

An exploration of streets as social spaces as informative for urban planning and design

SES Human
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It all starts here TM



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Preface

I would like to thank my advisor, mentor and lecturer Karen Puren for her never ending support, incentive, help and motivation throughout this study. I would also like to acknowledge all my family, friends and colleagues for their support and encouragement; I appreciate every kind and motivational word or action. Thank you to Professor Vorster for the editing and finalising of the dissertation.

Abstract

Public urban space is important for people in cities and play a multi-functional role in society that includes an economic role, ecological role, social role, cultural role and, on occasion, political role. The importance of public urban space as platform for social interaction is particularly emphasised in literature by authors such as Jacobs (1961), Appleyard (1980), Lynch, (1984), Vernez-Moudon (1991), Tibbalds (1992), Zukin (1995) and Gehl (2010). Social interaction in cities is essential for cities' liveability, economic development, public participation, place identity, safety, memory, community and citizenship, as well as the ecological environment and people's health and quality of life. Public spaces are the most important element for a city to be liveable and form the platform for social interaction. While numerous types of public spaces are found in cities e.g. food production areas, parks and gardens, recreational spaces, plazas, streets, transport facilities, and incidental space, streets seem to play a prominent social role in community's lives. The study of the use, social importance and formation of open space forms a counterbalance for an emphasis on the built form. Streets are described as social spaces with a unique character and enhancers of civic life. Urban planning and design may contribute to fulfil this social role as the spatial layout of streets brings people unintentionally and intentionally together or can keep them separated. The planning and design of streets are important in facilitating social interaction in cities and this is a possible reason for the growing demand for pedestrian-oriented streets. However, limited effort has been made in cities to provide in the need for social spaces.

With a growing urban population in developing countries and the increasing knowledge of the importance of public space for the psychological as well as physical well-being of inhabitants, the support for public (open) spaces is particularly emphasised in urbanised areas such as in South Africa where small erven and high densities prevail. While the current settlement formation in South Africa is of a poor quality due to a number of reasons, such as political, economic and social factors, one of the key problems is the approach to layout planning. Traditionally the public environment is designed and created by numerous unconnected and uncoordinated departments, engineers and owners. The activities and entities installed compete with each other for space and visibility, consequently damaging the quality of the environment by cluttering the public dwelling space and the social realm of the inhabitants. An in-depth understanding of streets as social spaces, by planners and urban designers, may perhaps contribute in developing planning and design policies and guidelines that address the restructuring of streets as social spheres of interaction. It is imperative to understand urban space before we transform it. While numerous studies on streets have been conducted internationally, limited research has been conducted in the South African context to understand

the role of streets as social spaces. This study is a step towards an in-depth understanding of streets as social contexts in order to make recommendations for urban planning and design.

This study consists of an introductory literature study to give an overview of existing theories, policies and guidelines and an empirical study that consists of observation and interviews to explore the social dynamic within the research setting. This study is ethnographic in nature as an overall methodological framework. Ethnography is an important method in socially oriented research and enabled the researcher to get an 'insider's view' of the research setting to provide detailed, in-depth descriptions of the research setting. However, it is not pure ethnographic research, as the researcher did not become a participant in the research setting. The aim was to study social patterns, order and structure to gain an in-depth understanding of the specific situation of Helen Joseph Street, rather than a brief overview of a large sample of information gathered. Data was generated about people in a social setting. The methods used included observations as well as semi-structured interviews with various users of the street.

Findings emerged from the empirical study that was conducted in terms of how a street is used and experienced by its users and how the physical (built) environment is utilised for social interaction. Themes that relate to the role of streets with regard to social interaction were explored in-depth. From these data findings, a conclusion on what is needed for this research setting to be a better urban place that will encourage outdoor living and street sociability is discussed.

