

The Point Re-visited: A Redevelopment Plan for the Point Road Precinct in Durban.



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ABSTRACT

This dissertation sought to formulate a comprehensive argument that challenges the current 'status quo' of waterfront development projects in South African port cities, by proposing a bold new redevelopment plan for the Point waterfront in Durban.

The last two decades have experienced a growing number of South Africa's port cities undertaking major redevelopment projects, in an attempt to capitalise on the development potential that these sites offer. However, these projects' target-market seem to be focused on attracting an elite minority.

The theoretical framework for establishing the argument was informed by the generic problems with the structure of South African cities, as well as the global challenges that threaten all growing cities. Once these challenges had been explored, and the required approach for urban growth management had been identified, a systematic analysis of the site, from a variety of scales was done. The key findings from the analysis, in association with the theoretical standpoint, provided a point of departure in which to create the redevelopment plan.

The redevelopment plan proposed in the dissertation has provided a bold alternative for the site. It advocates for a more inclusive urban environment that represents the greater need for the city, in response to the current urban challenges.

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CHAPTER 1 Introduction

The last two decades have experienced a growing number of South Africa's port cities undertaking major redevelopment projects, in an attempt to capitalise on development potential of these areas of the city. These projects have led to a number of waterfront shopping centres, marina villages, small craft harbours and entertainment complexes being developed in areas that were once inaccessible or considered to be rundown and undesirable parts of the city. However, there seems to be a common thread with regard to the target market that these developments are directed towards. They have become characterised by exclusively high-end residential and office spaces and provide recreation amenities that seek profitable outcomes rather than places of social inclusion and integration.

In light of the current challenges in South African cities, the validity of these redevelopment projects need to be questioned. South Africa continues to carry the burden of its apartheid legacy, and issues of spatial inequality remain ingrained in the cities. Further, as urbanization continues to grow, increasing pressure has been placed on urban growth management, as the need to accommodate the growing urban population heightens. This has led growth patterns to be characterised by rampant urban sprawl, as land on the peripheries is seen as the only viable option.

It is based on these two fundamental issues in South African cities that raise concern around the ethical position of the current waterfront developments. At a time when immense social inequalities persist and well located developable land is scarce, should these redevelopment projects not be aiming to create places that are more inclusive?

This dissertation focuses on a waterfront development taking place in Durban, in an area known as, the Point. The plan for the Point was to transform the underutilised site into a major tourism and economic hub, in an attempt to regain national and international investor confidence in the city. The project started over a decade ago and it has yet to live up to the high expectation made for the project.

The intention of this dissertation is to formulate a comprehensive argument that challenges the current 'status quo' of waterfront development projects, and proposes a bold new redevelopment plan for the Point waterfront in Durban.

Method

The approach used in this dissertation is informed by the design method. The project ranges across a variety of scales, including the metropolitan scale, a site and environs scale, and a precinct scale. The variety of scales, of which each scale requires its own process of analysis and design, are used systematically in order to inform the one another.

Analysis

The first level of analysis begins at the metropolitan scale. The objective at this scale is to gain a sufficient understanding of movement in the city. The elements of movement that are taken into consideration include metropolitan-based mobility routes and local accessibility routes. The

intention of the analysis at this scale is to gain an understanding of how the elements of movement work together as systems. The level of integration between modes of transportation is important, thus an analysis of public transportation routes and motor vehicle routes is of great importance in identifying potential inefficiencies at the metropolitan scale.

The second level of analysis focuses on the site and its surrounding environs. The aim of the analysis at this scale is to understand the strengths and limitations of the site. This is done through an inventory of both the natural and man-made element of the site. These elements include the biophysical aspects, the movement systems and movement generators. The intention then is to establish the existing conditions, identifying areas of weakness and constraints present in the study area, which can then be used to inform the design plan.

The third level of analysis focuses directly on the site. A thorough evaluation on the existing plan for the Point will be explored. A set of urban performance criteria will be used to critically evaluate the current state of the site and the key finding will be used to further inform the redevelopment plan.

-Design and intervention

The design and intervention phase follows the same format as the analysis section. It starts off at the metropolitan scale, and is informed by the key findings gained from the analysis of the metropolitan. The redevelopment plan for the Point follows the same sequence of events, but it also informed by the key finding noted in the evaluation. Once the structural plan is developed, which will indicate different levels of movement hierarchies thought the Point, an indication of land-use, built form and urban intensity will be provided. The design at this scale concludes with the identification of a precinct area in which the proposed design shown at a local scale.

Structure of the Document

The document is structure in two sections. The first six chapters are non-contextual. They are structured in such a way that formulates an argument for the type of urban growth management required, based on the finding of the current urban problems across a variety of contexts. The second section consists of the application of the previous chapters to the Durban context, through a analysis and design process.

The first 6 chapters of the document are non-contextual.. Chapter 2 provides a brief understanding of the urban growth pattern in Durban by locates the problem and the associated social and spatial consequences. Chapter 3 explores the historical and political context of South Africa and the spatial implication of these events significant event have had on current cities. Chapter 4 provides a global perspective on urban challenges, by identifying some of the major threats and challenges that cities are currently facing, as well as potential future threats that may arise. Chapter 5 discusses the appropriateness of urban densification and the compact city approach, as possible tools to address the challenges identified in the previous chapters, and puts forward the arguments for strategic densification. Chapter 6 is concerned with establishing the performance criteria that should be used to inform the plan making process.

Chapter 7 and 8 consists of an analysis at the sub-metropolitan and site

scale. Chapter 9 consists of the critical evaluation of the existing plan for the Point. Chapter 10 proposes the redevelopment plan for the Point based on the key finding from the previous chapter. Chapter 11 comprises the design for the chosen precinct, and is followed by a section on developing phasing and implementation.

CHAPTER 2.

Locating the problem: Urban growth in Durban

Durban is a coastal metropolitan located along the east coast of South Africa. It has a population of 3.5 million people (Stats SA, 2011), and is considered to be one of the strongest municipalities in the country. However, like many other South African metropolitan areas, it is characterized by high levels of poverty and unemployment. The country's spatial legacy of apartheid has created a socio-economic divide in Durban, which is highly racialised and continues to be a feature in the urban structure (Breetzke, 2009).

Historically urban growth in Durban had been concentrated around the port and CBD. However, its growth has since become significantly decentralised. Growth has now become significantly influenced by the city two national roads, the N2 services the north and south of the CBD parallel to the coastline, and the N3 which linking Durban to Johannesburg. This has caused Durban to become considerably sprawled and has further heightened the socio-spatial inequality that originated during apartheid.

The following section provides a brief contextual review on the urban growth in Durban, identifying, firstly; the significant influence that apartheid has had and then the more recent events of urban decentralisation.

Spatial segregated

Durban's planned spatial arrangement during apartheid was constructed around a set of concentric circles of residence and commerce (Mabin, 1991; Schensul, 2008). Conceptually, these concentric circles laid out in the following order, the centre was occupied by white residential and economic areas, followed by Indians and Coloureds areas in the middle, and then finally Blacks on the outer periphery. This is a relatively common conceptual understanding of the planned spatial hierarchy represented in many apartheid cities. However, Durban's particular version of the apartheid plan was influenced by its highway systems.

The two highway routes intersect one to form a large 'T-junction' in the city. The point of intersection is located at the core of the city, just on the periphery of the city's CBD. During the time of apartheid, the CBD was still considered to be the main economic node in the city. This made it a desirable location in terms of having greater access to opportunities. It was at this point of intersection where the set of concentric zones of racial segregation was centred. The city's CBD and the areas immediately surround it were occupied by whites, Indian and coloured communities were placed on the outer corners of the 'T-junction', and black communities were located in the outer peripheries bordering onto the rural areas (Schensul, 2008).

Essentially the integration of the concentric racial zones and the highway network meant that the further one was from the intersection of the 'T-junction' the more difficult it was for them to access opportunities. Further, the city's public rail network replicated the same 'T-junction' pattern, as it followed the same routes as the replicated the same 'T-junction' pattern, as it followed the same routes as the national roads. This left many communities, especially the black communities in the peripheries whom would have relied

on public transport, to be extremely isolated from the rest of the city. In the late apartheid years, Durban's spatial form began to change, as rapid urbanization and weakening apartheid controls led to an immense growth of informal settlements on the periphery (Todes, 2000). By 1994, the racial barriers were removed and an influx of people, attempting to search for greater opportunities, led to a series of small informal settlements emerging within the central city. However, at a time when a third of Durban's population lived in informal settlements, these centrally located informal settlements accounted for only four percent of them (Todes, 2000).

Besides parts of the CBD and Cato Manor, which is the largest and perhaps most important integrative project located just outside of the CBD, Durban has not been able to significantly break down its racially segregated city. As Todes (2000) argues, many of the recent low-cost housing schemes have been located in the previously disadvantage informal settlements on the peripheries. These are areas that Schensul (2008) argues, remain to be economically stagnant, as even though economic growth may have shifted out from the CBD, they continue to be in close proximity to the highways.

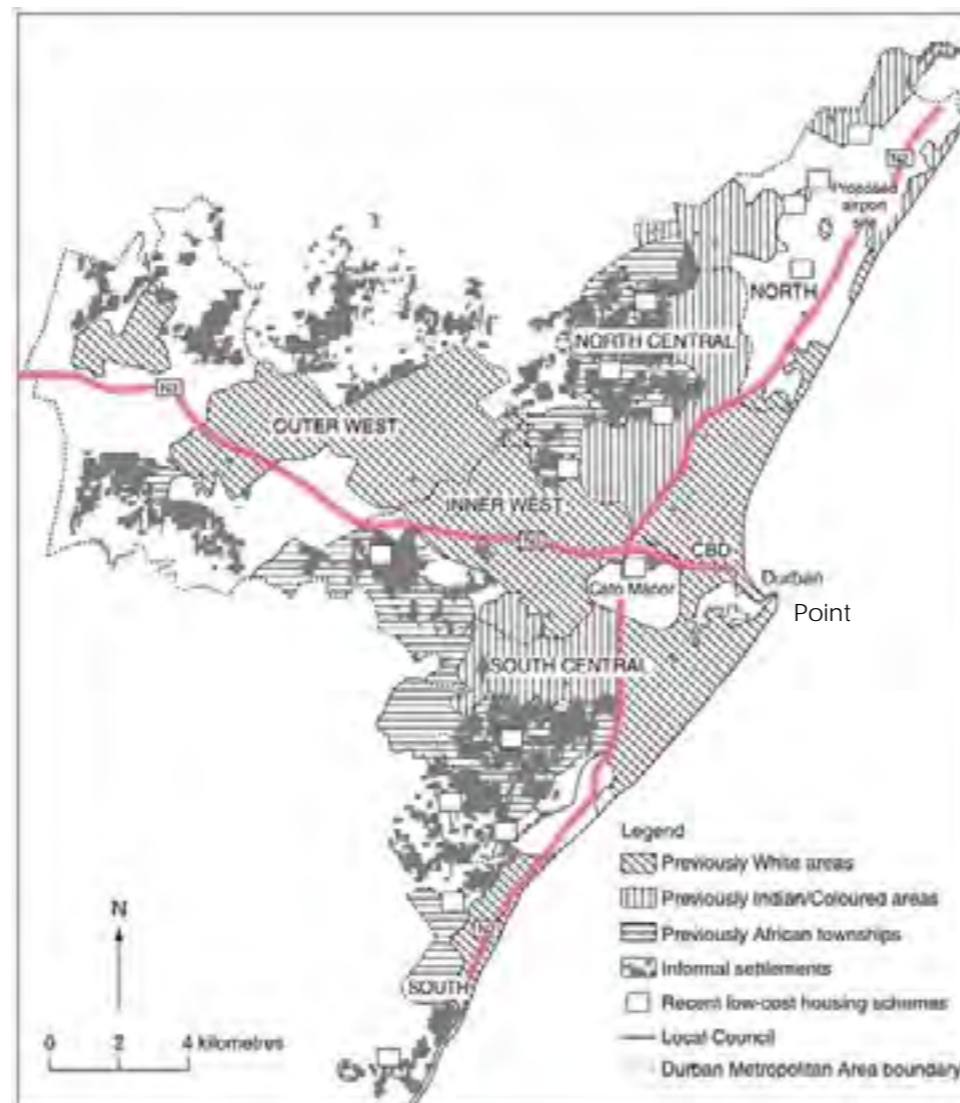


Figure 2.1: Racial zoning in Durban under apartheid and recent developments (Source, Todes, 2000)

Decentralization

According to Todes (2000) decentralization began in the 1970's when largely small professional offices moved to the suburbs close to the CBD. This movement sparked concern amongst local planning authorities, as they felt that it would have a negative effect on the CBD, as well as occupy well located land that could be used for housing. However regardless of these concerns, the trend persisted and by 1990's larger corporates and regional offices started to make the moves out of the CBD to new office parks situated in up-market suburban locations (Todes, 2000).

A perception of 'crime and grime', and growing disorder in the CBD underpinned the process of decentralization to a large extent (Todes, 2000; Waters, 2007; Schensul, 2008). However, as Todes (2000) argues, the growth of decentralized office parks was not specific to Durban alone, as it seemed to be an international trend at the time. The available and relatively cheap land located along the periphery of the CBD, made these locations desirable, particularly for small business that could not afford or find space in the CBD, and provided an escape away from some of the intense characteristics of the CBD.

The process of decentralization was made possible by planning decisions under the past fragmented system of local government, and what Todes (2000, 624) describes as, 'provincial oversight based on market demand and local impact'. The competing interests between areas have continued with the consolidation of local governments into six structures and a metropolitan authority. This has made it extremely challenging for frameworks, like the Metropolitan Spatial Development Framework, to adequately address issues pertaining to the distribution of commercial and office development at a metropolitan scale (Todes, 2000).

Decentralization has taken place along the national roads which run parallel to the coastal plain along the N2, and into the west along the N3. There has been substantial growth along the northern corridor along the N2. Historically development in the north had been limited because of a private landholder, Tongaat Hulett, who owned large tracts of land which were used to grow their sugar cane crops. However, in response to the growing perceptions of CBD decline and insecurity, and demand for small owner-occupied office building space, Tongaat Hulett saw the development potential that its land had and start to release portions for development.

Since the 1990's, the agricultural fields in the northern corridor of Durban have been dramatically transformed into a highly developed urban settlement, to form what Michel and Scott (2012), resembles Guarreau's (1991), 'edge city'. Besides an array of office parks there have been a number of other developments, such as, a regional shopping centre, major entertainment complexes, golf courses, high-end residences, and the location of the new King Shaka International Airport which is expected to trigger further growth and development (Robbins and Scott, 2011). The northern corridor has received substantial investment from both local and national government and is expected to achieve further growth in the years to come.

Durban remains to be a city an extremely segregated city. The socio-inequities that have transpired from it are only getting worse as the city continues

to sprawl out along the same structures set in place during apartheid. As economic developments continue to grow along the city's highway network, communities in the peripheries will continue to be subjected to poor access to opportunities. The prospect of the CBD experiencing further decline, as more businesses are expected to move out, will emphasize the inefficiency of having a rail network which replicates the highways system. The inability of the system to services the concentric nature of the city will worsen the prospects of access for those living on the opposite side to where development is happening.

In order to establish the way forward to achieving a better performing city, the management of urban growth must be first understood in terms of the current urban challenges that exist. Firstly, it is necessary to understand the generic problem of South African cities in order to establish the urban challenges that are required to be fixed. Secondly, the challenges of population growth and rapid urbanisation need to be further understood in the global context, as threats to our planet's resource will significantly influence the way in which urban growth should be managed. Once these urban challenges can be properly understood, urban performance qualities can be arrived at in order to determine what spatial planning should be trying to achieve, in terms of addressing the socio-economic polarisation in the city of Durban.

CHAPTER 3.

Urban Challenges: Challenges in the South African context.

As is the case with many other cities around the world, South Africa is experiencing rapid rates of urbanisation which has brought about an array of urban challenges. However, as Dewar (2000) explains, this rapid urbanization is a relatively recent phenomenon in South Africa, with the vast majority of urban growth having occurred within the last 50 or so years. Furthermore, due to political control that prevented black South Africans from entering towns and cities freely, it was only until the mid-1980's that all South African were able to move into urban areas. As it stands currently, 63 % of South Africa's population is now living in urban areas (Worldbank, 2013).

The rapid influx of people residing in South Africa cities over the past decades has had a distinctive influence on the form of these cities. South Africa has a particularly high unemployment rate of 23% (Stats SA, 2011), a statistic that is increasing through the impacts of economic globalisation and a shifting sectorial hierarchy which is leading towards a more specialised and skilled labour force. This has made the prospect of job security for both those that are already residing in, and those moving into urban areas, particularly challenging. The combination of this urban in-migration, natural population increase, and increasing unemployment, has lead a rapidly growing population of urban poor in South Africa. As a result of this growing urban poor contingency, South African cities have become susceptible to vast and erratic forms of informal development, in an attempt to meet the needs of the urban poor. However, in order to understand the current spatial patterns of South African cities, it is necessary to understand the significant influence that historical events and eras, as well as current trends, have had.

Pre-democracy

As stated in Dewar et al (2012,1), 'once formed, urban fabric outlives many generations of users'. It is from such a statement that one begins to comprehend the importance of understanding the historical context of urban settlements. In terms of historical urban growth in the South African context, there are two main dynamics that have had a resounding influence on current patterns and forms in South African cities. The first is the ideology of modernist planning and the way in which its principles and concepts were activity applied in the field of urban planning. The second was the political ideology of separate development through Apartheid and the way in which the objectives of apartheid perused through manipulating modernist planning ideology.

Modernism

The vast majority of South African urban growth occurred subsequent to the 1940's, a time in which the modern movement in architecture and planning was at its height (Parnell et. al. 1995). This has meant that most urban development in South Africa has been significantly informed and shaped by the modernism planning ideology.

Urban modernism first took root in Europe and the USA but it rapidly spread internationally, including many developing countries, such as South Africa. The introduction of modernism marked an astonishing moment in the history

of urban settlement. For the first time professionals chose to break away from the traditional ways of settlement-making which had been practiced for centuries, in the belief that they had found an alternative which would enhance a good urban life (Holston, 1989; Parnell, et. al. 1995).

The urban model of modernism was based on a number of key ideas, most of which are clearly evident in the current form of South African cities. These key ideas were:

- An approach to settlement-making that had been centred on a positivist, rational comprehensive mind-set. This led to plans having a distinctive programmatic influence. Once the programme of basic elements had been derived, planning simply became a rational distribution of these elements.
- A clear concern regarding the need for separating urban activities. Activities which primarily looked referred to working, living, recreation and moving, were consciously separated into, what Dewar and Todeschini (2004, 11) described as, 'mono-functional areas'. The purpose of this separation was to reduce conflict between activities and maximising the functioning of each separate activity.
- A strong suburban ethos that emphasised the creation of separate neighbourhood units or cells that had their own community and commercial facilities located within the centre. Development would take the form of a system of numerous separate developments, which were separated by buffers of open spaces with limited connection coming in the form of high speed, restricted access movement routes.
- An entrenched belief that technology had the potential to overcome social and natural constraints and in turn transform the nature of society. In a urban sense, the most notable technological influence was that of the motor car. The motor car was seen as a primary mode of urban movement and as a result urban settlements were developed in to ensure the efficiency and safety of car movement rather than the needs of people on foot. Further, there was a great emphasis on the use of the elevator. A facility which enabled building to be constructed in excess of the four story walkable form. The result of this has subsequently been the death of the street, as the human scale becomes obscured for the pedestrian.

