



PROVINCIAL URBAN EDGE GUIDELINE



DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

DECEMBER 2005

FOREWORD:



The Department of Environmental Affairs and Development Planning was assigned the responsibility of drafting a Western Cape Provincial Spatial Development Framework (WCPSDF) as one of the Lead Strategies of iKapa Elihlumayo. The Western Cape Spatial Development Framework is aligned with the National Spatial Development Perspective and other national policy frameworks, and endorses the vision of the Western Cape Provincial Government to create "A Home for All".

The exploitation of our natural resources has made it apparent that drastic measures need to be introduced in order to save our beautiful Province for future generations. The Western Cape Spatial Development Framework contains groundbreaking initiatives that will, if implemented correctly, ensure that the necessary spatial changes and improvements to our living environments will be eminent. The Provincial Urban Edge Guideline document is one of the policies initiated by my Department to support the proposals of the Western Cape Spatial Development Framework. Urban edge is essentially a strategy to counter urban sprawl, encourage densification and protect natural resources.

The legacy of apartheid planning has brought about segregated spatial patterns, where dormitory townships and the settlement of poor communities were pushed to the periphery of towns. Urban Edges are required to redress this legacy, to manage, direct and phase urban growth pro-actively and to protect environmental and heritage resources outside of the urban edge as well as sensitive areas on the urban fringe. Rapid urbanisation and urban growth raise concerns over the sustainability of growth and the effect on the environment. The rural character of many small towns is being affected, valuable and productive agricultural land is being transformed and large low-income settlements are being placed on the urban fringes, placing unattainable demands on service providers. Gated communities are developing in rural areas, where leapfrogging causes further pressure on the environment.

The cost of job losses in the agricultural sector, the cost of replacing agricultural resources, services infrastructure costs, the cost of traffic and public transport solutions and the cost of the loss of biodiversity and conservation resources cannot be recouped from undesirable development.

Municipalities should use this Guideline document to delineate urban edges and incorporate it into spatial development frameworks and other planning documents to contain the outward growth of urban areas and to facilitate the restructuring and spatial integration of urban areas. The urban edge guidelines will also contribute to racial and class integration through spatial integration, the creation of opportunities for economic and social development, the redevelopment of under-utilised and vacant land, the establishment and conservation of biodiversity corridors and the conservation of the aesthetic and sensitive environmental features.

May these guidelines assist all role-players in achieving the "triple bottom line" goals of social, economic and ecological integration and sustainability.

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PROVINCIAL URBAN EDGE GUIDELINE

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EXECUTIVE SUMMARY

Rapid urbanisation and urban growth in many urban areas of the Western Cape Province raises concern over the sustainability of the growth and the effect on the environment, which is one of the main resources of the Province. Urban edges are one of the land use management measures available to direct growth, both temporally and spatially. The Provincial Government of the Western Cape (PG:WC) initiated a study to determine urban edge guidelines for the establishment and management of urban edges in compliance with the policies determined in the Western Cape Provincial Spatial Development Framework (WCPSDF). The aim of the study is to propose guidelines to implement the WCPSDF growth management policies.

An urban edge is a demarcated line to manage, direct and control the outer limits of development around an urban area. The intention of an urban edge is to establish limits beyond which urban development should as a rule not occur and to promote urban and environmental efficiency, effectiveness and economy in the interest of all.

The use of urban edges to direct growth and to protect the environment, leads to negative consequences, such as the manipulation of the property market, however, the benefits derived from improved land use management, such as the preservation of agricultural and environmental resources, balance out the negative consequences. By establishing urban edges, undesirable growth that offers false economies of scale, becomes manageable. Growth can be focussed according to the environmental and social priorities of all spheres of government. The market often ignores these priorities and local decision-makers accept development proposals, as the statutory support mechanisms to focus the growth do not exist. The criteria that should be used to delineate urban edges, and the policies according to which the edges should be managed, were determined through literature reviews, field research, surveys and discussions with major role-players in urban and rural areas.

Environmental and urban characteristics in the various regions of the province and environmental features around urban areas vary, therefore it would not be possible to determine universally applicable conditions for the determination of urban edges. Urban edges should rather be determined within the context of the urban and rural characteristics and by assessing the environment where they are to be introduced. The delineation and management of the urban edges should be a local function and the PG:WC must provide the legal framework within which this function can be performed. The field research however indicated that market pressure in many regions caused local authorities to approve land use applications that are in conflict with national and provincial planning policy and detrimentally affect the environment. To guide the market pressure on local authorities, it is recommended that specific criteria be used in the determination and delineation of urban edges, that guidelines and policy be set by the PG:WC and that such policy be executed by local authorities for the management of the urban edges and the reduction of urban sprawl. Any amendment of the urban edge would then have to be considered in keeping with the guidelines and policy. If the amendment complies with the guidelines and policy, the decision relating to the amendment could be delegated to the local authority. Urban edges are matters of regional and provincial significance and would therefore remain with the PG:WC for decisions.