Keywords: qualitative research, social spaces, streets, people: environment interaction

Opsomming

Publieke ruimte is belangrik vir mense in stede en speel 'n multi-funksionele rol in die samelewing. Dit sluit 'n ekonomiese, ekologiese, sosiale, kulturele en soms politiese rol in. Die belangrikheid van publieke oop ruimtes wat 'n platform vorm vir sosiale interaksie word in die literatuur deur vele outeurs gestaaf. Die outeurs sluit Jacobs (1961), Appleyard (1980), Lynch, (1984), Vernez-Moudon (1991), Tibbalds (1992), Zukin (1995) en Gehl (2010) in. Sosiale interaksie is noodsaaklik vir stede se leefbaarheid, ekonomiese ontwikkeling, publieke deelname, plek-identiteit, veiligheid, herinneringe, gemeenskap, burgerlikheid asook die ekologiese omgewing en die mens se gesondheid en lewenskwaliteit. Publieke ruimtes vorm een van die belangrikste elemente wat 'n stad leefbaar maak en is die platform vir sosiale interaksie. Daar bestaan etlike vorme van publieke ruimtes in stede, soos byvoorbeeld areas wat gebruik word vir die verbouing van voedsel, parke, tuine, ontspanningsareas, pleine, strate, vervoer-fasiliteite en ondersteunende ruimtes. Van hierdie ruimtes speel strate egter die grootste sosiale rol in gemeenskappe. Die studie van die gebruik, sosiale belang en die vorming van oop ruimtes is 'n teenwig vir die klem wat normaalweg op die bouvorm van stede val. Strate word gesien as sosiale ruimtes met unieke karaktereenskappe wat die gemeenskap versterk. Stadsbeplanning en -ontwerp kan bydra om die sosiale rol van strate te vervul deur uitlegbeplanning wat mense onbewustelik of doelbewus kan skei of bymekaar bring. Die beplanning en ontwerp van strate is belangrik in die fasilitering van sosiale interaksie in stede en is 'n moontlike rede vir die toenemende aandrag op voetganger georiënteerde strate. Daar is egter 'n tekort aan die voorsiening van sosiale ruimtes in stede.

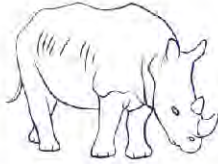
Die groeiende stedelike bevolking, veral in ontwikkelende lande, en die toenemende kennis oor die belang van publieke ruimtes vir die sielkundige en fisiese welstand van mense lei tot die ondersteuning van die voorsiening van oop ruimtes, veral in 'n land soos Suid-Afrika met hoë digthede en klein erwe. Die huidige vorming van nedersettings in Suid-Afrika is van 'n lae kwaliteit as gevolg van, onder andere, politiese, sosiale en ekonomiese faktore. Die grootste probleem is egter die benadering tot uitlegbeplanning. Tradisioneel word die publieke omgewing ontwerp en gevorm deur talle ongekoördineerde departemente, ingenieurs en eienaars. Die aktiwiteite en strukture kompeteer vir ruimte en sigbaarheid. Die kwaliteit van die omgewing en sosiale ruimte word gevolglik beskadig. 'n Deeglike begrip van strate as sosiale ruimtes deur beplanners en stadsontwerpers kan bydra tot die ontwikkeling van beplanning en ontwerp-beleide en -riglyne wat die herstrukturering van strate as sosiale ruimtes en plekke van interaksie ondersteun. Dit is noodsaaklik om die stedelike omgewing te verstaan voordat daar gepoog word om dit te verander. Terwyl daar talle internasionale studies oor strate bestaan, is daar 'n beperkte aantal studies in die Suid-Afrikaanse konteks om die rol van strate as sosiale

ruimtes te bestudeer. Hierdie studie poog om die sosiale konteks te verstaan om aanbevelings te maak vir stedelike beplanning en ontwerp.

Die studie bestaan uit 'n inleidende literatuurstudie wat 'n oorsig gee van die bestaande teorieë, beleide en riglyne, asook 'n empiriese studie wat bestaan uit waarnemings en onderhoude om die sosiale dinamika te verken binne die navorsingskonteks. Die studie is etnografies van aard en dit vorm die metodologiese raamwerk vir die studie. Etnografie is 'n belangrike navorsingsmetode in sosiaal georiënteerde navorsing en het die navorser in staat gestel om die navorsingskonteks vanuit die deelnemers se perspektief te verken en deeglik te verstaan. Die navorser het egter nie 'n deelnemer in die navorsingskonteks geword nie en die studie is dus nie suiwer etnografies van aard nie. Die doel van die studie was om sosiale patrone, orde en struktuur grondig te ondersoek om die spesifieke situasie van Helen Joseph Straat te verstaan eerder as 'n oorhoofse versameling van inligting oor 'n breë spektrum. Data is ingesamel oor mense in 'n sosiale omgewing. Die metode het waarnemings en semi-gestruktureerde onderhoude met verskeie gebruikers van die straat ingesluit.