The belief in, or the assumptions given to the role of technology, fundamentally affected the entire conception of how the city should function. The city was seen as a machine which was made up of a collection of discrete and inter-related parts (Dewar and Todeschini, 2004). In terms of planning and policy there was an emphasis on maximising the function of the different individual parts, as opposed to the performance of its whole.

In spatial term, the principles of apartheid conferred neatly with those of modernism and as a result it actively embraced, and then comprehensively distorted them (Parnell and Mabin, 1995). According to Dewar and Todeschini (2004), there were three particular dimensions of the modernist

model that were actively embraced to strengthen the apartheid policy.

- The concept of urban separation was extended to include 'race'. Where the modernist approach intended to separate urban activities, apartheid planning manipulated this ideology to enforce a racial divide. Separate areas were demarcated and planned to accommodate for different racial group. This led to numerous cases of different race groups being uprooted and relocated in order to align with the planned separation. As it so happens in South Africa there was, and still is, a correlation between race and class which meant that the poorest people were relocated to the peripheries of the urban settlement.
- The second concept related to that of the neighbourhood unit or cell. The open spaces which surround these cells, which had initially been intended to act as positive open spaces that provided people with access to nature, became buffers that separated the different race groups.
- The third distorted concept related to that of movement: high-speed routes, linking the fragmented parts of the city together, were an integral part of having an efficient system of separate development under modernism. However, instead of these routes acting as a means of integration, they were used as 'space bridgers' (Dewar and Todeschini, 13, 2004). Their sole purpose was to move large numbers of people and goods from one destination to another as quickly as possible. The emphasis was on mobility, as opposed to increasing access and, as a result many of the areas located on the peripheries struggled to access places of work and social services.

Together these two forces have assisted in creating an urban form which is predominantly characterised by low density urban sprawl, fragmentation and separation (Dewar, 1992,). The result of these characteristics is that South African cities have become inherently dysfunctional (Van der Merwe, 1993, Watson, 2004). These interconnected and overlapping patterns underpin a wide range of the environmental and spatial problems currently being experienced within urban settlements.



Figure 3.1 Spaghetti Junction in Durban: (Source; Pitcher, 2011)

Post-democracy

The end of apartheid in 1994 earmarked a new era for planning in South Africa, as the process of integrating the highly segregated society became a priority. However, over the last twenty years of democracy the spatial patterns of apartheid remain to be a constant challenge and have induced a series of additional urban growth challenges.

Informal settlements.

The growth of informal settlements had initially started at a small scale during the apartheid period as the planned townships struggled to house the growing non-rural population, (Tomlinson, 1994). However, in the light of rapid urbanization and the repeal of racial segregation policies being terminated, the rate of informal growth has mushroomed significantly on peri-urban and unused urban land since the end of apartheid.

Dewar et al (2012) have identified two types of informal settlements that have emerged. The first is land occupation which takes place with the main city structure. This is frequently in the form of backyard shacks, which exist within the cadastral boundaries of plots in formal townships. The second type of process, which has had a more direct effect on the urban form, has been the illegal occupation of larger land parcels. The location of these illegal informal settlements has commonly been the desire to avoid harassment from authorities, as opposed to having practical or functional significances. Once these settlements prompted an infrastructural reaction by public authorities, due to health concerns (Dewar and Louw, forthcoming), they began to shape the form of the growing city structure.



Figure 3.2: Social Housing Source: Golblatt, 2006

Housing Policy

The distribution of housing in South African cities still displays patterns resembling that of the apartheid structure, consisting of low densities and the separation of functions (Bond 2003). The state's solution to reconcile with those who had previously been removed for areas during apartheid and the rapid increase of informal settlements was the delivery of subsidised housing. However, the need for quantity rather than quality, and scarcity of parcels of land in areas located close to the city, led to these subsidised houses being located on cheaper peripheral land, often without much regard to the established social and economic dimensions of these settlements (Dewar, 2000; Huchzermeyer, 2004).

Dewar (2000, 216) argues, the result of land value being 'the softest variable', the housing scheme will continue to be erratic and resemble many of the

characteristics of the apartheid and modernist model; marginalised forms of development that take the form of low densities.

Increasing influence of Private Developers.

Another factor which has had a significant influence on urban form in South African cities has come from the rampant growth in the private development sector.

Initially, in order for private developers to get their proposed land use changes approved, the onus was on them to prove that there was both a need and desirability. Need referred to local needs: the developer needed to show that changing circumstances warranted land use change in order to meet to requirements of the local population (Dewar and Louw, forthcoming). In terms of desirability, developers had to prove that the change would bring about greater public benefits, than the existing (Dewar and Louw, forthcoming). Without providing a sufficient argument which to prove that both of these requirements would be met, permissions for land use right were more often than not denied.

However, the rise in economic globalization, this process has changed. The onus of providing proof has changed hands from the developer to local authorities. Private developers simply showing their intent or willingness to invest, was considered sufficient evidence that there was a market demand (need). Further, it was no longer a requirement for private developers to show that their proposed developments would bring about a greater public good, but rather that it would not substantially worsen the existing situation. Dewar and Louw (Forthcoming) argue that, as a result of these changes, the system of development has increasingly become dominated by developer greed rather than social needs. Land development no longer follows historical patterns of public infrastructural investment and they are often directed to respond to new development initiatives (Fainstein, 2000; Visser, 2008). Urban structure has become significantly reactive and fragmented.

The Structural Outcomes of these Process.

The spatial legacy left behind from Modernism and Apartheid has led South African cities to be characterised by, low density urban sprawl, fragmentation and separation. Since achieving democracy in 1994, the growth in informal settlements along with the contrasting priorities of private developments have arguably further entrenched this dysfunctional spatial legacy.

These interconnected and overlapping spatial patterns have significantly aggravated the social problems of poverty, unemployment, inequality, as well as having a detrimental effect on the agricultural and natural landscapes. The following are the structural outcomes that have resulted from, apartheid and modernist planning and the subsequent implications that have transcended into the current post-democracy era.

Excessive movement.

South African cities generate an enormous amount of movement. Because of the low-density residential areas which provide limited economic opportunities, together with the sprawled urban fabric, South Africans are required to commute daily from and these fragmented areas (Dewar, 2000).

This has in turn, brought about additional costs in terms of household budgets, infrastructural investment, labour productivity, air pollution and greenhouse gas emissions (Dewar, et. al. 2012; Tomlinson, 1994).

The low densities and urban sprawl has had a detrimental effect on the provision of a viable and efficient public transportation system. As a result, most of the movement generated is road based, with a particular bias towards the use of private vehicles. This is a major concern as it is not only the worst possible form in terms of greenhouse gas emissions, but it's also has major social and economic consequences.

Ironically it is the poor who have to move the furthest (Dewar, et al, 2012). With private vehicle ownership not being an option for the large majority of the poor, they become totally reliant on the availability of public transport, regardless of its efficiency. Because of the large distances that need to be travelled and the low wages being earned, a disproportionately high amount of the household income is spent on transport. However in many situations, when the transportation costs are not affordable, households literally become 'trapped in space' (Dewar, et. al. 2012, 5). Employment and the opportunities of the city fall out of their grasp, and in a sense, become entirely excluded from the opportunities of the city.

Inadequate provision of social facilities.

As a result of low densities in South African cities, the provision of adequate levels of social facilities and other forms of social back-ups has proven to be extremely challenging. The implementation of the neighbourhood unit concept, where each cell is dependent on its own internal resources for social and commercial support, has brought about a number of financial and logistical burdens that has left many South Africans without required social facilities.

When the population of the cell is almost ubiquitously poor, levels of support, are by definition, low (Dewar et. al. 2012). When facilities are not provided within these cells or communities, residents are required to travel to neighbouring or nearby cells in order to access essential social facilities. This creates a variety of additional burden for residents.

With the demographic structure of the cell being susceptible to change over time, the demand for the types of facilities will also be expected to change. This has resulted, in some facilities being overcrowded while others are under-utilized (Dewar, et. al. 2012).

Lack of vibrant local markets

The spatial structure of South African cities which promote vehicle mobility rather than accessibility routes has created impenetrable barriers which reduce opportunities for small income-generating businesses (Dewar, 2000). These impenetrable barriers have caused local markets to be, scattered throughout the urban settlement. This is a major factor hindering the successes of local markets as densities are too low to create vibrant local markets. According to Dewar et al (2012), high densities are a pre-condition to enable growth in micro and meso self-generated economic activities and for the diversification of urban economies.

Poor Public Spaces

The distorted urban structure of South African cities which have priorities roadways for mobility purposes has had a significant influence on the quality of public spaces. Private vehicle movement is now given preference when planning settlement, which has resulted in the formation of streets that no longer accommodate for pedestrians activities. The street has subsequently been killed and is no longer able to be integrated into the communities that it serves.

Furthermore, low density sprawling residential areas, fail to define, protect or give scale to the public spatial environment (Dewar, 2000). They do not exhibit any sense of place, nor do they contribute to the legibility of the urban form as a whole.

Destruction of valuable agricultural land

An extensive amount of the agricultural and natural landscape has been destroyed as a result of low density sprawling form of development. This is deeply concerning as, compounded with the threats of climate change and food insecurity, it is essential to ensure that productive land is managed and preserved to the greatest degree possible.

A way forward; The Required Urban Planning Response

South African urban settlements are not providing the required platform in which to support the economic realities of the majority of its citizens, and are therefore clearly non-sustainable. The great challenge facing urban decision-makers is to restructure settlements in order to make them more efficient, equitable and sustainable.

Dewar and Uytendogaardt (1991), argue that for any significant improvement in the urban performance in the future, is dependent on a collective series of interrelated characteristics.

- Significant increases in densities, in order to increase levels of support for economic and social opportunities as well as to create more intensive and local markets.
- Knitting the urban fabric together and breaking down the cellular structure of settlements by allowing activities which require high level exposure to respond locationally to more continuous movement routes.
- Intensify along the more continuous movement routes in order to ensure the greater viability of non-motorised transportation (NMT) and public transportation.
- Integrate different modes of public transportation to ensure that each mode had a purpose and a role to play, which is best suited to it.
- Emphasis on creating structural opportunities for a more dispersed pattern of economic and social opportunities.

Dewar and Todeschini (2004), admit that such a transition, in which the above mentioned characteristics are achieved, is not a short-term proposition. However, in the long term the transition can be achieved if urban

planners start to think differently about the structure of urban settlements and explore new structural patterns and tendencies. Given the existing realities in South African urban settlements at present, there is an overwhelming case for urban decision makers to seek greater compaction, higher densities and greater integration in the management of urban growth.

CHAPTER 4 Urban challenges in the global context

South African cities, such as Durban, have their own social, political and economic contexts, of which are inevitably shaped by local socio-economic and political forces. However, moving forward, the future of these cities will be significantly influenced by the future of South Africa as a whole, as well as the course of environmental and economic development which take place at a global scale.

In a time of rapid globalization, local actors still have agency, however there are certain macro-scale forces which will increasingly affect cities across the world in some way or another. This heightens the necessity for planning to take into account more than just local requirements. It is required to look beyond borders and respond to global trends, particularly to those of which individual cities may have no control over.

The following chapter will discuss some of these global forces and the challenges they bring, such as: global urbanization, environmental threats, economic issues, and social-spatial patterns.

Global Urbanization

Less than a century ago, it was estimated that 5 per cent of the world's population lived in cities (UN-HABITAT, 2009). In 1950, the level of global urbanization had increased to 29 per cent. By 2008, the UN Habitat report reveals that a major demographic milestone had been reached, for the first time in history, more than half of the world's population were living in urban environments. This rapid rate of urbanization is only expected to continue to increase, with future projections indicating that by 2050 the world's urban population is expected to be in the range of 90 per cent (UN-HABITAT, 2009).

As Soja and Kannai, (2006), point out, for the most part of the post-Industrial Revolution-era, the advanced forms of industrialization remained tightly confined geographically to specific urban centres, which were more often than not located in advanced capitalist countries. However, the increasing rate of global urbanization has had a significant influence in the process which has resulted in forms of industrialization breaking free from those historically, 'confined geographical urban centres'. Soja and Kannai (2006, 59), refer to the current processes of urbanization as 'regional urbanization'. They explain that processes of urbanism have been spreading outwards, which has created urban densities and new 'outer' and 'edge' cities in areas that had formally been suburban fringes, greenfield or rural sites. This has resulted in the poly-centric formation of current urban settlements, as the densification and agglomeration of urban residents and activities fall within a sprawling network of cities (MacLeon 2001).

One of the major reasons why urbanization has increased at such a fast rate can be associated to the growing social and economic opportunities available in urban areas. Due to increased mechanization within the agricultural sectors, economic opportunities are becoming increasingly difficult to come by, leaving many with no other option but to head into cities in order to make a living. This is often the case in many developing countries which has brought about a host of issues. Many cities in developing countries are ill-prepared to not only to match the required economic opportunities

that the newly urbanised seek, but also simply to accommodate them (Burgess, 2000). These cities are then faced with the burden of having to deal with strained infrastructure services, increasing rates of urban poverty and high levels of unemployment (Henderson, 2002). As a result of these cities inability to adequately meet the desired demands of those migrating into urban areas, there has been a phenomenal growth of informal settlements. According to (UN-HABITAT, 2009), in sub-Saharan Africa it is estimated that over 60 per cent of the urban population currently live in informal settlements.

Environmental crisis

'All organisms modify their environment, and humans are no exception', Vitousek et al. (1996, 494). However, as Vitousek et al., (1996) and many others have identified, the rate in which humans have modified the environment, and the impact that this modification has had on the environment and all that inhabits it, has become grossly distorted. So much so that current patterns of energy and material extraction has gotten to a point which is now threatening the continuation of human life itself.

It has become clear that cities now play a key role in the modern era. Not only do they accommodate more than half of the world's population, as mentioned above, but they also contribute significantly towards national economic growth. However, they are also linked to causing the acceleration of global ecological decline, due to the disproportionate nature in which they consume resources and produce exorbitant amounts of waste (Rees et al., 1996; Newman, 2006). Ironically enough, cities seem to be their own worst enemy as they become the most vulnerable to environmental disaster and crises due to their high urban populations that they need to support and their dependence on external sources for food and water (Rees et al, 1996; Pelling, 2003).

-Climate change

One of the most threatening environmental challenges that we face on a global scale is climate change. There has been a considerable amount of research and literature done examining the extent to which human activity can be blamed for contributing toward global warming. The Intergovernmental Panel on Climate Change's latest findings had indicated that it is very likely that the increase in global temperatures can be correlated with the increase in human-generated greenhouse gas emissions (Soloman, 2007). The threats of climate change have already begun to show themselves as we have seen more intensive weather conditions such as flooding, droughts and storms which have left devastation in its wake (Satterthwaite, et al., 2010). Cities located in low lying and coastal areas are of major concern as they will become considerably more vulnerable to the prospects of rising sea levels and increasing flooding conditions. However, it is not only these cities that will be affected by the impacts of climate change. The very real threat of food and water insecurity is something that will affect cities across the globe and is required to be incorporated into all planning decisions.

-Water security

Fresh water resources are fundamental for maintaining human health, agricultural production, economic activities as well as critical ecosystems

function. It is this growing dependence in relation to the growing population rates that has led the global demands for water to triple since the 1950's (Gleik, 2003). However, due to the impacts of climate change on the global hydrological cycle, the supply of fresh water has been in steady decline (Gleik, 2003; Gleik and Palaniappan, 2010). The harsh climatic conditions along with the growing demand for portable water by an ever-increasing global population, has led to a growing concern for water security. Water security issues generally spark alarm bells for rural areas where agricultural activities are heavily reliant on the supply of water, yet it should be equally alarming for urban areas as issues of food security will come into play. Furthermore cities will become more reliant on having to outsource their water supplies, which will induce additional cost and policy regulations in order to facilitate the required infrastructure needed. There is now a growing responsibility for cities and city managers to ensure that the threats of water security are taken seriously and incorporated into future planning decisions as the severity of the potential implications are immense.

-Food security

Gergory et al. (2005) refers to the food system, which underpins food security, as all of the dynamic interactions that take place between and within the bio-geophysical and human environments which lead to the production, processing, distribution, preparation and consumption of food. Issues relating to food security are often considered to be a rural problem as it is assumed that it relates to production of food, and are therefore required to be dealt with outside of the urban environment. However, as Gegory et al (2005) explains, the food systems encompass a variety of factors such as food availability (production, distribution and exchange), food accessibility (affordability, allocation and preference) and food utilization (nutritional and societal values and safety). This makes it as much of an urban issue as it is a rural issue, as stresses on any of the about mentioned factors can induce the threat of food insecurity.

Climate change has led to more extreme seasonal conditions which is having a detrimental effect on agricultural processes, as hotter and drier months are hindering crop production. The stresses of food security relating to agricultural produce, are further compounded by the continuous conversion of agricultural land into urban developments in an attempt to accommodate for rapid urbanization. The increased scarcity of produce leads to price inflation, which brings about a number of social issues as it then becomes the urban poor who are unquestionably the most vulnerable (Gegory et al., 2005; Turrall et al., 2011).

To a larger extent the production of food is arguably still the greatest threat to food security, even though this process takes place out of the urban environment there is still plenty to be done by urban managers to ensure that all issues pertaining to food insecurity are not heightened. Access to produce and urban containment are two factors that urban managers can control and consider for future development. Additional measures can be taken by exploring the potential for urban agriculture and small locally generated food gardens and markets.

-Fossil fuel dependence

Another area of concern is the continuous dependency that society and

our economy have on fossil fuels. Not only does the use of fossil fuels, such as oil, contribute considerably to greenhouse gas emissions, but they are also non-renewable. This means that it is very likely that the cost of them will increase as supply fails to meet demand.

The implications of such circumstances have the potential to have a major effect on the current status quo of suburban development and economic globalization, as movement at all scales, will be hindered by financial costs. Cities that have low density and have prioritized the private vehicle as the main mode of movement are particularly vulnerable, and will be required to search for alternative means or modes of transport in order to cover the long distances need to be travelled. It is essential to begin to think and plan for a world without fossil fuels, and begin to look for alternative solutions in which economies and urban living can function without them.

Economic issues

-Globalization and economic restructuring

The growth in urbanization has run in sync with the globalization of capital, labour and culture, which has resulted in a new, more flexible and information-based, mode of capitalist development that is facilitated by progression in information and communication technologies (Dunning, 1994; Soja and Kanai, 2007). Spatially, globalization has induced a change in the scales at which economic and political processes have breach their local borders in order to connect with national and international localities and opportunities (Dunning, 1994). The increase in competition due to the openness of markets has stressed the need to continuously adapt and generate advantages through innovation and flexibility (Dunning, 1994; Amin, 1995). This has proven to be a lot easier said than done, as many cities are failing to keeping up in the global economy which has induced growing socio-economic issues, such as increasing urban poverty and inequality

One of the most profound effects that this transition has had has been the change in urban labour markets. We have seen a remarkable decline in the manufacturing sector in response to a steadily increasing service orientated economy. As a result of this, we are now witnessing increasing socio-economic inequalities due to, 'a growing polarization of occupational and income structures', which fails to provide growth in overall employment (UN-Habitat, 2009; xxii).

In many developing countries, the result of a decrease in formal employment opportunities has led to rapid growth in the informal economy, particularly in Africa where it is estimated the informal economy accounts for more than 50 per cent of all employment (UN-Habitat, 2009). It can be argued that the informal market is more resilient than that of the formal market, and that it can act as a sort of safety net in terms of providing a final means employment. However they do create their own problem. Due to the substantially smaller income surplus that they generate, they do not contribute to city taxes which are used to finance public amenities and services.