The urban edge guidelines must also contribute to the creation of opportunities for the establishment of small farmers; the informal sector, through community-based livelihood projects; the redevelopment of under-utilised land and centrally located low density residential areas; the development of vacant land; the redevelopment of vacant and under-utilised land cleared in terms of the old group areas, rather than the outward development (away from the centre of the urban area) of subsidised housing; the establishment and conservation of biodiversity corridors; the conservation of the aesthetic and sensitive environmental features that are the attraction in many areas, inclusive of heritage related aspects.

1. URBAN EDGE STUDY BACKGROUND

1.1 Introduction

The Western Cape is experiencing urbanisation and urban growth with perceived negative consequences to the built and natural environment. The rural character of many small towns is being affected; valuable and productive agricultural land is being transformed and production lost; large low-income settlements are being placed on the urban edges, placing unattainable demands on service providers; and gated communities are developing in the rural areas, where leapfrogging causes further pressure on the environment. It is doubtful whether these urban development trends in the Western Cape are sustainable, since the cost of job losses in the agricultural sector, the cost of replacing agricultural resources, services infrastructure costs, the cost of traffic and public transport solutions, and the cost of the loss of biodiversity and conservation resources cannot be recouped from the undesirable development.

The Provincial Government is constitutionally bound to develop policies that will facilitate sustainable development. In this regard the Department of Environmental Affairs and Development Planning decided to initiate the drafting of Urban Edge Guidelines for the Western Cape Province. The aim of these guidelines is to establish and implement a consistent approach in dealing with urban growth, infill and consolidation along the urban edge of all urban areas in the province.

1.2 Problem Statement: Motivation In Support Of Urban Edge

Urban edges are required to contain the outward growth of urban areas, amongst others to facilitate the restructuring of the urban areas. The segregated spatial patterns and the resultant urban functional inefficiencies that occurred as a consequence must be reversed. The inefficiencies relate to insufficient thresholds to support viable businesses, public transport and community facilities, and sub-optimal use of well-located land, especially for subsidy and social housing. Thus, the role of the urban edge is seen as restricting the land area of urban settlements until such time as *average* gross densities of 25 dwelling units or 100 people per hectare are achieved (WCPSDF, 2005). The protection of land required to ensure sustainable environments, such as land designated as cores and buffers in terms of the Bioregional Spatial Planning Categories from urban development is also required.

Urban edges are more than lines separating urban and rural areas. From the resources used in the drafting of this report it was established that they are pro-active growth management tools to contain, control, direct or phase growth in order to promote more compact, contiguous urban development and to protect agricultural, biodiversity, heritage and other resources from development.

1.3 Background And Purpose Of Study

The Development Facilitation Act, 1995, Act 67 of 1995, places an obligation on all authorities to employ policies, administrative practices and laws that promote efficient and integrated land development in that, amongst others, they:

- promote the integration of the social, economic, institutional and physical aspects of land development ;
- promote the availability of residential and employment opportunities in close proximity to or integrated with each other ;

- optimise the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities ;
- discourage the phenomenon of "urban sprawl" in urban areas and contribute to the development of more compact towns and cities ;
- contribute to the correction of the historically distorted spatial patterns of settlement and to the optimum use of existing infrastructure in excess of current needs ; and
- ensure environmentally sustainable land development practices and processes.

The Constitution of the Republic of South Africa, 1996, Act 108 of 1996, places obligations on municipalities. Chapter 7, which deals with local government, defines amongst others the framework for the operation of municipalities. In terms thereof, municipalities are required to govern the local affairs of communities in accordance with the Constitution and other national and provincial legislation. It determines that they should :

- provide accountable government ;
- ensure the provision of services to communities in a sustainable manner ;
- promote social and economic development ; and
- promote a safe and healthy environment.

The National Environmental Management Act, 1998, Act 107 of 1998 and the Local Government: Municipal Systems Act, 2000, Act 32 of 2000, furthers the legal obligations of municipalities to ensure environmentally sustainable development practices and processes. A duty is placed on municipal officials to prevent pollution and ecological degradation, to promote conservation and secure ecologically sustainable development and use of natural resources in the best interests of the local community.