Bevindinge wat na vore gekom het vanuit die empiriese studie oor hoe die straat gebruik en ervaar word deur die gebruikers van die straat, asook hoe die fisiese omgewing gebruik word vir sosiale interaksie word bespreek. Temas wat verband hou met die rol van strate met betrekking tot sosiale interaksie is noukeurig bestudeer. Gevolgtrekkings is gemaak vanuit die data en metodes word voorgestel vir die verbetering van die navorsingskonteks om buitelewe en straatsosialisering te bevorder.

Sleutelwoorde: *kwalitatiewe navorsing, sosiale ruimtes, strate, mens: omgewing interaksie*



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CHAPTER 1: CONTEXTUALISATION AND ORIENTATION



CHAPTER 1: CONTEXTUALISATION AND ORIENTATION

Think of a city and what comes to mind?

Its streets.

If a city's streets look interesting, the city looks interesting;

if they look dull, the city looks dull

-Jane Jacobs, 1961:29-

1.1 Background and rationale for the research

Globalization has brought a process of urban transformation that threatens public space in cities. One of these transformations is urban sprawl in cities worldwide. Urban sprawl causes urban functions to disintegrate and leave public spaces empty (Oktay, 2012). The need to encourage and optimise social interactions as a prerequisite for meaningful public places have been stressed by numerous authors such as Jacobs, 1961; Appleyard, 1980; Lynch, 1984; Gehl, 1987; Vernez-Moudon, 1991; Tibbalds, 1992; Zukin, (1995). However, many cities still have large amounts of social instability, abandoned streets, high crime levels, no ownership in streets and neighbourhoods and have become abandoned, lost spaces (Jacobs, 1961; Appleyard, 1980; Trancik 1986:1; Stanley, Stark, Johnston & Smith, 2012:1107). These 'no-places' have driven urban life to socialising in private homes or in easy accessible indoor entertainment areas (Kushner, 2002:46). This is also true in South African cities where fragmentation and sprawl are the main characteristics of cities (Cilliers, 2010:11). Economic freedom and social fragmentation has turned public spaces into commercialized excluded places with no meaning in people's lives (Banerjee, 2001:18).

With a growing urban population in developing countries (United Nations, 2009) and the increasing knowledge of the importance of public space for the psychological as well as physical well-being of inhabitants (McConnachie and Shakleton, 2010:248) the support for public spaces is particularly emphasised in urbanised areas (Wu and Plantinga, 2003:288) such as in South Africa where small erven and high densities prevail in many especially low income areas (McConnachie and Shakleton, 2010:244). People find it desirable to live closer to public open space, this desire influence the composition of the urban landscape, i.e. location, density and size (Wu and Plantinga, 2003: 289). Public open space networks are seen as important as they have a positive influence on social activities, the ecological environment, health and the quality of life (Thompson, 2002:60).

Public space is important for people in cities and plays a multi-functional role in society that includes an economic role (Florida, 2002; Jackson, 2003:191), ecological role (Thompson,

2002:60), social role (Lees,1994:463; Ariskenhof, 1997:1) and political role (Stanley, Stark, Johnston and Smith, 2012:1090). These open spaces in cities form the stage where people interact. Crowhurst, Lennard and Lennard (1995:25) stated that public open spaces are the most important elements for a city to be liveable. Public urban space seems to form a primary platform for social dynamics in cities.

Numerous types of public spaces (e.g. food production areas, parks and gardens, recreational space, plazas, streets, transport facilities, and incidental space (Stanley, Stark, Johnston & Smith ,2012:1089)) occur in towns and cities. As streets form part of the main assembly points and public open spaces in a city (Appleyard, 1980) it plays a prominent social role in communities' lives (Jackson, 2003:191). Streets are described by Barker (2009:157) as a central part of contemporary life. Michael Warner (2002:56) described streets as enhancers of civic life by creating spaces where even strangers can socialise.

Furthermore, streets are social spaces with a unique character (Barker, 2009:157). It is thus important that care and attention to its design, composition, layout and functions is given to redefine streets as sanctuaries that forms part of liveable community places (Appleyard, 1980). In South Africa for example the approach to layout planning (Behrens and Watson, 1996: iii) is a key problem. Traditionally the public environment was designed and created by numerous unconnected and uncoordinated departments, engineers and owners. The activities and entities installed compete with each other for space and visibility, consequently damaging the quality of the environment by cluttering the public dwelling space (City of Tshwane, 2007:5) and the social realm of the inhabitants. Designers of streets sometimes want to recreate ancient cities but without discovering what characteristics and ordering it was that gave these ancient cities lively streets (Alexander, 1965:2) while 'designed' spaces lack spatial, ecological and social characteristics with low accessibility on a physical or psychological level (Oktay, 2012).