Socio-Spatial Patterns

-Sprawl, Fragmentation and Specialization

Due to the collection of changes in social, economic and technological factors, we now live in a very different urban landscape from that of the historic centres of cities. According to the UN-Habitat, (2009) increasing degrees of urban fragmentation, separation and specialization, can be related to growing issues of income disparity, social conflict and cultural diversity. Issue pertaining to inequalities and exclusion are by no means a new challenge for cities, but rather the argument is that they have become more disproportionate as cities have become significantly more split or polarized.

In a world in which global competitiveness has become incredibly important, cities have gone to great measures to try and portray themselves as having viable and attractive investment prospects to the international market. This has had a variety of social implication as the poor are more often than not excluded or brushed aside from the claimed benefits that these investments bring. In the search for gaining international recognition and investments there has been a growing trend for cities to undertake strategic projects, such as, 'mega-projects'. Fainstein (2005, 768) refers to these 'mega-projects' as being, 'very big, mixed-use developments', which are aim to attract multinational businesses and provide sites for new housing or large facilities such as stadiums. Common location for these projects is often in urban areas that are considered to be run-down or under performing, areas which are frequently occupied by the urban poor. The re-development process of these project often result in issues of people having to move out as either they are unable to afford the increased rates or even forcefully removed (Flyvbjerg et al., 2003).

According to the UN-Habitat (2009), the single most transformative process taking place in cities at present is coming from informal land invasion. It has been noted that the bulk of urban growth in many developing countries is taking place in the peri-urban areas. The reason for this is become the urban poor are having to look for alternative locations in cities that are, firstly more easily available and escape the threats of urban land regulations, and secondly are much cheaper.

CHAPTER 5 Urban growth management

The previous chapter identified some of the major urban challenges that are currently being experienced in South Africa and internationally, and concluded by emphasising the need for prioritising higher urban density in urban management. The following chapter will explore some of the literature relating to urban densification and the concept of the 'compact city'.

The search for sustainable cities

The problems relating to sustainability, which originated from Brundtland (WCED, 1987) and the Rio Earth Summit (UNCED, 1992), have enticed governmental bodies and research organizations to begin working more closely in an attempt to find possible alternatives for cities management. Cities have been seen as the cause of extensive environmental degradation and resource depletion, as well as having ecological footprint which extends far beyond their immediate regions (Wackernagel et. al., 1997; Jenks, 2000). Yet, as Jenks (2000) argues, it is cities that drive economies and it is within them that innovation occurs and an increasing part of global outputs are produced. This understanding in combination with the acknowledgement of the predicted growth in urban populations makes cities and the need for making them more sustainable, vitally important.

Jenks (2000) argues, the very size of the city and the high proportion of the world's population living in them will inevitably concentrate problems. It is this understanding that has led Jenks (2000, 3) to believe that, yes cities may have problems, 'but they are not necessarily a problem in themselves'. It is not some sort of inherent characteristic of cities in general, but rather the failure of effective governance within them that has brought about their poor environmental performance (Mitlin and Satterthwaite, 1996).

The growth of the urban population has meant that the size of cities have subsequently growing too. The simple reason for this being, the more people moving into cities the more space is require to accommodate for them. This reasoning seems relatively straight forward and necessary however it has been this basic acceptance which has allowed or created a sense of entitlement for cities to continuously sprawl outwards in order to accommodate for the growing populations. It may seem like an unavoidable consequence, and in certain situation that may be the case. However the spatial consequences have had detrimental environmental and social implications which have led many to believe that the form of a city has a direct relation to its level of sustainability (Burton, et. al., 2013).

In the search for this alternative or a more sustainable city form, the process drew on the commonly cited definition of sustainable development from the Brundtland report (WCED, 1987). This definition, broadly speaking, refers to development that will not compromise future generations, and has been used as a valid starting point in the search for a sustainable urban form (Jenks, 2000). In Burton et. al. (2003) a more descriptive definition was provided which explained sustainable development as development that does not require resources beyond its environmental capacity, and is equitable, promotes social justices and is created through inclusive decision-making processes. Using this definition certain urban features and component that they believed were vital to making cities more sustainable. These various components, which are now widely accepted as having a relationship with

the sustainability of a city are the; size, shape, density and use.

At present one would find that the large majority of cities, particularly those in South Africa as I have identified in the previous chapter, are very large, have erratic shapes, low densities and land uses that vary in different parts. This has brought about an extensive amount of literature that advocates the need for cities to have higher densities and to become more compact. In response the Compact City theory has grown in stature and is widely considered to be a potential solution to making cities more sustainable.

The compact city debate

There has been growing support in recent years for the concept of the 'compact city'. This is not to say that it is an entirely new concept, as the call for making cities more compact has been debated since it first came to light some 150 years or so ago. The concepts re-emergence has primarily been in response to the need for a more sustainable urban model which can begin to nullify the concerns surrounding current towns and cities (Burton, 2000; Neuman, 2005). The argument for the compact city being a more sustainable option is rooted in its ability to promote and allow for resource conservation and waste-minimisation (Burgess, 2000).

There have been a number of attempts to define and clarify the concept of the 'compact city' and its relationship to sustainable urban development. However, due to the debate over what should be the principal spatial point of reference in undertaking compaction, a single accepted definition has proven to be somewhat difficult to come by. Burgess (2000: 9), provides arguably the most comprehensive definition for the concept, in which he explains the compact city as, 'to increase built area and residential population densities; to intensify urban economic, social and cultural activities and to manipulate urban size, form and structure and settlement systems in pursuit of the environmental, social and global sustainability benefits derived from the concentration of urban functions'.

Burgess (2000) definition enables one to begin to conceptualise or even visualise the intensions of what the compact city aims to achieve, as it describes an urban setting that is in contrast to the sprawling nature we have become accustom to. This is achieved by referring to the need for increasing densities and using terms such as, intensify and concentration in relation to the urban function.

Many of the compact city advocates have pledged their allegiance to the concept as it is seen to be a more sustainable urban form. Whilst Burgess's (2000) definition of the concept provides a useful understanding of what the compact city aims to pursues, it does not divulge into the explanation of some of the advantages that the concept provides in which arguable enable its pursuit to be achieved. However, the claimed advantages of the compact city and the way in which it is arguably more efficient, has been well-documented. The following section will highlight some of the advantages that higher densities and the compact city concept can provide.

Advantages of higher-densities through the compact city

More efficient and sustainable modes transportation.

Newman and Kenworthy (1989a and b) provided some of the earliest and perhaps the most well-known studies related to urban densities and transport

energy consumption. In their findings they found that cities with the highest densities had lower car usage and had higher levels of provision for public transportation. The conclusion from their studies, which has been influential in promoting the case for the compact city, was the need for stronger policies of urban containment and for investment in mass transport systems.

An efficient public transportation system has a variety of socio-economic benefits in that it provides an affordable means of accessibility, thus reducing the need or dependency on private vehicles and the associated cost. However, the most significant benefit that public transportation has is in relation to the environmental benefits that it offers. It is considered to be a far more environmentally sustainable mode of transport as it is more fuel efficient and has less of an impact contributing to air pollution (Kenworthy and Laube, 2001).

A more compact city which contains higher densities is more conducive for an efficient public transportation system for a variety of reasons (Newman, 1992). The implementation and maintenance of a public transportation system has major financial cost. It is therefore essential for the system, once put in place, to be consistently operating at high capacities in order to generate steady financial return. With higher urban densities and desired destination being situation within relatively close proximities, the compact city will require significantly less infrastructure to service a greater proportion of the urban population (Dieleman, et. al., 2004). This will therefore reduce costs and allowing for greater returns.

Efficiency is vital in ensuring the success of a public transportation system. According to Sampaio et. al. (2008) there is a number of attributes which can make a public transportation system efficient, however, the most influential attributes relate to; the ease in which one can access the system, the frequency relating to time intervals between trips, the time spent getting from one place to another, and the flexibility which allows on to choose an appropriate route. In a more compact urban environment, which requires the system to service a smaller area, these attribute are able to be achieved with far greater ease in comparison to that of larger more sprawling urban environment. Shorter distances and more compact settings allow for routes to incorporate more destinations, have more frequent stops allowing more people to be able to access the system.

The compact urban lifestyle in which different land use are integrated amongst each other, allow for shorter distances to be travelled. These shorter distances not only have significant benefits for modes motorised transportation within the urban environment, but also non-motorised modes of transportation (Southworth, 2005). Non-motorised transportation refers to the use of bicycles, walking and other ways of getting around which do not require any form of motorised assistance. It is not only the most environmentally efficient way in which to travel but it is the most socially equitable mode as it has minimal associated costs.

The access to, and provision of facilities.

A more compact city form allows for greater access to facilities due to proximity, as well as creating added choice and freedom as there is a greater likelihood of a range of facilities in the areas as minimum thresholds meet (Burton, 2000). It also allows for the provision and maintenance of these facilities to be more variable as higher capacities of people will be able to

utilise a single clusters of facilities. A Dewar and Uytendogaardt (1991) explain, at higher densities social amenities are often less vulnerable to change and susceptible to degradation or fall into despair. There are significant advantages for low-income groups as communities are likely to be more integrated and are therefore less likely to fall victim to being under-serviced (Van Kempen, 1994; Burton, 2000).

Greater access to employment and opportunities.

According to the likes of Freeman (1984), Beer, (1994) and many other supporters of the compact city, it has the potential to provide greater access to employment and other urban opportunities. The claim is that it has the potential to reduce the separation between home and work, which is indicative in current urban forms due to the influence from modernism planning. Reducing the separation between home and work not only reduces the time and money spent having to commuting but it also allows for greater opportunities. Shorter traveling times and costs, as well as having access to additional opportunities will enhance issues relating to social equity. It is often the disadvantaged, especially those without cars, who tend to suffer disproportionately from accessibility in a decentralised city (Burton, 2000).

Lower levels of social segregation

It has been widely argued that, in the compact city, communities are likely to be significantly more mixed or integrated. This argument stems primarily not from observation of urban living but from evidence of apparently increased segregation as a result of decentralisation (Burton, 2000). Segregation may exacerbate the disadvantages of the least well-off due to the resulting poor environment and facilities and lack of jobs, however as this section has already identified one of the advantages of a compact urban form is that facilities and access to opportunities are arguably more easily achieved.

The higher urban densities which are a key component of the compact city not only have distinctive environmental benefits relating to the spatial dimension which seek to prevent urban sprawl and conserve the natural and agricultural land, but it allows for more efficient and environmentally sustainable urban livelihoods. Furthermore the concept has significant social and economic advantages as it allows for an urban environment that is more inclusive and more conducive to ensuring that an abundant array of choices are easily assessable. It is evident that there is strong support for the compact city concept and its advocacy for higher urban densities, however this is not to say that it has come without critique. The theory behind the compact city being a sustainable and viable urban form has been questioned, particularly with regard to its potential success or validity in developing countries, which have highly complex urban contexts.

The critique of the compact city and high urban densities.

The critiques of the compact city are twofold. Firstly there are those who question the consequences of the physical and spatial outcomes of the concept, identifying potential disadvantages that a more compact urban form may create (Burke, 1990; McLaren, 1992; Burton, 2000). Whilst on the other hand there are those whom have challenged or questioned the claimed advantages made by the 'pro' compact city and higher urban density advocates (Gordon and Richardson, 1997; Neuman, 2005). Both provide useful insight into the broader compact city debate

Burton (2000) identifies three disadvantages that are frequently referred to in the critiques of the compact city concept. These disadvantages are; poor health conditions, reduced domestic living spaces at high prices, and poorer access to green open spaces.

Poor health conditions

High urban densities and compact urban forms have often been associated with, or blamed for, causing poor health conditions in cities. The cause for such concern relates to issues of localised air pollution, particularly from traffic, but also from the closer proximity of residential and industrial uses (Burton, 2000). Arguments against the compact cities are often based on the premise that urban compaction will lead to greater traffic congestion. This ultimately results in high amounts of harmful emissions being released within a more confined urban environment. Although one of the claimed advantages of having a more compact city is that they can achieve lower levels of social segregation, this does not necessarily mean that all social disparities are erased or even reduced. According to Godlee (1992) and Burton (2000) it is the urban poor who are most likely to be affected by poor health conditions as they are often live in areas which are significantly cramped and situated in the most unforgiving locations.

Reduced living space and increase in affordability.

In the search for achieving higher urban densification it is argued that the living space will need to be compromised in order to adequately accommodate for the intense numbers of the urban population (Troy, 1996; Burton, 2000). Higher-density housing is often associated with reduced dwelling sizes and limited private space for gardens, both of which have become common features in decentralised cities.

Furthermore, not only it is argued that dwelling sizes will be significantly reduced, but it is also believed that urban compactness will reduce rather than improve the affordability of the housing market. There are two reasons for this argument. The first can be related to a basic economic principle of the demand and supply of housing available. In cities with higher densities where housing is scarce, there is generally a greater demand for housing which causes the prices increase. The second relates to the argument that land will becoming increasingly more scarce and therefore more expensive, causing housing values to inflate due to additional costs involved in treating and reclaiming derelict land (Breheny, 1992; Burton, 2000).

Poorer access to green space.

Critics of the compact city concept have claimed that higher urban densities have fewer urban green or open spaces. (Knight, 1996). The reason for this is that these spaces are often compromised in order to allow for developments to take place, as housing and other built development are considered to be of greater necessity (Breheny, 1992). These same critics often make the comparison to low-density cities where parks and other open spaces are plentiful. Whilst there may be fewer green and open spaces integrated within higher density cities, this critique has been questioned as it is often easier for cities with greater densities to escape and access the countryside situated just beyond the urban boundary.

The validity of urban compactness in developing countries cities.

Hardoy et al., (1990) questions why there is a call for further densification in developing countries cities? The question stems from the concern that

densities are already high and are associated with a plethora of problem including, infrastructure overload, overcrowding, congestion, air pollution, severe health hazards, lack of public and green space and environmental degradation. Such a question raises doubt in the claimed sustainability gains from further densification.

Burgess (2000) believes that the lack of empirical data on existing density levels and trends, and a lack of clarity on what are considered appropriate indicators to measure them, pose a problem for the assessment of densification policies for cities in developing countries. There are considerable differences in urban densities in cities in developing countries making it difficult to make generalisations about them in comparison with cities in developed countries. Furthermore, not only are there differences in urban densities but also in social, economic and environmental contexts.

Compactness which already exists in certain developing country cities, particularly in peripheral squatter settlements or central city slums, are frequently associated with high levels of environmental degradation, such as; pressures on inadequate water supply, sanitation and solid waste management systems. With this in mind, even if there is a case for densification in developed countries, it is argued that it would be based on relatively marginal additions to density via smaller lots for single family homes or more emphasis on condominium and townhouse development, rather than on attempts to replicate developing country central city densities (Richardson et al., 2000).

It is these such concerns that have lead the likes of Burgess (2000) and Richardson et al., (2000) to question whether the potential sustainability gains from further densification will be limited under conditions where densities are already high. Under these circumstances the merits of urban densification claimed, particularly for developed country cities, seems to be less convincing in the context of developing countries.

A case for compaction in South African Cities.

Based on the previous chapter, which analyses the urban challenges in South African cities, and taking into account the findings in this chapter, one could argue that there is an overwhelming case for seeking greater compaction in the management of urban growth in South African cities. The following subsection provides an argument which aims to justify the rationale for such a claim.

Although there has been some speculation surrounding the validity of the compact city concept in certain developing countries cities, many of these concerns do not relate to the existing urban environment found in South African cities. Dewar (2000) provides an agreement in which stresses that most of the reasons which are commonly cited in favour of compaction all hold in the case of South Africa cities. Whilst acknowledging that there is an array of reason as to why the compact city concept should be followed, Dewar (2000) identifies three key interrelated factors which he argues make such a policy approach a necessity.

The first is in relation to the potential employment generating opportunities. South Africa currently has a very high and growing unemployment rate. In response to such a situation an increasing number of people have no option but to secure their survival through self-generated income from small businesses enterprises. However, in order for these small businesses to thrive

they require intensive and vibrant local market. It is believed that, 'when local markets are intensive, diversification and specialisation—the motors of urban economic growth—are promoted' (Dewar, 2000, 212). Such environments enable it to become feasible for low-income households to outsource many of the functions that would otherwise have had to be undertaken within the household.

The second relates to the potential that the compact city concept has for enabling people to move around the city on foot. What makes this such an important requirement in South African cities is because movement on foot is the most economically feasible mode of travel for the growing majority of its urban dwellers. It should therefore be considered a necessity to create urban environments that operate efficiently at the pedestrian scale, and in order for that to be achieved great urban compaction is required, Dewar (2000).

The third factor acknowledges the necessity to resolve the current problems of public transportation in South African cities. The current pattern of low density urban sprawl makes larger capacity movement modes, such as the train non-viable and other modes of public transport, extremely inefficient and financially unjustifiable. According to Dewar (2000), this has led to a dependency on owning a private motor vehicle, which has a number of social implications which have already been mentioned, and the birth of a non-regulated taxi system. The result of this has led to an increasing number of vehicles on the roads.

Whilst there is a strong case for greater urban compaction in South African cities, it is not a sufficient condition for improved urban performance. The approach needs to be applied selectively in order to bring about greater compaction and a structural manipulation in the patterns of accessibility and urban opportunities (Dewar, 2000). Furthermore given the magnitude of South Africa's functional urban footprint, a passive approach to pursuing compaction would be ineffective. For this reason Dewar (2000), argues that the pursuit for great compaction will only be successfully achieved if strategies of structural infill are actively pursued.

Strategies for structural infill

Transit Oriented Development

Over the last decade the concept of 'transit oriented development' (TOD) has received growing popularity and support as a way of promoting compact city development patterns. There has been a substantial amount of literature done focusing on TOD's which has had a major influence on the formulation of urban land use transport planning strategies in a variety of cities across the world (Wilkinson, 2006).

The concept originated in the United States during the late 1970's and early 1980's, however it only gathered significant traction in the 1990's through its relevance to the emergence of 'New Urbanist' planning and design movement in Northern America (Wilkinson, 2006; Southworth, 2003). According to Dittmar and Poticha (2004), the typical definition of a transit oriented development is relatively straightforward and descriptive, a mixed use development with a variety of densities situated within close walking proximities to transit stops. Wilkinson (2006) on the other hand provides a more descriptive definition which identifies three key features.

- Transit oriented development is centred around rail or bus transit stations. In order to allow for the opportunity for walking to be a viable option the local nodes formed from TOD's are kept (between 400m-800m).
- The urban fabric is developed at moderate to higher densities. It seeks to maintain development at a 'human-scale', and includes significant provision for public and civic spaces with intensive mixed use facilities situated throughout but specifically in the station precinct.
- The road network which is often associated to transit oriented development follows an 'open grid' pattern. This simplistic layout allows for greater integration thus creating greater access. Within this 'gridded' road network there is often adequate provision for pedestrian and cycling movement.

Transit oriented development at the local scale often falls within a strategy aimed at dealing with a larger goal of urban containment at a metropolitan scale. In this regard TOD at a local scale is generally considered to be, more or less significant nodes within a city wide network which extends along public transport-based corridors (Wilkinson, 2006). These corridors facilitate the restructuring of the urban system with a designated urban edge in order to achieve more compact urban development.