In response to the legal requirements for sustainable development, the Provincial Government of the Western Cape has prepared a Provincial Spatial Development Framework (WCPSDF), which sets the policy for development management. The WCPSDF in general, makes broad policy statements and it will be expected of the District and Municipal Spatial Development Frameworks to be revised to give effect the WCPSDF proposals.

The purpose of this study was to:

- determine guidelines for the implementation of the urban edge policies contained in the WCPSDF ;
- establish criteria for the delineation of urban edges, i.e. to determine what issues and factors should be considered in the establishment of urban edges, and also where urban edges should be drawn around towns and cities ; and
- set out guidelines for the management of the urban edges in the province, i.e. provide policies for the consideration of land use applications inside, on or beyond the urban edge, or land use applications that leapfrog development and would occur in rural areas, ultimately skewing development trends.

This study and the guidelines that flow from it must assist the provincial and local authorities in performing their duties and exercising their obligations consistently and responsibly. In using the outcomes of this study, the municipalities should be able to establish and incorporate urban edges into spatial development frameworks and other planning documents, to contain and guide urban growth.

The aim of the study was therefore to determine guidelines regarding urban edges that should be used consistently throughout the Province in order to:

- implement the policies contained in the WCPSDF ;

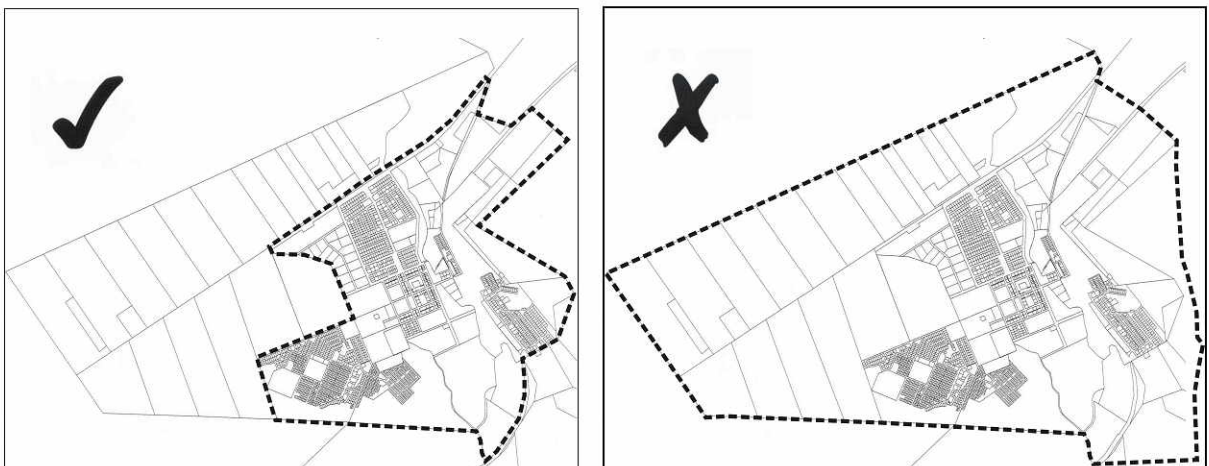
- reduce the use of land that has a broader environmental value, i.e. land that could be used sustainably and beneficially for agricultural purposes, the conservation of biological diversity or heritage resources, the protection of natural resources or the aesthetic quality of the environment ; and
- effectively contain the unsustainable outward growth of urban areas.

1.4 Definitions And Terminology

An urban edge:

In the context of this report an urban edge is a defined line drawn around an urban area as a growth boundary, i.e. the outer limit of urban areas. The urban edge marks the transition between rural and urban land use, i.e. generally between urban areas where full municipal services are provided to land uses other than agriculture and the rural, predominantly agricultural, conservation and nature areas. Urban edges are intended to include an adequate supply of land that can be efficiently provided with urban services (roads, sewers, water, storm water systems and streetlights) to accommodate the expected growth of the urban area for a defined period. By providing land for urban uses within the urban edge (growth boundary), the rural area can be protected from urban sprawl.

Figure 1. Typical example of an urban edge according to the definition



The definition of the urban edge, contained in the Departmental Guideline For The Management Of Development On Mountains, Hills And Ridges Of The Western Cape, 2001 is as follows: "It is a demarcated line to manage, direct and control the outer limits of development. The intention of the urban edge is to establish limits beyond which urban development should not be permitted."

