

- developing identity by the celebration of valued societal institutions and cultural expression.

c. Idea

Idea translates the programme – the urban qualities – into defined physical relationships; i.e. how the urban qualities are to be achieved. Dewar and Uytenbogaardt (1991) outline a “structure” approach in the management of urban growth and development. This approach does not yield a predetermined and finite plan, but establishes a framework which gives overall direction to urban growth. Simultaneously, it creates maximum meaningful manoeuvring space for individual development actions (the “thousand designers”). The framework directs and induces all the actions to achieve urban environments that meet human needs, are environmentally sustainable and foster vibrant and diverse activity.

The framework proposes an incremental approach – a “partial plan” (refer Figure 5-18), which

“...requires judgement about the minimum actions necessary to maintain desirable relationships and to generate meaningful opportunities” (Dewar and Uytenbogaardt, 1991:26).

Within this concept of plan there are three interdependent actions:

- Holding Actions which reserve options for future generations (refer Figure 5-19).
- Structural Actions being positive actions that create opportunities for people. The most common form of these are the decision in public infrastructure and facilities, such as the form and geometry and movement routes, public spaces, public facilities and utility services (Dewar and Uytenbogaardt, 1991).
- Controlling Actions which are regulations applied and enforced by public authorities, communal values and laws.

“Spatial structure, therefore, has both an enabling and controlling function. It enables by generating meaningful opportunity and choice. It controls by directing decision-making investment in space: the form of control however is positive, in the sense that it operates without coercion” (Dewar and Uytenbogaardt, 1991:28).

The public investment structure should enable multi-functional use, be of appropriate spatial quality and allow for structural conflict, as the latter's tension creates unique opportunities that yield complex and diverse environments.

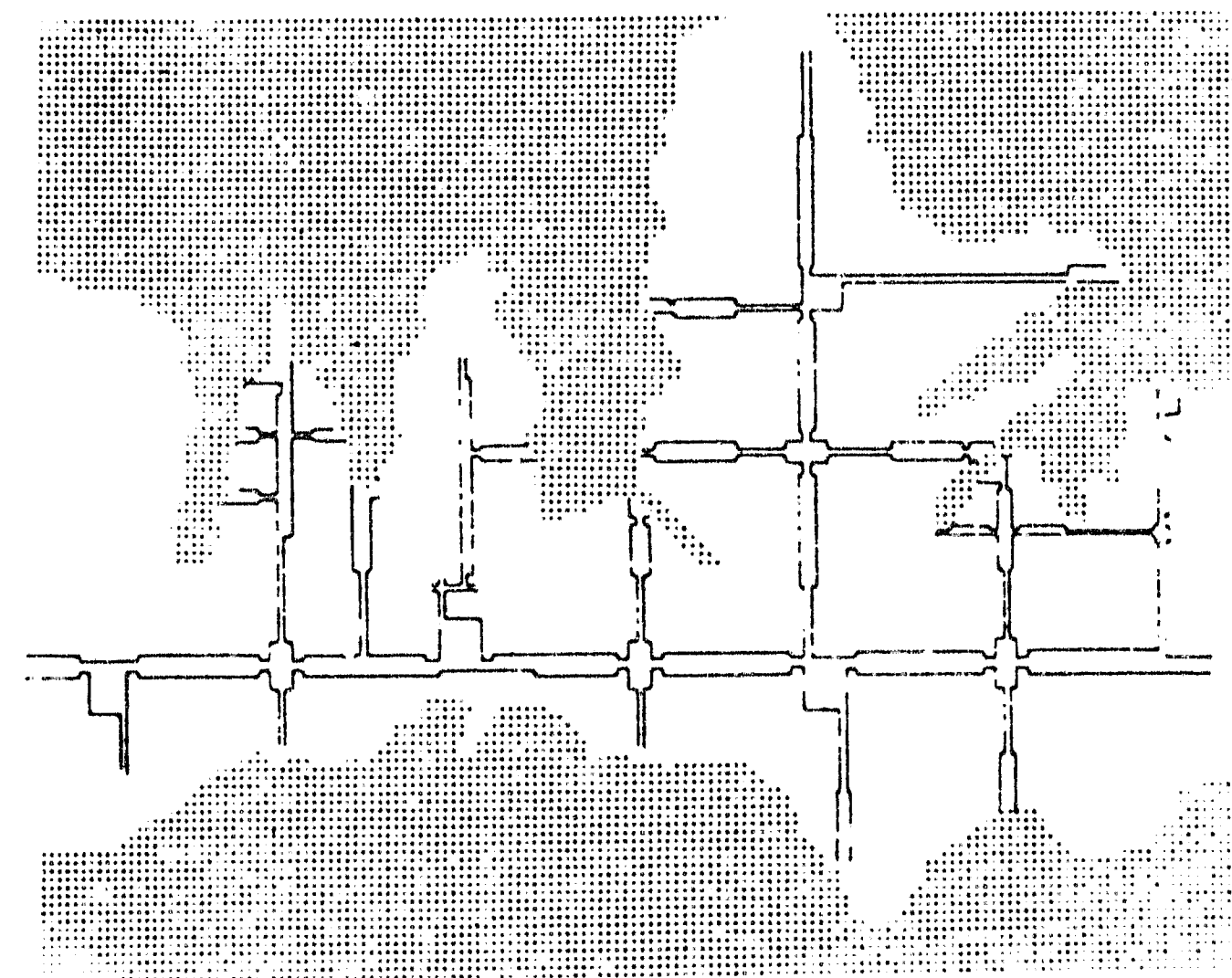


Figure 5-18: The Framework Plan – Greater Marianhill, Source: Dewar and Uytenbogaardt, 1991:26

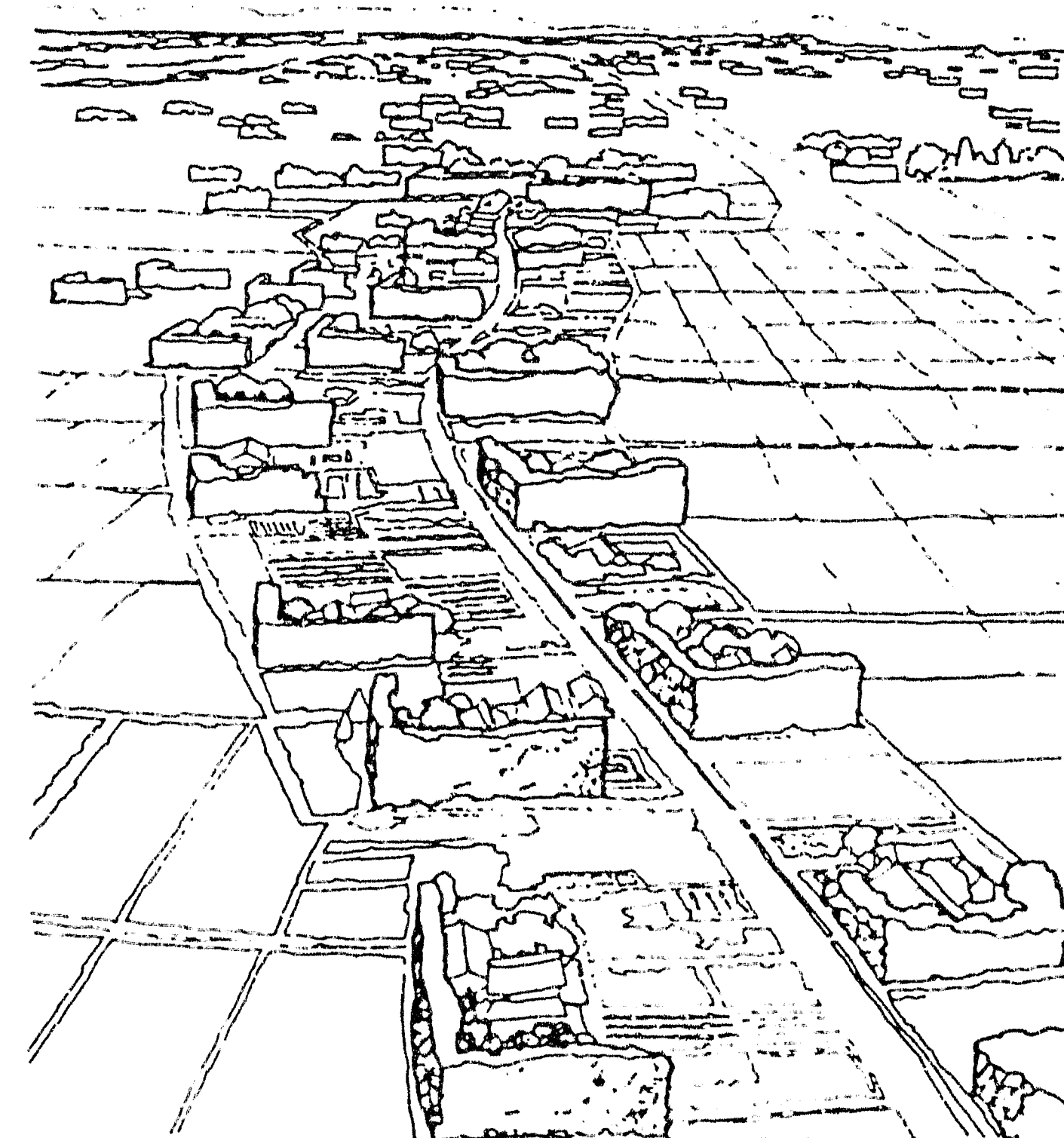


Figure 5-20: Maintaining a Relationship between Urban and Rural Land, Source: Dewar and Uytenbogaardt, 1991:41

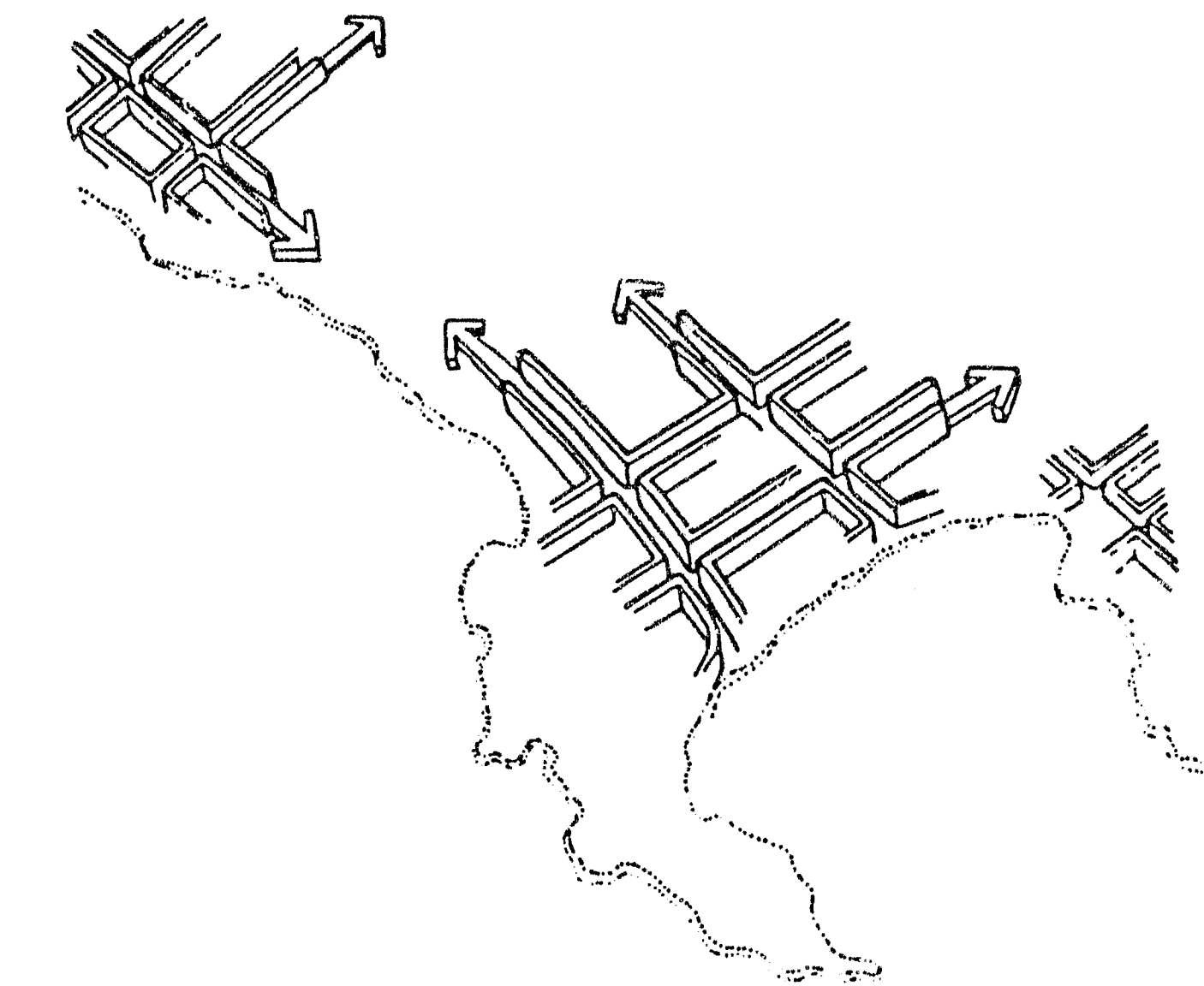


Figure 5-19: Holding Actions, Source: Dewar and Uytenbogaardt, 1991:26

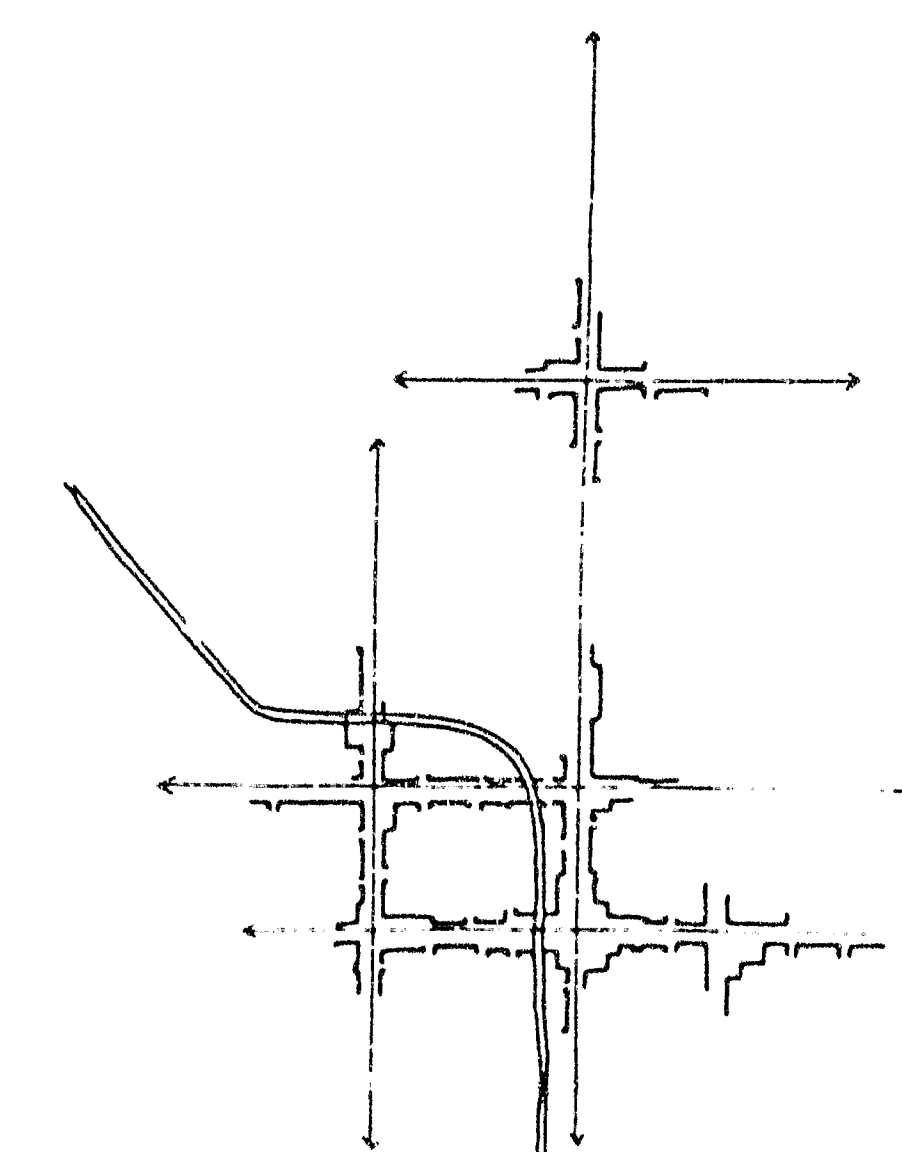


Figure 5-21: Developing a Systems own Logic, Source: Dewar and Uytenbogaardt, 1991:42

General principles that underpin the approach:

- Establish and maintain the relationship between non-urban (primeval and rural) and urban land (refer **Figure 5-20**).
- Encourage urban systems to develop their own logic: break with the regional routes (refer **Figure 5-21**).
- Compact the city and increase densities.
- Promote continuity of urban fabric and the full utilisation of the potential connector routes (refer **Figure 5-22**).
- Celebrate the Public Spaces and Places (refer **Figure 5-23a & b**)
- Provide appropriate public facilities, promote their multi-functional use and encourage sharing.
- Promote more complex processes of city development (refer **Figure 5-24**).

d. Context

Context involves the translation of generic ideas into specific forms. The idea is moulded, warped and enriched by the specifics of the context to which it is to be applied (Dewar and Uytendogaardt, 1991).

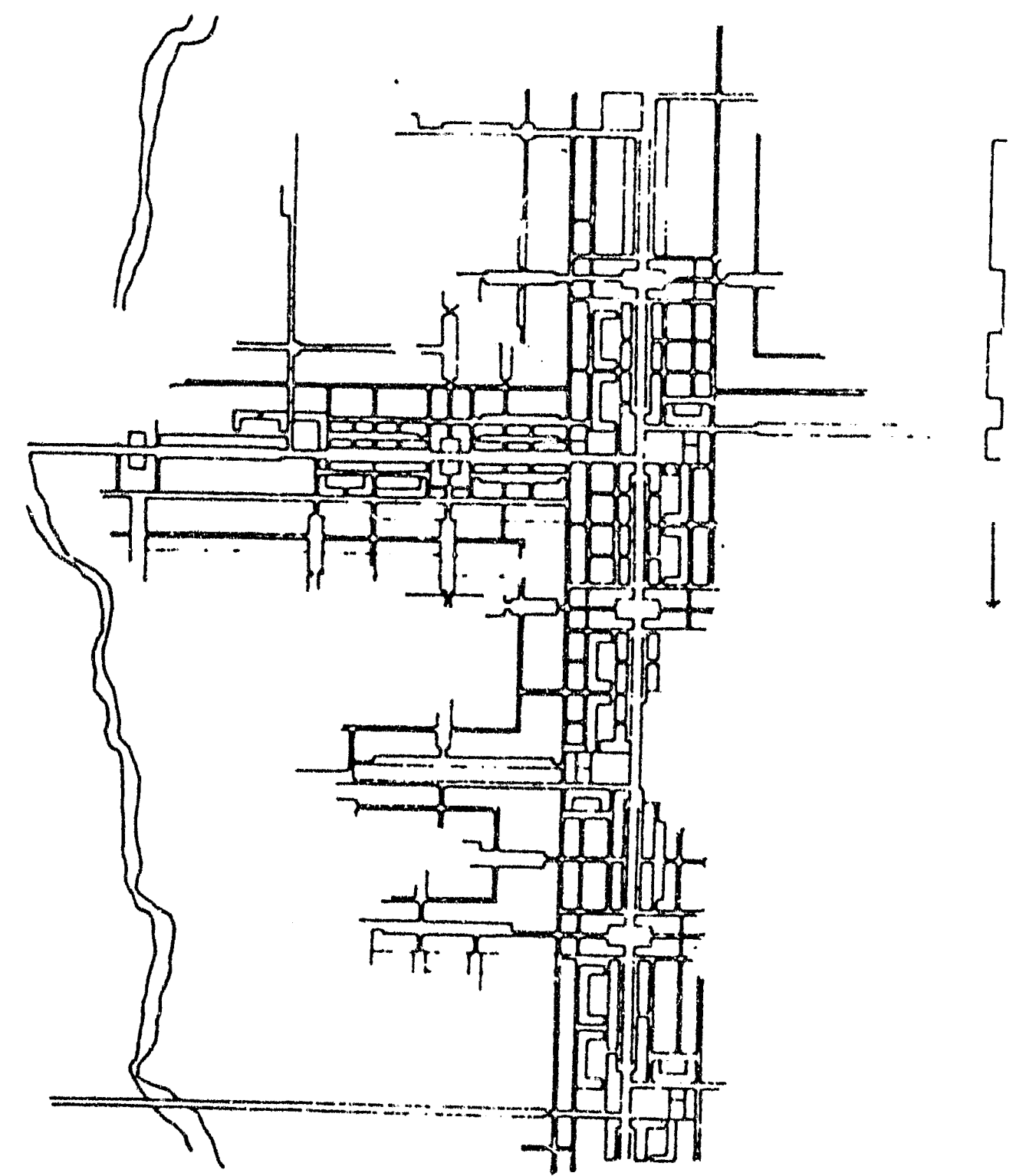


Figure 5-22: The full Utilisation of Connector Routes, Source: Dewar and Uytendogaardt, 1991:48