The claimed benefits that come from transit oriented development strategies at both the local scale as well as the city-wide scale, relate to land use and transportation. One of the most significant benefits that come from this strategy is the claimed reduction in aggregate private vehicle use within cities. With greater accessibility to modes of public transportation it is believed that neighbourhood residents are more likely to utilise these services, ultimately reducing their dependence on the private vehicle (Wilkinson, 2006). This will reduce congestion levels and travel time, which has a substantial environmental benefit as fuel consumption and exhaust emissions will decrease. Furthermore, as mentioned in the above definitions of compact cities concept, the design of TOD's allows for the option of non-motorised transportation as the integration of mixed use facilities within

compact urban forms reduced the need to travel long distances. Wilkinson (2006) believes that an additional merit of TOD's is the potential for 'value capture'. Value capture relates to the ability for local governments to regain or 'recapture' some of the initial infrastructural investment costs as these areas become more commercially desirable, causing property rates to increase.

Given the urban problem in South African cities, particularly in relation to providing public transportation, transit oriented development provides a useful approach which has the potential to bring about the required spatial urban restructuring. Not only does it promote the use of public transportation, which has an array of social, economic and environmental benefits, but it also incorporates a strong ethos of social equity through means of providing accessibility and choice.

Corridor development

The corridor development concept is by no means a new approach. It emerged as a potential alternative to the densely populated concentric industrial cities which dates back to over a century ago (Warnich and Verster, 2005). The basic idea of the concept was to integrate development initiatives along existing or planned transport routes. This would essentially stimulate the uses of public transportation, allow for mixed land uses and to concentrate people.

As Warnich and Verster (2005, 345), clarifies, 'a corridor is not an elongated node'. Rather it should be seen as a collection of 'beads on a string'. The string (corridor) links one bead (node) to another, creating a more structured linear collection of beads (nodes). The Cape Metropolitan Council (2000), describes the characteristic of a corridor as a continuous link between metropolitan nodes which is facilitated by public transportation services. With this definition it is clear that public transportation is vital to the success of a corridor development. In this definition it refers to corridors at a metropolitan scale, however it is important to recognise that the concept can be applied at a variety of scales, including city and local scales.

Public transport plays a significant role in the success of a corridor, however as Priemus and Zonneveld (2003) acknowledged it is not the only important element. In order for an urban corridor development to work efficiently it requires a variety of elements. These elements include; public investment in the immediate proximity of the corridor; a variety of public transportation modes; linkages between nodes and sub-nodes; intensification of development; provision of services; and intensive human interaction.

There are a number of claimed advantages and benefits that a corridor development can provide. According to Dewar and Todeschini, (2004) one of the greatest advantages created by corridor developments is that they promote a more equitable activity distribution across the urban surface. By restructuring or planning for urban growth along connected routes, it allows for intense activities to respond directly to movement systems. This creates a 'mutually-generative' coexistence between intensive movement flows and human-intensive activities (Dewar and Uytendogaardt, 1991; 49). This creates great opportunities for both large and small enterprises and activities to find suitable areas at which to locate. This enhances economic efficiency as all enterprises benefit to some degree from the generative capacity of others.

The development of urban corridors can assist in create well-defined city structures as they can integrate those different parts of the city with no coherent and integrated structure into the broader urban environment. Dewar and Todeschini (2004) provides an explanation as to how corridor developments are able to break down the cellular neighbourhood structure of South African cities, by acting as space integrators rather than space bridges. Space integrators are access routes which accommodate stop start movement, allowing for greater integration and accessibility (Dewar and Todeschini, 2004). Whilst space bridges, which are in abundance in South Africa cities, are defined as access routes with significantly fewer stops with the purpose of covering large distances at a faster rate, thus offering less integration (Dewar and Todeschini, 2004).

It is also argued that corridor developments have the potential to reach and service a greater number of people, in comparison to nodal-based forms of development (Dewar and Uytendogaardt, 1991). In relation to this, it also allows for greater social integration as inhabitants of any part of the city are not restricted to using services within their local area. They can easily access, via the use of public transportation, a range and choice of services along the corridor.

Although corridor development provides a variety of benefits they can only be successfully achieved if it is approached correctly. Corridors are not short-term solutions that should not be forced or imposed. Dewar and Todeschini (2004, 66), describes the process of corridor formation as being a 'long term one which results from more intensive activities being allowed to respond directly to movement flows in their own self-interest, at a variety of scales'. In saying this, the growth of individual corridors can be subtly stimulated through the alignment of different forms of public investment. But to a greater extent, it is important to treat it at a timely process in which a network of these corridors are not forced but rather allowed to respond accordingly. In this respect, the promotion of urban corridors should be seen as an approach or a way of thinking, rather than a tool (Dewar and Todeschini, 2004).

CHAPTER 6 Performance Criteria

The following chapter provides a set of urban performance criteria that will be used, to firstly critically evaluate the existing Point Development plan, and then to inform the planning and design process of the new revised plan. The following performance criteria's are interrelated and should be appreciated as a collective package, rather than a set of qualities that act in separate silos. Further, the following performance criteria are discussed in no particular hierarchical order.

-Integration

The term aims to promote settlements that are, socially inclusive (do not marginalise individuals or groups), economically flexible (provide space for both large and small enterprise), and culturally diverse (allow for integration of cultural beliefs). In order for this to be achieved, settlements need to be planned in such a way that allows different elements and activates to find a natural place in which they can support or be supported by each other (Dewar and Uytendogaardt, 1995). The notion of continuity is an important element which can enable this process to take shape. According to Dewar and Louw (Forthcoming), the continuity of: movement, the urban fabric, and green spaces all play a particularly important role in enabling integrated settlements.

Movement relates to the flow of people, finance and good. They represent planes of greater accessibility and therefore are desirable locational places for activities requiring a great degree of exposure. The locational attributes that it creates enables more continuous movement lines to tie different local areas together, and for these local areas to collectively contribute to the support of, more public activities. Key to this concept of movement integration is the integration between different modes of transportation.

Continuities in the urban fabric refer to need for settlement to begin operating as a singular cohesive system as opposed to a collection of fractured and fragmented parts. The need for a more compact urban fabric that maintains a high level of compaction enabling urban growth to be more integrated.

The final means of continuity relates to the integration of green spaces in and amongst settlements. Achieving continuities of green spaces is imperative for natural regeneration, bio-diversity and habitats for fauna (Dewar and Louw, forthcoming). Allowing the continuity of green spaces to be integrated into the urban fabric will ensure greater access to green open spaces.

-Equity

"The ideal city is imagined by some as being a great centre where one has easy access to an enormous variety of goods, services and other people" (Lynch, 1960: 187). In this regard, equity does not imply that all parts of settlements should be uniform but rather, through their structure and form which promotes and enhances urban activities. They allow people easy access to the opportunities they generate. Therefore, equity is achieved through ensuring that access is provided to all, including the most vulnerable.

The most equitable settlements are those which allow people to access

daily activities and opportunities on foot (Southworth, 2005). However when accessing a desired place on foot gets rules out, public transportation should play an essential part in promoting accessibility. This is particularly important in the South Africa context, because of the high levels of poverty; a large portion of the population do not have private cars and are therefore heavily reliant on accessing places on foot or by using public transportation.

-Choice

It is important for settlements to offer an array of choices to people. The most positive settlement is those that offer a wide and rich range of choices to people. Central to the performance of choice is the ability for settlement to provide a variety of life-style choices. They should provide a platform in which people are able to find places that best suit their desired needs, whether it be very public and very private settings. However, there should not be a distinctive divide or separation between the two, integration is a key factor in maximising choice.

-Efficiency

Dewar and Louw (Forthcoming), refer to the term efficiency in the sense of minimizing energy utilization in the context of human activities in settlements. The structure and form are crucial in successfully achieving an efficient settlement. The more compact settlements are, the more efficient they tend to be, as investment on utilities and services are able to be provided for a much larger amount of people in comparison to more sprawled settlements. The efficiency of a settlement has direct social cost implications. These social costs are related to the time and money spent getting to employment and services. Therefore accessibility once again becomes a key component in creating efficient settlements.

-Urban Sustainability

Regardless of the critique that the term has become somewhat 'over-used', it is still required to be of the utmost importance in settlement planning and design. Urban sustainability requires that resources are used efficiently to sustain the urban activities present in a city, and broadly includes ecological, economic and social sustainability.

This firstly requires a sustainable use of natural resources as to avoid hampering ecological processes, in order to sustain the natural environment and its ecological functions. Wolman's (1965) concept of the urban metabolism explains that a sustainable urban settlement is one in which the inflows of materials and energy and the disposal of wastes do not exceed the capacity of its hinterlands (the areas from urban settlements outputs are drawn from or have an impact on).

Urban form can go a long way in assisting the process of sustainability. A more compact urban form can assist in reducing aggregate amounts of urban movements as well as the protection of natural valuable land surrounding the urban settlement.

-Sense of Place

Ensure that an urban settlement has a distinctive sense of place allows for the creation of memorable and unique experiences from those that enter it.

Once again the form and structure of an urban settlement has a considerable influence on its sense of place. The more the urban settlement rejects uniformity and standardization the more rich and enhanced the sense of place becomes. Dewar and Louw (forthcoming) identify four key factors that contribute to the creation of a sense of place.

Firstly, the sense of place is determined by the appropriateness of the form of the urban settlement in relation to the landscape. In urban settlement which have natural landscape qualities, planning and design should be more reactive in order to maintain and promote these unique features. However, in landscapes that do not have natural informants, sense of place needs to be created through the process of settlement making.

The second factor contributing to sense of place is brought about through the presence of public spaces. The cohesion and quality of public spaces enable memorable and rich places.

The third key contributor refers to the legibility and clarity of public urban structure and the positioning of landmarks. The sense of space is enhanced through qualities of structural clarity, as places become easily legible to users and that the structure sends clear and definite signals to decision makers. The forth is the creation of special places. These places need to be unique and stand out from the surrounding parts of the urban settlement. These are places which accommodate a diverse range of people, regardless of their person resources. They are places that offer escape from the daily life.

-Safety and Security

Creating safe and secure urban settlement is of utmost importance, failure to do so have a negative effect on the performance of some of the above mentioned performance criteria, (for example the sense of place). Broadly speaking the term has socio-economic ramifications. On the more social side, it refers to ensuring that pedestrian and those that actively engage in the space, feel safe and secure from attack and accidents (particularly from vehicles). Whilst on the more socio-economic side it refers to ensuring, the securing tenure and food security. However, as Dewar and Louw (Forthcoming) explain, a safe and secure urban settlement is not one that supports gated communities. It is rather one that has been informed key planning and design qualities, such as, exposure and permeability that enhance the safety of urban settlements (Hillier, 1983).

CHAPTER 7 Metropolitan Analysis and Conceptual Framework

This document addresses the redevelopment of the Point precinct and its environs, a highly contested area that has tremendous development potential. However, before engaging with the site it is important to have an idea of how redevelopment fits within and contributes to a broader metropolitan strategy.

The following section provides a brief analysis and a conceptual reinterpretation of the eThekweni metropolitans existing structure. It puts forward a new structure for its primary functional system, focusing on movement, public institutions and open spaces. The argument is made that in order for the site to strategically fit within the broader geographic context of the metropolitan, integration into surrounding urban fabric, and the enhancement of the core functional system should be a starting point for the project.

The following section is concerned with attempting to rebalance the city, ensuring more equal levels of services provision and a more decentralised distribution of economic opportunities across the metropolitan. Whilst, at the same time reducing the current sprawling urban growth through seeking great compaction. In this regard it seeks to achieve greater equity.

Informants

The recommendations in this document have been informed by the following set of values that will be carried out throughout (they are not mentioned in any particular hierarchical order):

- Equity
- Environmental sustainability
- The promotion of continuous growth in development opportunities

In order to successful achieve these values the following urban features are of paramount importance:

- Providing or improving access to all elements of the urban system
- Greater emphasis and investment on public transportation infrastructure
- Seeking greater urban compaction and higher densities.
- An integration of residential and economic developments, ultimately promoting mixed-use.

A new vision for Durban

The vision for this metropolitan framework is one that differs significantly from the current context, not only in eThekweni, but in many of South Africa's metropolitans. It depicts a metropolitan that enables its city to firstly; have a public transportation system that is not determined by urban sprawl, but rather, it intern structures growth and development, along which points of interchanges stimulate a combination of diverse social and economic interactions.

This framework presents the notion of a basic accessibility grid as being a spatial tool which could inform the restructuring of the metropolitan and potentially make the above mentioned vision a reality.

Radial growth and the 'T'

Historically urban growth had been focused around the port and the CBD. However, because of the urban environment has becoming more decentralised over time, urban growth has sprawled dramatically. Growth has occurred along the two national highways, the N2 and N3 which create a T-junction at the centre of the city. A collection of economic nodes have developed along both of these routes. The problem with this pattern of growth is that it has created an urban environment that has expanded in three separate directions. There are no concentric connection routes, which polarises those communities located off the 'T'. This particular type of structure generates an enormous amount of movement along the highway causing excessive traffic and congestion.

The public rail system follows the exact same route and the 'T' highway system. This is extremely inefficient as public transportation should provide points of modal interchange rather than replicating the same routes. Further, because of the rail system mimicking the highway system it fails to provide adequate access for those living in outer corners of the 'T', which so happens to be the lactation of informal settlements, were people required access public transport the most.

Concept

The concept for the metropolitan scale is primarily focused on breaking down the persistent 'T'. It aims to strengthen as well as create, where necessary, corridor alignments into the peripheral areas. By providing new public transportation alignments to areas that are currently disjointed or isolated, it would enable a more integrated and connected city. The concept draws on the idea of an equitable, multi-directional accessibility grid

There are three key elements to the accessibility grid; corridors, nodes, and zones. According to Dewar and Todeschine (2004), corridors can be described as, linear systems of activity that align with major arterials as well as small feeder routes. They aim to accommodate mixed-used facilities that range from high density residential as well as non-residential activities (Batten, 1995). Nodes are points of high accessibility and amenities. They are generally intensively developed mixed-use areas located around transit stops or interchanges. Zones are the square areas created by the series of corridors. Each zone should have its own 'inter-zonal' structures in place, such as transportation, public facilities and high density residential space, that service the communities living in them, and function off the corridors and nodes surrounding it. These zones in a sense become their own individual districts that require their own planning and administrative area-based management.

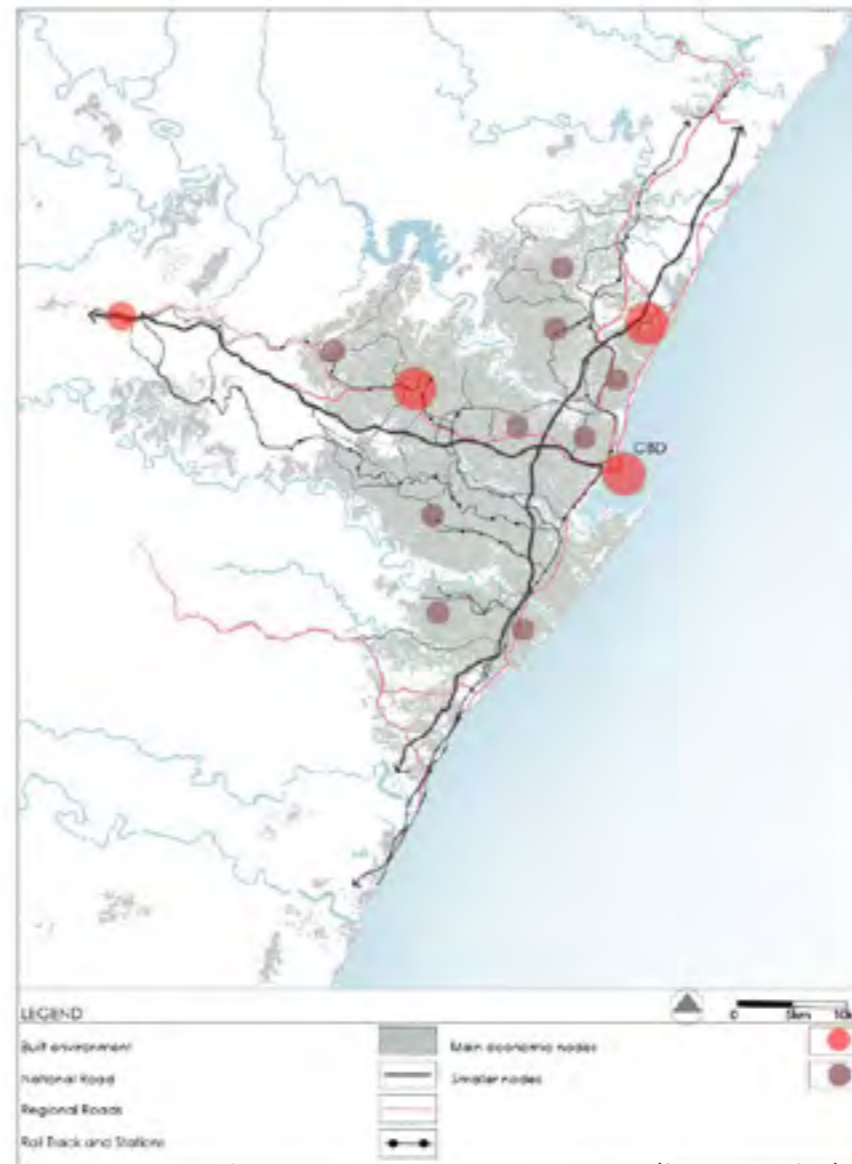


Figure 7.1.1 Metro movement systems (Source: Author)



Figure 7.1.2. Grid Concept at metro scale (Source Author)

The Grid in Context

Attempting to replicate the exact formation of an accessibility grid, in an already complex metropolitan is unrealistic. However, the general concept of accessibility and the development of nodes and strengthening corridors can be used to inform future urban growth management. The grid can become more abstract as it is warped when taking into consideration the city's existing structure. The N2 and N3 have been influential features in guiding urban growth and can be used to anchor the grid system, of which the lateral connections can be structured around.

Existing Nodes and Corridors

The main corridors that exist in the metropolitan are aligned with the two national roads. Along the N3 which services the North Western side of the municipality, smaller municipal routes which run parallel to the N3 have become a distinctive corridor. The main node along this route is Pinetown. Originally intended to service the movement of goods and services being transported out to Johannesburg has since become a significant node on which a number of residential neighbourhoods are centred around. A more recently developed node, which has a similar function to Pinetown, is Cato Ridge. The corridor southern end of the N2 has been influenced by the 'Durban South Basin', the main industrial area in the municipality which serves the port, and the previous location of the city's international airport. The northern end of the N2 has seen substantial economic growth as areas such as Umhlanga and Balito have become prominent economic nodes over the past decade.

The warped grid

Figure (7.1.5) shows how the existing and emerging corridors can be connected to form a 'web-like' network of corridors and nodes, connected by movement systems. The emerging corridors gain strength by benefit of their direct connection to another corridor and point of intersections between them. By strengthening an additional corridor that creates another intersection in the 'T', will enable greater accessibility for those previously disadvantaged communities in the out peripheries in the city. Not only will this provide greater connection the opportunities that had previously been restricted but it can have the potential to create their own vibrant nodes at points of intersection.

Public transportation is required to play a major role in enable this concept to be successful. Further, different modes of transportation need to work in a closed system, as opposed to servicing the same routes that other modes already operate along. Nodes should become places in which a variety of modes of transport converge from different areas within the surrounding zones.