Urban and rural use definitions

In order to determine an urban edge, clear definitions should be given of what constitutes urban development and what not. The differences in opinion (reported on below) as to where the urban edges should be drawn, indicated a clear distinction between municipalities wanting to include conservation and other areas requiring protection, within the urban areas and those that opt for the contrary view. Some municipalities want to include the conservation areas to provide for better-controlled access thereto, and the use thereof. The others prefer to exclude such areas from the urban area by delineation of an urban edge around it, since the rural context thereof is of as much significance as the need to manage its use. The first-mentioned view is that the urban edge should be drawn around the

outside of the urban area, regardless of whether conservation areas, nature reserves or any other land uses occur inside. Zoning schemes, spatial development frameworks, structure plans and the like should be used for the control of land use within the urban edge and more specifically relating to the management and use of areas designated for non-development use, such as nature reserves, urban agricultural areas, biodiversity corridors and open space networks (green belts), river corridors and large recreation facilities such as caravan parks and campsites.

There seems to be a definite need to understand what constitutes an urban area. For purposes of this study and the guidelines, urban development includes all development of land where the primary use of the land is for the erection of structures. This includes all erven zoned and used for residential, business, commercial, industrial, institutional and infrastructural uses, i.e. zonings where the primary use would be the construction of a building and the use of the property by built development, as opposed to the potential for use of the property outside the urban edge with no or some built development. Residential estates on farms and golf estates would for this purpose, if located outside the urban edge, be defined as urban uses, albeit that the "primary use" is "agriculture" or "private open space" and the "secondary use" is residential.

Agricultural uses, open space uses, conservation areas, transport zonings (excluding public transport interchanges, ranks and stations that consist mainly of buildings) and many similar use zonings refer to the use of the land rather than buildings erected on the land in order for the use to occur. These are defined as non-urban uses for purposes of this study. The decision relating to the categorisation of smallholdings as urban or non-urban should be primarily based on the use of the property. Smallholdings are used for the generation of a primary income (urban agriculture or bona fide agricultural use) or they are merely low density residential uses where the owners generate a primary income by working elsewhere and augment the primary income by the keeping of live stock or the planting of crops on the smallholding. Smallholdings used for bona fide agricultural purposes would or should typically be excluded from the urban area by delineation of an urban edge. However, since this land use forms an integral part of towns such as Oudtshoorn, Zoar, Prince Alfred Hamlet, Citrusdal, Uniondale, Barrydale, Montagu, Genadendal, Wupperthal and many others, it would not always be possible to exclude these properties from the urban area by delineation of an urban edge around them.

The urban agricultural uses occur mainly along rivers and streams or in linear fashion along irrigation schemes through the urban areas in which they are located. Urban development occurs on either side thereof, making it near impossible to exclude them from the urban area by the delineation of an urban edge, unless the urban edge is not necessarily the outer limits of the town. The occurrence of these properties in the urban areas generally lowers the density of the town, causing it to seem inefficient in urban context. However, the contrary might be true, namely that these uses cause the most efficient use of land within the small town / rural urban area as they utilise land within the 50 and 100 year flood lines of rivers and stream courses that would otherwise have been "waste land" for the sustenance of a large number of residents". Although the ideal vision of such river corridors through urban areas is as biodiversity linkages, river corridor conservation areas and other public uses in a well-maintained river environment, the facts indicate that very few, if any, of these river corridors are maintained and managed as such.

This potentially excludes the general use of the criterion that all vacant, under-utilised and developable land in the urban areas should be considered prior to the delineation of an urban edge. Since urban agricultural land is potentially developable, but because it is primarily non-urban in nature, albeit within the proposed urban edge, it should be excluded from any consideration when calculating the potential for the town to develop urban uses.

Golf courses, polo fields and other sporting facilities with low intensity structural development are seen as rural in nature, whereas a golf estate, i.e. a golf course with housing, is an urban use, unless it is a resort. Agricultural estates, i.e. farms with a large residential component for owners or shareholders (as opposed to bona fide labourer's residences) or for unrelated freehold or sectional title ownership are seen as urban if the density exceeds one unit per ten hectare. The zoning or nature of the development as a resort or as a "gated village" does not affect the designation as urban or rural, therefore any golf, polo, agricultural or any other resort is seen as urban if the development is intended to provide ownership of any residential unit. If the residential units are owned by an hospitality or other resort company and the units are let to the occupants for holiday purposes, it is a resort and could be rural or urban, depending on the location of the development.