Well-designed streets should be flexible and meet aesthetic, social, economic and functional needs for a diversity of people (Ariskenhof, 1997:1; Lees, 1994:463). Streets that fulfil the needs of people have been proven to grow economically, form a sense of community and contribute to the health of the community (Jackson, 2003:191). A growing demand for pedestrian oriented streets, plazas, public squares and more traditional public open spaces in cities have been identified (Whyte, 1980; Crowhurst-Lennard and Lennard, 1987, 1995; Gehl, 1989; Carr *et al.*, 1992; Gehl and Gemzoe, 1996, 2000; Dane, 1997; Cooper-Marcus and Francis, 1998; PPS, 2000). However, not enough is made with regard to streets in cities to provide in their social needs (Banerjee, 2001:9; Benjamin, 2002:416–455; Barker, 2009:155).

Social interaction in the public spaces in a city is essential for liveability, economic development, public participation, place identity, safety (Jacobs, 1961), memory, community and citizenship

(Reitan, 2013). The role of streets is important in this interaction, especially with regard to the planning and design that can bring people unintentionally and intentionally together or can keep them separated (Hillier, 1996:213).

The strive for globalization has initiated a process of urban change, posing significant threats to the public realm of cities (Sennet, 1994: 375). Cities have experienced rapid growth because of urbanisation and are spreading wider. As these cities become bigger and cover a bigger area, urban functions disintegrate and public space has lost its significance in the day to day urban life (Sennet, 1994: 375). Public urban space is seen by Sennet (1994:375) as important for a democratic and inclusive society. The urban space has however become empty space or lost space as Trancik (1986:1, 2) describes it, where people do not become attached or form a connection with the space a (Sennet, 1994:375). Lost spaces in cities are unstructured, undefined, emotionless, repetitive, and undesirable and needs to be integrated into the urban structure (Trancik, 1986: 1, 2). With the Modern Movement of architecture, it became common practice to prioritise the buildings and later focus on the public space that was created by the building's exterior, leaving ill-shaped spaces that do not contribute to the city life and needs of the citizens. Planners and designers have contributed to this suppression of public space by thinking that solving traffic problems will solve the cities' problems. This resulted in deserted city centres where the city is seen as 'the place of the car' not suited for people, pedestrians or social activities (Oktay, 2012).

While the current settlement formation in South Africa is of a poor quality (Cilliers, 2010:11) due to a number of reasons, such as political, economical and social factors, an in-depth understanding of streets as social spaces, by planners and urban designers, may perhaps contribute in developing planning and design policies and guidelines that acknowledge streets as important social spaces. However, according to Madanipour it is imperative to understand urban space before we transform it (Madanipour, 1996: 5). While numerous studies on streets have been conducted internationally, (e.g. Fronts and Backs, The Use of Streets, Yards, and Alleys in Toronto-Area (Hess, 2008); Third Places and the Social Life of Streets conducted in Cambridge, Brookline and Somerville (Mehta and Bosson, 2010); Meaning of Streets perceived by users in Urban Centre in Malaysia (Alinaghian, 2009) limited research has been done in the South African context to understand the social role of public urban spaces such as streets. This study is a step towards understanding public spaces such as streets in terms of social dynamics in a South African context. Therefore, the purpose of this study is to explore streets as social spaces. The central business area of a Metropolitan city (Pretoria) is chosen to study this as it is a multi-modal street that fosters a wide variety of functions, people interaction, behaviour, trends, users and uses of streets in a community and is thus ideal for rich data generation.

1.2 Research questions

This study is guided by the research question: What role do streets play in the social interaction of people?

Secondary questions include:

- (i) to what extent does current South African planning and design guidelines for streets support the social role of streets?;
- (ii) how is a specific street (Helen Joseph Street, Pretoria) used in terms of social interaction?
- (iii) how can the planning and design of a street space support social interaction in streets?