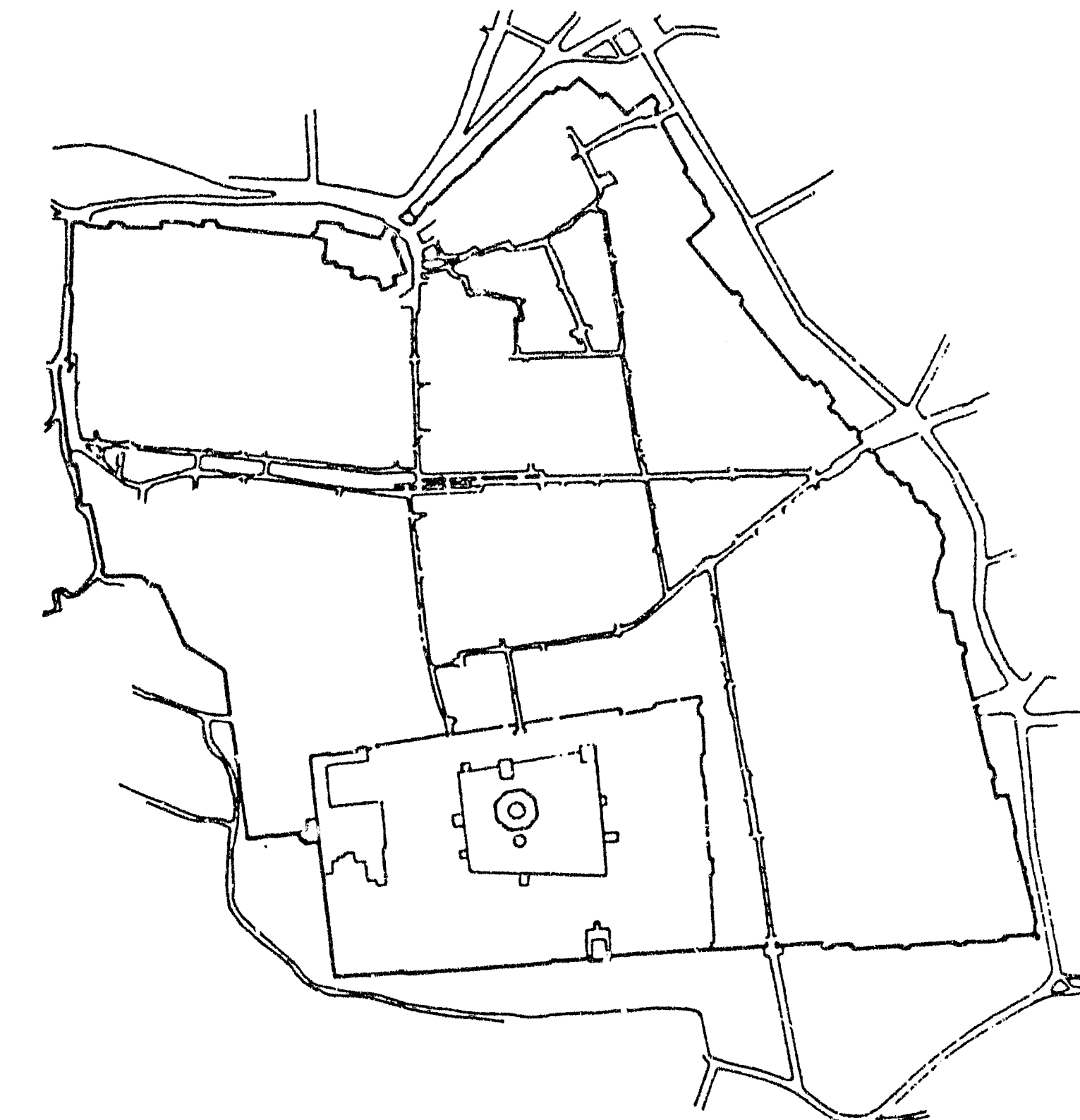


Figure 5-23a: Celebrating Public Spaces and Places- Jerusalem, Source: Dewar and Uytendogaardt, 1991:57

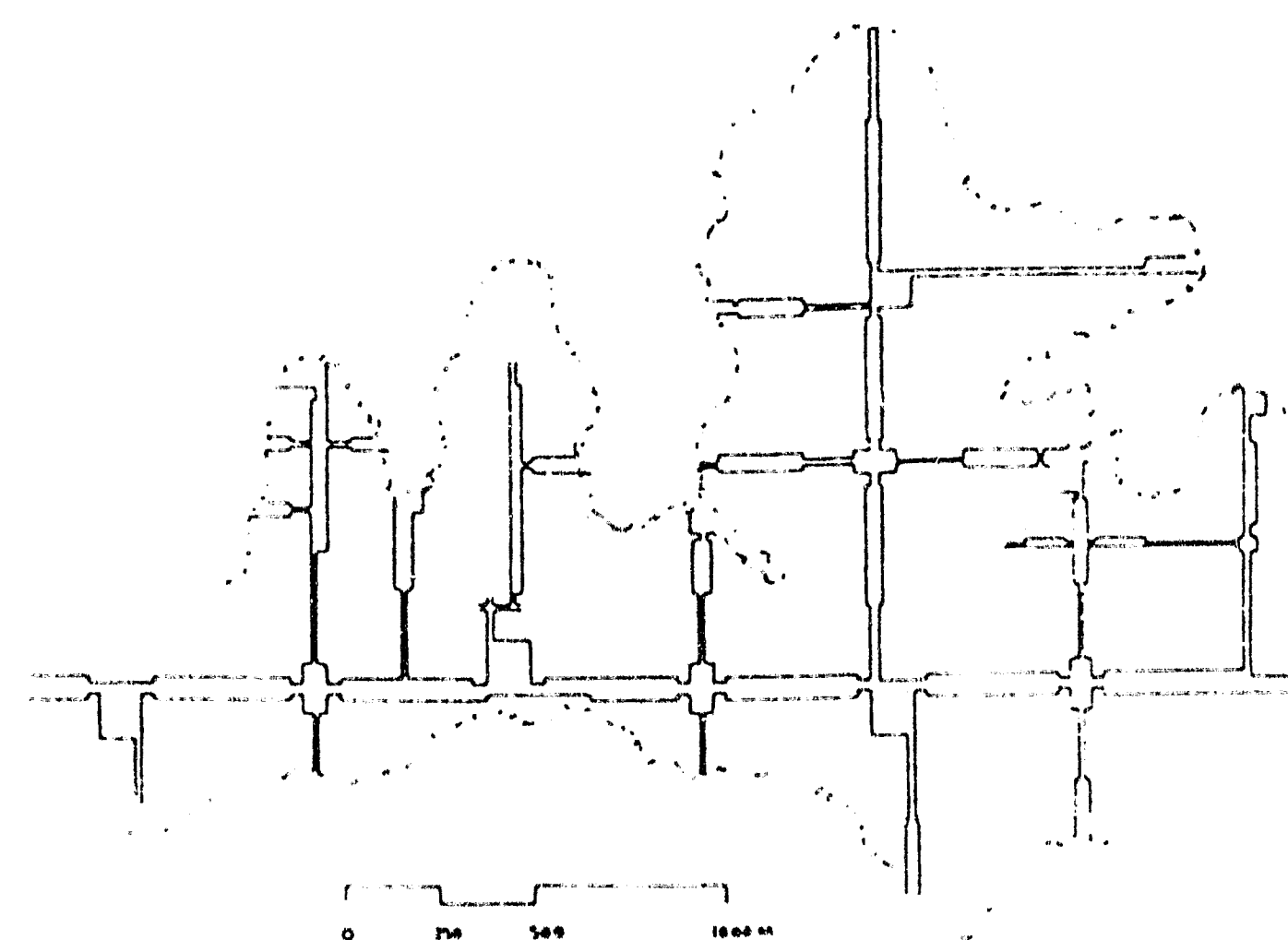


Figure 5-23b: Celebrating Public Spaces and Places- Marianhill, Natal, Source: Dewar and Uytendogaardt, 1991:58

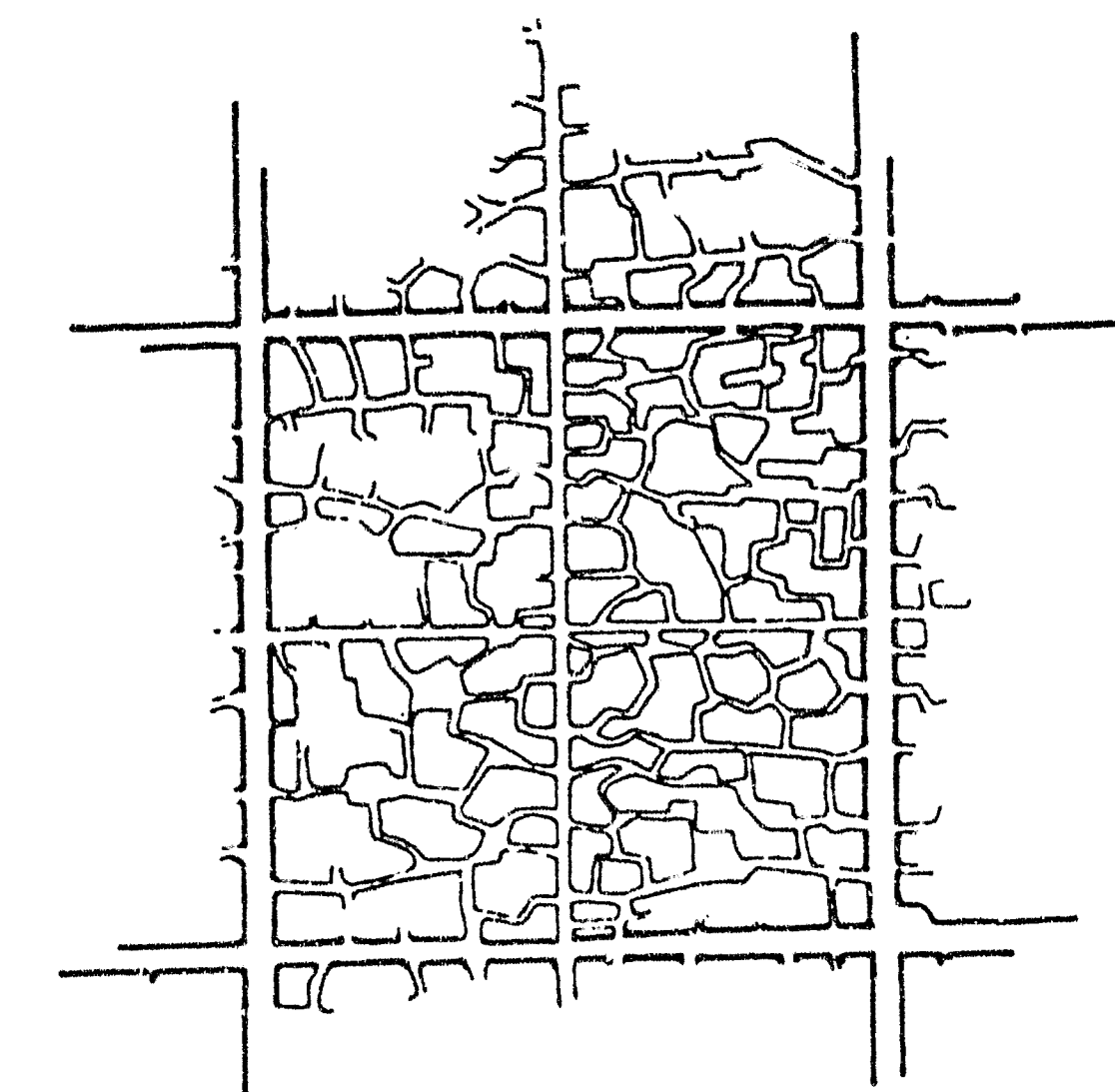


Figure 5-24: More Complex Processes of City Development, Source: Dewar and Uytendogaardt, 1991:62

Apartheid City. This forms the basis in terms of which the reviewed urban design theory is assessed regarding its applicability in the South African urban context (refer **Figure 5-25**).

The assessment of the reviewed urban design theory, as undertaken in the Matrix in **Figure 5-25**, has yielded the following outcomes:

- Each of the urban design theorists has a different emphasis in their urban design approach on developing the “good city”.
- The approach of Lynch (1981) is indicated as the most comprehensive, which must be viewed in the context of a normative approach.
- The South African urban designers reviewed generally have a more comprehensive approach than their European and American counterparts.

Accordingly the above forms a realistic and solid base in terms of which the “Public Structure Urban Design Approach” is to be established. This approach is developed in the following chapter.

Accordingly the above forms a realistic and solid base in terms of which the “Public Structure Urban Design Approach” is to be established. This approach is developed in the following chapter.

Figure 5-25: Matrix evaluating Urban Design Theory against Adapted Good City form Criteria, Source: Developed from Borden, 1993

CHAPTER SIX

THE PUBLIC STRUCTURE URBAN DESIGN APPROACH

6.1 INTRODUCTION: AN APPROACH BASED ON THE CONCEPT OF PUBLIC STRUCTURE

The “Public Structure Urban Design Approach” is established from the principles and conclusions outlined in the preceding chapters. It is an approach to settlement making that focuses on the physical structure and nature of the public environment, which directs the order and development of the built environment, its growth and the management thereof. This approach yields the establishment and development of a multi-functional and liveable urban environment.

Traditionally the approach to settlement making has been based on a programmatic approach, which focuses on the assembly of pre-identified elements of settlements (roads, houses, shops, industry, etc.) (Dewar and Uytendogaardt, 1995). The latter is quantitatively driven, whereby land parcels are measured and calculated apportionments for each element are made, which are then assembled. The problem with this approach is that the city structure becomes a “tree”, a collection of parts, where environmental quality comes second. The approach seeks to optimise each part individually, which is inappropriate, as

“....in positive environments, seldom is the operation of any one dimension optimised. Compromises are necessary to make the whole work as well as possible” (Dewar and Uytendogaardt, 1995:16).

Furthermore the approach assumes that all the component parts are to be provided at the outset. In reality, particularly under financial constraints and limited capital resources, not all the component parts are provided. This results in environmental sterility, incompleteness and dysfunction, comprising a series of buildings and activities in unresolved, residual space.

The public structure approach does not yield a predetermined and finite plan, but establishes a framework, which gives overall direction to urban growth. Simultaneously, it creates maximum meaningful manoeuvring space for individual development actions (the “thousand designers”). The framework directs and induces all the actions to

achieve urban environments that meet human needs, are environmentally sustainable and foster vibrant and diverse activity.

The principle is aptly outlined by Dewar and Uytendogaardt (1991:28):

“Spatial structure, therefore, has both an enabling and controlling function. It enables by generating meaningful opportunity and choice. It controls by directing decision-making investment in space: the form of control however is positive, in the sense that it operates without coercion”.

6.2 THE CHARACTERISTICS OF THE PUBLIC STRUCTURE APPROACH

The “Public Structure Urban Design Approach” proposes an urban design methodology and process regarding the design and development of the public structure (the public- and semi-public space syntax) within the urban environment. This is not undertaken in isolation from the private space syntax, as the public structure is considered to be the underlying element that guides the spatial development and physical design of the urban environment.

The approach considers the urban environment holistically, and focuses on its qualities, recognising that each component is interrelated and has an important contribution to make. Consequently the approach inherently deals with the following aspects:

- The enablement of a sociable public life within the spirit of “ubuntu” (refer chapter two).
- The configuration of the urban environment as a “semi-lattice”, as opposed to a selection of parts. An environment that is complex, where uses and activities overlap and mix. An environment that is ordered and configured by “public structure”, which in turn is physically shaped by the spatial and human activity systems that characterise urban life. It therefore recognises that between 45% and 50% of urban space comprises public, the space commonly shared by urban dwellers, and by implication touches upon and implicates more lives than any other single part of the city (refer chapter three).
- The consideration of the quality of the urban environment as a whole and the role of public space (public structure) to achieve this (refer chapter four).

- The design and development of a multi-functional and liveable urban environment in which human needs, in the widest sense, are met. This is achieved by taking into consideration on the one hand all of the human activity systems, including institutional (both services and facilities), economic, socio-cultural, as well as human interactions and activities. On the other, the physical and spatial activity systems, including the natural environment, the built environment, physical service infrastructure networks and the urban settlement pattern, within the context of the qualitative, symbolic, socio-cultural and biogenic aspects (refer chapter five).

There are three major characteristics, which are fundamental to the capital structure approach: a robust order, flexibility allowing for adaptation and contextual consideration.

6.2.1 Robust Order

The elements of the capital structure are configured in a carefully considered sequence that forms an overall order, which:

- Supports human activities and functions that achieve a qualitative and liveable environment;
- Enables and directs economic growth and development (both formal and informal);
- Provides for institutions and social facilities;
- Integrates the natural environment;
- Elicits development responses in a relatively predictable way;
- Accommodates / provides the infrastructure networks; and
- Gives sufficient direction and places responsibility on private responses (e.g. housing or commercial development) such that they directly contribute to the quality of the capital structure.

“If the public spatial structure is clear, positive and easily readable, it is neither necessary nor desirable to attempt to make decisions about, or control, everything. A high degree of freedom can be left to individuals (including the market) with confidence” (Dewar and Uytendogaardt, 1995).

The freedom, within the spatial limits and directives of the capital structure, enables people to respond imaginatively, innovatively and in some instances uniquely, achieving an urban complexity reminiscent of a lattice-structure that supports human activity in all its facets.

6.2.2 Flexibility

The public structure is flexible enough to allow for adaptation over time. This is required as the city adapts and changes as a result of the complex interaction between human, physical and spatial activity systems, and due to unforeseen circumstances that may arise. In this regard the public structure not only meets the existing programmatic requirements, but also allows physical change and extension to occur, such that the unforeseen can be accommodated.

6.2.3 Contextual Consideration

The public structure takes into consideration the urban settlement needs and forces at the various urban scales from regional, to metropolitan, to district, to precinct (or neighbourhood) and local (building and block) level. Simultaneously, it is directed and informed by the “human scale”, enabling urban dwellers to be comfortable, supporting their activities and promoting a liveable urban life. In this regard the public structure is informed by and in turn also directs the broader context, thus meeting urban settlement and development needs; and simultaneously meets human needs in a qualitative, physical and functional sense, as well as in a socio-cultural, environmental and economic context.

6.3 THE PRINCIPLES OF THE PUBLIC STRUCTURE URBAN DESIGN APPROACH

The philosophy that underpins the public structure urban design approach is that of “ubuntu” (human kindness and goodness). It directs the primary goal of urban design, which is the establishment of sociable public structure within a salubrious physical milieu that fosters “ubuntu”.

The approach considers the Public Structure as the primary resource for creating enabling structures and frameworks for guiding urban growth, directing public management, infrastructure investment and decision-making, as well as eliciting the desired development responses from the private sector. It achieves a liveable urban environment by generating an enabling framework that supports urban dweller's lives and activities across the income range (from rich to poor), across cultures and groups, where neither is advantaged or disadvantaged over the other. It aims to create a balance between the

elements of rigour, which structure the urban environment (public structure), and the elements of flexibility which elicit spontaneity and surprise as the city grows through time. Achieve positive qualities of urban areas, which realise people's potential.

The public structure urban design approach is directed by the following imperatives for urban design, which have been elicited from the complex South African context:

- To enable the development of the complex city: Wood (1989) convincingly and logically argues that complex cities effectively and efficiently accommodate the demands made by urbanisation and help correct the grossly incompetent urban management and development practice based on a heretic ideology. This process of growth cannot be planned as a finite end-state, but requires that the cities are managed in their growth in order to generate activities which in turn sustain viable urban communities. The aim is to guide the growth and development of the city into a compact form which meets the needs of a burgeoning population undergoing urbanisation and which develops the complexity that generates economic opportunity and life-enhancing living environments.
- Create and enable the development of liveable and good built environments: Within the context of the complex city, it is critical that the urban designer aims to create or enable the physical development of life-enhancing and liveable built-environments for people in community (Wood, 1991). This aim focuses on the imperative to meet the community's needs, achieve environmental sustainability and create fine quality public places and built environments (Dewar and Uytendogaardt, 1991).
- Facilitate social structuring which enable community support systems: Enabling the development of community structures and support systems that enable people to meet their daily needs and overcome hardship.
- Produce layout plans which ensure the development of worthwhile and quality living environments, within the constraint of scarce resources: The reality of urban design in the South African context demands that the designer considers how to enable the

development of worthwhile living environments with extremely limited resources.

- To enable place making: The solution in response to the lack of resources does not lie in mass production, but the creation of special and unique places around which communities can form, endow a place with memory and meaning, and form an empathetic relationship with their living environment (Behrens and Watson, 1996).
- Enable the physical development of people orientated (human scaled) and supportive city centre public environments: The aim of the urban design discipline is to change this environment physically into one that supports, enables and enhances the activities which people undertake in the central area.
- To enable public involvement and debate, facilitating their participation in the shaping of the built environment: Within the context of past urban management practices it is a priority that people/communities are involved and participate in the shaping of their physical environments. This ensures that their needs within the context of available resources, are realised; whilst simultaneously being balanced with the needs of the wider context.
- Commitment to an uncompromising design ethic: The poor track-record of urban design, or lack thereof, in making a meaningful contribution to the quality of South African urban environments, leaves a lot to be done. Particularly considering the negative, hostile and unwelcome experiences many South African communities have had of the city to date.