Vacant and under-utilised land definition

Vacant and under-utilised land is all land that is not used efficiently or to its best potential in terms of its zoning and locality. Under-utilised land could also include land that is used to its best potential in terms of its zoning, but not in keeping with the predominant use and zoning of the immediate area, e.g. a single residential property abutting a major road in an activity corridor. Vacant land could also include open space, if it is surplus to the requirements of an area in terms of the accepted norms of supply.

1.5 Urban Edge Guideline Process

The process for the drafting of guidelines pertaining to the establishment and management of urban edges had three elements or aspects, namely:

- The assessment of the impact of urban growth in the Western Cape on the physical, biophysical and socio-economic environment. A desktop study, with empirical evidence gained from role-players in local government was undertaken (it must lead to an understanding of the elements of the environment that need to be protected);
- The analysis of the assessment and the grounds for urban expansion (which leads to an understanding of which factors in the existing urban area require consideration in establishing policies to curb sprawl); and
- The formulation of proposals and guidelines on how best to reduce and mitigate the urban growth impacts through establishment and management of urban edges or growth boundaries.

Research methodology

The City of Cape Town experience : The city prepared a comprehensive urban edge report, which was used as the basis for the research and guideline preparation, together with other suitable international sources.

Initial research : Initial literature research was done to facilitate more detailed field research. The initial research into the establishment of guidelines for urban edges sought answers to the following questions:

- What are the critical urban-agricultural edge issues that can be addressed by agricultural buffers, establishment of biodiversity conservation areas and other techniques;

- What urban edges and buffers and other relevant policies are in place in the Western Cape and what are their specific provisions ;
- What are the reasons for outward growth rather than urban renewal and redevelopment of inefficient low density areas ;
- To what extent have these policies and standards been implemented and what have been the obstacles and facilitative factors ;
- What elements in the environment offer the most defensible buffers and growth boundaries ; and
- What do experts in urban planning, agricultural production and residential development suggest as optimal edge management policies and standards?

Field research: In order to get locally relevant answers, a field research methodology, including semi-structured (non-survey research) interviews and interactive workshops, drove most of the data collection activities of the project. Edge conditions, policies and implementation activities in all the major urban areas were studied, providing the research sample for the project. The major role-players including the municipalities, ratepayers' associations, organised agriculture, state departments involved in land use planning and other interest groups, were consulted.

Profiles and scenario assessment: Profiles (including maps and photographic records) of characteristic urban edge situations in pre-determined sample survey areas were produced, identifying perceived problems from both rural and urban perspectives. The factors affecting the implementation and impact of urban edge management policies in the sample areas were analysed, followed by the preparation of a report that summarised the research findings and edge profiles. The generally agreed criteria, policies and findings were assessed by doing scenario assessments in four areas, namely Vredendal, Beaufort West, Oudtshoorn and Plettenberg Bay. Originally the intention was to work in three urban areas (small, medium and large). However, during the research it became obvious that the differences in the approach to and application of urban edges are captured in regions rather than the size of the settlements. Thus, the four urban areas in four different regions were used for the scenario-assessment. The environment within which each of the sample towns is located differs significantly from the others. The profiles indicated similar differences in approach to development and growth across the urban edge. People are obviously attracted to the more environmentally attractive areas, e.g. Plettenberg Bay and Vredendal, where growth typically occurs across the urban edge, whereas Beaufort West and Oudtshoorn have "less attractive" environments and manage to contain the growth that does occur.

A more detailed assessment of the edge situation was also done for the George area, following on the assessment for Plettenberg Bay, which indicated unique challenges and opportunities.

Public participation/consultation

It is important that there is broad acceptance and support for the guidelines by the municipalities and other interest groups, e.g. property owners, agricultural communities and services agencies, since they will have to abide by them. Due to this factor, a large percentage of the time of the project was spent on consultation. Draft reports were periodically circulated to major role-players in the municipalities to facilitate consultation. The final draft report was also distributed to the identified role-players, followed by a series of workshops in select centres.

2. URBAN EDGE ISSUES, CHALLENGES AND OPPORTUNITIES

2.1 Key Issues Emerging From Literature

South African urban areas are characterised by spatial separation of residential areas according to income level and race, urban sprawl, disparate levels of service provision, low suburban population densities and the concentration of the poor in relatively high-density areas on the urban peripheries. These factors make urban areas inequitable, inefficient, unsustainable and expensive to manage and maintain, exacerbating poverty and unemployment (Department of Housing, 1997). The introduction of urban edge management policies and guidelines could reduce some of the impacts of these "urban characteristics".