1.3 Problem Statement

Although the problems of lost space have been identified and is recognised in theory, the social dimension of streets as places is not yet fully integrated in the design of the urban fabric, especially in South Africa. The total South African road network exist of 746 978 km (Republic of South Africa, 2011), but only 32 percent of the South African population own cars (STATSSA, 2016). This car-dominated environment is also seen in the inner city of Pretoria, where up to five lane one-way streets form part of 'left over' land between buildings, dominating the urban form and structure.

In April 2006, the City of Tshwane approved a Policy on the 'Design of Hard Urban Spaces and Streetscape Element in Tshwane'. The approach used in the document as well as the revision of the document 'Streetscape Design Guidelines' is based on the conviction that the 'public urban environment plays an important role in the social and economic life of the city and its inhabitants' (City of Tshwane, 2007:5). Even though this policy was introduced, the cities' urban spaces are still regarded as road reserves to conduct motor traffic and engineering services (City of Tshwane, 2005:1) as high level policies and acts do not focus on streets as social spaces. With this view, design follows suit and is designed with no other activities in mind. This makes public spaces inaccessible for pedestrians, strolling shoppers, trading or any other activities (City of Tshwane, 2007:5).

This study explored Helen Joseph Street, situated in the Inner City of Pretoria as a public place with specific focus on the research setting with the aim to improve the street as a social space and create a sense of place where people want to dwell.

1.4 Research Context and research setting

The chosen research setting is situated in the administrative capital city of South Africa, Pretoria – also popularly known as the Jacaranda City. Pretoria is the seat of government and hosts various National Government departments. Pretoria replaced Potchefstroom as the official seat of government in 1860 and has been the seat of government since.

Pretoria is situated in the Gauteng Province (see Figure 1) and falls under the jurisdiction of the City of Tshwane Metropolitan Municipality, the biggest municipalities in the country.

Pretoria expanded, was declared a city in 1931 and is still expanding with different functions, professions and roles.

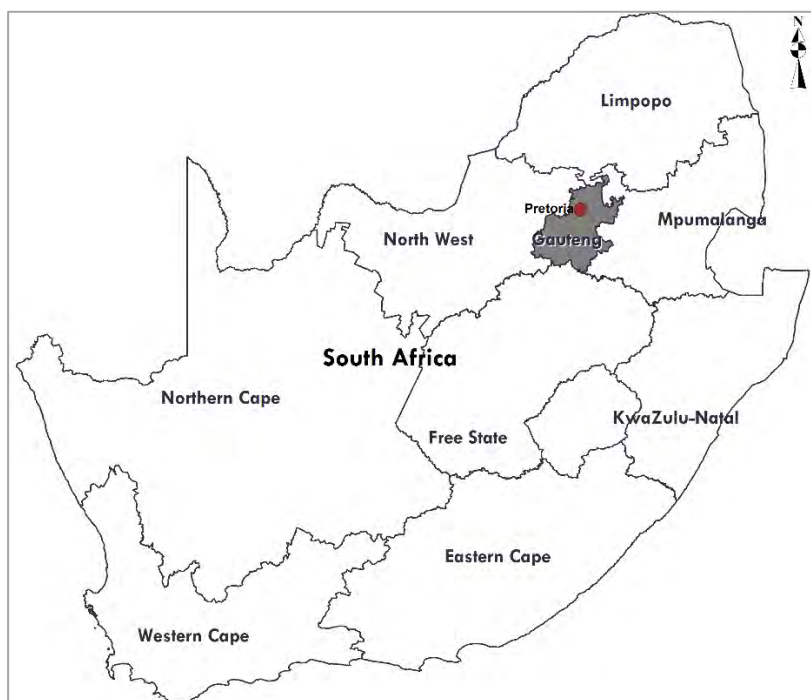


Figure 1: Research context in Gauteng, South Africa (Source: Compiled by researcher from PlanetGIS)