It is within this context that the principles, their components and related design considerations, of the public structure urban design approach are elaborated:

PRINCIPLE	COMPONENTS OF THE PRINCIPLE	DESIGN CONSIDERATIONS
1. The development of a Complex Urban Environment	1.1 Multi-functional (multi-use and multi-purpose)	• A variety and mix of uses both vertically and horizontally (use and user diversity), that are complementary and compatible ("urban mix"). • No optimisation of one singular function or activity at the cost of another, but compromise (a give & take) to achieve the optimal and efficient (or at least improved) functioning of the whole. • In the context of scarce and limited resources, synergistic benefits and more efficient functioning is promoted by the physical agglomeration of different activities and functions throughout the day. • The urban environment requires to accommodate a multitude of stakeholders, local communities and neighbourhoods, encompassing a variety of cultures and values. • Physical building and development density that is sustainable. • Physical compaction where appropriate, viable and sustainable. • Establishing a mix and overlap of activities and locational synergy. Activities and functions should differ and complement one another and derive mutual benefit from location in close proximity to each other. • Intensification, densification and infilling, as well as overlapping and interrelating activities, functions and uses. • Minimum sustainable population (residential and working) densities which establish appropriate thresh-holds to support activities. • Establish appropriate activities and facilities that attract appropriate population numbers and achieve required thresh-holds (e.g. provide public transport around which relevant physical densities develop). • Consider the needs of the parts in relationship to the needs of the whole, creating a balance that understands the organic and dynamic nature of the city, and the interrelationship of its component parts. • The development of physical continuity by structuring the urban system through mixed-use activity nodes, activity spines, development corridors. • The integration of separated and disparate parts in a manner that yields a functionally more efficient, economically viable and physically sustainable urban system, where the parts work in synergy. • The interrelationship and balance between the urban and natural environment.
	1.2 Multi-actors and Multi-cultural	
	1.3 Appropriate Minimum Intensity of Physical Development	
	1.4 Activity Integration (overlapping and interrelated)	
	1.5 Appropriate Population Thresh-hold	
	1.6 Consideration of City Dynamics	

PRINCIPLE	COMPONENTS OF THE PRINCIPLE	DESIGN CONSIDERATIONS
2. Meet People’s Urban Living Needs	2.1 Survival Needs 2.2 Shelter / Residential: Achieving adequate shelter for a variety of income level 2.3 Safety and Security (natural elements, human elements, artificially created elements) 2.4 Human Development, Health and Welfare 2.5 Socio-Cultural Facilities and Utility Service Infrastructure 2.6 Economic Vitality and Activity	• Provision of water, food and energy. • More meaningful and satisfying living places and good living environments. • Mix of housing types that meet a variety of income levels, including the poor and destitute. • Guided by minimum occupancy rate per person. • Autonomy: enable withdrawal into private sphere, for relaxation, family life etc. • Hierarchy of space types, from private to semi-public to public, creating “Defensible space” environments that enable control of public space by residents, reducing the potential and opportunity for criminal activity. • Population density (security through “community”) • Mixed uses at different times throughout the daily time cycle, enabling a continuous activity stream (a 24 hour use of the city) • Buildings should face the streets and form space, promoting natural surveillance. • Active ground floor activities that engage the street, no blank facades or desolate areas. • Available emergency and civil protection services (fire, ambulance, police) • Hazardous substance control • Consideration of natural forces and their implications (e.g.flood control) • Education and skills facilities, from basic skills and primary education through to tertiary education, trade skills, adult education etc. • Health and welfare facilities and services (hospitals, clinics etc.) • Disease suppression. • Public realm compensates for private realm inadequacies: The poorer the person, or the lower the economic competence, the greater the reliance upon public services and facilities to sustain life, and therefore the more important the role of public structure in affording a liveable urban life. The latter to a degree establishes the degree to which urban dwellers can overcome and / or ameliorate their hardship and shortcomings to meet their needs. • Water, stormwater, energy, sewerage, solid waste removal and processing. • Socio-cultural facilities and activities: places of worship, places of remembrance, places where cultural events are celebrated etc. Also recreation, sport, social clubs etc. • Promote multi-functional use and encourage sharing. • Utilisation of spare capacity in facilities and infrastructure. • Upgrading and renewal. • Provision of new infrastructure where required. • Range of economic opportunities, from informal trade to formal economy. • Stability for the formal market, reinforcement of the urban economy. • Informal economy requires viable places, with space to enable people to trade, manufacture and provide services at very low overheads (this is and will continue to be vital for the survival of large no.’s of people). This enhances the capacity for employment and income generation.

PRINCIPLE	COMPONENTS OF THE PRINCIPLE	DESIGN CONSIDERATIONS
3. Facilitate Social Ordering	3.1 Enable the development of Social Ties and Community Groups	- Establish / define broad parameters of future city form that direct the incremental city building decisions and actions, providing clear functions and activity. - The poorer the person, or the lower the economic competence, the greater the need for community support. - Community cannot be “created” physically, however the urban environment can be physically structured such that people have the choice to form social ties (or not to), and the supporting facilities, activities, spaces and places to do so. - Designing the spatial context of community relates directly to the daily hardship, spatial structuring and the economic and political empowerment – and how the design enables the community to overcome and ameliorate these issues. - Structure the relationship between public – private space: ordering into private-, semi-public (parochial) and public. - The context of design occurs in a multi-client (1000 designers), multi-stakeholder and multi cultural environment (all the groupings that have a direct physical interest: landowners, businesses, residential groups, religious and cultural etc.) - Culturally and communally appropriate physical environment, as well as appropriate socio-cultural facilities and services. - Recognise that human relations are complex and that there are conflicting interests.
4. Place Making	4.1 The three Dimensional Design of the Physical Quality and Space Syntax of the Public Environment “Place making” refers to the creation of urban environments with a unique sense of place, providing people with a sense of belonging, offering life experiences, which mould peoples’ perceptions, values and self identity. In essence it results in a place of which people are part, and it is a part of them.	- This means that the plan-layout achieves structuring devices of place-making on which communities can form, endow a place with memory and meaning, and form an empathetic relationship with their living environment. - The principle of the public structure framework is to enable people to enrich their own environment. - Access, opportunity, efficiency, choice, scale - Scale (human scaled with regard to walking, height, human activities / abilities & buying / economic power etc.) - Imageability (nodes, districts, edges, landmarks, paths, gateways) - Cultural / religious / historic places and collective space. - Space syntax of public structure components (buildings & physical structures, movement & linkage space, man-made urban and natural space). - Systematic use of rhythm. - Heraldic elements (flags, signs, monuments etc.). - Enclosure: the nature of the edge that is made and its permeability determines the interrelationship with uses and activities, and defines zones of privacy. - The degree of comfort given through control of the natural elements predicated by climatic conditions (i.e. the degree of protection and / or exposure). - The physical relationship of buildings to public space: height, setback, materials, architectural style,etc. - A fine-grained built form.

PRINCIPLE	COMPONENTS OF THE PRINCIPLE	DESIGN CONSIDERATIONS
5. Movement Activity and Space – viewed as an activity that occurs in space and not as specialised facility.	5.1 Carrier: of vehicles, goods and people (mechanically efficient and safe movement thereof). 5.2 Shelter: a space providing different kinds of public living rooms for the city users, be these pedestrians, motorists, residents, etc. 5.3 City Builder: part of the city building public structure: creating land values, uses and architectural scale (or destroying these) (around which and in response to which other activities and physical elements develop) 5.4 Communicator: conveyor of “intelligence” to users and their relationship to the immediate urban environment (visual impressions and meaningful signals). 5.5 Connector: bringing disparate elements together in a cohesive city fabric and connecting them.	• The grid (refer Appendix C) • Permeability • Structuring movement (not just traffic management) • Pedestrian movement focused and public transport (5 to 10 minute walking comprises a comfortable walk, approximately in range from 400m to 800m) • Consideration of all modes of movement, from private to public.
6. Access	6.1 To all Urban Dwellers 6.2 To range of Resources 6.3 Facilities and Services 6.4 Transport Modes 6.3 Information 6.6 Diverse Environments 6.7 Autonomy	• Enabling people to gain access to the full range of urban living opportunities, both in spatial and a-spatial terms. • Enable the physically constrained and inhibited. • Convenience, choice and opportunity.

PRINCIPLE	COMPONENTS OF THE PRINCIPLE	DESIGN CONSIDERATIONS
7. Natural Environment and Ecological Processes	7.1 Environmental Balance and Synergy	• sparing utilisation of the typical engineering approach, rather utilise natural systems where appropriate e.g. drainage systems, instead of canals, use system of retention ponds, wetlands • drainage plans that work with natural systems (using open space systems as a basis for water husbandry and passive stormwater management) • resource conservation / maximise utilisation of resources • efficient use of energy (conserve resources and minimise waste) • exploitation of urban waste • integrate urban agriculture potential into the urban environment and economy • cognisance of eco-systems, ecologically sensitive design, achieves an urban environmental balance • environmental open space / environmental systems (natural features, wetlands, rivers, topographical features etc.) • recreation incorporation • biological diversity
8. Urban Design is a Process		• A complex process that involves and considers many actors and agencies. • Stakeholder / community participation • Cities are created incrementally over time, based on a series of decisions and actions undertaken on an on-going basis. • City building is a process of becoming (as opposed to the delivery of some final product). • Enable the development of balance between community / stakeholder needs and the wider urban context, and that not one benefits to the disadvantage / detriment over the other

6.4 CONCLUSION

The “Public Structure” Urban Design Approach must be undertaken within the context of the following aspects, which implicate upon and direct the achievement of each of the approach’s established principles. Consequently each principle must take into consideration aspects regarding:

a. Control:

- Right to use a place.
- The right to exclude others (from private or group spaces).
- The right of temporary appropriation.
- The right to modify and / or personalise.
- Disposition.
- Right to a home base.
- Responsible use of public places.
- Clarity to all how places are used.

b. Efficiency:

- Functional and economic.
- External costs.
- Energy saving.
- Productive.
- Investment protection.
- Broad spread of rents and housing.

c. Public administration and management.

d. Availability of resources, capital, human and environmental.

The appropriate urban design process with regard to public structure urban design is developed in the following chapter, as well as the criteria in terms of which the approach is to be evaluated.

CHAPTER 7

TOWARDS AN APPROPRIATE URBAN DESIGN PROCESS

Concomitant to the urban design approach, developed in the previous chapters, is an appropriate urban design process. The overall aim of such a process is to ensure that the developed design approach in achieving a liveable, diverse and multifunctional urban environment is holistic and considers all factors relevant to the context.

7.1 PRINCIPLES GUIDING THE ESTABLISHMENT OF THE URBAN DESIGN PROCESS

The following directives underpin the establishment of the urban design process:

- The nature of "wicked" problems as defined by Rittel (1973), with a specific focus on the "wicked" problems within the South African urban context. The latter is based on South African urban design practice and theory, as outlined in Chapter 5.
- The principles embodied in the established urban design approach, which enables the development of an appropriate capital public space structure to achieve a liveable, diverse and multifunctional urban environment.
- The criteria established in Chapter 5, which the urban design approach must meet in order to achieve a liveable, diverse and multifunctional urban environment.
- The procedural theory base regarding the nature of the design process, as outlined by Boden (1991), Zeisel (1981), Crane (1960), Bazjanac (1974), as well as certain aspects of the procedure suggested by Wolfe and Shinn (1970). The reasons for their appropriateness for the proposed approach are also discussed.

The above are combined to form the proposed urban design approach.

7.2 THE NATURE OF "WICKED" PROBLEMS

Rittel (1973) argues that the complex societal problems urban planners and urban designers deal with are inherently different from

the problems that scientists and perhaps some branches of engineering deal with. The problems, on which the natural sciences and engineers focus can be clearly defined, differentiated and separated, and have solutions, which can be found. In contrast the problems related to social or policy planning are ill-defined. They

"... rely upon elusive political judgement for resolution (Not 'solution'. Social problems are never solved. At best they are only resolved over and over again)" (Rittel and Webber, 1973).

Rittel then terms the problems that the scientists and engineers confront as "tame" ones, because the task is clear and it can be precisely determined whether the problems have been solved. In contrast the social and socio-economic issues, which planners and urban designers have to resolve, are nowhere as clear cut and elucidative as the tame ones of science and engineering. The former nearly all encompass public policy issues, such as the location of a new major road or highway, the determination of land-use for a particular area/site, the type of buildings that may be built in a particular area, etc. Accordingly the planning/urban design problems are termed "wicked", not because their properties are ethically deplorable and immoral, but "wicked" in the sense of "malignant", "vicious", "tricky" and "aggressive". The reason for this is to clarify that planners / urban designers dare not treat the wicked problems as tame ones, because this refuses to recognise the inherent wickedness of social problems (their complexity and overlap) and will thus lead to incorrect resolutions or even exacerbation of the wicked problems.

7.2.1 The distinguishing Characteristics of "Wicked Problems"

Rittel and Webber (1973) identify at least eleven distinguishing characteristics of "wicked" social problems:

- a. They cannot be defined definitively. It is not possible to provide an exhaustive formulation because the criteria are endless or never complete. The reason being that the knowledge of all conceivable solutions is required before resolving the problem, which in turn enables the anticipation of all the questions which are necessary to anticipate all the information required for the resolution ahead of time. The latter is not possible with regard to

"wicked" problems.

- b. Every formulation of a "wicked" problem has a corresponding solution. However, each solution implies a certain interpretation of the problem - i.e. to get a solution one must have some idea in one's mind of a possible solution. This implies the notion of values and/or experiences that play a significant role.
- c. Any solution to a "wicked" problem can be worked on further and improved upon. There are no finite criteria, which determine that the solution has been finally and completely arrived at. The work on "wicked" problems is ended due to external factors such as resources; budgets; patience or the solution is considered to be sufficient ("good enough").
- d. The solution of a wicked problem can only be good or bad. There is no right or wrong/correct or false, as there are no absolutes.
- e. There are not ultimate tests of a solution to a "wicked" problem. The implementation of the solution generates a series of consequences through time, which cannot all possibly be traced nor wait until these repercussions have ended, in order to be able to begin testing.
- f. Each solution to a "wicked" problem is a one-off operation. The reason being that there is no room for trial and error, nor any room for experimentation.
- g. There is no exhaustive list of solutions to a "wicked" problem; neither is there a definitely described set of permissible operations, which may be incorporated into the solution. One cannot be absolutely certain that all facets have been covered, thus solutions and actions must be based upon the decided priorities.
- h. Every "wicked" problem is unique.
- i. Every wicked problem can be considered as a symptom of another problem.
- j. There is more than one possible explanation to a wicked problem.
- k. The professional / problem solver carries the responsibility of his actions and has no right to be wrong. The aim and purpose is about the improvement of circumstances and living environments.

From the above it is apparent that the "wicked" problems which the urban designer has to deal with are characterised by complexity, ambiguity, uncertainty and intractability (Boden, 1991). In order to

CHAPTER 7

TOWARDS AN APPROPRIATE URBAN DESIGN PROCESS

Concomitant to the urban design approach, developed in the previous chapters, is an appropriate urban design process. The overall aim of such a process is to ensure that the developed design approach in achieving a liveable, diverse and multifunctional urban environment is holistic and considers all factors relevant to the context.

7.1 PRINCIPLES GUIDING THE ESTABLISHMENT OF THE URBAN DESIGN PROCESS

The following directives underpin the establishment of the urban design process:

- The nature of "wicked" problems as defined by Rittel (1973), with a specific focus on the "wicked" problems within the South African urban context. The latter is based on South African urban design practice and theory, as outlined in Chapter 5.
- The principles embodied in the established urban design approach, which enables the development of an appropriate capital public space structure to achieve a liveable, diverse and multifunctional urban environment.
- The criteria established in Chapter 5, which the urban design approach must meet in order to achieve a liveable, diverse and multifunctional urban environment.
- The procedural theory base regarding the nature of the design process, as outlined by Boden (1991), Zeisel (1981), Crane (1960), Bazjanac (1974), as well as certain aspects of the procedure suggested by Wolfe and Shinn (1970). The reasons for their appropriateness for the proposed approach are also discussed.

The above are combined to form the proposed urban design approach.

7.2 THE NATURE OF "WICKED" PROBLEMS

Rittel (1973) argues that the complex societal problems urban planners and urban designers deal with are inherently different from

the problems that scientists and perhaps some branches of engineering deal with. The problems, on which the natural sciences and engineers focus can be clearly defined, differentiated and separated, and have solutions, which can be found. In contrast the problems related to social or policy planning are ill-defined. They

"... rely upon elusive political judgement for resolution (Not 'solution'. Social problems are never solved. At best they are only resolved over and over again)" (Rittel and Webber, 1973).

Rittel then terms the problems that the scientists and engineers confront as "tame" ones, because the task is clear and it can be precisely determined whether the problems have been solved. In contrast the social and socio-economic issues, which planners and urban designers have to resolve, are nowhere as clear cut and elucidative as the tame ones of science and engineering. The former nearly all encompass public policy issues, such as the location of a new major road or highway, the determination of land-use for a particular area/site, the type of buildings that may be built in a particular area, etc. Accordingly the planning/urban design problems are termed "wicked", not because their properties are ethically deplorable and immoral, but "wicked" in the sense of "malignant", "vicious", "tricky" and "aggressive". The reason for this is to clarify that planners / urban designers dare not treat the wicked problems as tame ones, because this refuses to recognise the inherent wickedness of social problems (their complexity and overlap) and will thus lead to incorrect resolutions or even exacerbation of the wicked problems.

7.2.1 The distinguishing Characteristics of "Wicked Problems"

Rittel and Webber (1973) identify at least eleven distinguishing characteristics of "wicked" social problems:

- a. They cannot be defined definitively. It is not possible to provide an exhaustive formulation because the criteria are endless or never complete. The reason being that the knowledge of all conceivable solutions is required before resolving the problem, which in turn enables the anticipation of all the questions which are necessary to anticipate all the information required for the resolution ahead of time. The latter is not possible with regard to

"wicked" problems.

- b. Every formulation of a "wicked" problem has a corresponding solution. However, each solution implies a certain interpretation of the problem - i.e. to get a solution one must have some idea in one's mind of a possible solution. This implies the notion of values and/or experiences that play a significant role.
- c. Any solution to a "wicked" problem can be worked on further and improved upon. There are no finite criteria, which determine that the solution has been finally and completely arrived at. The work on "wicked" problems is ended due to external factors such as resources; budgets; patience or the solution is considered to be sufficient ("good enough").
- d. The solution of a wicked problem can only be good or bad. There is no right or wrong/correct or false, as there are no absolutes.
- e. There are not ultimate tests of a solution to a "wicked" problem. The implementation of the solution generates a series of consequences through time, which cannot all possibly be traced nor wait until these repercussions have ended, in order to be able to begin testing.
- f. Each solution to a "wicked" problem is a one-off operation. The reason being that there is no room for trial and error, nor any room for experimentation.
- g. There is no exhaustive list of solutions to a "wicked" problem; neither is there a definitely described set of permissible operations, which may be incorporated into the solution. One cannot be absolutely certain that all facets have been covered, thus solutions and actions must be based upon the decided priorities.
- h. Every "wicked" problem is unique.
- i. Every wicked problem can be considered as a symptom of another problem.
- j. There is more than one possible explanation to a wicked problem.
- k. The professional / problem solver carries the responsibility of his actions and has no right to be wrong. The aim and purpose is about the improvement of circumstances and living environments.

From the above it is apparent that the "wicked" problems which the urban designer has to deal with are characterised by complexity, ambiguity, uncertainty and intractability (Boden, 1991). In order to

arrive at an urban design approach that appropriately considers the nature of "wicked" problems in the South African urban context, the following section examines the "wickedness" of our local context.

7.2.2 The “Wicked” Problems of the South African Urban Context

The “wickedness” of the South African urban context was outlined in Chapter 3. The identified issues and problems are listed for the purposes of the methodology in establishing the urban design process. For greater detail refer to Chapter 3. The “wicked” problems identified with regard to urban design in the South African context are:

- urbanisation;
- the heritage of past political practices and urban management;
- a physically segregated urban environment, structured in terms of the “Apartheid City”, based on racial zoning and compartmentalised, singular land uses;
- great disparities in socio-economic facilities and service infrastructure, which applies to the majority of the population (under-provided and under-serviced), inherited from the previous political dispensation;
- unemployment; and
- poverty.

The proposed urban design process inherently requires that all these aspects be considered within the overall metropolitan context and its study-area context.

7.3 THE IMPLICATIONS OF “PUBLIC STRUCTURE” URBAN DESIGN ON PROCESS

The “wickedness” of the South Africa context holds a series of implications and directives to the practice of urban design, in terms of which the capital structure urban design approach was established, as outlined in Chapter 5. The latter are listed below and are based on the fundamental belief that the South African city - despite the inefficient, inferior and ailing structure it is - is our most important asset in taking the country through this developmental transition being caused by urbanisation (Wood, 1989).

The reasons for this belief are two-fold:

- cities have particular dynamics which make them life-sustaining places; and
- the view that cities are (timeless) organisms which are constantly evolving, responding to change and adapting to circumstances. (Wood, 1989).

7.3.1 The Capital Structure Urban Design Approach Principles

Based on the public structure urban design approach, the proposed urban design process requires that the following principles be integrated into the design of the urban environment. Each principle is listed for methodological purposes. For greater detail on each aspect refer to Chapter 6.

1. The Development of a Complex Urban Environment
 - 1.1 Multi-functional (multi-use and multi-purpose)
 - 1.2 Multi-actors and Multi-cultural
 - 1.3 Appropriate Minimum Intensity of Physical Development
 - 1.4 Activity Integration (overlapping and interrelated)
 - 1.5 Appropriate Population Threshold
 - 1.6 Consideration of City Dynamics
2. Meet People’s Urban Living Needs
 - 2.1 Survival Needs
 - 2.2 Shelter / Residential: Achieving adequate shelter for a variety of income levels
 - 2.3 Safety and Security (natural elements, human elements, artificially created elements)
 - 2.4 Human Development, Health and Welfare
 - 2.5 Socio-Cultural Facilities and Utility Service Infrastructure
 - 2.6 Economic vitality and activity
3. Facilitate Social Ordering

- 3.1 Enable the development of social ties and community groups

4. Place Making

- 4.1 The three dimensional design of the physical quality and space syntax of the public environment

5. Movement Activity and Space – viewed as an activity that occurs in space and not as specialised facility

- 5.1 Carrier
- 5.2 Shelter
- 5.3 City Builder
- 5.4 Communicator
- 5.5 Connector

6. Access

- 6.1 To all Urban Dwellers
- 6.2 To range of Resources
- 6.3 Facilities and Services
- 6.4 Transport Modes
- 6.5 Information
- 6.6 Diverse Environments
- 6.7 Autonomy

7. Natural Environment and Ecological Processes

- 7.1 Environmental balance and synergy

8. Urban Design is a Process

7.3.2 The Criteria applicable to the Urban Design Process

The criteria in terms of which the urban design process is to be evaluated are those encompassed in the previous chapter. In brief summary they comprise those aspects of good city form criteria – how the process enables these to be achieved:

- a. Human needs & vitality sustenance.
- b. Safety.
- c. Consonance.
- d. Sense.

- d. Sense.
- e. Fit.
- f. Justice.
- g. Access.
- h. Control.
- i. Efficiency.

In particular justice, access, control and efficiency are the dominant criteria applicable to the urban design process.

