another factor which needs careful consideration. In order to address this problem one needs to keep in mind two related aspects affordability and acceptance of people for whom the accommodation is planned. In the initial stages of the addressing this problem certain income groups will be drawn to live and be able to afford the costs. The effective exercise of mixed-use planning, giving particular attention to creative financial planning and careful consideration to the plans underfoot, would cater for the diverse needs of both the urban affluent and the rural cultural groups sharing these facilities and opportunities. When faced with any one problem it is important to generate as many alternatives as possible, to provide for a variety of options and the satisfaction of individual needs. In trying to solve the problem of accommodation it is no different. It is important to provide potential tenants with choice when selecting a shelter conducive to their needs. If the demography is taken into account, it is evident that mixed-use development will mainly be planned for low income communities. It is therefore important that the needs of these people be met. Mixed-use development may not be accessible and affordable for the very poor, but the better distribution of economic opportunities and activities will benefit society as a whole. Even if they do not live along the corridor, they will still be within reach of it (Interview with Simon Bekker).

The challenge for the future is to develop a strategy to give the low income communities the opportunity to become productively employed and more fully integrated within a growing urban economy. Mixed-use developments, as

effective urban structures, has potential to meet this challenge. Mixed-use development can create the opportunities for economic development and employment generation by establishing the necessary market thresholds to sustain a wider range of economic and social activities and facilities (Interview with Simon Bekker).

Any strategy to support the development of low income communities has to incorporate the informal sector. This sector arose in response to economic inadequacies and has grown to become an important force in the national economy in terms of employment and income generation. The provision of markets within mixed-use developments, will support informal traders and manufacturers in their endeavors to make a living. These markets not only provide trading opportunities, but will benefit the whole community by providing shopping opportunities and jobs. Even if residents fulfill only a small portion of their needs at the market, the reduction in travel can support an improvement in their quality of life.

The implementation of a mixed-use development system will require major structural change and all new development will have to be aimed at developing the system. Major structural change commensurate with that envisaged here has ironically occurred in countries with undemocratic governments such as Brazil (Curitiba) and South Africa during the Apartheid era. In the new South Africa, major change will not be viable without inclusive community participation. The problem however is that very few people see the need for densification and restructuring of the urban environment. To rally public support will thus be a major challenge. The transformation will only be possible under circumstances of

sustainable economic growth, because local authorities will need a strong tax base to provide income for the provision of infrastructure and the private sector will have to make a major contribution towards the development of the proposed land uses.

Physical planning decisions have economic implications and economic decisions have planning implications. To be able to make a contribution to the country's development, planners must therefore understand the interrelationships between planning action and the economy and vice versa. Planning can improve the welfare of the community and determine the future shape of existing and new communities. Mixed-use development, as an urban management strategy can provide an effective basis to increase the functionality of the urban structure and redress the unequal distribution of employment and other opportunities. This will be a positive step towards addressing the social and economic problems of low income communities.

Mixed-use development can promote urban quality, making settlements more attractive, liveable, memorable and sustainable; but we need to be clear about the kind of settings and situations in which such objectives are best realised. Equally, mixed-use development is not an automatic panacea and there are obstacles to promoting and maintaining more integrated environments. Examples of such obstacles are higher densities, unemployment, separate development and legislation. Planners and urban designers are inclined to make ill-founded assumptions about some key aspects of their work including (1) the links between the physical environment and the social and economic processes, and (2) their influence over the resources devoted to city building. Models of the development process highlight the extent to which people and factors outside planners'

immediate sphere of influence condition what is built and its quality. If the vision of mixed-use developments and communities is to become a reality, the necessary resources have to be so directed both through market processes and public fiscal policy--incentives, subsidies and taxes. This will only happen if the framework of cultural ideas and values, within which development operates, is fundamentally changed. Planning policy is only one piece of the jigsaw.

As matters now stand, it is possibly simpler to conserve existing mixed-use settings than to create new ones. Equally, if problems such as land acquisition and pollution of the environment can be overcome, it may ultimately be easier to develop new mixed-use neighborhoods on inner-city brownfield sites than in suburban and greenfield locations; prospective occupiers will probably be more willing to accept the conditions, including higher densities, needed to begin to create and sustain diversity and vitality close to the center rather than on the edge of towns and cities; where there is demand, developers and investors will follow. So far, however, there is little to distinguish most new 'urban villages' on recycled inner-city sites from their suburban counterparts judged in terms of housing forms, densities and diversity of uses. In short, if people are to voluntarily accept mixed-use development as a norm rather than as an exception, they will need to be educated and converted; not just developers and investors, but users, occupiers and purchasers. In a market economy, this means that mixed-use development must be made more desirable, affordable and profitable than current detached single residential alternatives. If, in any particular setting or situation, this is not the case, then mixed-use development will not happen. Moreover, since new building adds only about 2% to the stock of accommodation each year, change will only occur very gradually.

There is some doubt whether the necessary degree of consensus can be achieved in South Africa. If this is correct, then we must value mixed-use diversity wherever we find it; we must seek to strengthen and extend the influence of such areas; and we must grab any opportunities to create models of mixed-use developments, to test and to educate. This includes encouraging any enlightened patrons who are willing to take the necessary long-term view and who are able to write off a proportion of the value of their land in pursuit of a social or community vision; even then, it remains to be seen whether an authentic and worthwhile mixture of uses will result. There is also a worry on this precisely because of the ambiguity of the term mixed-use development, it will rapidly degenerate into just another marketing slogan for a product that is a very pale imitation of the genuine article.

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INTERVIEWS

1. Prof. Vanessa Watson, University of Cape Town, Planning and Architecture Department, 12 September, 2000.
2. Mr. Eddie J. Delport, Town Engineer, Stellenbosch Municipality, 18 September, 2000.
3. Ms. Anneke Niewoudt, Town Planner, Stellenbosch Municipality, 26 September 2000
4. Mr. Emile Van der Merwe, Town Planner, Stellenbosch Municipality, 26 September, 2000.
5. Prof. Simon Bekker, University of Stellenbosch, Department of Sociology, 29 September, 2000.