Figure 7.1.3: the Grid in context (Source; Author)



Figure 7.1.4: Existing nodes and corridors (Source; Author)

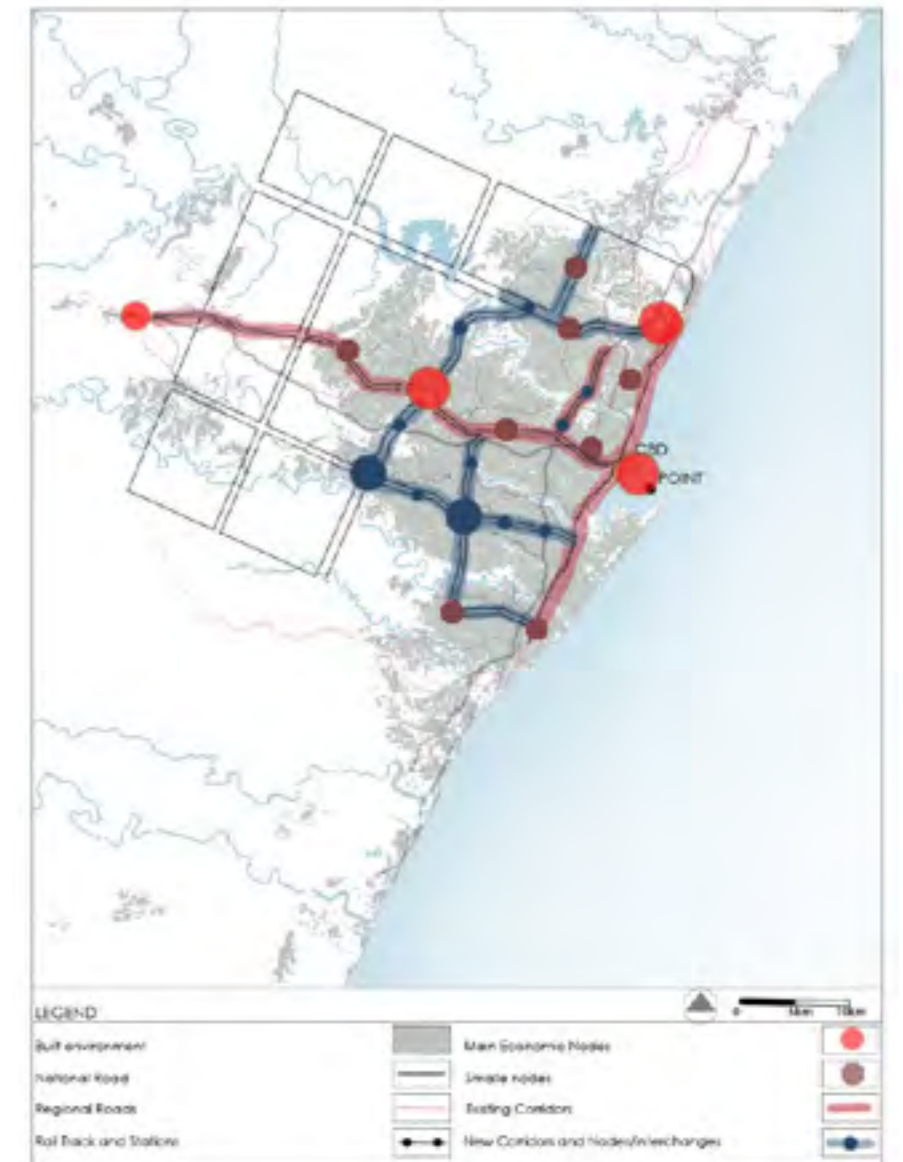


Figure 7.1.5: The Warped grid (Source; Author)

7.2 Site and Environs Scale

The study area for the site and environs scale focuses on the Point and the CBD. The objective is to study the existing context in both sites, order understand the level of integration, or lack thereof, which exists between the two neighbouring sites. In so doing this will provide areas of strength and weaknesses which will then be used to inform the elements of the redevelopment plan Identifying.

The analysis of the site and its environs at the scale of the Point and the CBD is undertaken systematically. It begin with a brief analysis of the natural landscape and climate, even though both sites are intensely developed it is still critically important to understand the biophysical aspects. Thereafter, the analysis focuses on the man-made elements of the site, starting with the movement systems and then finally analysing the movement generator.

Bio-physical analysis

The Bio-physical elements of the Point's site and environs consist of the topography, Climate and Hydrology of the study area. They are analysed systematically to determine the biophysical constraints and opportunities that will be used to inform the spatial development of the Point.

-Topography

Durban is well known for its rolling hills, steep ridges, and sharp valleys. However, along the coastline the slope gradients tend to be very low. The study area is indicative of these coastal features. Both the Point and the neighbouring CBD have a very flat topography. The gradient gradually becomes steeper on the peripheries of the CBD. However, the study area is significantly flat. The main issue that this type of topography has relates to the inability of the land to drain water during the wet summer months. The issue of water drainage increases in areas that are intensely development, as drainage is reliant on infrastructure rather than natural elements to disposed the water.

-Climate

Durban has a subtropical climate. The summer months are very hot and humid with frequent showers and thunder stones, whilst the winter months are mild and very dry. The study area is generally sheltered from the wind, as the Bluff, a large coastal hill directly opposite from the Point, forms a natural barrier from the frequent south easterly winds experienced during the summer months. However, the study areas is located at the northern end of the Durban South Basin, a naturally forms basin which extends down the southern section of Durban, and the site experiences strong winds channelling thought it when the wind blows from the west.

Because of the study areas being vulnerable to issues of storm water management, and being in close proximity to the ocean, factors of climate change need to be taken into consideration. According to the Ethekeweni Municipality (2011), rainfall during the summer months is expected to increase. What is concerning is that the rainfall patterns are expected to become significantly more erratic, with higher amount of rainfall taking place of shorter period. This will increase the strain on the intensely developed urban

areas, such as the study area, ability manage storm water system and issues of flooding are likely to increase.

Sea level rise is another major factor to take into consideration for development located along the coastline. According to Ethekeweni Municipality (2011), the current rate of sea level has been low (2.7mm over the last 30 years). However, it is expected to increase in the future and guideline enforcing stricter buffers along the coastline will need to be explored further.

Movement Analysis

CBD's are generally associated high volumes of movement as daily commuters and local resident all compete to get to the variety of urban activities located within an intensely compact urban space. It is important for such area to be as preamble as possible, in order to allow for greater accessibility and systematic flow of movement throughout. Further, these areas need to be serviced by different modes of transport in order to accommodate for the variety of people wanting to accessing it. Planning for public transportation and movement on foot should be at the core of movement systems (Dewar and Todeschini, 2004).

The aim of this analysis is to get an understanding of the movement pattern in the study areas and identifying the hierarchical structuring of the different routes and modes of transport used in the site.

-Non-Motorised Transport (NMT)

Movement of foot is a common feature in parts of the study area, particularly in the areas located around the train station and Warwick Junction (A large informal market located next to the train station). The centre of the CBD does provide adequate pavement space which supports the steady flow of movement along the streets. This generous pavements space is found in the older parts of the city which have not altered the historical structure and design of the streets. The recently constructed promenade along the beach is another location that has allocated adequate space for movement on foot and is completely separated from all forms of motorised transportation. It provides a unique experience along which people are able to move freely and enjoy the ocean views.

However, there are a many place in the study area that are not supportive for movement on foot. These areas are predominantly located along the main movement routes through the city which, as will be mentioned later, are orientated at enabling maximum vehicle movement through the space. Currently there are no demarcated areas for cycling lanes in the study area, apart from the promenade.

Even though there are areas that are adequate for movement on foot, they are limited to isolated pocket. This disjointed system limits continuity of movement on foot. Further, the lack of infrastructure needed to support the use of cycling in the study area makes it unsafe.



Figure 7.2.1: Sheltered Sidewalk in the CBD (Source, Author)



Figure 7.2.2: Busy pedestrian movement in the CBD (Source, Author)

-Public transport.

- Rail

The study area is serviced by two train stations, one in the north western and the other in the north eastern borders. The station located on the north western border is the main station and forms part of a significant node in the study area. Both stations form part of the northern coastal section of the 'T' shaped network, however the main station is in relative close proximity to the intersection of the 'T'. As a result of the stations being located on the peripheries of the CBD, areas such as the Point are located far from these station (roughly 2.5 kilometres away from the entrance of the Point), thus making them dependent of other modes of transport to access them

- Mini-bus Taxi

Mini-bus taxis are the most a very popular mean of transportation within the study area. There are a number of mini-bus taxi stops, many of which are located around the rail stations. The two main routes that they operate along, provide access from the station down to the beach (North beach) and from the station up along the Umgeni Rd to the north. There is a route that services the Point.

According to the Ethekweni Municipality (2005), the main issues with the mini-bus taxi system, particularly in the study area, is that it operates in direct completion with the rail and bus (which will be discussed next) system, rather than acting as a feeder systems. Further, there are concerns regarding safety and security, as issues of violence between operator, and the overcrowding of passengers has become the norm.

- Bus

The study area is serviced a bus system called, People Mover. The system operates along three different routes, of which two service the central area and the third operating along the coastal section. The system does not operated along demarcated bus lanes resulting in to being integrated into the general traffic flow.

The Ethekweni Municipality (2010) identified the overall the public transport system in the study areas as being economically inefficient, as many services operate in direct competition with each other resulting in unprofitable rail and bus trips and in some instances taxi trips. Consequently, service levels are dropping and public transport patronage is reducing.



Figure 7.2.3: Movement systems (Source, Author)



Figure 7.2.4: Public Transport routes and stops (Source, Author)

Private Vehicle Movements

Private vehicle transportation remains to have a dominant presence in the study area. The two main entry points into the study area, the N3 in the north west and the M4 in the north east, are wide roads that have up to four lanes of traffic moving in each direction. The study area is subjected to a series of excessively wide one-way roads that attempt to support the large volumes of traffic flowing in and out of the system. Not only do these wide one-way routes occupy a large portion of space within the study area, but they are also extremely inefficient and limit permeability.



Figure 7.2.5: One Way roads (Source, Author)

Movement generators

The following sub-section provides an analysis of the movement generators in the study area. The previous section has identified that there is significant movement taking place through the study area. However, it has been identified that there are certain areas that receive a great amount of movement than others. In order to understand why this is the case an analysis of the movement generators in the study site is required.

According to Dewar and Uytendogaardt (1991), an analysis of urban precedent historically reveals that a feature of positive environments is that public institutions, public spaces and movement patterns are the primary structuring element of urban development. Places that have the main social institutions, whether they are; government, exchange, religion, education, public squares; assume positions of high access and dominance and are celebrated through public spaces. Further, Dewar and Uytendogaardt (1991) argue that the dynamic relationship between different public spaces and places determine the functional pattern of the settlement (the patterns of movement and gatherings) and these patterns, in turn, create responses from other activities. It is this relationship that then determines the highest level of urban order.

The analysis of public facilities looks at the current distributions of facilities separately. They include: exchange, education, health, worship, recreation, social facilities and public services.

-Exchange

Exchange and retail activities are prominent features in the study area. They are activities in which the main nodes located in the study area are located. They are arranged in a hierarchy that varies in terms of convenience. Wholesale activities are concerned with the sale of large quantities at reduced prices; retail outlets acquire products from wholesalers and distribute them directly to consumers. However, it is informal trade which represents the highest form of convenience, as they are often located at highly convenient inter-sections, such as transport interchanges, and thrive off of very high passing foot traffic.

Warwick Junction is an informal market precinct located adjacent to the CBD primary transport interchange, the main train station. On an average day the area accommodates 460 000 commuters, and at least 6000 street vendors (Skinner, 2009). The Markets of Warwick includes between 5000 and 8000 vendors trading in 9 distinct markets. Currently this is the only informally structured market in a public space of this size, and has become a precedent for informal markets nationally. It is also a frequently visited tourist destination. There are a number of small of informal trading areas located along the coastal route. However, unlike the variety of produces provided at the Warwick junction markets, these informal markets are primarily targeting the tourism sector.

-Education

The analysis of education facilities in the study area is primarily focused on identifying the types of educational facilities available as well as their respective locations in terms of the moment systems and the availability to public transport.

One of the city main tertiary institutes, Durban University of Technology (DUT), is located in the the fringe on the study area. It is in close proximity to both, mini- bus taxi stops and the train station.

The study area has one secondary facility. It is located in the northern section of the study area. It is considered to be within a reasonable walking distance of the second train station in the study area, and is within walking distance of two bus routes. According to the CSIR (2010), a walking able distance for students in secondary educational institutes is 2.25 kilometres. This is just short of the distance from the school to the train station.

There is one primary school located in southern section of the study area (in the Point). According to CSIR (2010), the acceptable walking distance for primary school learner is 1.5 kilometres. Currently the only recognised mode of public transportation that services the facility is the bus system.

Primary schools have not been analysed, as many of these facilities are privately or informally proved, making mapping difficult.

-Health

A public hospital, either district or regional, is a higher order healthcare facility which provides a more comprehensive range of services than a local clinic and therefore required maximum accessibility. The study area has two hospitals; one provincial hospital, located in the north west of the study area; and a district and regional hospital, located in the southern section. The provincial hospital does have adequate support from public transportation as it is in close proximity to the main station. However, the district hospital in the southern section is reliant on the interchanging of different modes of transport in order to access it.

Clinics are the first point of entry to access healthcare facilities, as patients are referred from clinics to higher order health facilities if necessary. It is thus extremely important that the study area is adequately served by clinics, and that they do not exceed a walking distance of 1.5 km (CSIR, 2010).

The study area provides a number of different types of recreational facilities. The two main facilities include a sports stadium, and the other is a theme park. The sports stadium is located at the interchange between the two main movement routes in the study area, which makes it a highly accessible location. The theme park, uShaka Marine World, does not have the same luxury of accessibility. It is located in the southern section of the study areas, which requires visitors to the facility to have to travel through the CBD in order to access it. Sports fields can be defined as a formal or informal sporting recreation area. It is often utilised for both school recreation and sports and after-hours recreational programmes. The study area has a number of these facilities located in the eastern section, which is primarily a residential area.



Figure 7.2.6: Places of exchange (Source, Author)

There are a number of small pocket parks which have been integrated into the dense urban fabric of the centre of the study area. The largest soft open spaces are located around the periphery of the study. However, there does not seem to be a coherence network of soft open spaces.

Hard open spaces are significantly less prominent in the study area. The main hard open space is the promenade. The recently ungraded promenade stretches along the shoreline, and has become an iconic and popular feature in Durban. However, it does not extend all the way down to the bottom of the southern section of the study area (the Point).

-Social Facilities & Public services and Facilities

Social facilities include community facilities from community halls to civic centres, libraries and places of worship. The majority of these facilities are located in the centre of the study area, which collectively form nodes. However, places of worship are more dispersed throughout. The International Convention Centre is a major land mark located in the middle of the study area. It is a multi-purpose space, which can be used for both privat and public events.

-Public Open Spaces

The intense urban characteristic of the study area makes the value of open spaces that much more significant. In intensively developed urban settlement there needs to be places of 'escape' (Burgess, 1988). Places in which people are able to stop and socialise or, if possible, engage with the natural environment through the provision of parks and other green spaces (Thompson, 2002; Chiesura, 2004).

The analysis focuses on two types of public open spaces; soft open spaces, and hard open spaces. Soft open spaces are open, or undeveloped, spaces within a settlement that provide access to elements of the natural environment such as parks. Hard open space on the other hand, are built spaces such as public squares, which often act as places of catchment located around public institutions.



Figure 7.2.7: Public open space (Source, Author)



Figure 7.2.8: Social facilities and services(Source, Author)

Key Findings

-Nodes and corridors

The analysis has revealed a series of key nodes and corridors in the study area. The majority of these features are located in the central area of the CBD, where the main public facilities are located. The nodes form a lateral line bisecting the CBD, along which the main corridors have formed. These corridors are the access and existing routes leading into the study area toward to coast and exiting out towards the N3 highway. However there are no distinctive corridors leading to it.



Figure 7.2.9: Key findings, nodes and corridors (Source, Author)

-Areas of concern

The analysis has indicated two key areas of concern. The first is the high number of one-way road the form part of the main movement system in the study area. This restricts the permeability and connective of the first. Further it is an extremely inefficient as they occupy excessive amount of space and indicate a bias toward vehicle use as the main mode of transportation.

The second area of concern is the area linking the Point to the study area (Area indicated in red in figure 7.2.9). The lack of Public facilities and the further persistence in one-way roads has restricted the ability of the study area to have a consistent web or collection of nodes and activity areas.



Figure 7.2.9: Areas of concern (Source, Author)

-Tram proposal

The need for greater integration and a more fluid flow of movement through the study area has induced a bold concept of remove the existing bus system and replacing it with a tram system. The system will operate along five separate routes; three central routes operating in the CBD; one route that run parallel to the coastline and the promenade; and one that service the Point and connect with the inner city loops.

Trams require minimal infrastructure and able to be integrated into the general flow of traffic. Their carbon emissions are considerably lower than other modes of transportation, reducing the study areas carbon footprint (Van Wee, 2005; Holden and Norland, 2005)



Figure 7.2.11: Proposed Tram (Source, Author)

CHAPTER 8

'Getting to the point': A critical analysis of the Point Development

The Point precinct has always been an iconic physical landmark in Durban. Dating back to the mid 1550's, Manuel de Mesquita a Portuguese navigator documented the siting of a, 'huge point of rock' which provided one of the few stretches of sheltered water along the eastern coastline of South Africa. This 'point of rock' not only become a navigational point but also become a symbol of refuge for many sailors that dared to brave the treacherous coastline. It now considered as an important part of the natural gateway which leads into the busiest shipping terminal on the African continent. However, the symbolic connection and physical benefits that it creates for the city of Durban, has not been equally match by the land-use allocation on the actually site. It has not been able to effectively assert its own unique identity and function within the urban fabric of the city.

The following chapter provides a critique of the current development that is taking place in the Point precinct. The first section of this chapter will provide a contextual overview, identifying the current plan and key features in the Point as well as the proposed development that have yet to start. The second section will briefly discuss South Africa's rediscovery of ocean frontages and the variety of redevelopment projects that has transpired from them. The third section provides the historical background of the Point, with the aim of identifying the proposed plans, conflict and challenges that have surfaced over the years, as well as exploring at the most recent plans and the vision for the site in the future. Once the contextual overview is completed a critical analysis of the existing Point developments is provided. The urban performance criteria that have been discussed in the Nature of Plan chapter will be used as a bases evaluation. The final section will conclude by summarizing the key findings from the evaluation which will then be used to inform the re-development plan in the later chapters.

Contextual overview

The Point is geographically located on the south eastern side of the central business district, parallel to the coastline. It is a narrow parcel of land that extends out toward the Bluff, creating a divide between the sea, in the north east, and the harbour in the south west.

Historically, the main function of the Point had been orientated at servicing the port by providing storage space. However, the site has since been identified as having great development potential, which, after lengthy administrative procedures, has led to a major redevelopment project commencing.

The Redevelopment of the Point began in the early 2000's. The portion of land that has been allocated for development is located in the southern section of the Point. The reason why the southern half was chosen to be developed was because it had large parcels of open and under-used land, mainly located along the coastal side. The northern half had been used for light industrial activities, as well as a cluster of housing units, which restricted development taking place in the north.

The type of development intended, and its elitist target market had been made clear from the start. The Point was to be transformed into a major

tourism hub that would also provide space for high-end office and residential use. The proposed recreational activities and high-end facilities were intended to revive Durban's struggling tourism sector as well as attract local and international investor confidence back into the city.