7.4 FOUR IMPERATIVES UNDERPIN THE PROPOSED URBAN DESIGN PROCESS

From the above there are four essential aspects that underpin the proposed urban design process.

7.4.1 A Learning Process implying a Cyclical Procedure

In the context of the principles of capital structure urban design, the urban design process should not focus on a singular and absolute solution. The urban design approach directs that the focus is on improvement, betterment and renewal, that changes the South African city form into a liveable urban environment through the resolution of the "wicked" problems. The best decision is made from various alternatives, which have been established during a particular period within available knowledge and existing understanding. This aspect of the design process is examined in greater detail.

Boden (1991), regarding the aspect of "urban design models", states that

"no alternatives (urban design models) have been specifically derived for developing countries, where urban design is almost unknown as a discipline".

But in the discussion of the models it is concluded that there is one basic element which characterises urban design procedural theory, the concept that design is a learning process. Bazjanak (1974), based on Rittel and Webber's "wicked" problems, arrived at the concept that design is a learning process. The learning process considers that the urban designer:

- accepts that the formulation of the problem is never final but changes over time;
- reflects what the designer knows at that particular point in time;
- assumes that one documents and communicates the interpretation of the problem and the concomitant solution;
- is continually learning more about the process;
- repeats the process, continually refining the solution until it is impractical to continue;
- understands the problem as being the same as the solution to it;
- requires the knowledge of three skills: a critical ability, insight and high level of consciousness; and
- agrees that his / her world view is not the only one, and that others (community, culture, values and norms) must be involved to enable contribution and debate, with particular reference to socio-cultural context.

The learning process is one

"... where the designer continuously extends his/her grasp of the problems, clarifying and narrowing the 'solution field' through repetitive interaction with the problem to be solved" (Boden 1991).

This process occurs in cycles, which Zeisel (1981) identified as imaging new designs or responses, presenting them via graphic, verbal and other communication means, and testing the proposals / ideas against criteria which may themselves be revised as the problem becomes better understood. The solution is for the designer to "get into the acceptable target zone" (refer Figure 7-1), which fuses the following facets into a harmonious solution:

- how the proposed solution works internally; and simultaneously
- how the proposed solution fits into the wider urban / physical context.

There are two implications of the learning process of urban design, combined with complex decision-making required with regard to the "wicked" problems in the South African context and the imperatives of the capital structure urban design approach. The first is a requirement for negotiation and mediation. The second in turn implies that potential repetition and review is required. Accordingly the urban design process should comprise a basic cyclical procedure.

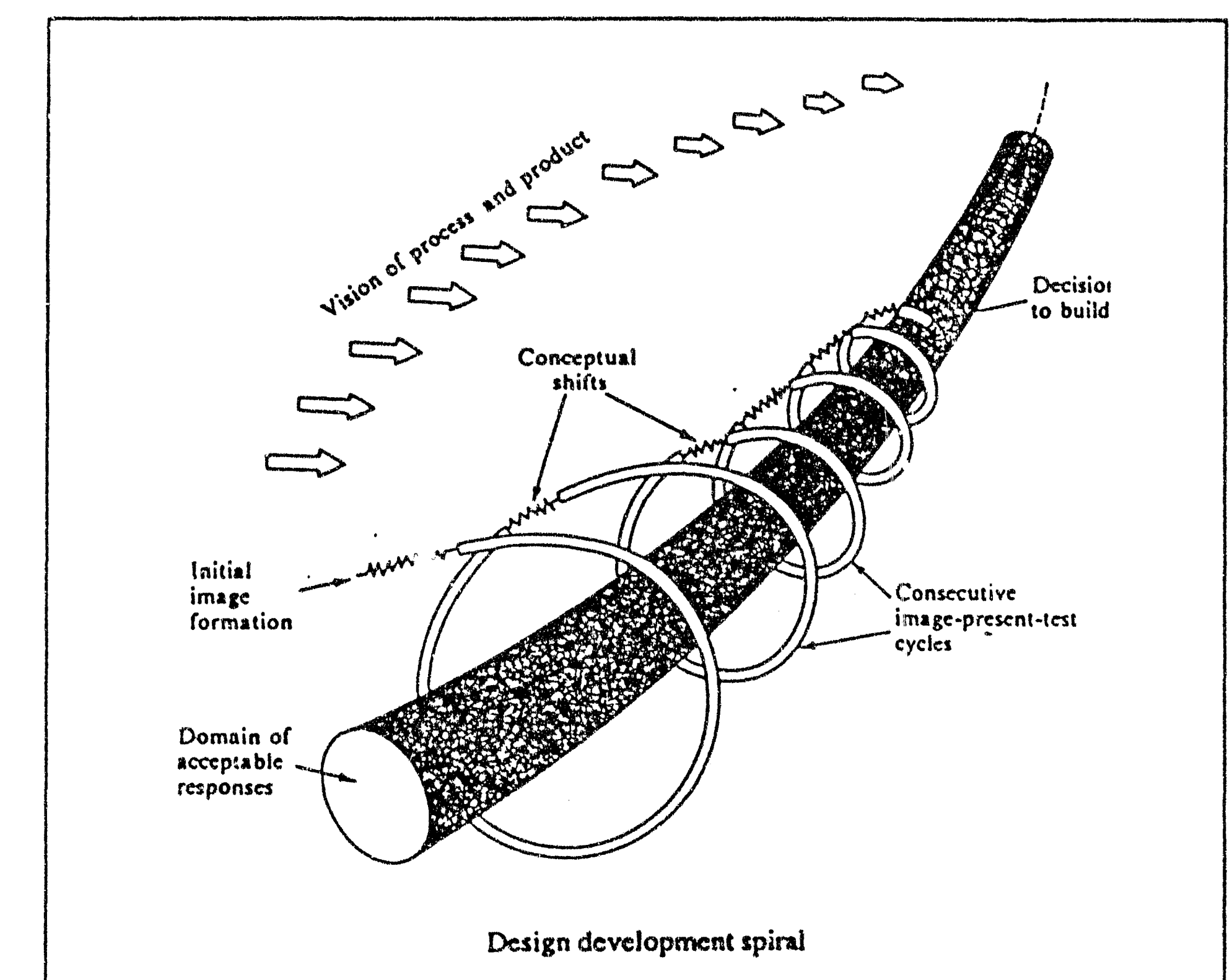


Figure 7-1: The cyclical process of urban design as proposed by Zeisel, Source: Zeisel, 1980:14

7.4.2 The Dynamic Nature of the City

Crane (1964), as discussed in Chapter 4, takes the concept of “The Dynamic City” as a starting point for procedure in urban design. In this particular instance the urban design process is within the context of local government. Crane argues that urban designers need to be aware of the fact that the city is dynamic, constantly making and remaking itself. He describes this in terms of three images:

- a. The city as a volume of motion - the “City on Wheels”. Designing the five faces of the modern city street: carrier, shelter, city-builder, connector and communicator, pose problematic issues and exciting opportunities with regard to the physical development and design of the urban environment. This dimension is further impacted by advanced communication and transportation technology.
- b. The city as a volume of time - the “City of Change and Permanence”. Urban growth and deterioration - change and permanence - are two phenomena, which are inherent in the living, cyclical organism, which the city is. Even new things must age, become obsolete through use, physically wear and tear, and finally give way to new development and growth.
- c. The city as a volume of building participants and processes - the “City of a Thousand Designers”. Crane emphasises the need to design for maximum creative participation of the public and private decision-makers. This will enable people and developers to pro-actively partake in the building and growth of built environments, according to their needs and in terms of the available resources.

Crane concludes that the capital design of the public environment, the streets, community facilities, public land and open spaces, provide an enormous opportunity and obligation on the urban designer, to facilitate and improve the quality of life of city dwellers.

The concepts that Crane advocates are critical to the design of the South African city, and are inherent to the capital structure approach, which is directed by Crane’s approach. Through capital designing, Crane provides a means by which place making and the development of liveable and good physical urban environments can be facilitated

and achieved. These aspects are accordingly incorporated into the proposed urban design process.

7.4.3 An Alternative Approach is required regarding past Political Planning & Management Practices

The previous centralised, authoritarian and hierarchical urban management approaches with regard to the built environment are entirely inappropriate within the new democratic context. This includes the technocratic functional and rationalist methods which were used to achieve the apartheid goals. In contrast, and correctly so, the recently elected democratic government emphasises an approach to urban management and development that is comprehensive and inclusive of community and stakeholder participation.

It is considered that within the context of:

- people’s negative impressions and experiences of urban management practices to date;
- the current lack and inaccuracy of data and information (even dis-information and distortion), and
- the current problems within the urban / city environments (i.e. provision of service / community infrastructure, housing etc.), which have reached crisis proportions in some areas;

that “a middle of the road” procedural process be adopted, which strives toward comprehensiveness.

This ensures that the resolution of the current urban issues and problems do not result in “number” solutions, which will ultimately exacerbate the problems, and encompasses those aspects which will achieve the development of liveable, diverse and multifunctional urban environment. The process is pragmatic in the sense that it considers the current limitations to inaccuracies in and lack of information, and the important need to include communities and stakeholders.

The aspects utilised in the procedural model are derived from Wolfe and Shinn’s (1970) investigation with regard to “*Urban Design within the Comprehensive Planning Process*”. For the reasons outlined before, it is considered that the latter holds important insights and

practical issues for the development of an appropriate urban design process.

Wolfe and Shinn (1970), in their analysis of the chronology of planning approaches, identified the following common methodological threads:

- Strategies - seeking out the potential actions and reactions within a decision-making framework.
- Simulation - posing alternative programmes and alternative physical patterns, which reflect identified goals and priorities.
- Experimentation (theoretical) - conjecture is used to establish a series of “what if” scenario’s of end results, decisions and objectives, which are expressed in explanatory alternatives.

In addition, new emphasis in planning approaches comprise community involvement / participation, including more accurately cultural aspects and value systems, improved means and ends in the portraying and achievement of a plans, and development of greater sensitivity to causes and effects.

Wolfe and Shinn (1970) conclude that

“... any plan or design is then a momentary stop in the never-ending process of planning for the purposes of making city development decisions”,
while these are in the process of development as well as at the end.

Wolfe and Shinn (1970) postulate the following basic design steps of the design process, which they modified from J. Alger and C. Hays, “*Creative Synthesis in Design*” :

- a. Recognition Stage - The need for planning and designs activity is recognized at this stage. The specific problem areas and their contextual elements are identified, and assumptions about the future, available resources, etc. are made.
- b. Specification Stage - Alternative ends are identified, and specified ends chosen. These are then specified in terms of goals, objectives, performance criteria, and standards.
- c. Proposal Stage - Means that attain the specified ends are identified. These are often expressed in terms of policies, programs, design concepts, physical plans etc., depending on the scope of a particular problem.

- d. Evaluation Stage - The relative merits of alternatives are evaluated against the specified criteria.
- e. Decision Stage - A particular alternative is chosen, or a synthesis of different alternatives is made.
- f. Effectuation Stage - Once a decision on a particular solution is made, it is developed and refined, and means of effectuation and phasing are formulated. These are expressed in terms of broad strategies and policies, regulatory measures, capital programs, and other implementation means.

Shinn Procedural Model, incorporating an emphasis on dialogue and the identification of, and use of, expressive cues.

7.5 THE PROPOSED URBAN DESIGN PROCESS

The procedural matters and proposals discussed in the above three sub-sections are drawn together and formed into the proposed urban design process. The procedural model is represented in the form of a flow diagram, depicted in Figure 7-3, over the page.

The proposed procedure not only ensures that the imperatives of the South African context are taken holistically into consideration, as well as make certain that the critical issues are not omitted, but also enables the urban designer to resolve these in a methodological and consequent manner. A process in which not only the community is involved, but where also fellow professionals from the built environment disciplines contribute at various stages. It enables the design and development of a liveable, diverse and multifunctional urban environment.

As urban design considers matters of space organisation, physical form and activity patterns, these aspects are implicated by the land-use plans, planning for public facilities and service infrastructure, transportation planning, physical design implications of planning initiatives (advertent or inadvertent), and proposed implementation plans.

Within the context of their analysis Wolfe and Shinn (1970) propose that an urban design approach should encompass the following:

- a. Initial conceptual schematics, representing ideas / development stages, based on information gathered in the survey and analysis stages.
- b. Selecting an evaluative method which considers alternative schemes, particularly in terms of cost - benefit.
- c. Refinement of the alternatives (including synthesizing), to the detail up to implementation.
- d. Consideration of various scales; city-wide, sectoral, local level, project level etc..
- e. Involvement of and active participation by the community and / or clients (however defined: official and technical groups, community groups, non-government groups, business organisations, etc.).

7.4.4 Encompassing Socio-cultural Aspects

Boden (1991) devised an urban design process with particular reference to the South African multi-cultural context. The urban design procedure developed by Boden (1991) is based on Rapoport's (1982) non-verbal communications theory. The procedure is indicated in Figure 7-2, encompassing a revision of the Wolfe and

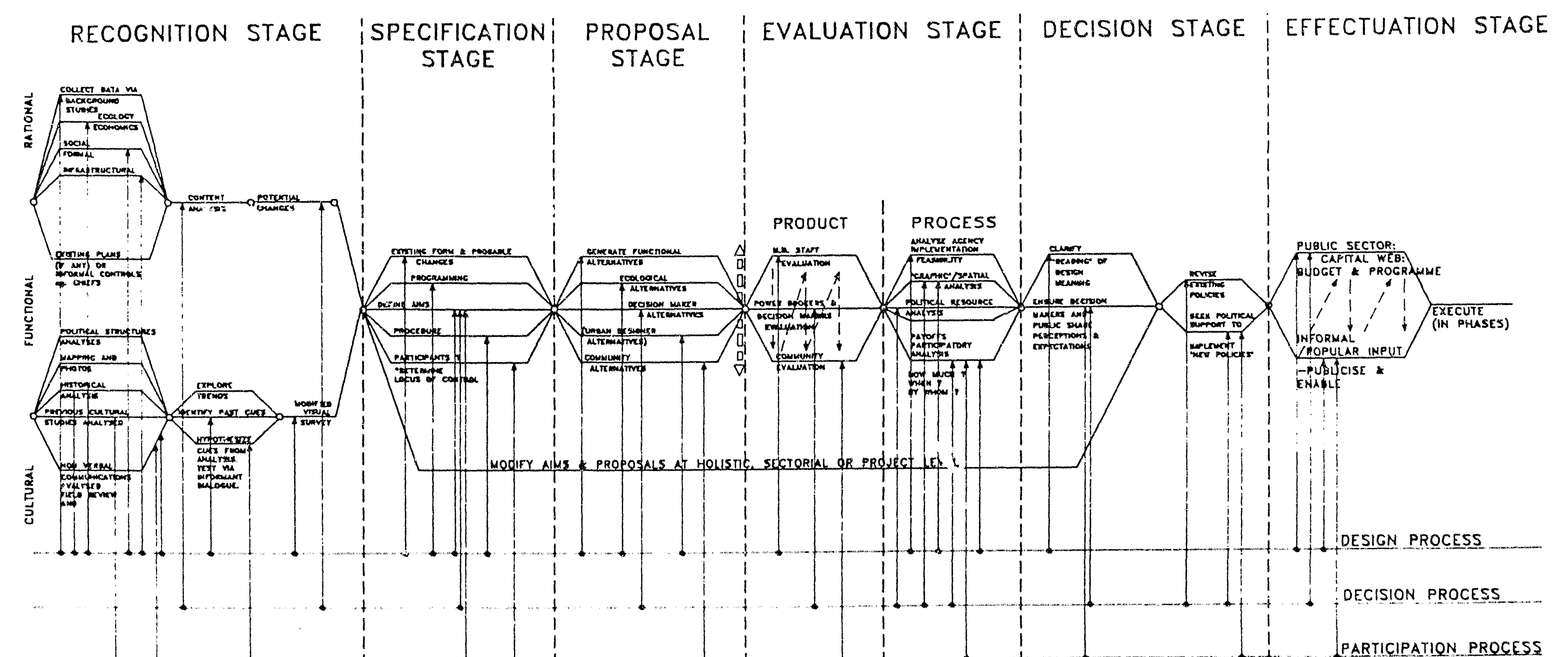


Figure 7-2: Revision to the Wolfe and Shinn Procedural Model as proposed by Boden 1993:22

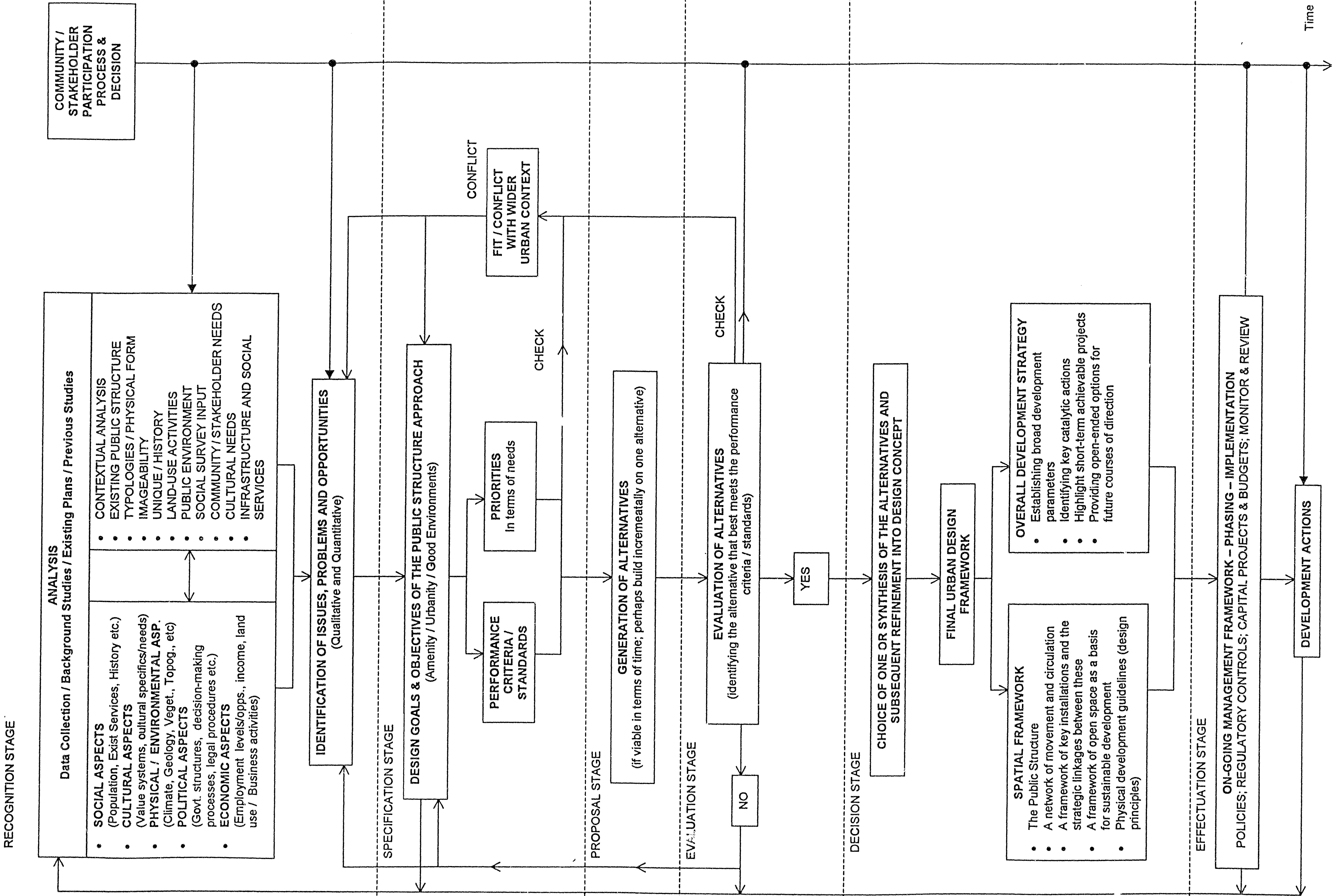


Figure 7-2: The Public Urban Design Process

CHAPTER 8**APPLICATION OF THE PUBLIC STRUCTURE URBAN DESIGN APPROACH****8.1 INTRODUCTION: THE ELLIS PARK URBAN DESIGN FRAMEWORK**

The "Public Structure Urban Design Approach" and the related process are applied in a case study scenario in order to "test" the established public structure urban design approach. There are two fundamental aspects to the "test", first with regard to public structure urban design approach's relevance and applicability, and vice versa, the implications of the case study on the approach. The outcomes of the "test" are discussed in greater detail in the following chapter on conclusions and recommendations.

The area of focus for the case study is the Ellis Park sport precinct within the eastern Part of the Johannesburg Inner City area (refer Figure 8-2 over the page). The aim is, in terms of the application of the public structure urban design approach, to establish an urban design framework, which directs the re-development of the Ellis Park precinct into a liveable inner city area enabled by a multi-functional public environment.