Urban population growth is one of the key factors in determining urban expansion. However, the growth is often the result of in-migration of the rural population and not biological growth. The smaller rural towns of South Africa are suggested as "transit locations" for migrants moving from the rural hinterland to the larger urban centres (Geyer, 2002), thus the growth and decline of rural town populations could be cyclical or irregular. This view is shared by others, who believe that migration to large metropolitan areas is predominantly "a step-wise" process "along the urban hierarchy", although it is also agreed that direct migration from rural areas to large urban areas also occurs (Friedmann and Wulff, 1976). The nature and extent of the growth in the various areas and towns thus differ. There would have to be different guidelines and policies relating to different towns and cities, i.e. not all urban areas could introduce urban edges and manage them similarly, as the urbanisation dynamics in each urban area vary significantly. The approach to the study is thus to research the edge criteria and containment and management policies in the different urban areas of the province. Given the dual nature of most urban areas, where rich and poor still live in segregated areas and are mostly dealt with differently by planners and decision-makers, there will most likely also be differences within an urban context.

International

The international resources contribute limited information and guidelines that can be successfully introduced in this study. This is mainly due to the fact that most of the reported international urban areas reflect negative population growth or reverse migration tendencies, i.e. significant migration from metropolitan and large urban areas to smaller and "rural" urban areas. There is however valuable information relating to urban edge delineation and management that is of use.

As stated earlier, different guidelines and policies relating to different towns and cities would be necessary, as the urbanisation dynamics in urban areas vary significantly. The growth phases and growth potential of urban areas would have to be considered in determining urban edges, as the edges should either contain growth in stable and declining growth areas, or allow for expansion in urban areas where efficient natural growth occurs. It seems as though more flexible or accommodating edges would be required where growth needs to be focussed. Close or tight urban edges would then be required to prevent unnecessary (often speculative) expansion or expansion due to continued segregated development, mostly for subsidy housing development. The latter often occurs in rural urban areas, where the population growth is as a result of migration to the urban areas from the rural hinterland or other rural areas. The urban edge thus becomes a planning tool, not only in urban management, but also in regional growth management, promoting growth in certain urban areas, while restricting it in others.

Stringent town planning regulation and control, e.g. regulating development densities and the location of new development, is seen as the most important contributing factor in the virtual elimination of urban sprawl in Britain (Geyer, 2002). The population growth in Britain has been significantly lower than in the South African scenario, making the demand for urban expansion somewhat more manageable, however, the principle remains applicable. Another factor that played a role in the British reversal of urban sprawl was the redevelopment of central neighbourhoods and the transformation of these areas from "white working class areas ... to predominantly ethnic-minority areas" (p92, Geyer, 2002). The more affluent the "working classes" become, the more they can afford to migrate outwards, towards the urban edge. Urban growth has historically also been strongly related to transport technology, i.e. growth occurs along access corridors (Richard, Luce and Lam, 1997), which supports the view that the economic outlook of people lead to a demand for low density housing at the urban edge and ultimately sprawl. Thus, urban growth is due to not only the in-migration of people from rural areas, but also the result of internal-migration. There is considerable international evidence that suggests that migration within urban areas is the result of improved economic outlook for economically active people, who can afford to travel to work and other opportunities and for those described as "upper class mimickers" (p44, Friedmann and Wulff, 1976). Self (1982) states that city growth in Europe has been consistently lower than in the United States due to the European focus on public transport and the goals of urban planning, namely :

- Efficiency (re-use of obsolete assets) ;
- Environmental improvement (protection of natural, cultural, historic and recreational resources) ;
- Equality (in dealing with all neighbourhoods and sectors) ; and
- Community (establishment of mixed societies with an equitable distribution of facilities and opportunities).

The Dutch response to undesirable urban growth is "the bundling of activities such as living, working and services ... Therefore the emphasis was put on compact urbanization and a restrictive policy for open spaces." (Geyer, 2002). The Dutch case is an example of growth management, which presupposes understanding and agreement on two factors, namely :

- A clear understanding of the goals of growth management ; and
- An understanding of the dynamic forces that underlie the processes of urban growth.

Thus, the goals that need to be achieved through the establishment of urban edges and edge management policies must be defined for each urban area and in some instances for each case and agreed to by the local authority. In addition thereto, there must be a thorough analysis of the growth pressures that lead to urban development beyond the edge, as the management policies would have to be specifically aimed at countering these pressures.