Although the final proposed plans are yet to be completed, (the reasons why will be discussed at a later point), a number of development have been and have become significant features within the Point. uShaka Marine World was one of the first projects to be completed and is a prominent urban feature in the Point. It is located in the centre of the Point, on the north eastern side facing the ocean. This large recreational facility that boasts an aquarium, a Water Park and a variety of restaurants and curio shops, has been used as the catalyst for development in the Point. Directly opposite the entrance to uShaka Marine World is the landmark building in the Point, called Shinnarker. This 25 story luxury residential building can be seen from most parts of the Point.

The rest of the developments have taken place south of uShaka Marine World. This section of the Point is characterised by a mixture of feature. The developments that have been completed, or nearing completion, have been clustered at the southern tip of the Point. These are very large mixed-use buildings that average around 8 stories in height. Located in-between uShaka Marine World and the cluster of large mixed-use buildings is a small block of double story row-housing.

Apart from these pockets of residential and mixed-use buildings, the southern section of the Point, which has been allocated for major development, remains relatively barren. There are large parcels of open land, as well as a series of old derelict buildings which are scattered amongst the new buildings. However the most noticeable feature in this southern section of the Point is a newly developed canal. The canal covers an area which extends down from uShaka Marine World to the cluster of mixed-use developments. Currently it does not connect to either the harbour or the sea, making it simply a stagnant body of water. However it has been made into a unique feature that has grass embankments and other areas of gathering along it.

The northern section of the Point still remains the same, and with it, certain urban features and perceptions that have a profound effect on the entire site. The Point has often been perceived as being a notorious area in the centre of Durban, particularly at the northern half along the previously known Point Road, now Mahatma Gandhi Road. This perception has had a major influence on the site as concerns relating to safety and security meant that, prior to development in the south, it tended to be avoided by the general public. Since development has started in the south, there has been no significant attempt to rectify the troubled area, which has raised safety and security concerns accessing the new developments.

A key feature in the northern section of the point that has an effect on the entire site is the limited access, one-way roads that provide the main movement routes in and out of the Point. Both Mahatma Gandhi Road (which provides the main entry from the CBD) and Shepston Road (provides the main exit) are extremely wide roads that have 4 lanes dedicated to vehicle traffic. These two roads converge into a narrower road that provides two lanes of traffic flow in both directions, just below uShaka Marine World.

The future plans for the Point, all of which are located in the southern half,

have the potential to further alter the form and function of the site. The future plans include; intensify the southern precinct with residential and office space; the development of two large hotels, and plans to link the canal with a newly constructed small craft harbour. The craft harbour is planned to be constructed over the existing man made reef located in the south east corner of the coastline in the Point. However the prospect of future development is questionable.

The project has struggled to maintain momentum over the years, and it has yet to live up to the high expectation and vision of the plan. Originally development was happening at a rapid rate and there was great interest shown from private development companies. However, property sales have been slower than expected, as the high prices and an element of uncertainty relating to the future success of this bold project, has made purchasing seem risky (Forie, 2012). The slow sales of the developments and the global recession in 2008, has resulted in a number of the developing companies experiencing financial difficulties. This has not only had a detrimental effect on the progression of the current development process in the Point, but it has also had a significant impact on investors' confidence raising a concern of whether or not the project will ever be completed.



Figure 8.1: Map indicating the areas of old and new developments (Source, Author)



Figure 8.2: Land use and built form (Source, Author)



Figure 8.3: Main features in the Point (Source, Author)

The re-discovery of Ocean frontages

Over the last two decades, South Africa has rediscovered ocean frontages in harbours (Pirie, 1994). Mini-waterfront shopping developments, marina villages, small craft harbours and entertainment complexes have sprung up in many of the coastal cities in South Africa. For many years commercial harbours have been considered 'grim appendages to the host city', (Pirie, 1994,147). The severing of strong ties between cities and their ports was not considered serious while ports flourished as places of freight and passenger interchange, and while they remained centres of vibrant fishing industry. However, this was before the 1980's when the fortunes of the historic South African ports declined.

According to Pirie (1994), there are a variety of reasons why there had been a mass exodus of people, institutions, and businesses, from urban waterfronts in South Africa. The most notable of these are; the decline on passenger travel by sea; the growth of suburbanization; central district decline and the development of polycentric urban patterns; physical separation of commercial activities from the port by ribbons of motorways and railway; and preventing access to the port because of safety and security reasons.

The rapidly declining fortunes of South African port cities left vast tracts of dockland underutilised. During this time there were a number of proposals put forward by urban planners to try and transform these spaces but because of the interests of the state run railways and harbours organisation, these plans were not followed through. During the mid-1980's, administrative restructuring, as a lead up to potential privatisation, created separate accounting and operating divisions within the Transnet organisation (the largest and most crucial part of freight logistic chain in South Africa and the one which own most of the land surrounding ports). This created an incentive to explore potential parcels of land which had been underutilised within the port for development (Pirie, 1994).

Simultaneous with port decline and the need to refocus waterfront activates, came an increase in urban tourism (Grant and Scott, 1996). Urban tourism was consider to have great potential for major revenue and were to be an important consideration for urban planning. Following the end of apartheid, costal centres were set to become major domestic holiday destinations. The deregulation of air transport which it was believed would open South African skies to air charter business, created greater incentive to make South African port cities more attractive (Pirie, 1994; Grant and Scott, 1996).

The consequences of these events for ocean frontages, particularly for dockland frontages, hinged primarily on the fact that changing port-city relations pivoted around the matter of land. Pirie (1994) believed that it was it is precisely the question of land ownership and land repossession, and the land use and re-use, that would constitute some of the most urgent and politicised issues in a democratic South Africa. Critical attention would need to be given to strategically locating these desired waterfronts in order to make then accessible to all South Africans.



Figure 8.4: High-end apartment blocks in the Victoria and Alfred Waterfront Cape Town (Source; Fourie, 2010)

Historical Context

Concerns with the radial growth patterns in the city compelled the need for opening new facilities around the perimeter of the harbour rather than trying to recycle land parcels within it. The Point, which once was used to serve shipping and the location of the cities prison, had become a sterile waste land. Its close proximity the central business district and the fact that it had frontages onto both the harbour and the sea made it an attractive location for these new facilities to be developed.

Initial talks about revitalising the 65 hectore site started in 1984. Many believed that the time was appropriate as Durban was in the midst of redeveloping the nearby beachfront. Negotiations between the railway and harbour authorities, which owned the majority of the land on the Point, and the City Council started in 1985. The redevelopment project was made public in the following year, and stipulated that there were plans to remove oils storage tanks and demolish the prison, in order to provide the required space for proposed hotels and a marina. The degraded Point Road (now Mahatma

Ghandi Road), which was a particularly notorious area in the city, was to be replaced with a tree-lined boulevard leading to the point. The bold redevelopment plans for the Point were set to replicate the success of similar international project, such as Fisherman's Wharf in San Francisco, the South Street Development in New York, and London's Wapping. However, by 1988 the plans for the point had stalled as the project failed to go further than the negotiation stage.

New proposals for the Point surfaced in 1991, however they were short lived as Portnet announced their draft plans for harbour redevelopment along the Victoria Embankment, located on the adjacent side of the harbour from the Point. Since the 1930's, the site had previously been cut off from the waterfront by the diversion of Point rail line from a central city path to a shoreline trajectory on reclaimed land (Pirie, 1994). The new plan proposed relocating the railway line nearer to the water's edge, thus freeing up a considerable amount of space along the embankment. The main idea was to dredge approximately 15 hectors of polluted tidal sandbanks and used to reclaim 20 hectors of land from the harbour. The 20 hectors of reclaimed land was to be used to create three islands accommodating residential and commercial activities.

However, the proposal was not unanimously accepted. It was heavily criticised and numerous petitions were signed in an attempt to prevent the project taking place. Apart from the significant environmental impact that the project would have had, it also raised concerns relating to social issues. The so called 'elitist project', was considered to be to be an irresponsible decision in light of the countries desired development path (Pirie, 1994). It was argued that, in the 'new South Africa' funds reserve for such projects should rather be used in less prestigious housing projects.

The City Councils struggled to weigh up these concerns, as well as the leap in rates and utilities that would have been unavoidable, with the potential increase in jobs and tourism that the project would have potentially created. Ultimately the City Council decided to stall the progress of the Victoria Embankment plan.

Plans for the point re-emerged in 1993 and 1994. For the first time the prospect of developing on the site look promising, as Transnet agreed to sell off a large portion of the land for development. The development rights were sold to a Malaysian-led empowerment consortium called Rocpoint, which had had plans to finally make some of the cities long desired plans for the site to come to life. It had been earmarked for potentially re-energising the cities struggling tourism sector, as plans for large hotels, entertainment parks, commercial and residential use were put forward.

However, the site experienced another setback as Renong, the Malaysian parent company of Rocpoint, was badly impacted by the Asian financial crisis of 1997 and could not muster either local partners or international funds to move the project forward. The on-going uncertainty and confusion surrounding the development had a major influence on private investors' confidence leading to them treating the initiative with considerable suspicion. This forced the Durban Metro Council team, which had been working on the project, to recommend that there was little choice but to drive the development with public funds.

This led to the formation of an informal coalition, made up of local business leaders and municipal role-player. The main objective of this coalition was to provide the required support for the proposal needed to get it off the ground (Robbins, 2005). They believed that getting the point moving forward was essential to improve investors' confidence in the Durban region, and would be a critical element to invigorate the dwindling tourism sector. The funding of this additional push in developing the point precinct was made possible by the City's strong financial position at the time. The municipality was able to use this position to create two separate funds; a Regeneration Fund, and a Flagship Fund. These funds were geared to meet the infrastructure costs of major projects that had the economic potential and for the delivery of a series of major economic assets.

The Flagship Fund prioritised two main projects in the point. The first was the uShaka Marine world, a large recreational development that included an aquarium, a water park and a variety of shops and restaurants. This was a rather peculiar project as the city already had an aquarium and a water park located on the opposite side of the CBD. Tenders were awarded to Moreland, a land development company of the Anglo American Corporation's subsidiary Tongaat-Hulett, to manage the publically funded projects (Robbin, 2005). It was agreed that Moreland would use their development credibility and skills to manage the Point process and the Municipality would cover the infrastructure costs.

This new incentive seemed to finally get the development of the project underway. uShaka Marine World was completed and opened to the public in 2004. However, the 2008 economic recession was yet another setback to the city's dreams for it to become a major tourism hub. The recession had a significant effect on the developers which led to many of the construction processes being stalled. Further, developers were struggling to sell or lease out their properties. This has resulted in the progress in the Point becoming stagnant, raising concerns of the prospect of future investor confidence in the plan.

The following section will critically evaluate the existing state of the Point, focusing on the design principles. It uses a set of urban performance criteria to evaluate the progress that has been made.

Evaluation of the Point

As it had been mentioned in the contextual overview, it must be acknowledged that the proposed plans for the Point are yet to be completed. There are a number of developments that have yet to start or get final approval, as well as a two that remain in the process of construction. However, it has been 15 years since the current proposal was approved and there has been considerable change in the layout of the site.

The current design principles for the site

According to Ambrose et al., (2010, 1130), the following design principles had been intended to guide the design process in the Point,

- Urban intensity, at a variety of scales
- Place making (through a structure based on canals, water bodies, boulevards, vistas, urban squares, avenues, and parks)

- Mixed-use (encouraging integration of retail, commercial, office, residential and entertainment)
- Safety and Security

The following is the set of urban performance criteria which will be used to evaluate the current site. The definitions for the following criteria have been described in detail in the 'Nature of Plan' chapter of this document.

- Integration
- Equity
- Efficiency
- Urban sustainability
- Sense of place
- Safety and security
- Resilience

Integration

One of the major problems that the Point has always had has been its lack of integration into the urban fabric of the CBD. Rather than creating a unique extension of Durban's fine grained city centre, it has been considered as, an 'appendage' that provides no additional function to the city Pirie (1994, 154). Therefore, it could be argued, that achieving greater integration should be a priority in order to unlock its development potential.

Central to the concept of integration is continuity, of which the continuity of, movement systems, urban fabric and green spaces are of particular importance.

Mahatma Gandhi Road (previously known as Point Road) remains the main access route leading from the city centre into the Point. However, it only provides access into the Point, as it is a one way road, a highly problematic, yet prominent feature in Durban's movement systems. The majority of roads in the CBD are restricted to one-way traffic movements. It is problematic for a number of reasons but particularly the way in which it restricts permeability and access. Apart from two smaller streets that run parallel to the coastline, there is only one way of entering and exiting the Point, both of which are one way roads.

The urban fabric, in terms of block and plot sizes, in the Point is considerably larger than those found in the city centre. This is particularly noticeable when travelling through the two locations. There is no coherent system or synergy between the two. On average erf sizes at the entrance to the point, the area closest to the city centre, are more than three times larger than those in the CBD. The erf sizes do get smaller towards the southern end of the Point. However, the urban fabric in the new developments of the Point does not follow the common grid pattern, which is prominent in both the CBD and the entrance of the point. The abstract forms of many of the buildings in the southern part of the Point make it stand out from the surround urban fabric and make it seem somewhat detached from the system.

The final type of continuity relates to green spaces and the importance of creating or maintaining a continuous network of green spaces in urban environments. As a result of the site and its surroundings being situated in a highly urbanised part of the city, green spaces are not common. The CBD

does have a collection of green open spaces. However none extend or create a network leading down into the Point. The southern section of the Point has created a central canal that is interwoven with the buildings. Sections of canal have large open green embankments that provide a micro network of spaces for the site, but this is only for the bottom section. The continuity of green spaces can all be related to water bodies and ensuring that people are able to access these water bodies (beaches and the harbour).

At present, there are a number of access routes that one can take to get to the beach. However this cannot be said for accessing the harbour. Previously the Point provided a unique space at the southernmost tip of the site, where people were able to access the frontage of the harbour mouth. A variety of restaurant and viewing points allowed the public to relax and interact whilst watching the ships enter and exit the harbour. However, as a result of the widening of the harbour mouth in 2008, these facilities were removed. Currently there are no access routes that create connections to the harbour, and no continuity of different water bodies.



Figure 8.5: Mahatma Gandhi Rd entering into the Point (Source, Author)

Equity

In a spatial sense, equity primarily relates to access. This can be successfully achieved in settlement which, through their structure and form, promote and enhance a variety of urban activities. They allow people easy access to the opportunities they generate. The Point development has been publicly promoted as having the potential to create economic opportunities and become a major tourism and recreational node in Durban. Therefore, ensuring that these potential opportunities are accessible to a wide variety of people should be of paramount importance.

As Dewar et al, (forthcoming, nd) described, the most equitable situation is one where people have access to most daily activities on foot. Accessing the recent developments in the Point from outside of the precinct, on foot, would not be considered a variable option, as they are located in the furthest section in relation to the CBD. Therefore, people entering in the site from the CBD would need to travel at least 800 meters, a considerable far distance to travel on foot, through the Point prior to reaching the new precinct. Once in the site, particularly in the new precinct section, access to different activities and facilities on foot is possible. However, the majority of developments that have been completed in the Point are residential apartment blocks or flats. Apart from the completion of uShaka Marine World which has created income opportunities and has become a micro hub in the city, the Point has not managed to successfully assert itself as being an economic node. Whilst it may be possible to travel on foot in the Point, there is not much to travel to resulting in the need for residents in the Point to have to travel out of the precinct in order to access opportunities.

When the prospect of traveling on foot is no longer an option, access by public transportation becomes a critical factor. Currently there is one public transportation facility that services the Point. The Durban CBD Bus Service provides a single route called the Beach Line, which runs parallel to the coastline, starting at the Moses Mabhida Stadium and extending down into the Point. Once in the Point precinct there are seven evenly distributed stops on the route, providing a variety of places from which to enter the system. Along the Beach Line route there are two terminal stop, allowing passengers to switch lines and travel into the centre of the CBD where greater opportunities and broader public transportation services can be found.

Choice

Choice 'reflects a concern about designing settlements which are not impositionary, in the sense that they impose a particular conception of the good life' (Dewar, forthcoming, nd; 11). Settlement should attempt to provide a variety choice for people. These choices, at the most fundamental should relate to the choice of lifestyle that a settlement can create. In this regard the greater the variety of lifestyles that a settlement can accommodate, the better.

The vision for the Point has been clear from the start. It was to be a development that would bring a unique character to the urban fabric of the city, strengthening the tourism prospects of the city and generating investor confidence. It was clear that the target market was aimed at the elitist class and the settlement would resemble what Dewar (Forthcoming, nd) would

refer to as 'the good life'.

To date, the majority of the residential developments that have been completed are large flats, apartment blocks, and a small section of semi-detached houses. Therefore it could be argued, that there has been an attempt to provide a variety of housing typologies, providing an element of choice. The housing available is largely aimed at high-end residential. Despite a struggling property market since the recession in 2008 and the slow rate at which the housing units have been selling, prices remain high, especially in relation to what is available at the entrance to the Point as in the broader CBD. Therefore, it could be argued that the Point has attempted to provide a variety of housing typologies which creates an element of choice; however, that choice can only be enjoyed by an elite few.

Choice is not only determined by the variety of housing typologies available. It also takes into account the activities and spaces with which one can choose to engage. These spaces should range from very public and intense, to very quiet and private spaces (Dewar, forthcoming, nd). Currently, the Point is struggling to achieve this variation. The very public and intense spaces do not feature in the Point. The fact that there are no civic or public institutions, which can assist in creating greater intensities in public spaces (if placed in relation to one another), can be argued for why these spaces have yet to materialise. Further, the absence of public squares or smaller courtyards limits the variety in spaces with which people are able to engage. The very quiet and private spaces do exist. It could be questioned however, as to whether that is intentional or simply a consequence of the fact that no one is using the spaces?

Efficiency

The concept of efficiency refers to minimizing resource utilization. Importantly, this requires achieving a satisfactory compromise between the potentially conflicting requirements for mobility and greater access (Dewar, forthcoming, nd). In this regard there needs to be a synergy between enabling relatively rapid movement through settlements, while ensuring that aggregate amounts of vehicle movement is reduced, by placing emphasis on non-motorised and public transportation.

Despite the significant development that has taken place, certain urban features still remain from the time when the Point played an important role in servicing the harbour. Mobility and rapid movement was necessary as large trucks were required to enter and exit the Point, either picking up or distributing cargo. This created the form of a series one-way road's which accommodate up to four lanes of traffic. These excessively wide movement routes are still present in the Point. They are not only unnecessary but are extremely inefficient and create barriers.

The consequence of keeping the roads, of which there are no designated lanes for non-motorised or public transportation, indicates the clear dominance of cars over pedestrian and NMT movement. The wide roads, in combination with the large block sizes, which reduce the number of stops or interchanges, allow traffic to move through the area at high speeds. This raises a number of safety issues and creates a hostile pedestrian experience.

As had been discussed in the 'integration' section, one-way roads are extremely inefficient in terms of creating accessibility, as it significant of a

settlement. By provide a two-way flow of movement through a single route, accompanied with more frequent stops and choice in modes of transport, the settlement will be much more efficient and accessible to a variety of people.



Figure 8.6: Apartment block located around the canal and open space (Source Author)



Figure 8.7: Small residential units around the canal and open space (Source Author)

Urban Sustainability

Urban sustainability requires that resources are used efficiently to sustain the urban activities present in a city. As Dewar (forthcoming, nd) explains, the term has ecological, social and fiscal meanings that all contribute to the sustainability of an urban settlement.