The procedure of the case study is directed in terms of the six steps of the urban design process. This encompasses:

- a. Recognition Stage
 - Analysis
 - Problems, Constraints and Opportunities
- b. Specification Stage
 - Design Goals and Objectives
 - Performance Criteria
 - Priorities
- c. Proposal Stage
 - Generation of Alternatives

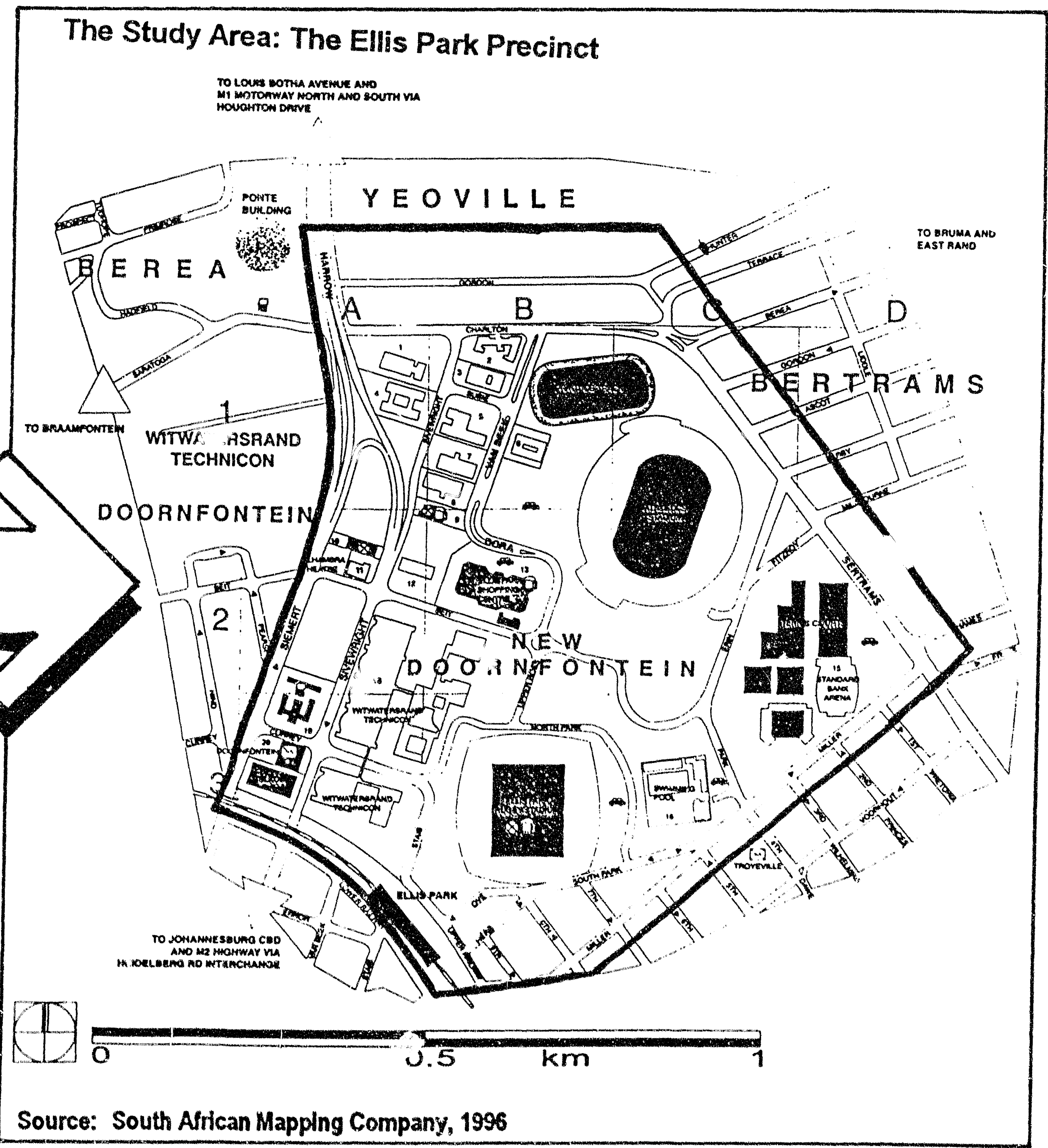
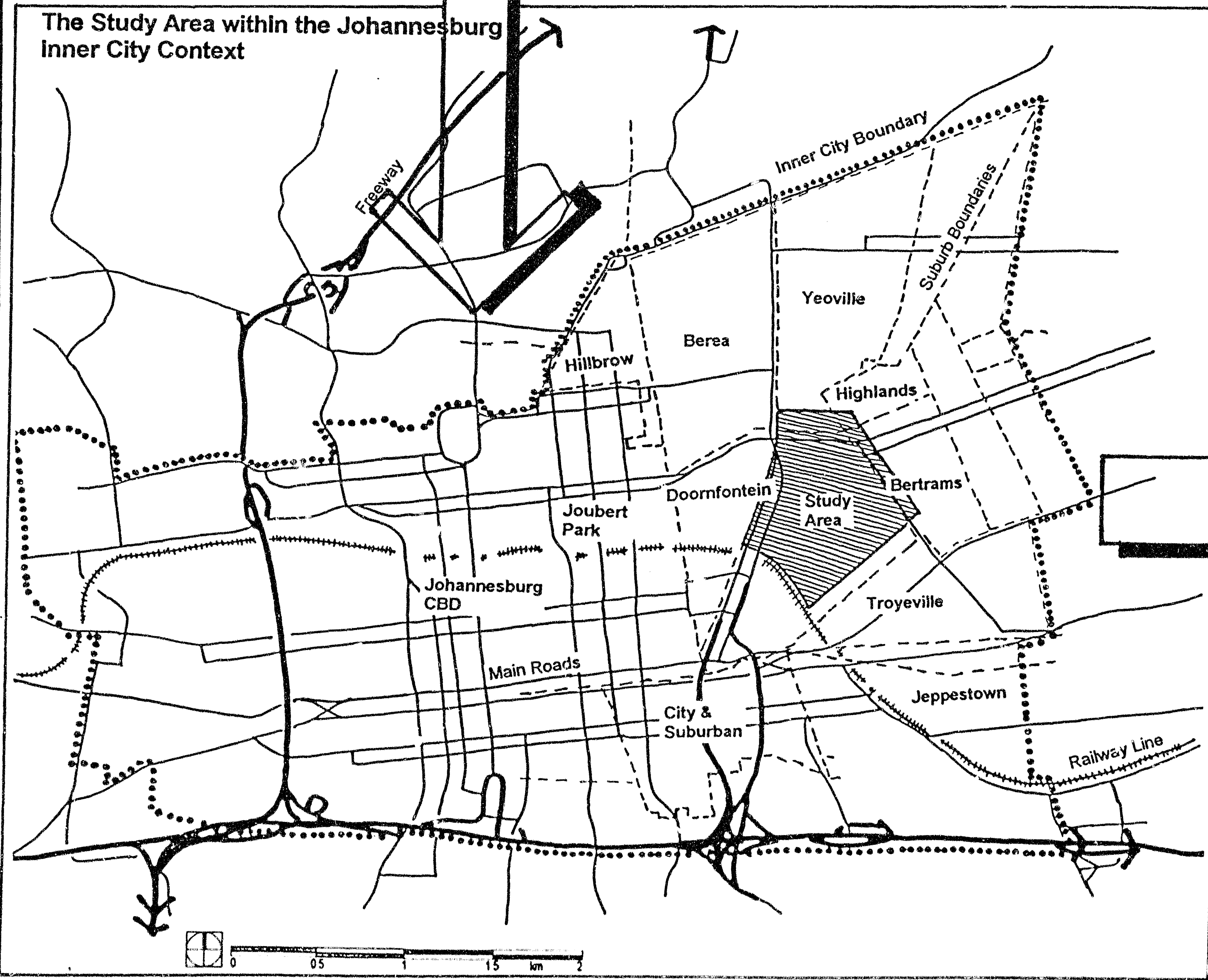
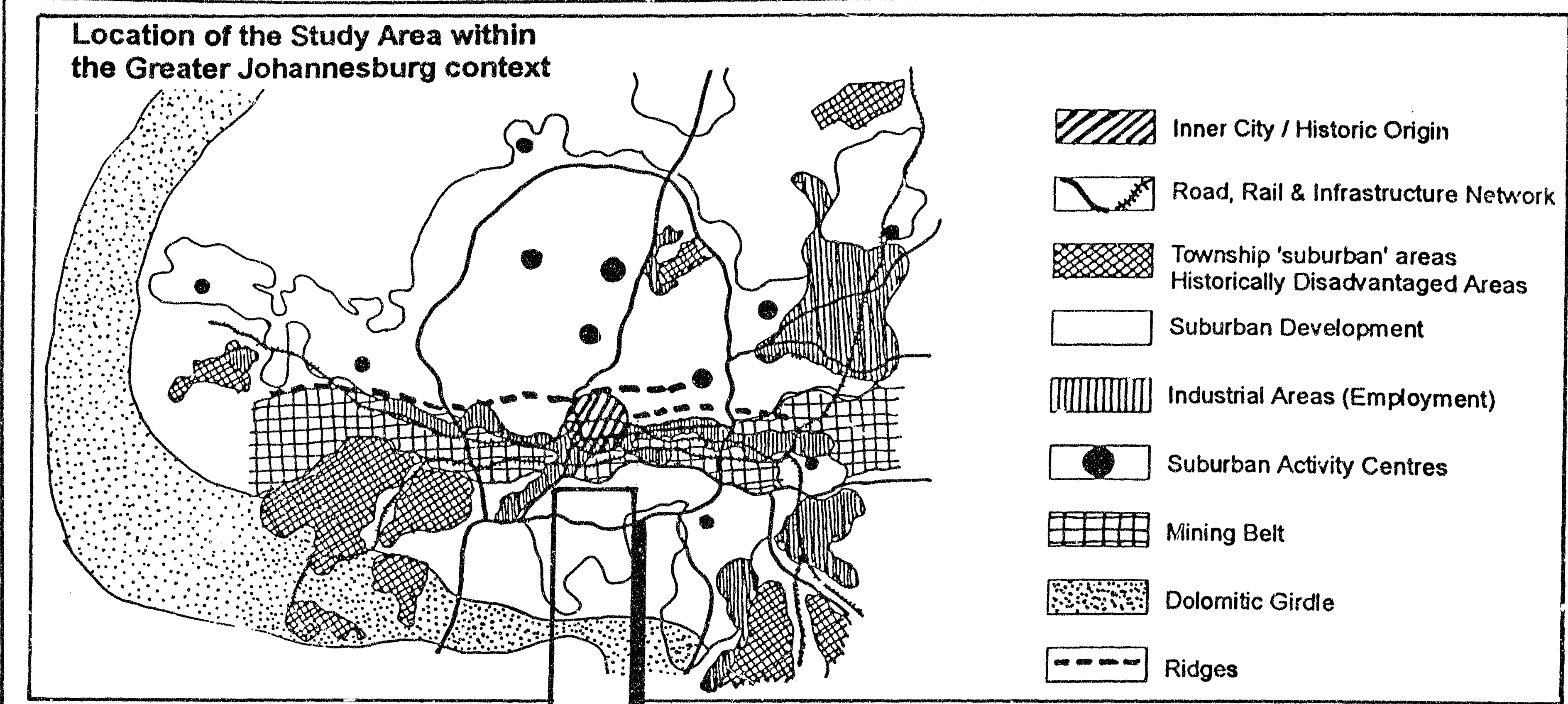
- d. Evaluation Stage
 - Evaluation of Alternatives
- e. Decision Stage
 - Preferred Alternative Chosen (or combination thereof)
 - Establishment of Design Concept
 - Urban Design Framework
 - Spatial Framework
 - Development Strategy
- f. Effectuation Stage
 - Management and Implementation Framework
 - Development Actions
 - Monitor and Review

The public structure urban design process incorporates a community stakeholder participation process. Due to time constraints regarding this type of study, there was no direct participation in the case study process. However, significant discussions and brainstorming sessions were held with the Inner City Office, which highlighted and ensured that community issues and stakeholder concerns were taken into consideration. Furthermore, the study by Zack et al. (1995) provided sufficient information on stakeholder and community needs, which are relevant in the Ellis Park context. Lastly, the non-verbal communications approach, as developed by Boden (1991), would also be undertaken in order to assess and incorporate the cultural aspects inherent in the approach. For purposes of this study, the analysis was predominantly undertaken from existing data, information and reports, as reflected in the bibliography. Site visits were also undertaken.



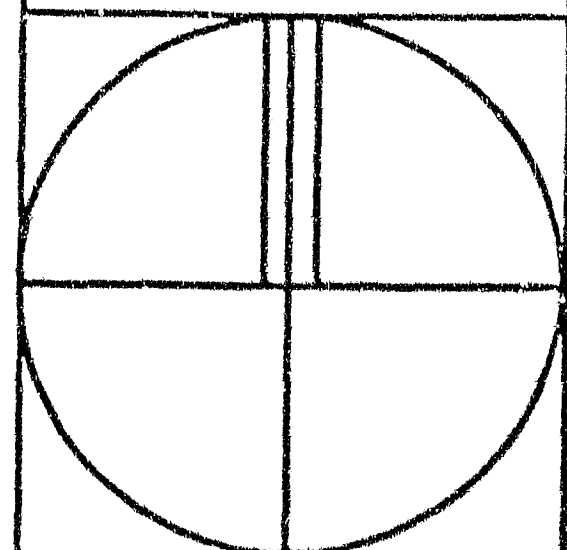
Figure 8-1: Aerial View of the Ellis Park Precinct from the North East,

Source: South African Mapping Company, 1996

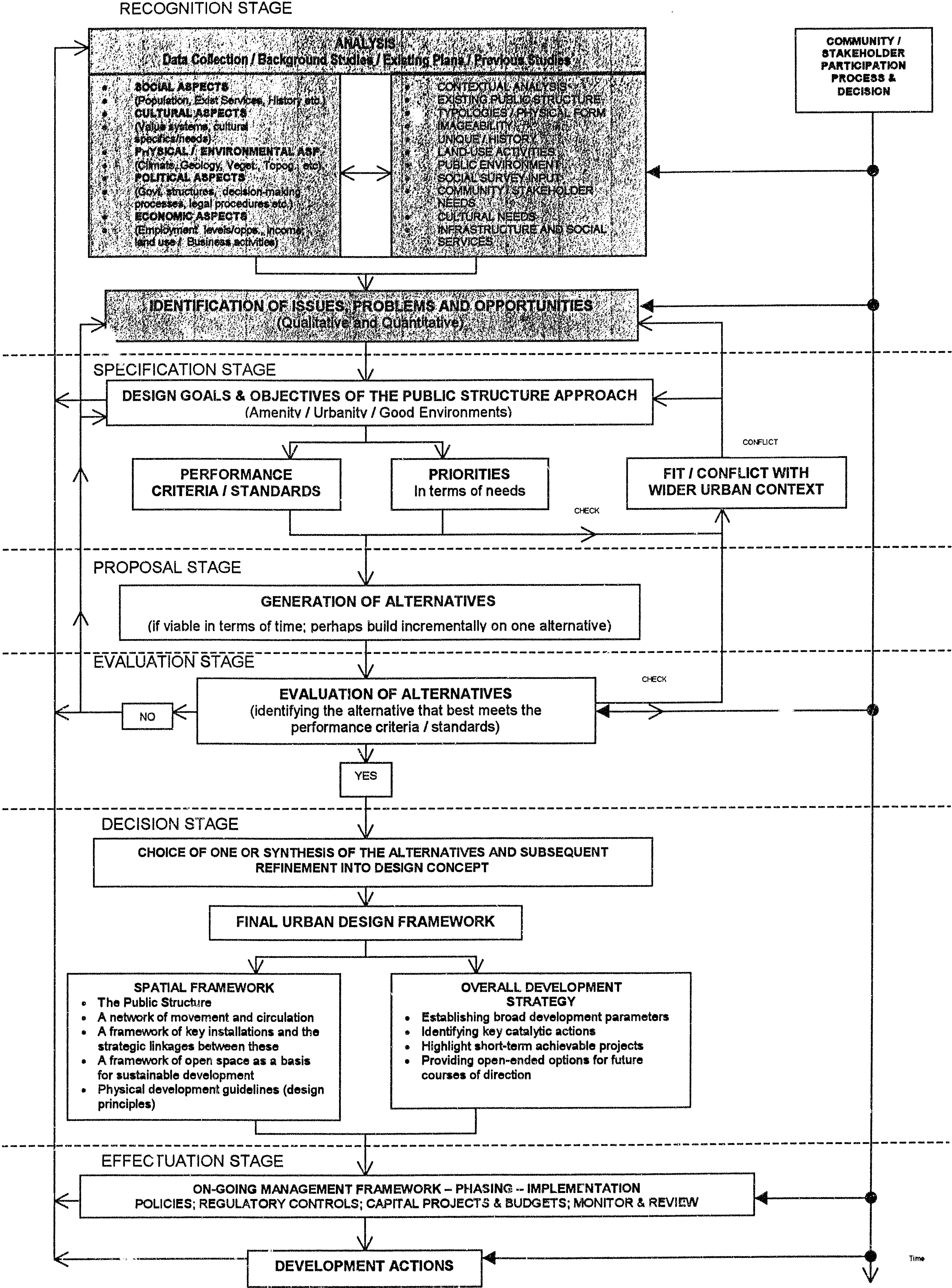


Location of the Study Area

PLACEMENT OF THE ELLIS PARK PRECINCT IN GREATER JOHANNESBURG
ELLIS PARK URBAN DESIGN FRAMEWORK



8.2 RECOGNITION STAGE



METROPOLITAN CONTEXT OF THE INNER CITY

It was noted that the Inner City forms the "book-end" of a number of development corridors, which all converge upon the Inner City. These comprise:

- The East-Rand Corridor up to Germiston (and beyond) that forms the Primary Industrial Hub
- The Airport Corridor (office & commercial, but predominantly industrial and warehousing)
- The Sandton – Midrand – Centurion – Pretoria Corridor (the primary growth corridor in the country: office, retail, service industries, financial, high tech industrial, light industrial and warehousing)
- The West Rand Corridor to Roodepoort
- The South-West corridor to Soweto
- The South-East Corridor to Alberton
- And the emerging Corridor to Randburg

This clearly reinforces the Inner City's strategic position within the spatial metropolitan context.

The growth trends of the formal economic industrial and commercial market are characterised by:

- The consolidation of the Inner City – Sandton – Midrand Corridor
- The consolidation of the Airport Corridor
- Urban expansion into the North-West Sector
- Consolidation of Industrial Development around Alberton and Germiston, as well as the Airport, Meadowdale, Aeroport and Jet Park.

Out of the existing corridors and associated growth trends emerges a triangular spatial pattern of a consolidating economic hub (of the formal economic market), which is anchored by a number of economic nodes that are linked via development corridors. The nodes comprise:

- Midrand CBD
- Sandton CBD (the new financial and corporate centre of Johannesburg)
- The Johannesburg Inner City, in particular the Central Core
- The Johannesburg International Airport
- The Industrial Belt along the M2 East, incorporating the Alberton and Germiston nodes.

Clearly thus the Johannesburg Inner City is positioned in a pivotal location with regard to the consolidating formal economic hub. In this spatial context the Johannesburg Inner City needs to perform a number of roles:

- Continue with and improve public transportation (combi taxi, bus and rail) into the formal economy, affording marginalised communities efficient and affordable public transportation. The Inner City must continue to support and develop its function as a Public Transport Hub.
- Capitalise on the industrial development and consolidation (particularly regarding the Kazerne City Deep Dry Port Industrial Development Zone Initiative) through new / additional road linkages and new development initiatives.
- Capitalise on the development of the Sandton CBD node by establishing initiatives that are complementary to developments within Sandton, thus establishing a synergistic relationship to Sandton (as opposed to seeing it as a competitor).
- Build on the corridor link with the Airport, to foster tourism and transportation linkages that yield economic and employment spin-offs.
- Reinforce and build the link to the south-west with Soweto, in order to enable integration and minimize the emerging south-north rift between the geography of poverty and areas of wealth / economic prosperity.

In the wider metropolitan spatial context, the Inner City has to play an integrative and facilitative role. This positions the Inner City in a manner that focuses on the opportunities emerging from shifting markets and changing economies. Simultaneously, the Inner City must build on its established functions and facilities: (i) a major economic generator, providing a significant rates income to the GJMC; (ii) an employment and service centre to its own residential population, as well as the primary centre for people living in southern Johannesburg; (iii) maximising the utilisation of its physical service infrastructure; (iv) maximising its civic administrative functions as the capital of Gauteng; and (v) building on the remaining office infrastructure, comprising the head offices of major corporations, the mining houses, banks and assurance companies.

Greater Johannesburg Metropolitan Spatial Framework directives for the Inner City

As the need to improve the commercial core of the inner city was seen as paramount to halting further economic decline, areas within the inner city are included rather than the inner city with its residential areas.

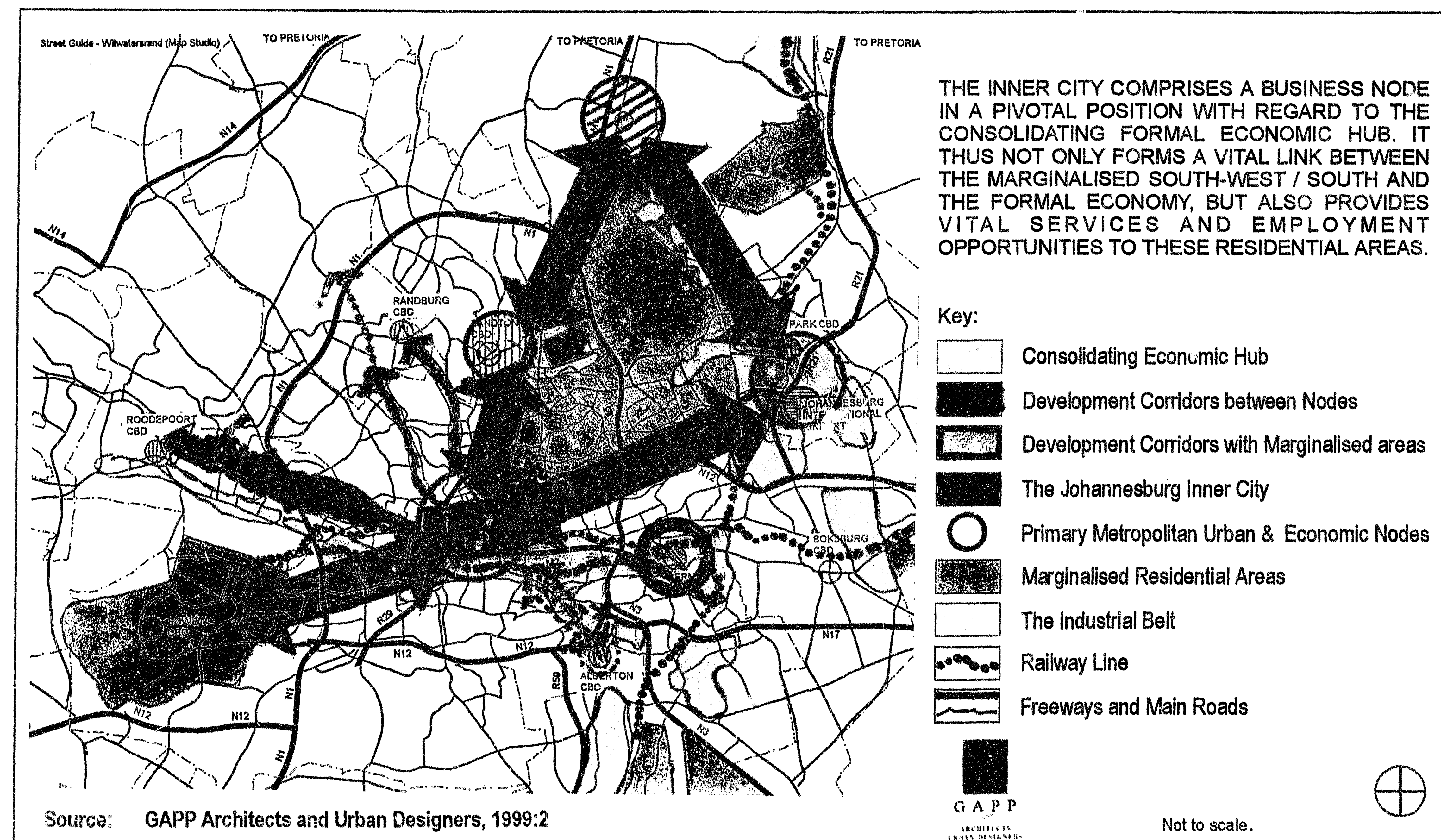
1. Spatial and economic frameworks

- Development of a spatial and economic framework for the area:
Review, research, participation and consultation, preparation of frameworks, investment and action plans. (In house with consultancy support)
- Precinct / sector development: Development of frameworks, investment and action plans for Newtown and Western Sector, South East Sector and Western Joubert Park.