National

City Of Cape Town

"Towards the end of 1997, the Cape Metropolitan Council (CMC) appointed three consultants to prepare edge studies for distinct sections of the metropolitan area: Peninsula, Northern and Helderberg. The Urban Edge was drafted based on a contextual analysis of the area and the synthesis of the following edge informants:

- Geophysical environment ;
- Biophysical and ecological environment ;
- River and wetlands systems ;
- Infrastructure location and capacity ;
- Land use and related patterns ;
- Demographic and population profiles and trends ;
- Legal, planning and land ownership situation ;
- Socio-cultural and historic environment ; and
- Visual resource analysis.” (City of Cape Town, 2004)

The City of Cape Town realised that the establishment of an urban edge and the introduction of an all-inclusive metropolitan-wide set of policies and criteria caused all kinds of problems, similar to the problems predicted for different urban areas above. “The metropolitan-wide policy documents often use all-encompassing principles, summed up in catch-phrase jargon (e.g. densification), which can be twisted and used to substantiate any manner of development application – whether suitable or not. It then becomes extremely difficult to assess what constitutes “good” versus “bad” development since the broad principles have been shown to support the proposed development application. Although the overarching principles apply at a metropolitan scale, these need to be contextually interpreted and applied to the specific local situation.”

“As a result of the inherent ambiguity in interpretation of the metropolitan-wide principles, the amendment of the Urban Edge is often used in support of the specific development application. However, as indicated above, it is critically important that each application is evaluated on its own merits and in terms of the specific local context. Within the framework provided by the policy documents, the assessment in terms of the local context should be first and foremost. The amendment or refinement of the Urban Edge, if at all, should be incidental to and as a consequence of the assessment of the specific development application” (City of Cape Town, 2004).

Other national experience

The eThekweni Municipality introduced an urban edge in the spatial development framework for the municipal area. Their motivation for the edge, as in the case of the PSDF and the Cape Town Urban Edge, is to restructure the settlements and to increase the efficiency of the urban settlements through various measures.

The research has also highlighted other factors and issues that require specific consideration in the establishment of urban edges, such as :

- The identification and maintenance of all high potential agricultural land for agricultural production ;
- Protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed in terms of the National Environmental Management : Biodiversity Act, 2003, must be identified and conserved ; and
- All wetlands and water resources should be delineated and protected from impact by urban growth.

2.2 Urban Growth Management

Considering the knowledge gained from the literature study, there must be a clear understanding of what the causes of expansion in the urban areas are, in order to address

the real issues through effective and sustainable management. The most important outcome of the study is to define the goals that growth management should achieve through the establishment of urban edges, in response to the causes of undesirable growth.

Socio-economic conditions:

There is general consensus that the cause of urban growth and expansion, other than the natural population growth, is due to socio-economic conditions. On the one hand there is the migration of predominantly lower income people from the rural to the urban areas and the associated greenfields development of low-income residential areas with subsidised housing. With the exclusion of one or two towns, where infill development occurs to utilise the available land within the urban areas, all subsidy housing developments occur on the outskirts of the towns, outside the existing edge of development. On the other hand, there is significant speculative investment in property development in the "rural" coastal areas of the Southern Cape / Garden Route, the West Coast and the Overberg. Such development and growth predominantly satisfies the demand for temporary seasonal accommodation. High income people migrate to the coastal urban areas and various small inland towns such as Greyton, Macgregor, Prince Albert, Riebeeck Kasteel, Napier, Montagu and others, where "weekend" getaways are offered and more permanent residents are drawn to these areas.. This growth phenomenon is the topic of a research project of the PG:WC, namely the Growth Potential of Towns in the Western Cape. The study indicates where and how growth in the rural areas occurs and could be managed, thus contributing to the larger urban growth management process.

Decentralised development:

The decentralised development of industry and shopping centres on the outskirts of urban areas, was raised as another growth factor. These non-residential uses tend to draw higher order uses to the "edge" and result in a change in the housing sector development. Housing development often responds with higher density development in the vicinity of the higher order uses, additional institutional development, the provision of community facilities and eventually full urban sprawl. In addition to the attraction of the higher order land use, the "higher order services" generate an attraction, especially for the more mobile sector of the economy, as the capacity and relative low intensity use of the roads and the services infrastructure attract further development.

Financial needs of municipalities:

Issues relating to the financial needs of municipalities, the "development economy" and the "space culture" are other factors seen to contribute to urban growth. These issues are related to the "high income / low income" development issue discussed above, however within the context of unlimited space and a need for income. There seems to be a perception amongst some of the stakeholders that were interviewed, that there is sufficient space in South Africa for all the elements of life. The theory is that development will occur somewhere and that there is more than enough space in the country to cater for the rural uses lost as a result of urban development. The income derived from the high-income market development, through rates and taxes, must pay for the cost of free services and relatively high services infrastructure maintenance cost in the subsidy and low income residential areas. Thus, the municipalities promote high-income market sector growth, regardless of the environmental and indirect cost thereof. The income derived from the high value properties, while the services infrastructure is still new and does not require high maintenance, pays for the expenses incurred elsewhere.