Ecological sustainability refers to the way in which the design of a settlement respects the natural systems and ecological principles. Prior to recent developments, over time the Point had been significantly altered from its natural state. Therefore, natural systems and ecological principles were not prominent features in the site prior to recent developments. However this is not to say that because these features were absent prior to development, that there should be no responsibility to reintroduce these natural systems back onto the site.

A distinctive feature in the Point development has been the construction of a canal that meanders through the centre of southern section. The need for this canal is, at best, questionable. A substantial amount of land has been dug up in order to construct this unnatural feature that has no ecological relevance and little further, there has been a weak attempt at re-introducing flora, something that Durban's coastline is renowned for, back into the site.

The strongest remaining element of the natural is the section of natural coast line running along it. To date the new development has respected the system. The only encroachment has been the renovation of a pier which extends out in front of uShaka Marine World. However, the future plans are not as respectful. The proposal for a small craft harbour and the extension of the canal into this harbour, which is currently in process (Carnie, 2013), would have a major impact on the natural coastline and its ecological processes.

Urban social sustainability relates to the idea of communities within easy access to livelihoods and to urban support systems. There has been an incentive to provide an array of mixed-use developments, in the form of commercial and office generally located below residential, in the Point in order to provide a range of activities that both residents and those commuting into the Point are able to utilise. However, it could be argued that a combination of high property prices and the slow rate at which the residential units currently are being sold could be the reason why so many of the spaces demarcated for commercial use are empty. The fact that many commercial franchises are reluctant to open businesses in the Point has meant that residents and commuters need to travel out of the point in order to access basic goods and services.

Urban fiscal sustainability relates to a balance between operational and capital costs. It is estimated that a sum of R1.8 billion has been invested into the Point since 2003, of which a substantial amount has come from public funds (General Durban Point Development Company, Pty (Ltd)). This figure excludes the initial R750 million, which was invested into the uShaka Marine World. There is no hiding the fact that a considerable amount of capital has been invested into a project thus far. However, the current state of the site does not seem to be a reflection of this. Further, according to Mthembu (2008,) the likelihood of receiving a return on these investments is not likely in the near future, as the current status of many of the developments paints a bleak picture. According to Independent News & Media (2013), many of

the private developments taking place in the Point have run into financial difficulties since 2008. This has led to a number of projects being halted in mid of construction because of high vacancy rates.



Figure 8.8: Incomplete developments in the Point (Source, Author)

Sense of Place

A concern with a sense of place and with place-making reflects a concern with the uniqueness of a place and the memorable experiences that may result from it. In order for settlements to be unique and to provide a memorable experience they need to reject uniformity and standardization (Dewar, forthcoming). Dewar (Forthcoming) identifies four factors which are important in creating a sense of place, and will be used in this evaluation.

The first factor is the appropriateness of the form of the settlement to its context. The landscape could be described as having the potential to be, what Dewar (Forthcoming; 12) refers to as a, 'romantic landscape'. A romantic landscape has positive natural qualities which should be used to lead the design. In the context of the Point the positive natural qualities would undoubtedly be the proximity of the ocean and the harbour. In order for these positive natural qualities to be maximised design should adopt a more reactive approach. Therefore, a question of whether or not the natural landscape has led the design will determine the appropriateness of the form in the Point.

Different sections of the beach, as well as the harbour, where possible, should be easily accessible and clearly identified from all part of the Point. In the older section of the Point there are a series of roads that bisect the urban landscape creating a variety of access points to the beach. However these access roads come to an end at the start of Ushaka Marine World. The marina has created a large barrier in the centre of the Point and forces movement around it in order to access the beach. To the south of uShaka Marine World, where the newer developments have taken place, there is currently no direct route leading to the beach. In order to access the beach one needs to navigate across a large parking lot or head toward uShaka Marine World. Further, there is currently no access to any sections of the

harbour or the harbour mouth. Therefore the form, particularly in the newly developed section, is not appropriate in terms of maximising access to the positive natural features in the Point.

The second contributory factor to a sense of place is the quality and coherence of the public spatial environment. Currently, the largest public space occurs along the promenade which stretches down the coastline and ends in front of the uShaka Marine World. At the entrance to the Point there are no parks or public squares where people can engage, and as it was mentioned previously the large vehicle oriented movement routes creating a hostile pedestrian experience. In the newly developed section of the Point, there is a coherent system of public spaces located along the canal. However, again, uShaka has functioned as a large barrier which prevents the system of public spaces from extending further up into the Point.

The quality of the existing public spaces in the newly development section of the Point is questionable. The spaces do not respond to any facilities or specific places. They are solely reliant on the prospect of the canals becoming a striking urban feature which would attract people to these spaces. Further, the developments that have been completed normally take the form of large buildings, in most cases in excess of eight floors. This not only destroys the human scale but also creates but it also creates a sense of alienation as the large building tower over the pedestrian movements.

The third contributing factor relates to the clarity and legibility of the public urban structure and the use of landmarks. The structure of the urban fabric at the entrance to the Point still follows a basic grid layout. This makes the area fairly legible, despite the fact that the block sizes are large. However, further into the development this grid layout becomes distorted and the legibility is not as clear. The one-way roads throughout the site also make navigation around the area challenging and at times confusing.

There are a number of landmarks that could be used as reference points. uShaka Marine World is a significant landmark. It may not be able to be seen from most area on the site. However, its sheer size and location makes it difficult to miss when moving through the Point.

The fourth and final factor is the creation of special places. Dewar (Forthcoming), explains that not all parts of settlements can be special but the inhabitants of all settlement should be entitled to accessing special places. These special places are places of escape from daily life, and should belong to everyone. The intention in the Point was to create a unique and special place in the city of Durban that would boost tourism and entice business to come back into the city centre. There has therefore been a significant attempt to design special places in the Point, such as the canal and uShaka Marine World. However, in the context of the canal one needs to question how special this space really is, given that the Point's strongest feature is the fact that it is situated between two special water bodies (the sea and the harbour).

Furthermore, as Dewar (Forthcoming) argues these places need to belong to everyone. In this regard they need to be very public places. This eliminates the prospect of uShaka Marine World as being one of these places. Apart a collection of restaurants and curio shops open to the general public, an entrance fee is required to access the activities that it offers.

Safety and Security

Creating settlements which are safe and secure is an important part of the design challenge. Dewar (Forthcoming) explains that the term has a broad set of meanings which include; security of tenure; safety from accidents (particularly vehicle); safety from attack; security in terms of crime prevention; and so on.

Safety and security has always been a contentious topic in the Point. For many years Mahatma Gandhi Road, previously known as Point road, was been renowned as a notoriously dangerous area in the city of Durban (Pirie, 1994; Grant and Scott, 1996). However, it was argued that the proposed redevelopment plan for the Point would assist in reshaping the area and change its reputation as being an unsafe place in the city of Durban.

A particularly notorious section of the Point has been at the entrance, the section where, when traveling from the CBD, Mahatma Gandhi Road crosses over into the Point. As a result of there only being one main entrance into the Point, residents and visitor to the site have no choice but to travel through this 'unsafe' section of the city in order to enter and exit it. Thus far all of the redevelopment that has taken place has happened in the bottom section, leaving most of the proclaimed unsafe section untouched. According to Fourie (2012), this is having a major effect on, firstly securing tenure, as business owners complain that they have not had the expected returns on their investments, and, secondly on the tourist potential in the areas. Fourie (2012), explains that tourist who are renting upmarket flats at the Waterfront have expressed concerns at the seemingly 'unsafe' areas in Mahatma Gandhi Road that they have to travel through in order to get to their accommodation.

In the new developed south section of the Point, security seems to be more successful. There are a number of guards at different points and patrol vehicle can also be seen. However, it must be noted that when walking through the site, the awkward combination of derelict buildings, which have yet to be development or have run into financial difficulties, and the areas of vast open spaces does create a sense of insecurity and unease.

Key findings

The real problem is that the role of the site, in terms of the generic problems of Durban, has been misunderstood. Visions for redeveloping the perceived degraded and underutilised site into a tourism and economic node aimed at an elitist target market, has only further divided it from the rest of the city.

A major problem that the site had prior to the recent developments was that it did not have a clear role or function in the city. The lack of urban features such as public facilities and places meant that people did not engage with it. The current plans however, do indicate a desired function for the site, but, it is not an inclusive one. The plan does not advocate for, or promote the use of public spaces in which a variety of people from all classes can engage with. Instead it has created a settlement that is exclusive. This is indicated by the fact that the main urban feature, uShaka Marine World, is not a public space as requires an entry fee.

Further, the housing available is high-end residential, restricting the opportunity for a large portion of the population to live there. Whilst there has been a transformation relating to the landscape of the Point, it still remains to be a place that provides a function in which all people can benefit from.

The spatial context of the site in relation to the CBD, which potentially holds the key to unlocking the potential of the site, has not been adequately considered in the plan. The north is essentially it is the 'gateway' of the Point. Even through development potential in the northern section of the Point has been limited it is still a very important part that has a profound influence on the rest of the site. Access is vital to the success of a settlement. It allows for greater integration and connectivity. This should be the main function of the northern section, to ensure that access when entering and exiting the point is efficient as well as safe. The current plan has not recognised the importance of the northern section, as it is still characterised on wide one-way roads and remains to be perceived as an unsafe area. This has proven to be made a major weakens in the current plans.

There is a need for high densities and greater urban compaction in South African cities, particularly in a city like Durban. Projects like the Point, where development is taking place on relatively open spaces, need to be achieving these urban forms. The final plan for the point is to create a compact urban settlement. However, the current state does resemble these intentions. The abstract form of many of the completed buildings has meant that the land provided on the plots has not been adequately utilised. Further, achieving greater compaction and higher densities does not require buildings to be excessively high, which is the case in the Point.

Further, the developments in the southern of the Point do not provide adequate choice. The desired vision for the site has restricted it ability to create a settlement that provides an array of choice, in terms of lifestyle. The limited selection of housing option, different urban spaces (very private or very public), and modes of transportation, has meant that residents, commuters and visitors are restricted in terms of choices.

The evaluation has shown that there are a number of factors that have led to the poor urban performance in the Point. However, the overarching factor in the demise of the plan has been the desired role that it should have within the city. The plan has been developed to capture the attention of national and international investor confidence rather than the best interest of the people of Durban. It is for this reason that the site will remain to be no more than an underutilized appendage of the city.



Figure 8.9: vacant parking lot in south end of poin (Source, Author)



Figure 8.10: Soft open space around the canal (Source, Author)



Figure 8.11: large incomplete apartment blocks(Source, Author)

CHAPTER 9 The redevelopment Plan

The entire document up until this point has set the stage for the ultimate aim of this project; to propose a planning framework for the redevelopment of the Point. For the purpose of exploring fundamental conditions and theories of settlement making, the revised plan covers the entire Point precinct. Whilst the reality of such a plan developing in the near future is unlikely, the aim is to portray a different vision for the Point, identify the potential that it can have to be a more inclusive and integrated part of the city.

It begins by summarizing a set of broad development imperatives that the redevelopment of the site should serve. These imperatives have been informed by the key finding that have been identified in the document thus far. It has taken into account the desired theoretical approach for urban growth management, given the current state of South African city's and the challenges threatening cities globally. Further, the key finding that were identified in the analysis and evaluation chapters, have been used to identify strengths and weaknesses in the current context of the site.

Once these development imperatives have been discussed, a systematic process which identifies the different layers that have been used to create the conceptual plan will be provided.

Key Imperatives

-Integrating the Point and the CBD

Dewar and Uytendogaardt (1991, 48) argues that, 'integrating urban systems, as opposed to ones characterised by separation, are more highly generative, in that they create more opportunities to which people can respond'. They become more convenient and equitable, in the sense that people are exposed to a wider range of facilities and activities. Further, they are considered to be more efficient, in the sense that they make better use of infrastructure (Dewar and Uytendogaardt, 1991).

One of the main issues with the Point is that it is functioning in isolation. Its role within the city, particularly in the southern section, does not respond or relate to that of the CBD. Whilst the CBD is experience its own challenges, as a result of business moving out, it is still a major nodes in the city, of which the Point needs to utilize. However, it is important to recognise that the integration of the two can be mutually-beneficial. The Point is a site that offers unique development potential and should be used to reinvigorate the entire CBD. The integration of the CBD into the Point does not imply that it should becomes an exact replica of the CBD, in terms of form, but rather that it becomes an extension where activities that are synonymous with role of the CBD can located.

Dewar and Uytendogaardt (1991) argue that there are three key factors which are central to the issue of achieving integration. The first, relates to the continuity of the urban fabric. There needs to be a relatively continuous form of dense urban fabric. The second is the importance of connector routes, and the way in which they are used as city structuring elements. This refers to the way in which connection routes inform or guide development. The third factor that is essential to achieving integration is the areal pattern of accessibility. This refers to the use of access routes and corridors.

-Increase densities

Durban cannot truly prosper so long as the majority of its population live far away from economic opportunities. Settlement need to be planned to densities that enable a system which works well at a pedestrian scale. It is now imperative that all spaces which are planned to be development in central areas of the city, aim to achieve maximum densities. Further, by providing mixed-use developments, issues such as commuting times and cost will decrease, and more people will be able to enjoy adequate access to services and opportunities.

-An inclusive urban environment

In order for the site to truly reflect the best interest of the city of Durban, it is required to be seen as an inclusive urban space. It needs to become a space where a variety of people are willing to engage with and benefit from. For this to be achieved the Point is required to provide different choice. The strategic structuring of public facilities and residential spaces is fundamental to create a settlement that provides an abundance of choices.

Inclusive recreational amenities are another important factor for the Point. The city's most prolific recreational and open space asset is its coastline and this needs to be utilized. The existing promenade, which is a very successful feature along the coastline, does not extend all the way down to the southern tip of the point, as future development plans have prohibited it. The site needs to create spaces that are open to the general public, and provide access to unique experience and places, such as the different water bodies.

The Concept Unpacked

- Hierarchy of movement systems
- Public open spaces
- An approach to settlement design
- Desired urban densities
- General land-use indicators
- Height policy

A basic accessibility grid was placed over the site, to be used as a platform which would guide the different layers of the plan. The block sizes shown in the following maps resemble individual 290m - 290m superblock. The superblock sizes have taken into account the average block size in the CBD.

Figure 9.1: Venice, Italy A highly complex but integrated plan, enables great permeability. (Source, Dewar and Uytendogaardt, 1991)



Figure 9.2: Isfahan, Iran, a superimposition of higher order movement systems in a pedestrian friendly city. (Dewar and Uytendogaardt, 1991)



Figure 9.3: Woodstock-Salt River in Cape Town, South Africa. (Source, Dewar and Uytendogaardt, 1991)

- Hierarchy of movement

According to Dewar and Uytendogaardt (1995), the degree to which movement dominates space should vary from spaces which are entirely pedestrian dominated to spaces which are entirely vehicle dominated (freeways). However, most spaces should aim to integrate the movement of both pedestrian and vehicle activity.

Movement should function in a hierarchical system, with freeways and main roads considered to be of higher order and connecting streets and pedestrian orientated routes considered lower order. However, as Dewar and Uytendogaardt (1995) agree, whilst there is a need for a hierarchical dimension to movement, it is not ideal to adopt a rigid linear approach to them. In this regard, movement systems should aim to mix different levels of movement systems to the greatest extent possible in order to enhance choice and integration.

In an attempt to maximize accessibility and integration into the Point, the plan proposes a central 'loop' route that would be the highest order of movement in the site. It provides integrative routes access straight into the CBD as well as the connecting with Margaret Mncadi Rd which operates along the western section of the CBD. The loop would be serviced by a tram route that forms part of the larger inner city system. The routes are indicated in figure 9.5. the stop are not further than 600m apart as to enable a maximum walking distance of 300m from either side.

The activity loop will be supported by a series of connecting streets that bisect the loop and create lateral access routes the two different water bodies.

The plan proposes that the existing promenade be extended down to the end of the point. Whilst pedestrian orientated routes are considered to be lower order movements, the promenade will be a significant feature in the site, and is therefore, considered to be an important part of the movement system. Another important part of the movement system that is orientated at supporting pedestrian movement, is a central boulevard. The boulevard will provide ample space for pedestrian movement and will form part of the core area of the site (this will be clarified further in the section).



Figure 9.4: Road Hierarchy for the Plan (Source, Author)



Figure 9.5: Tram Loop for the Plan (Source, Author)

- Public open space

Public open spaces are an important part of the plan for the Point. In the same way that it is possible to create a hierarchy of movement, it is possible to create an associated hierarchy of public spaces. It is important to look at public spaces as being multifunctional social spaces (Dewar and Louw, forthcoming). They are spaces that reinforce and enhance activities of all sorts. Dewar and Louw (forthcoming) argue that, when these spaces are properly made they significantly enhance the enjoyment of the activities that they accommodate and they impact positively on the dignity of the entire environment. In this regard, the primary role of buildings is to make and define these public spaces. If this cohesive relationship does not exist, and public spaces are hostile, the entire environment becomes hostile, regardless of how much has been invested, this is indicative in the Point.

Figure 9.6 illustrates the different types of public open spaces that the plan has proposed. The highest order of public open space is a centrally located public square. The public square is envisioned to be the gateway which reconnects the Point with the ocean. It will provide a space that is exclusively pedestrianized, as vehicle movement is forced to travel around it. The public square can be used as a space for weekend markets and other events which encourage social gathering. It will create a unique destination along the proposed extension of the beach promenade which will flow into the square. The periphery of the square can be occupied by small restaurants that look out over the space and the ocean.

A boulevard provides the second higher order of public space, and provides visual connection of the harbour and the ocean. The north eastern section of the boulevard is also exclusively pedestrianized and creates the main access routes from the dense urban fabric into the public square. The boulevard and public square form an important part of the central node in the plan. Particular bias is given to pedestrian movement and activities in the section of plan.

Additional lower order spaces, such as smaller pocket parks and forecourt, are located at the corner of the superblocs. A small park is located at the end of the promenade in the southern section of the Point which provides view and access to spaces fronting onto the harbour mouth (entrance to the harbour).



Figure 9.6: Public open spaces (Source, Author)

- Densities and height policy

One of the aims for the site is to maximise the intensity of the space, as to promote the compaction of the Point. However, densities need to vary as to accommodate for different types of facilities and activities. figure (...) shows the proposed densities for the plan. The highest density is proposed in the section surrounding the public square, in the centre of the plan. The areas along the activity route are also required to be significantly density as to accommodate the variety of activities and facilities situated along it. The centres of the superblocks between the loop will have the lowest densities. These areas are more enclosed and from the activity route and create a sense of escape, predominantly more residential.

Figure 9. 8 shows a concept for the urban form of the plan in terms of building heights. The tall to medium height buildings serve to increase residential densities in different areas of the plan, and are associated with recreational space.



Figure 9.7: Densities (Source, Author)



Figure 9.8 Height Policy (Source, Author)

- General land-use

The general land-use map provides an indication of the types of land-use that will respond best to the proposed plan. It is important to take note that the plan respects the nature of the economic and property market, and that it is not imposing, 'what should go where'. However, it is simply providing a guideline or a proposed layout for the site.

Mixed-use residential:

Includes a range of activities including residential, businesses, offices civic and social, educational and environmental uses but exclude industrial uses. The mixed use zone requires that residential use is included to ensure that the area is populated at all times of the day. Retail activity will occur on the ground floor, which allows for the development of corner shops, and small scale business. The floors above generally consist of residential use, with some commercial activity, with small-scale working from home commercial activity permissible.

High density residential:

These are flats that include, and are in excess of 4 storey walk-ups.