Source:
GAPP
Architects
and
Urban
Designers,
1999

2. Infrastructure / Service management
 - Restructuring of waste management (Immediate improvement of service and restructuring of function through concession).
 - Direct Billing
 - Upgrading of public facilities: Improvement in ablution facilities, upgrading of parks, upgrading of pavements, streets.
3. Informal Trade
 - Informal trade management systems: Enforcement (centralisation), street trading management (centralisation), market development (establishment of arms length company)
4. Enforcement
 - By law enforcement: land use, building control, environmental health and planning by laws (centralisation), as well as traffic by laws
 - Crime Prevention: "Safer Cities" and policing (co-ordination)
5. Housing
 - Social Housing (Policy development through Centralisation and Project implementation through Facilitation)
 - Redevelopment of 'bad buildings' (Policy development through Centralisation and Project implementation through Facilitation).
 - Middle- to upper-income housing (Project development / implementation through Facilitation).
6. City Transportation
 - Multi-modal interchanges through.
 - Taxi management and rank development through.
 - Public transport development / implementation.

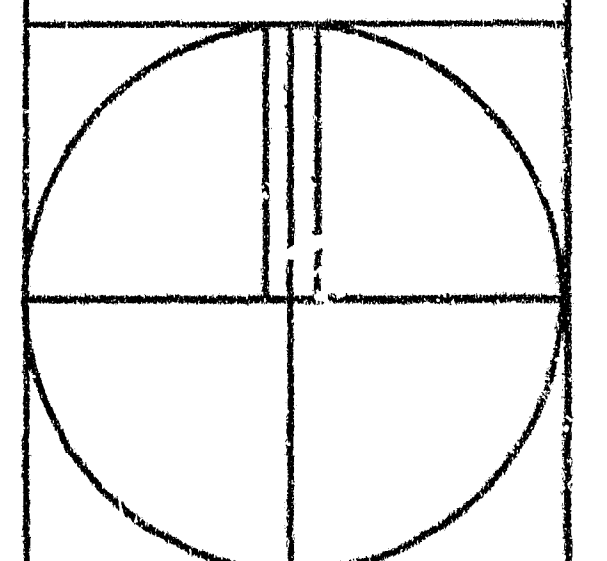
Source:
Greater
Johannesburg
Metropolitan
Council,
1998



Recognition Stage - Analysis

METROPOLITAN DEVELOPMENT CONTEXT

ELLIS PARK URBAN DESIGN FRAMEWORK



INNER CITY ECONOMIC SWOT ANALYSIS

Strengths (existing)

Corporate headquarters
Provincial capital
Transport hub & infrastructure
Communications infrastructure
Retail centre
Education centre
Incubator for SMMEs
Migrant shoppers
New city management
Section 59 Committee & inner city vision & emerging partnership
Development NGOs & other services providers tend to locate in the inner city
Office infrastructure

Opportunities (current & future)

Commuter traffic
Cultural tourism
Tourism generally - develop symbiotic relationship with Sandton tourists
Creative industries
Newtown Development Authority
Residential, especially middle-income
Madiba bridge
Constitution Hill
Managed retail & entertainment
Restructuring of city government
Conversion of old office stock
Redeveloping historic architectural landmarks e.g. Rand Club
Informal trading that leads to organised markets & creation of bazaar environment

Weaknesses (presently undermines economy)

Difficulty in explaining change, establishing credibility & conveying a positive vision
Crime
Xenophobia & racism
Historically poor service delivery & public sector decision making
Informal trading that crowds the streets & creates a mess
Media reporting & public perceptions
Loss of client base
Lack of access to institutional finance & home loans
Lack of convention centre
Lack marketing
Lack managed public open space
Inadequate public amenities
Urban sprawl & decentralisation

Threats (may undermine inner city economy)

Xenophobia
Competing views regarding implications of inner city change & appropriate policy responses
Destructive competition among local governments for rateable investment
Second restructuring of retail

Source: Tomlinson, R. and Rogerson, C., 1998:66

Johannesburg Inner City Development Strategy:
Development Objectives

The Proposed Vision

The Golden Heartbeat of Africa
A dynamic city that works

Liveable, safe, well managed and welcoming
People centred, accessible and celebrity cultural diversity
A vibrant 24 hour city
A city for residents, workers, tourists, entrepreneurs and learners
Focused on the 21st century, respecting its heritage and capitalising on its position in South Africa, Africa and the whole world, a truly global city.
The trading hub of Africa thriving through participation, partnerships and the spirit of ubuntu.

Goal

To achieve a comparative advantage for all stakeholders and role players through the creation of wealth for all to share in.

Objectives

1. To make the Johannesburg Inner City a destination city
2. To make the Johannesburg Inner City a desirable residential environment
3. To make the Johannesburg Inner City an education centre
4. To provide a desirable quality of life
5. To make the Johannesburg Inner City an economic hub
6. To promote the centrality of the Johannesburg Inner City to the metropolitan area.

Strategies / programmes

To make the Johannesburg Inner City a destination city

1. Develop the potential of the Johannesburg Inner City as a destination city for tourists
2. Develop the facilities and support services for conferences and similar gatherings
3. Promote, develop and support the cultural life of the Johannesburg Inner City, including through the development of facilities for sports, arts, culture and entertainment
4. Develop facilities and support programmes that promote the inner city as a destination city for acceptable national and international trading
5. Develop public transport within and to and from the inner city

To make the Johannesburg Inner City a desirable residential environment

1. Develop and implement programmes and incentives that develop the institutional capacity necessary for the provision of decent and affordable housing through upgrading and new construction
2. Develop and implement programmes and incentives which promote the provision of middle to upper income residential stock
3. Develop and implement mechanisms that control and promote the maintenance and proper management of residential stock

To make the Johannesburg Inner City an education centre

1. Develop and implement programmes that promote the Johannesburg Inner City as a high quality, internationally recognised post-graduate learning centre
2. Develop, implement and monitor programmes to improve existing education facilities and services
3. Develop and implement programmes that promote the provision of adult education at primary and secondary levels

To provide a desirable quality of life

1. Ensure proper provision of public services
2. Develop and implement programmes to provide a safe, secure, clean and beautiful public environment
3. Develop and implement a programme for the provision of electronic and other information to visitors, residents and businesses
4. Develop new and improve existing social facilities and public spaces
5. Develop and implement programmes that promote citizenship
6. Ensure discipline and the observance of laws, rights and obligations through education and enforcement
7. Develop and implement programmes which protect and promote the upgrading of important buildings

To make the Johannesburg Inner City an economic hub

1. Develop and implement an hierarchy of market places for the accommodation, support and management of the informal trading sector
2. Develop the Johannesburg Inner City as an important shopping precinct for Africa
3. Develop and implement a programme for the development, support and promotion of the tertiary sector
4. Develop and implement a poverty alleviation and a sustainable job creation programme
5. Develop and implement a programme for the development of, and investment in, the business of SMMEs
6. Develop and implement skills training and re-training programmes
7. Develop an investor friendly and enabling environment
8. Develop and implement a programme for the development, support and promotion of the manufacturing sector

To promote the centrality of the Johannesburg Inner City to the metropolitan area

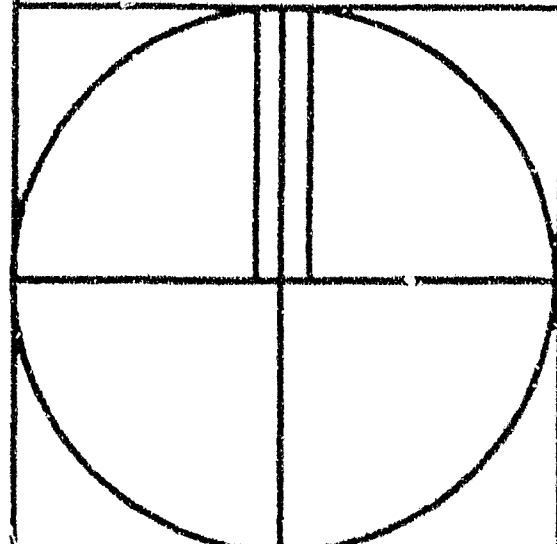
1. Improve accessibility to and from the Johannesburg Inner City as the core employment centre of the metropolitan area
2. Increase the capacity and quality of inter modal transfer facilities in the Johannesburg Inner City
3. Provide a safe and reliable transport facility between the Johannesburg Inner City and the Johannesburg International Airport.

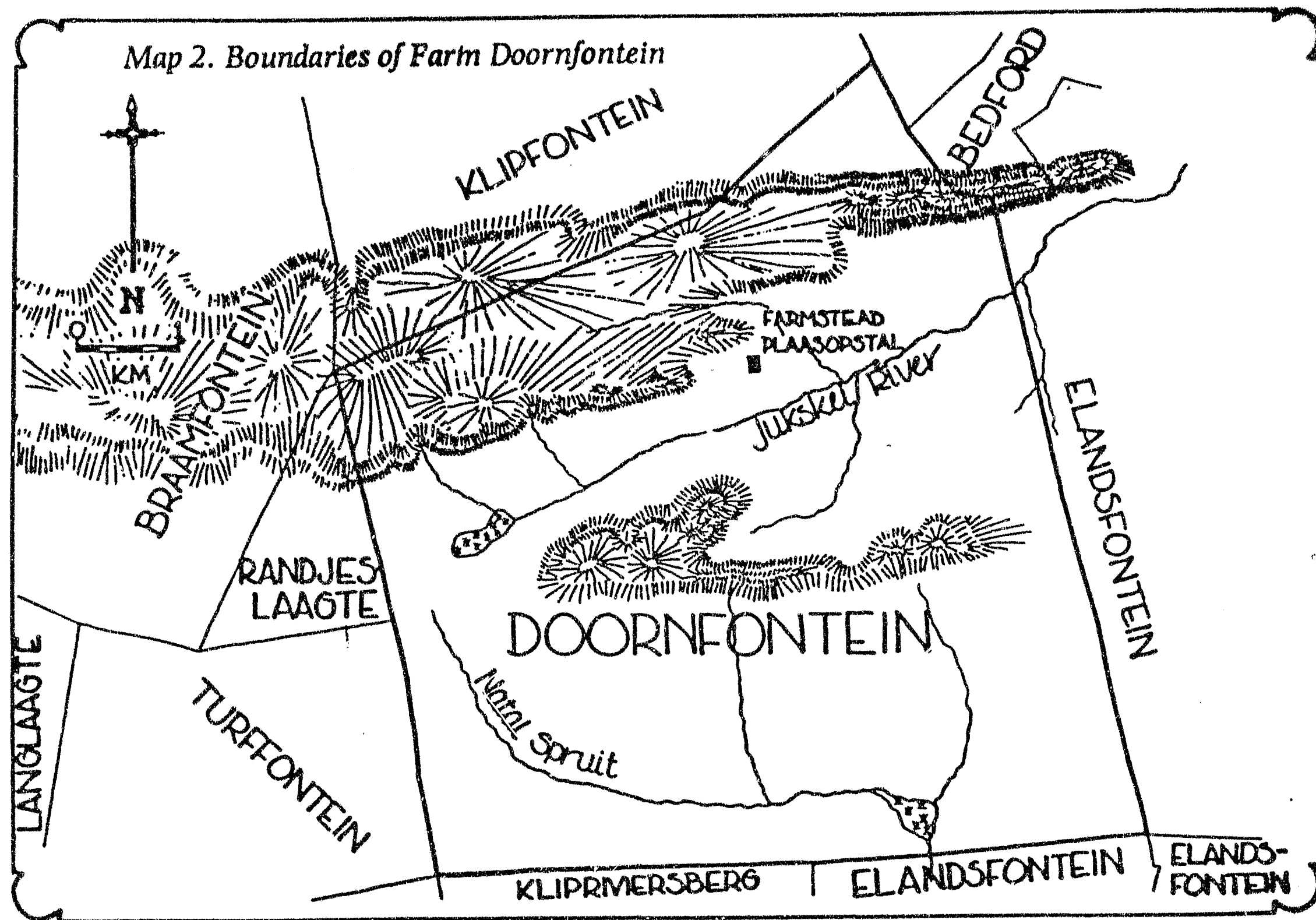
Source: Inner City Office of Johannesburg, 1999:1-5

Recognition Stage - Analysis

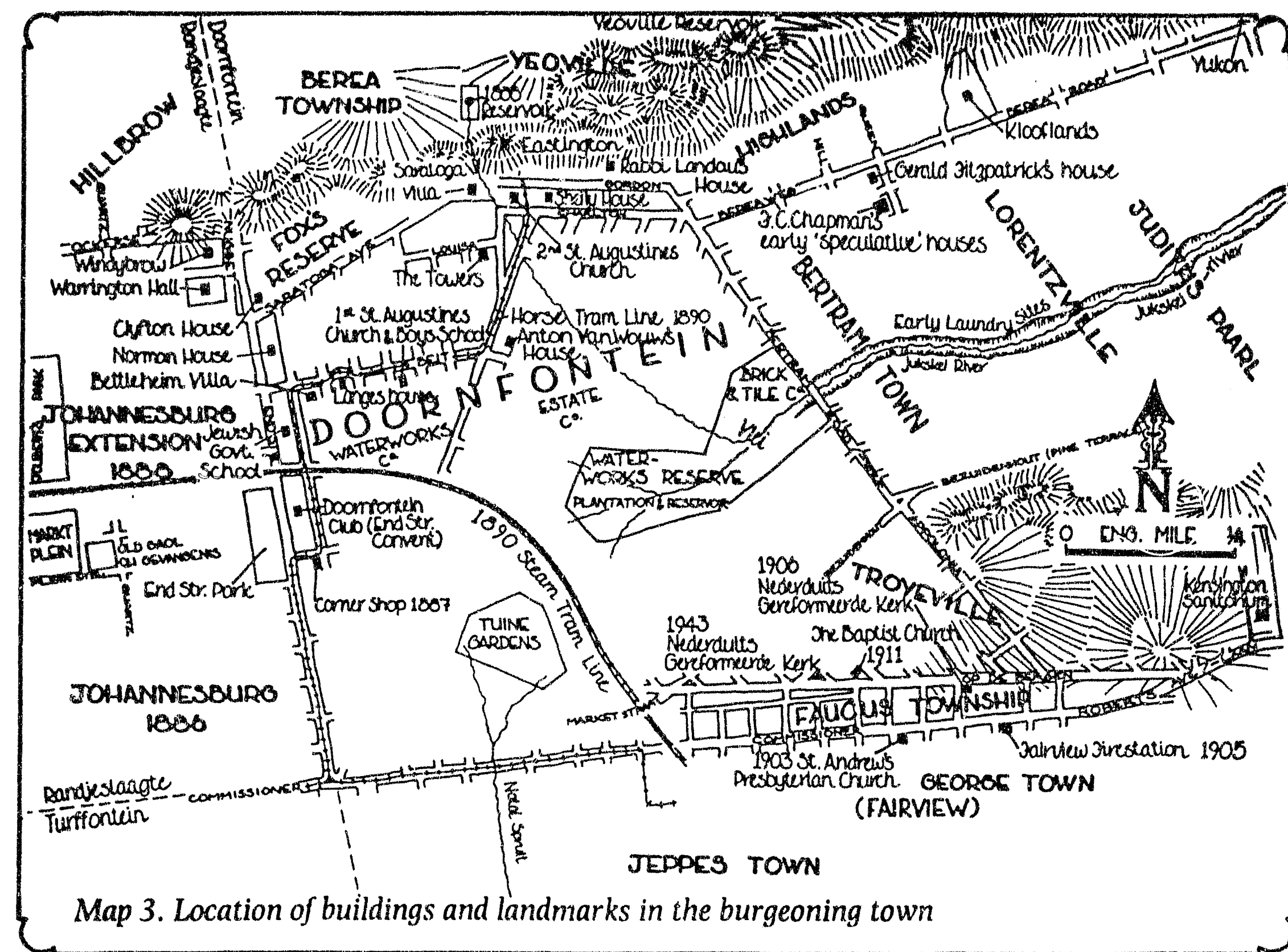
INNER CITY DEVELOPMENT CONTEXT

ELLIS PARK URBAN DESIGN FRAMEWORK





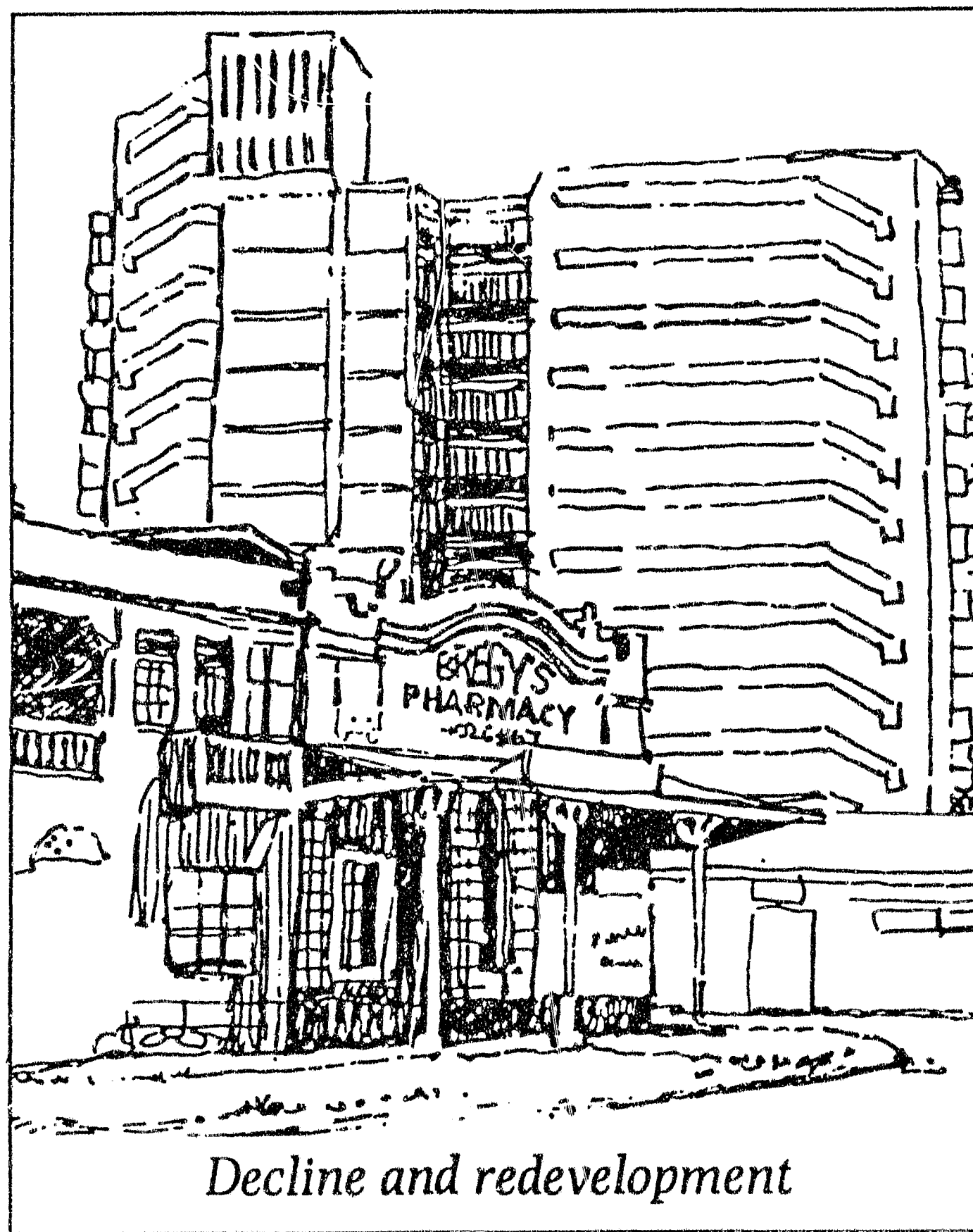
(1) 1850 – Farm Doornfontein (Source of the Jukeskei)



(2) 1898 – High Income Residential Suburb with Waterworks and Quarry (for making bricks and tiles)



(3) Doornfontein was the social focus of the mining town by the turn of the century, providing the impetus for the consolidation and subsequent growth of the eastern suburbs.