Growth focus of municipalities:

Some of the rural and coastal municipalities seem to be focussed on growth rather than efficient urban development or the conservation of scarce resources. Whereas the Cape Metropolitan Area and certain of the Boland towns have not yet reached their urban structure plan limits, i.e. the old Guide Plan limits set in the mid-1980 and early 1990's, most of the towns in the Southern Cape and Garden Route have already exceeded those boundaries. Few, if any have policies in place to contain urban growth and the indications are that some of these municipalities are of the opinion that market forces dictate the growth, rather than land use management policies. The increase in residential densities, change in view of development focus from "horizontal to vertical" (from single dwelling to general residential / flats), and the redevelopment of inefficiently developed areas, are in one or two exceptional cases, part of the planning frameworks. The remainder of the planning frameworks or planning approaches indicate horizontal growth and sprawl following on the requests, demands and approach of developers, landowners and consultants.

The questions relating to growth and the containment thereof, posed by some of the role-players in the research, remain unanswered. The two main questions are:

- When has an urban area or a town reached its limits?
- Can applications for urban growth and development be refused, and if so, on what grounds?

3. URBAN EDGE CONCEPTS

3.1 Nature Of The Urban Edge

The nature of urban edges differ, depending on the criteria and informants according to which they were established and the function thereof. There are two major categories of edges, namely hard and soft edges.

Figure 2. Typical example of a hard edge



HARD EDGE

Hard edge: A hard edge is drawn on the development line of an urban area, e.g. along the outside of a residential neighbourhood, industrial area or any other collection of serviced erven with a relatively high intensity or high to medium density of use. It might be along the erf boundaries or it might be along a road that services the outer erven. A hard edge creates an immediate transition from urban to rural use, with a large undeveloped landscape between urban areas. Hard edges are typically employed where an absolute restraint on development is essential, such as abutting conservation areas, steep slopes and high intensity agricultural uses.

Soft edge: A soft edge on the other hand allows for a gradual transition from the high intensity urban uses to the low intensity, often residential uses such as small holdings, or institutional, recreational and service uses, e.g. schools, correctional services facilities, golf courses, sports fields, waste water treatment works, reservoirs or aerodromes. Soft edges have the potential to promote sprawl and the negative growth trends that need to be discouraged. Often where urban areas are in close proximity, the low intensity urban uses (edge areas or buffers) often abut the edge or buffer area of the next urban area. Various land uses, such as filling stations, tourist facilities, agricultural industries, non-agricultural uses on smallholdings and unproductive agricultural units, resorts, institutional and transport uses create the impression that the one urban area simply flows into the next. In the longer term the buffer areas along lines of transport become more intensively developed and eventually integrated into the urban area. Soft edges are on the other hand often used in a different context, to protect visually sensitive areas, nature areas and other environmental

features around services infrastructure such as landfills and wastewater treatment works and hydrological features. The urban uses inside the edge should relate to the uses outside, so as to avoid conflict between the two. The use inside could either be similar to the use outside, such as low density residential development (existing small holdings) on the inside, with agricultural uses on the outside, or it could link with biodiversity networks, open spaces or river corridors.

Figure 3. Typical example of a soft edge, open space link on the inside and agriculture on the outside



In theory, there are certain urban uses that are compatible with agricultural and rural uses, which abut the development. High density, low-income residential areas that abut fire prone rural areas is typical examples of incompatible uses. Similarly, high-rise, high-density development along an edge where the visual quality of the environment needs protection creates a conflict in use.

3.2 Urban Edge Functions

The purpose of and function that an urban edge performs must be determined, as this aspect proved to be another point of difference between the various role-players interviewed. Many of the municipalities have land use planning policies and spatial development plans that guide development. However, not all of them use the planning tools as intended. Some municipalities prepared and implemented growth management policies and guidelines, but do not strictly adhere to them, as market and social forces put pressure on the policies and plans in unexpected and often unpredictable ways. The obstacles and facilitative factors relating to implementation of the policies and plans are as diverse as the opinions and attitudes regarding the establishment of urban edges, however, the main theme is that growth boundaries, urban edges and spatial frameworks are “guiding” rather than “determining”. The success of all the land use planning policies and spatial development plans and frameworks are seen to be dependant on a unified vision of all