Hard Public open space:

The main types of hard open spaces have been discussed previously in the section, such as the public square, promenade, and boulevard space. However additional hard open spaces include, forecourts and smaller squares.

Public Facilities:

The public facilities analysis revealed the absence of any major type of in public facilities. Whilst there are a number of public facilities available in the CBD, the Point needs to provide facilities that will service the community as well as attract people who do not live there.

Recreation:

Active recreation consists of sports facilities and fields as well as any supplementary buildings. Passive recreation areas consist of parks and landscaped NMT routes that link up to public transport inter- changes.

Commercial:

Commercial Offices, Hotels and hospitality services, Conference facilities.



Figure 9.9: General land use (Source, Author)

- Public Facilities

The location of public facilities requires careful structural consideration. It is imperative that the planning of these facilities is in relation to the hierarchy of the movement systems and public spaces. This hierarchy should be used to inform the location of public facilities. Higher order facilities, which are shared by all, should take up the most prominent locations on, or even in, the spaces (Dewar and Uytendogaardt, 1991). However, this is not to say that all facilities should be as exposed as possible, but rather that they are located in places of convenience and do not become imbedded and tied solely to a single community. Further, the structural consideration of these facilities needs to be integrated with other activities.

t
The analysis has identified that there are few public facilities currently in the point, which is one of the main problems with the site. The plan proposes that the main public facilities should be located in the centre of the Point, an area that is easily assessable and will be a major hub. These facilities will be able to respond to the opens spaces that have been planned around them and to the community of the point and neighbouring CBD. However, this is not implying that all of the public facilities should be located in the centre, as the main activity route should be used to distribute different types of lower order facilities along it.

CHAPTER 10 Precinct Plan

The chosen area for the precinct design is the intersection of the boulevard, which leads into the public open square, and the main activity route. This precinct in the plan is expected to be a major node which provides the integration of a variety of feature that together form the core of the Point. The aim of the spatial design is to indicate how the different hierarchies of movements and facilities can be integrated in such a way that is inclusive and can provide a variety of lifestyle choices.

The principles which aim to guide the precinct design this include:

- Hierarchy of movement systems and their associated public spaces and facilities.
- A degree of choice, by providing a variety of residential typologies, tenure options and retail spaces.

Precinct design

The design of the precinct area first began by breaking up the different superblock into the small individual 60m by 60m blocks. This was used to provide a platform in which the design would be structured over. However, the natural grid only represents a beginning. Its natural form can be fundamentally transformed through fracturing or distorting it, which can then create further unique space and opportunities in it.

The public open spaces and the general land-use that had been proposed in the larger plan for the site were placed over the grid and used to inform the different plot layouts and building typologies.

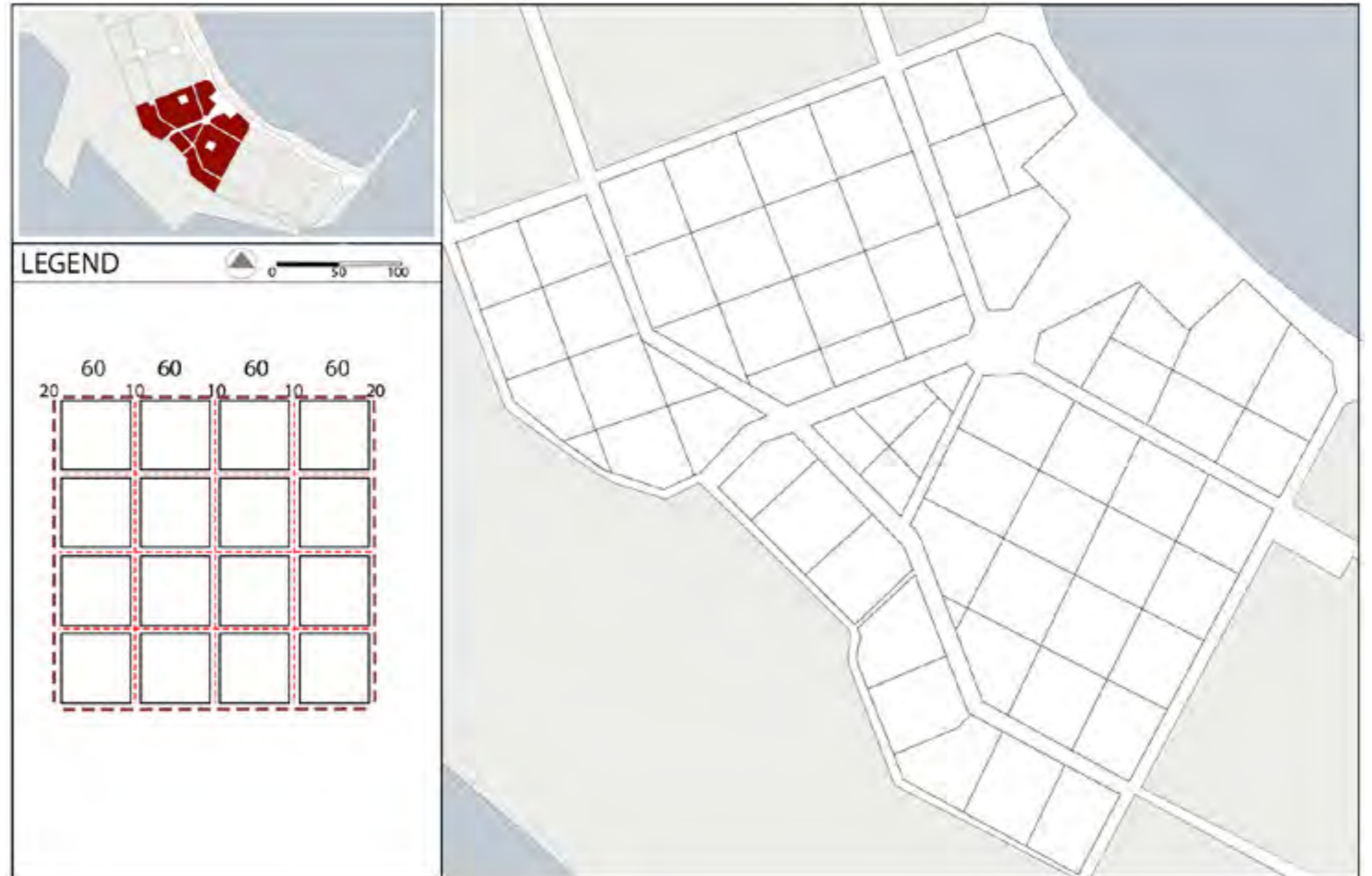


Figure 10.1 Break up of superblock (Source Author)



Figure 10.2 Public open space (Source Author)



Figure 10.3 General land-use over grid (Source Author)



Figure 10.4 Movement Hierarchy (Source Author)

1.

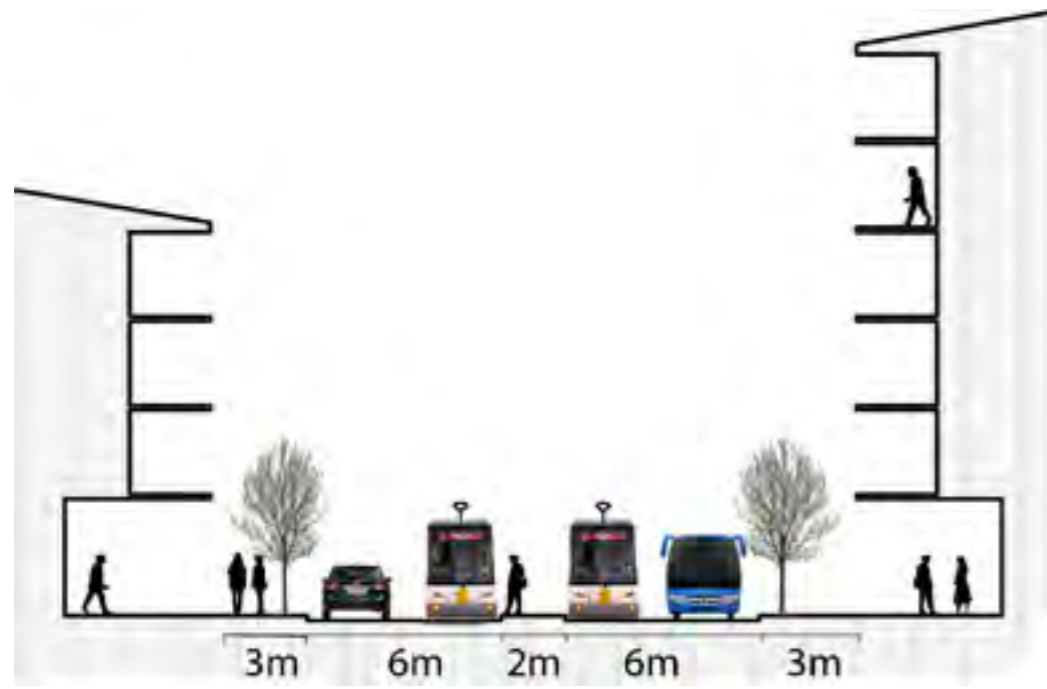


Figure 10.5 Cross section of activity route(Source Author)

2.

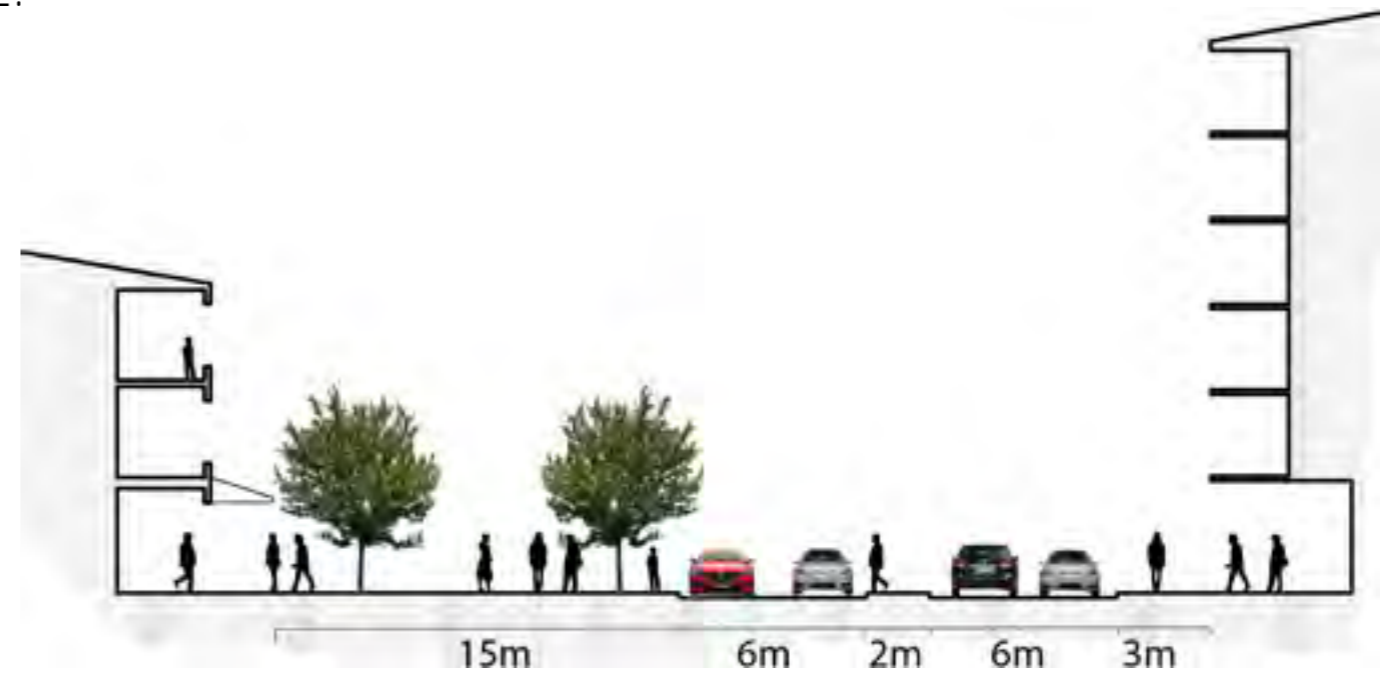


Figure 10.6 Cross section of Boulevard (Source Author)

3.

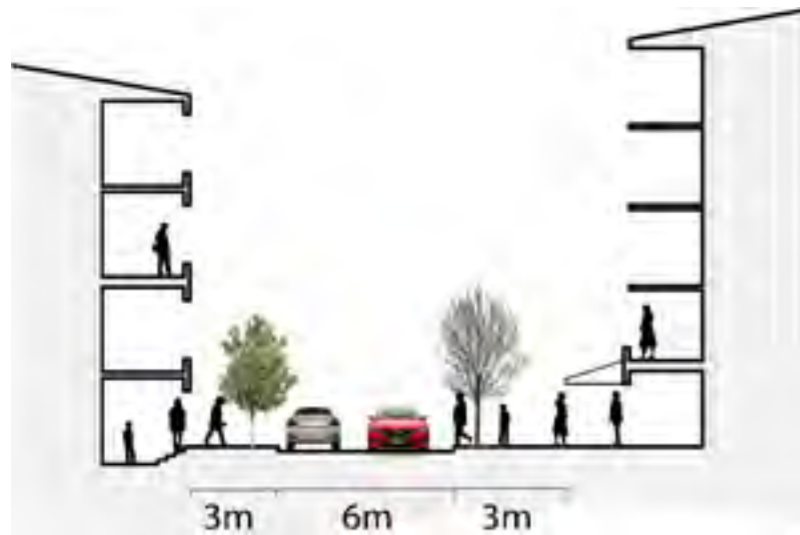


Figure 10.7 Cross section of Secondary street(Source Author)

4.



Figure 10.8 Cross section of Promenade (Source Author)

Explanation of plot layout and built form

The variations of plot sizes are designed to increase the range of choices available in the precinct. The aim is to creating an environment that offers areas that are exposed to very public activities as well as areas that are more secluded and semi-private. Further the plot layout aims to create unique features that emphasis the desired function of the different building typologies.

- Housing typologies.

- 1) Court yards

Courtyard housing is a distinct medium density housing typology centred on a shared outdoor open space or garden and surrounded by two to four storeys of apartment units. They are typically only accessed by courtyard from the street, however, large courtyard are able to accommodate narrow interior corridor that provide vehicle access for residents. The courtyards are quiet semi-private outdoor spaces that served as a transition between the street and the individual apartment units.

- 2) Row housing

Row housing or terraced housing, is another type of medium-density housing. it is a lateral row housing units that share side walls. The height and form of these houses can vary, but generally they are double story unit that are 7m (width) by 25m (depth).

- 3) Medium to High density apartment

The medium to high density apartment blocks should vary from the three to four story walk-ups, to larger five and six storey blocks. They should be used as corner building, which will be discussed further in the section, and can be used to anchor down the row houses at the end of the streets. The first floor of these apartments can be used for mixed-use activities, where small scale local businesses can be located.

- 4) High density apartments

The high density apartments are between four to eight story block of flats that are predominantly residential, but do allow for mixed-use space on the first few floors. These mixed-use activities can accommodate large spaces of offices.

- Key layout features

- 5) Corner Buildings

Structurally the corner buildings are intended to anchor down the ends of the superblocks and define the edges. They should also intend to enhance the pedestrian space at the intersections of two roads, by either providing unique social activity or enhancing legibility. These corner building are required to be noticeably higher the neighbouring plots as to allow them to be easily identified.

- 6) Landmarks

A landmark is a recognizable feature to can be used to assist in giving direction or provide a point of reference in an area. It is a feature that stands out from its near environment and is often visible from long distances. The proposed location of the landmark feature is in the centre of the precinct, at the interchange of the boulevard and the activity loop.

- 7) Pinwheel

Pinwheels create breaks in the systematic flow of movement through an area. They create a unique structural element that the force movement to travel around rather than through a particular feature, in the case of the precinct it is a large parcel of open green public space.



Figure 10.10 Housing typologies and key layout features (Source Aouther)

CHAPTER 11 Implementation

Land consolidation

The most important part of this implementation process is the need to consolidate and transfer the different land parcels into the ownership of a single entity. Currently these parcels are under the ownership of different entities, such as Transnet and Rocpoint (Malaysian Development Company). This can be an extremely complex process and compensation will most likely be required. Therefore, the most suitable entity for this task would be the national government, who would then distribute or transfer the land to local government.

Institutional Arrangement

The magnitude of this project would be too great of a task for the local government to manage on their own. The management team would need to be made up of a collection of planners, architects, private developer representative, academics, public communication experts, and other representative from administrative fields. However, it must be made clear that public interests must remain at the core of the projects.

Further, it is important that there is a 'common language' which hold this hole process together. A set of guideline or a rubric needs to be provided in which the multi-disciplinary team all adhere to throughout the process, as to avoid confusion and conflict.

Strategy for Land Release

The process of land release should be guided by the argument made by Dewar and Louw (Forthcoming; 16), 'Sterility and monotony are the inevitable consequences when the design process is dominated by the ingenuity and creativity of too few people, regardless of how talented they are'. It is therefore, necessary to adopt the Crane's (1963) concept of 'a city of a thousand designers'. By opening up redevelopment to more actors, a wider range of public interests can be served. The same process should be adopted with all agency involved in the development and construction project. Restriction should be imposed that restrict the amount of development that the same architects and private developers can be involved in.

The distribution of land should not be done in an entirely uniform process. Different types of development will require larger plot sizes and the resources of larger development companies, whilst the small plots such as medium density residential development can be undertaken by smaller size developer.

Phasing

The first step in the phasing process is to establish the required specialist team that will manage the redevelopment project. Once this has been established a financial plan for the framework that deals with the estimated costs for the infrastructural investments and compensation for existing landowners needs to be formulated.

The actually development process needs to happen incrementally. Integrating the Point with the CBD is one of the main objectives in the plan. Therefore, the starting point should be the northern section of the plan (section closest to the point) and work its way incrementally down toward the southern tip. However, the central area of the plan, the identified main node, if another key area in the site that has the potential to ignite the entire project, and key features should be developed in the early stages. It is important that the bulk infrastructure follows this same incremental process, as to avoid leaving services unutilised for long periods of time.

CHAPTER 12

Concluding thoughts

This dissertation sought to formulate a comprehensive argument that challenges the current 'status quo' of waterfront development projects in South African port cities, by proposing a bold new redevelopment plan for the Point waterfront in Durban.

South African cities continue to be characterised by high level of social and spatial inequalities and segregation, as a result of its apartheid legacy. Further, increasing rates of urbanization has caused these cities to becoming increase sprawled, as a lack of developable land in the central areas has forced development to occur on the peripheries. It is in response to these challenges in South African cities that raises a question of doubt around the validity of current waterfront developments and the type of life-styles that they represent.

This dissertation critically evaluated Durban's Point waterfront development, a project that has struggled to make significant headway and meet the high expectations that had been set for it. It was evident that the desired vision and role of the Point did not represent the needs of the city and its residence. Rather, the objective was to develop the site into a 'show piece' that would attempt to attract both national and international investor confidence in the city. Its elitist target-market that it aims to attract has meant that the site is significantly exclusive, in terms of the type of people that are able to benefit from the project. These are the two fundamental problems with the current development plan. They indicate a clear disregard for the types of urban settlements needing to be planned in South Africa.

The redevelopment plan proposed in dissertation has provided a bold alternative for the site. It advocates for a more inclusive urban environment that represents the greater need for the city, in response to the current urban challenges. Waterfronts are unique urban places that should encourage inclusive social engagement in spaces that are memorable and welcoming, rather than being socially isolated pockets which aim to serve a minority.

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