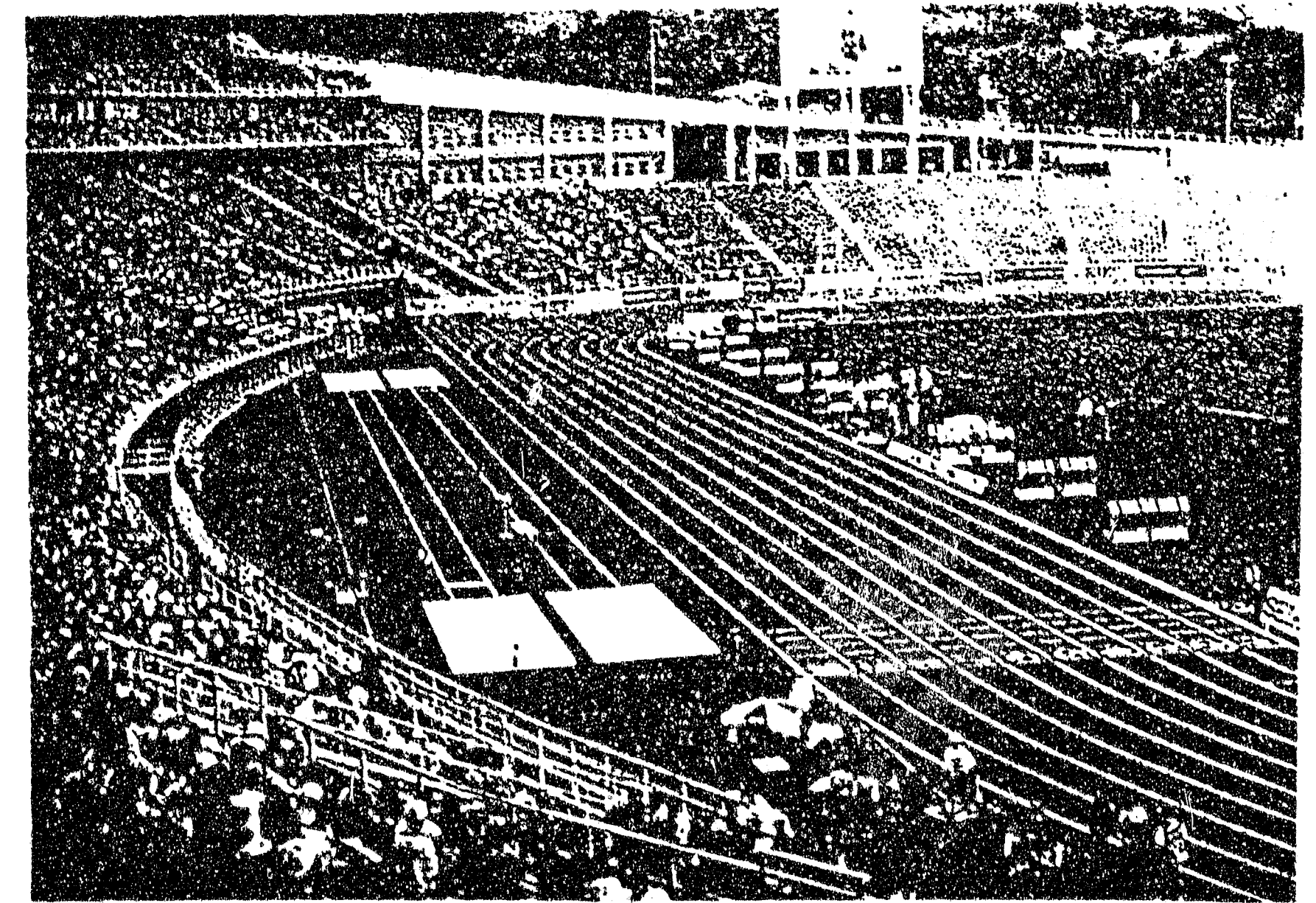


(4) By the first world war, Doornfontein was being abandoned by the Randlords for more scenic suburbs north over the ridge (e.g. Parktown). Jewish immigrants took up this opportunity and established themselves in Doornfontein, forming a strong community. This lasted until the second world war, when the Jewish started moving to higher quality suburbs after the second world war, resulting in another cycle of decline in Doornfontein.



(5) 1960's to 1980's – Decline and Redevelopment

- New Flats and Offices (1968 to 1973)
- Ellis Park Rugby Stadium (1973 to 1976)
- Ellis Park Swimming Pool (early 1970's)
- Witwatersrand Technikon (1980's onwards)

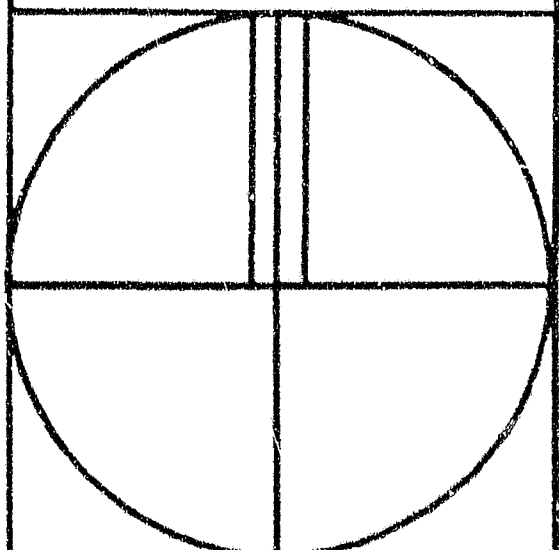


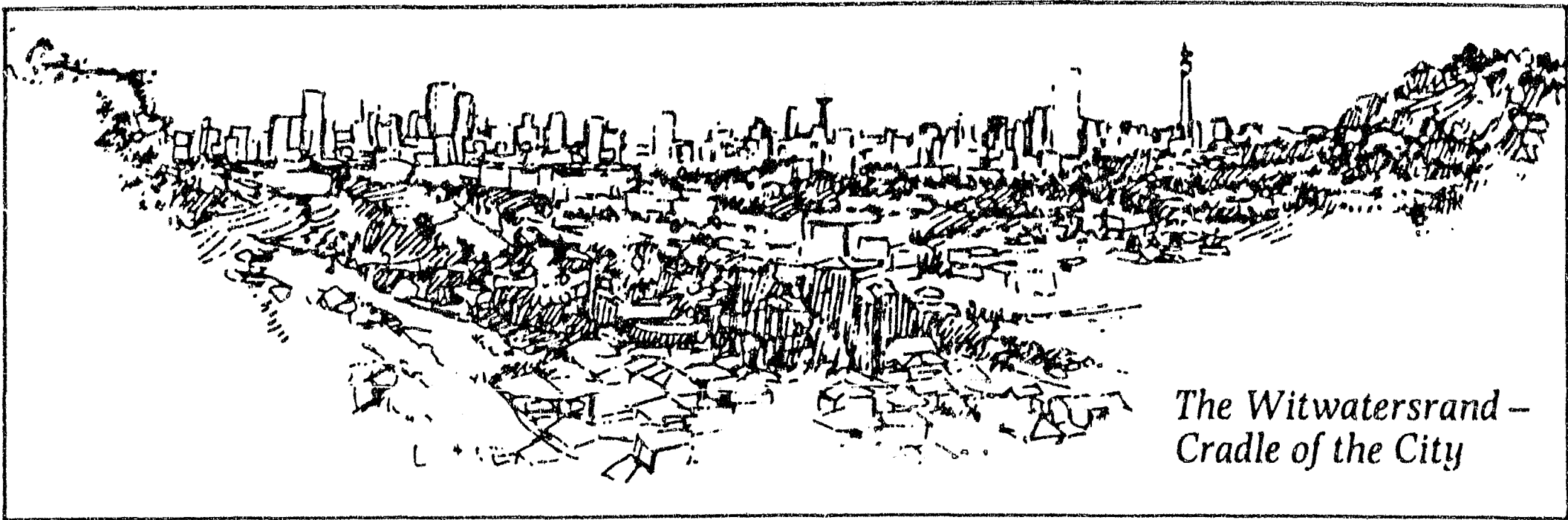
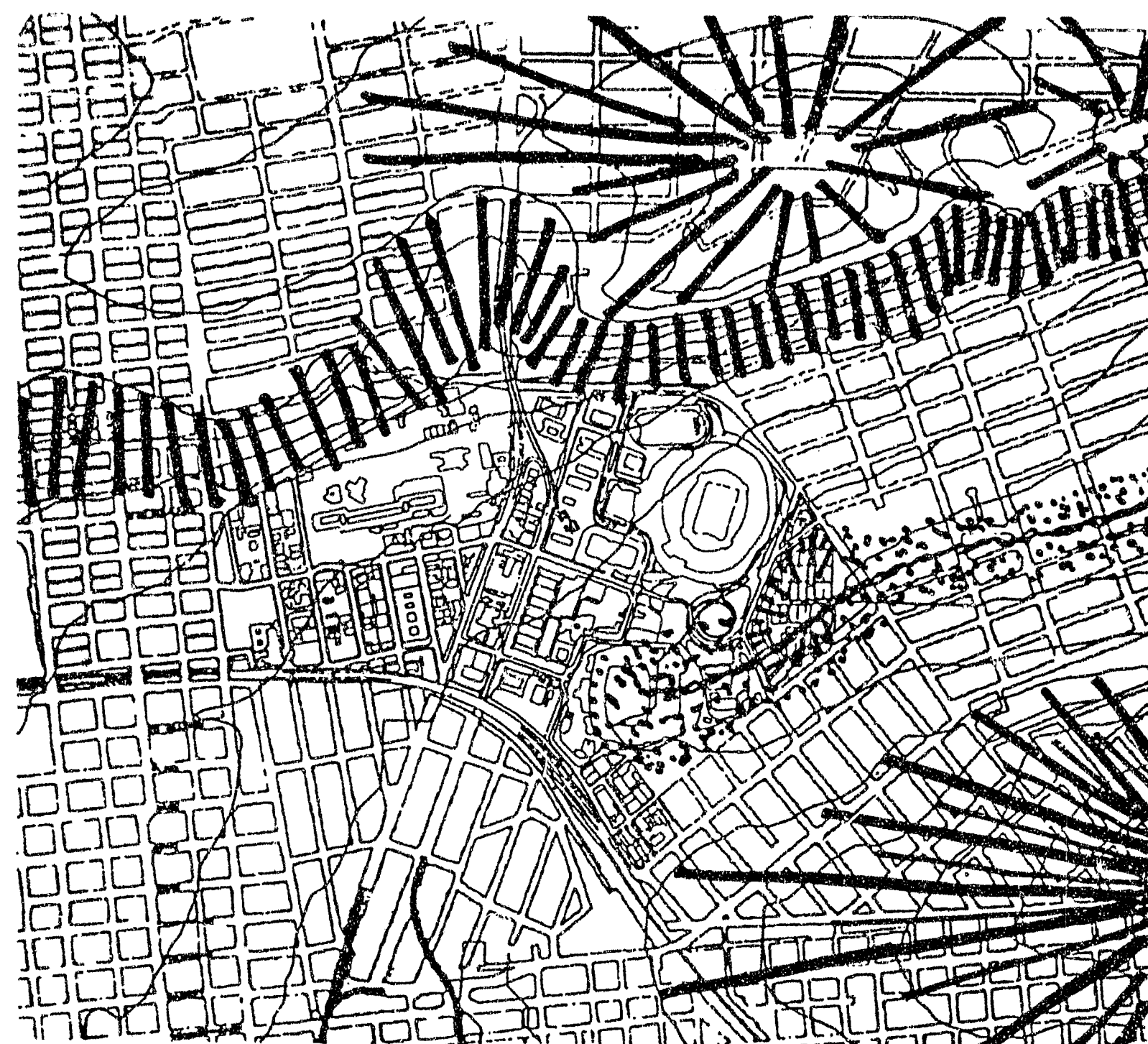
(6) 1990's Development into multi-sports precinct, including development of the athletics stadium and upgrading of the swimming pool.

Recognition Stage - Analysis

OVERVIEW OF HISTORIC DEVELOPMENT

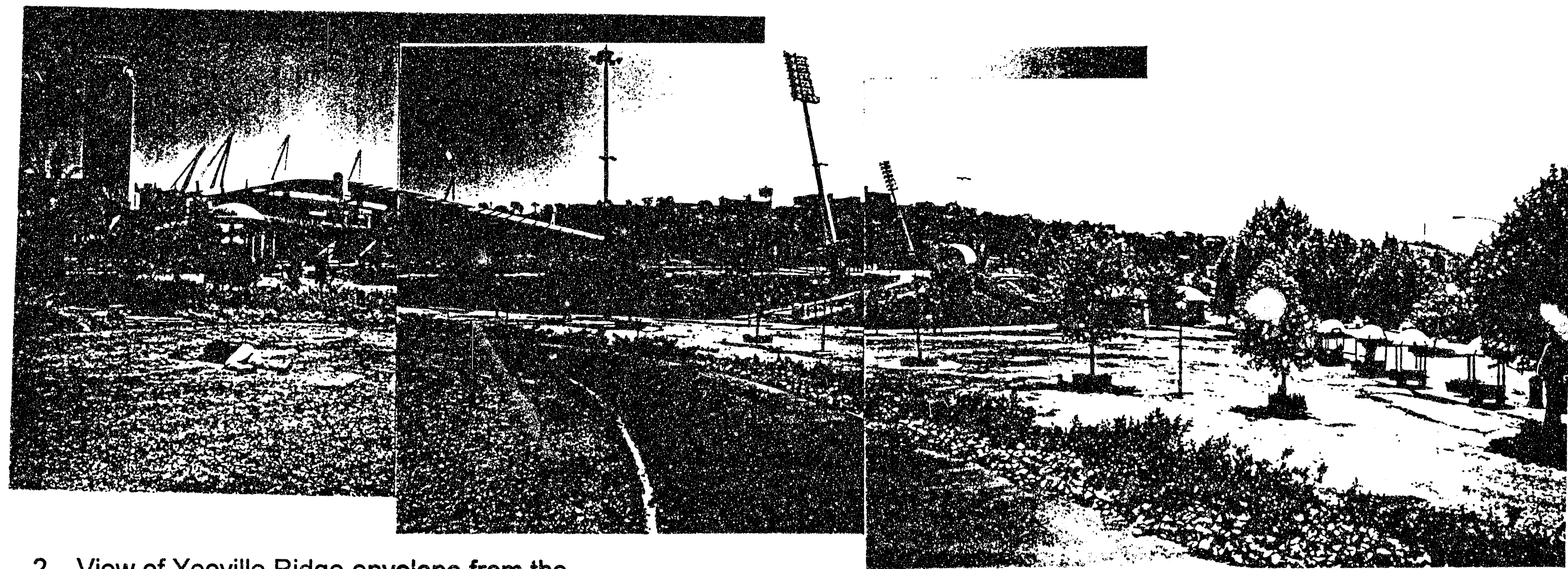
ELLIS PARK URBAN DESIGN FRAMEWORK



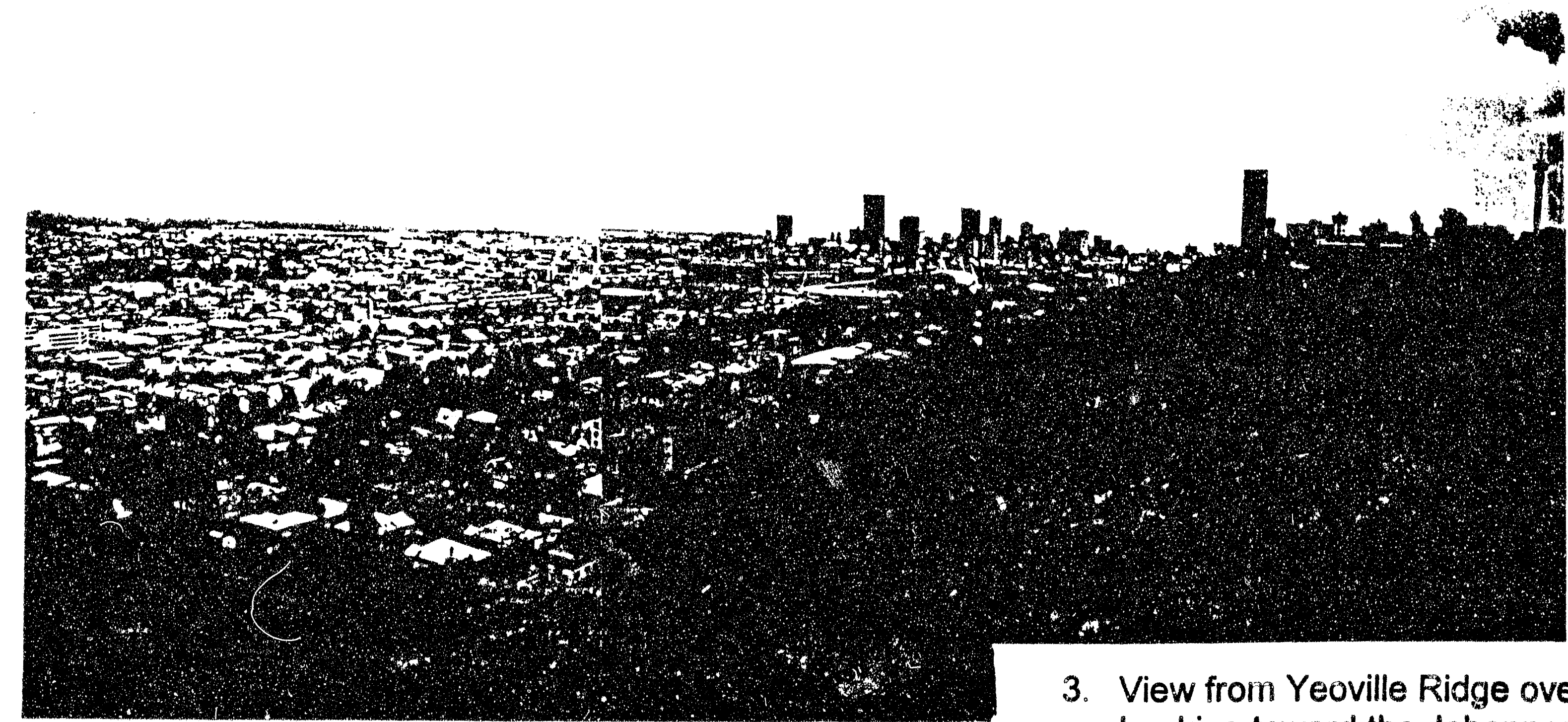


4. Precinct situated in the Witwatersrand Cradle

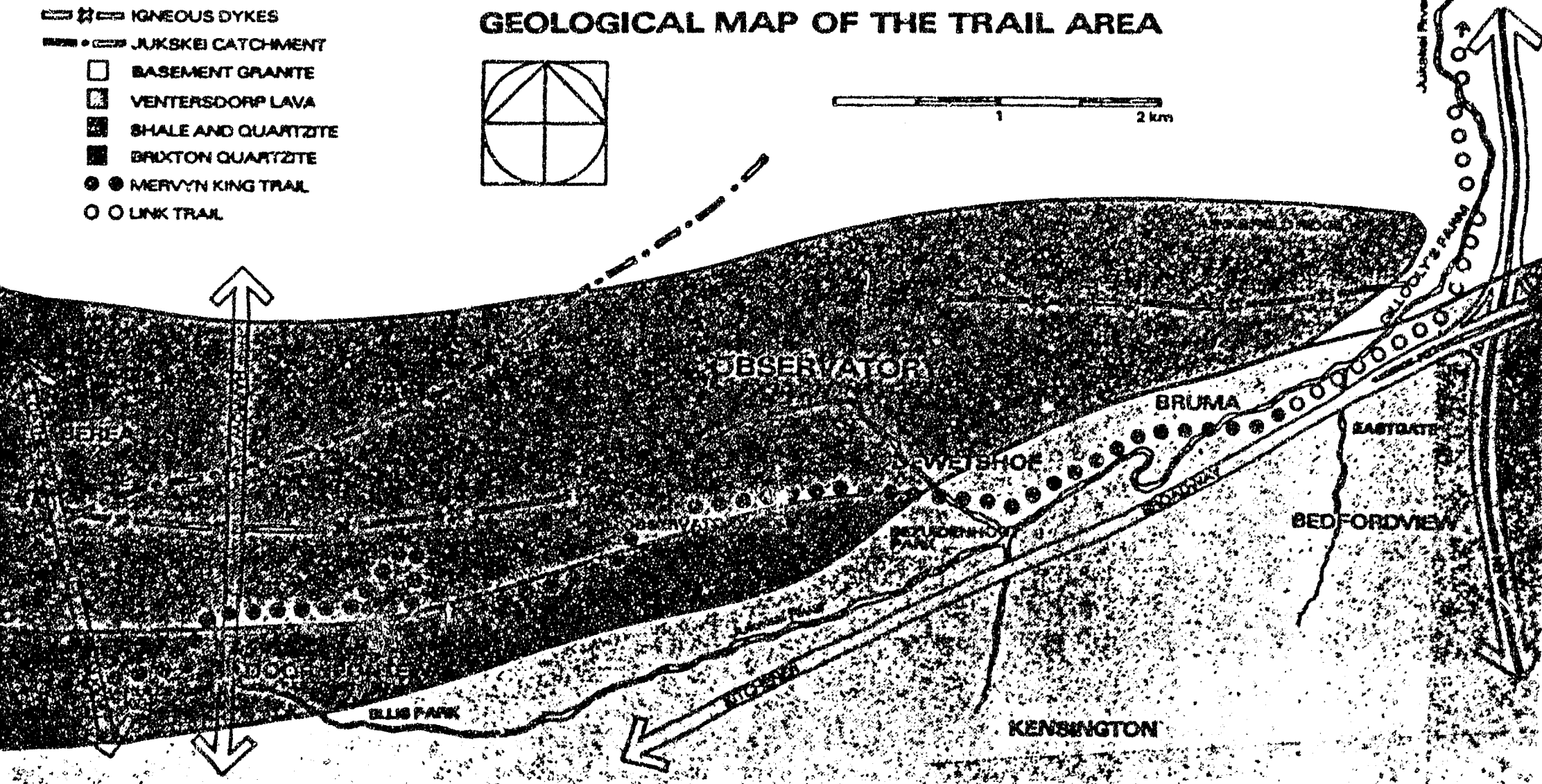
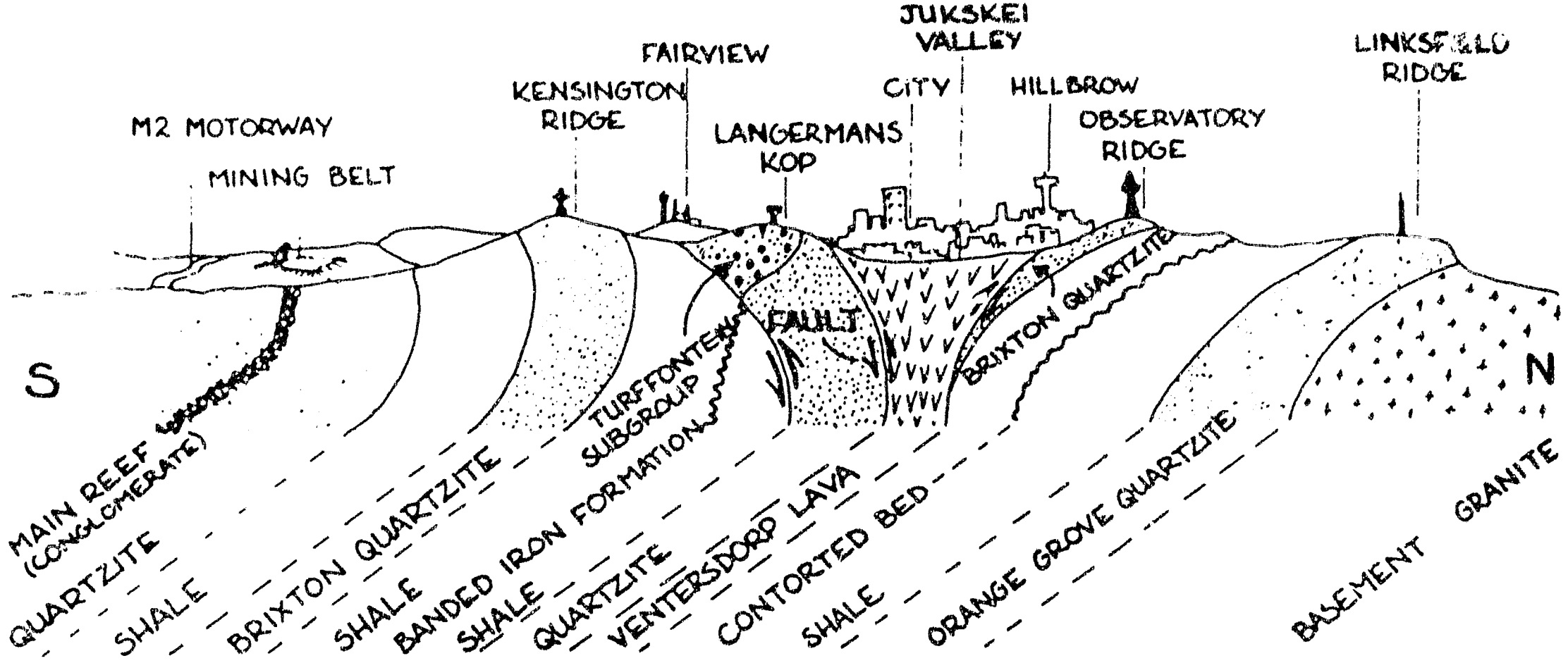
1. Framed to the north and south by Yeoville and Kensington ridges respectively, in the cradle of The valley, at the source of the Jukskei River



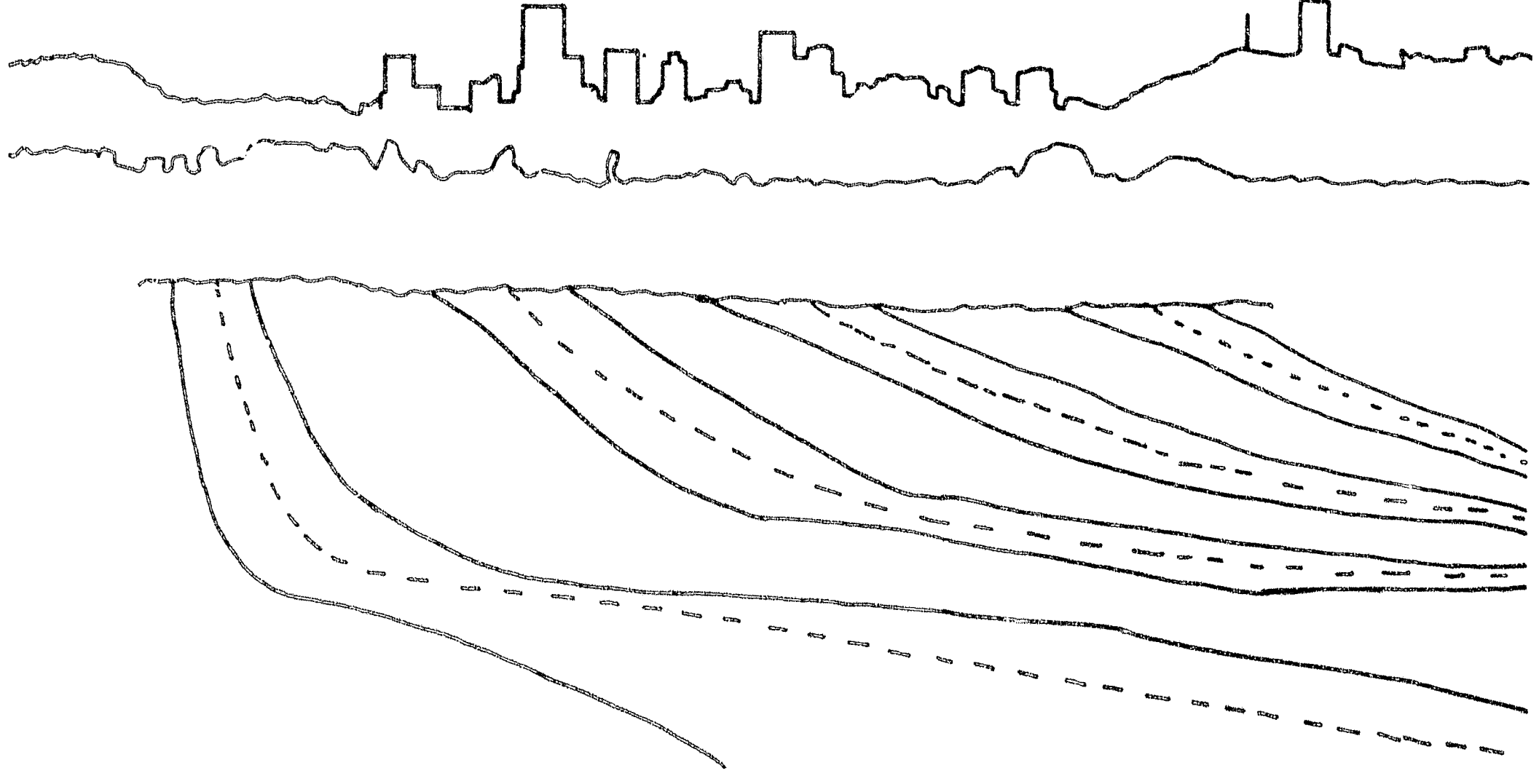
2. View of Yeoville Ridge envelope from the Precinct interior



3. View from Yeoville Ridge over the precinct Looking toward the Johannesburg CBD

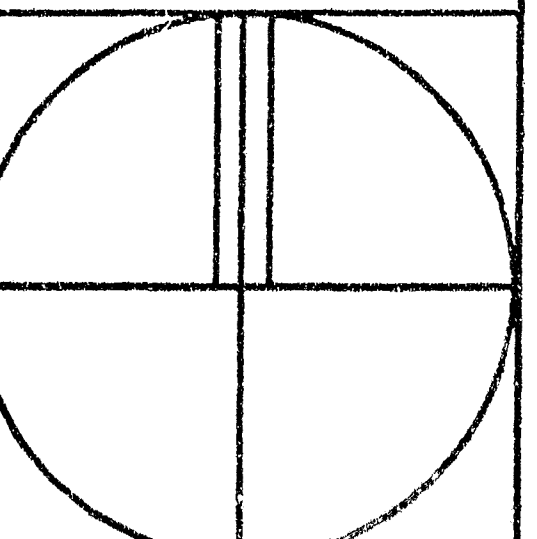


5. The Geology



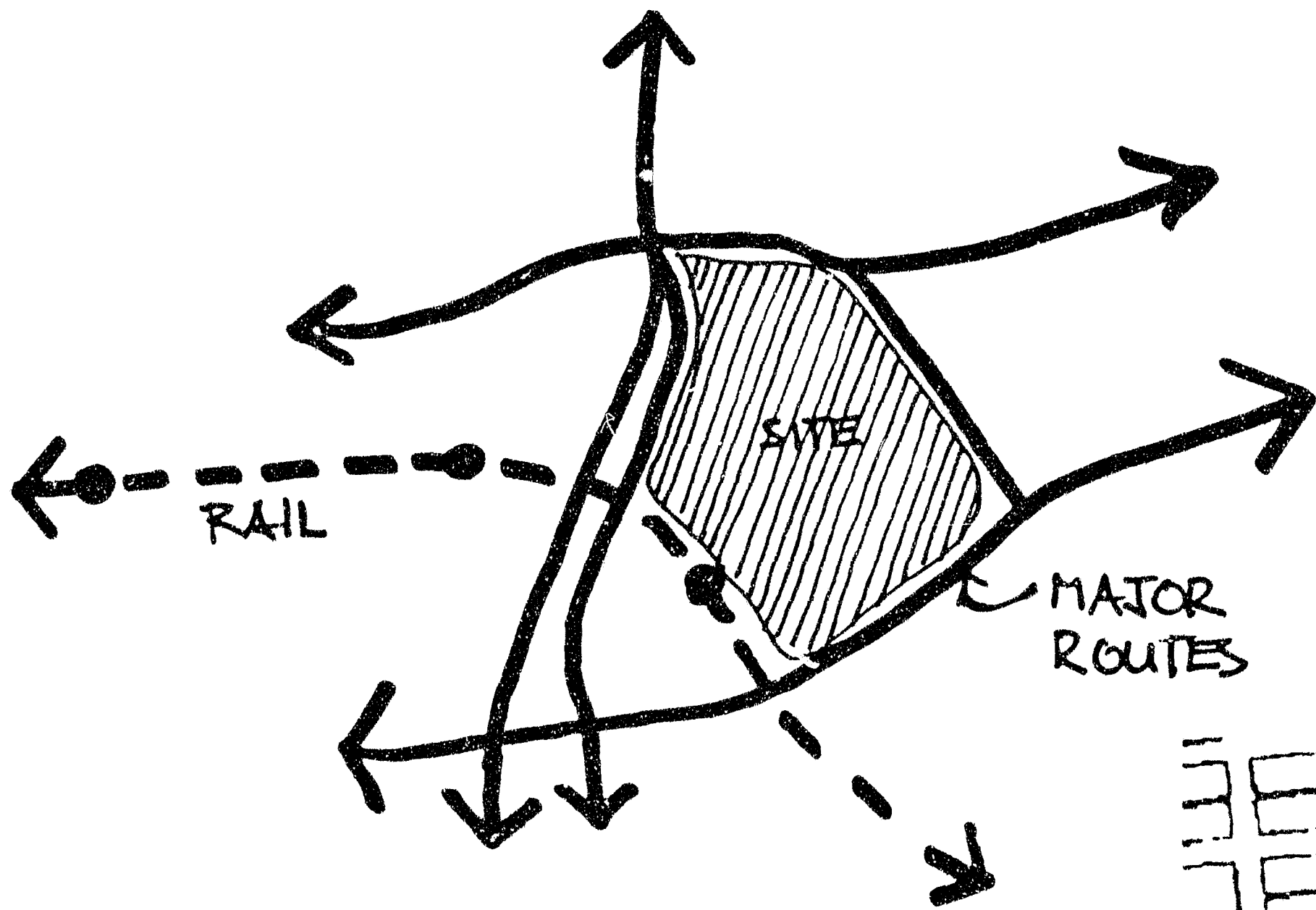
6. Arrival into Johannesburg through the Jukskei River Valley - the eastern Gateway to the city

Recognition Stage - Analysis
TOPOGRAPHY AND SETTING
ELLIS PARK URBAN DESIGN FRAMEWORK



Metropolitan Movement:

The study area is enclosed by metropolitan-wide movement routes (railway and major roads). These make the study area extremely accessible at a metropolitan level; however, at a local level, in terms of design and traffic volumes, the major movement lines are divisive, compartmentalising the sub-region.

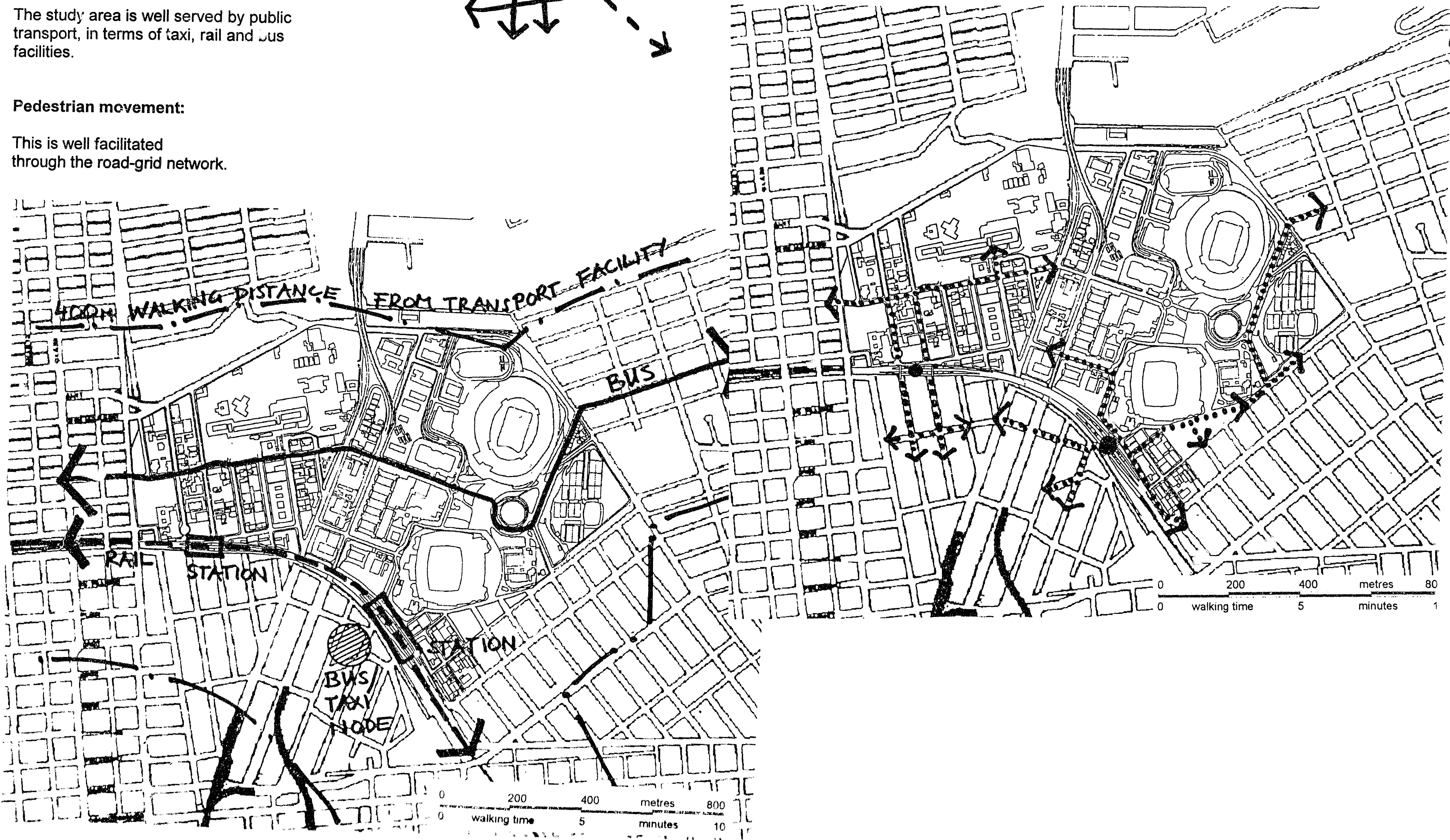


Public transport:

The study area is well served by public transport, in terms of taxi, rail and bus facilities.

Pedestrian movement:

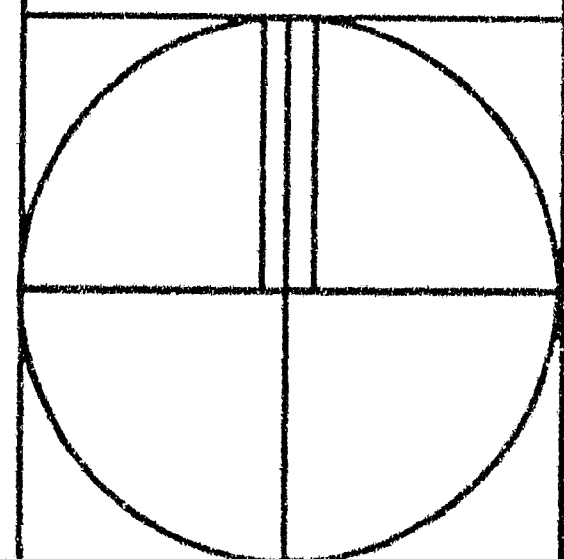
This is well facilitated through the road-grid network.

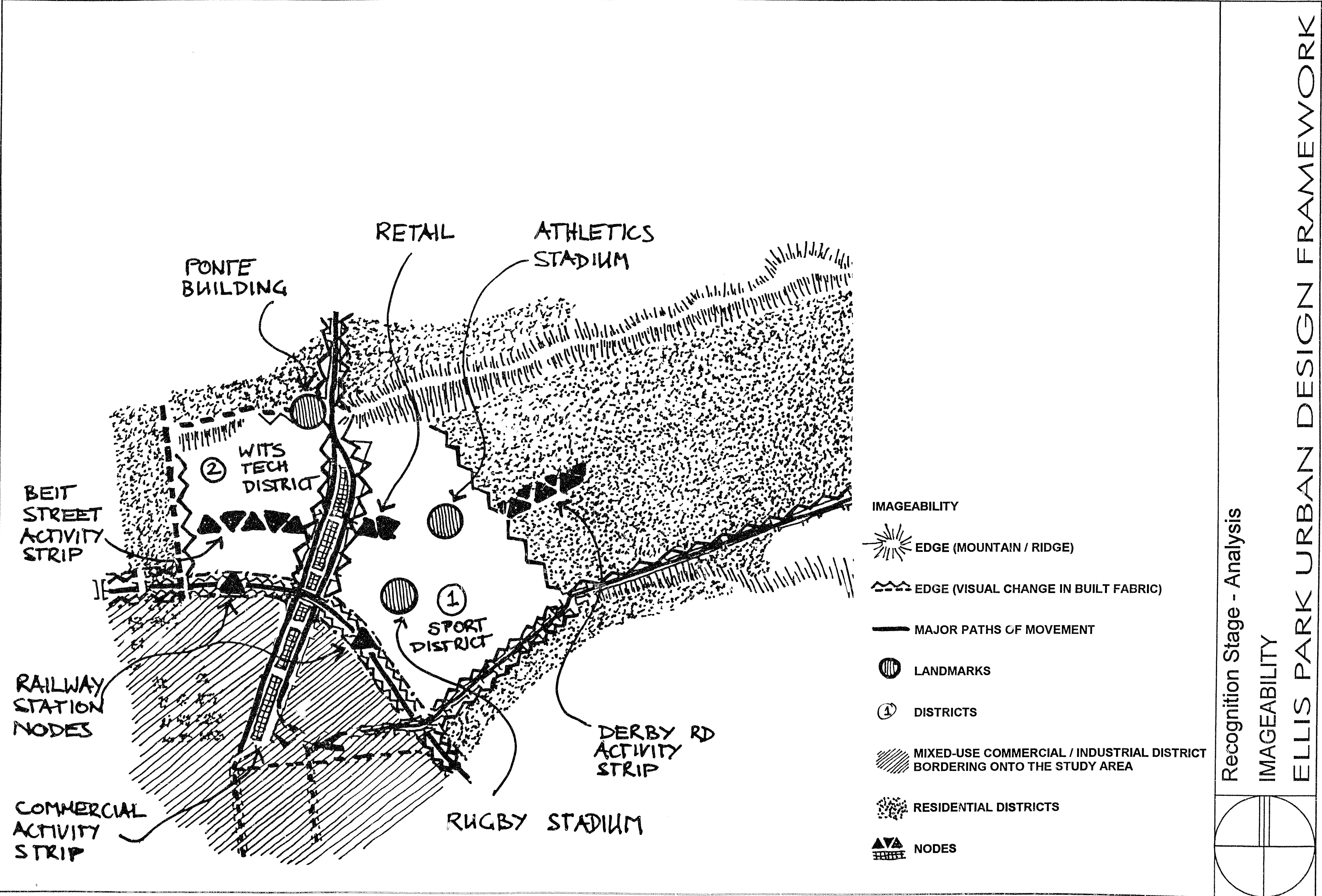


Recognition Stage - Analysis

EXISTING MOVEMENT

ELLIS PARK URBAN DESIGN FRAMEWORK





Author Zimmerman M

Name of thesis Designing For Liveable Post-Apartheid Inner City Through A Multi-Functional Public Environment "The Public Environment As A Platform For Change Zimmerman M 1999

PUBLISHER:

University of the Witwatersrand, Johannesburg

©2013

LEGAL NOTICES:

Copyright Notice: All materials on the University of the Witwatersrand, Johannesburg Library website are protected by South African copyright law and may not be distributed, transmitted, displayed, or otherwise published in any format, without the prior written permission of the copyright owner.

Disclaimer and Terms of Use: Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

The University of the Witwatersrand, Johannesburg, is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the Library website.