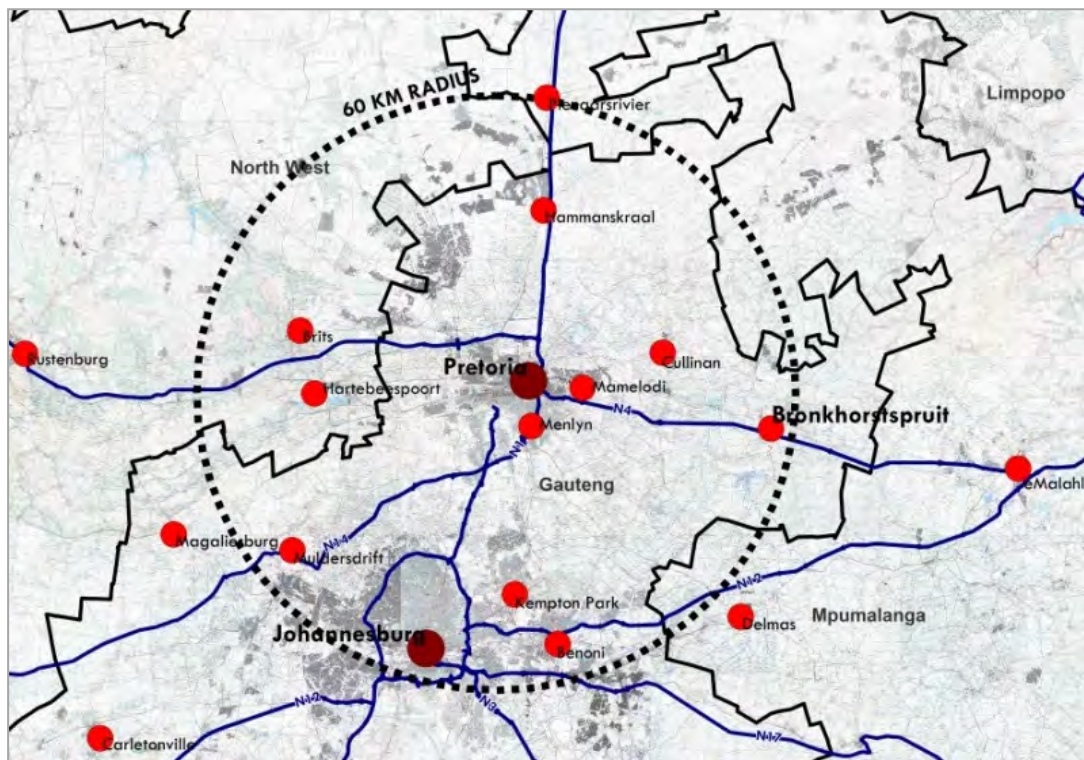


Figure 2: Research context: Pretoria location in Gauteng (Source: Compiled by researcher from PlanetGIS)

The specific research setting is situated in the CBD of Pretoria. The Central Business District is connected via the N4 to the east and west of Pretoria and the N14 and R21 to Johannesburg and Oliver Tambo International airport situated in Kempton Park. Regional and metropolitan roads such as Kgosi Mampuru and Sophie de Bruyn Street connect the inner city to the southern and northern parts of the metropolitan. This makes the Central Business District accessible from all directions.

The area selected for study is a 650m long section of Helen Joseph Street (see Figure 3), a street that contains a mix of traffic modes, a wide variety of functions, people interaction, behaviour, trends, users and uses, ideal for studying social interaction. The research setting is bounded by Lilian Ngoyi Street (was Vermeulen) in the east and Sophie de Bruyn Street (was Schubart) in the west and consist of the public spaces on Helen Joseph Street, previously known as Church Street. Helen Joseph Street (running parallel to the former N4) is one of the major access routes to the Central Business District of Pretoria with linkage to the western and eastern parts of the city through the CBD (City of Tshwane, 2013:32).



Figure 3: Research setting: Helen Joseph Street within the CBD of Pretoria (Source: Adapted from Google Earth by researcher)

The specific area was chosen for this research study because of the following:

- ✚ Research in a South African context of this nature is limited.
- ✚ Pretoria is the capital city of South Africa and the seat of government
- ✚ The importance of Helen Joseph Street in the context of policies, spatial plans and programmes.
- ✚ The multi-modal street fosters a wide variety of functions, people interaction, behaviour, trends, users and uses of streets in a community and is thus ideal for rich data generation.
- ✚ The need for intervention, identified in the Policy on the 'Design of Hard Urban Spaces and Streetscape Element in Tshwane 2006' into the public urban environment that plays an important role in the social and economic life of the city and its inhabitants

1.5 Aims

The overall purpose of the study is to explore the social dynamics of a multi-functional street. This is done to identify the problem areas and suggest solutions to establish Helen Joseph Street as a social space and create a place for people to fulfil social needs discrepancies.

1.5.1 Primary aim

The main purpose of the study is to explore the role of streets in the social dynamics of a street by conducting an in-depth exploration of Helen Joseph (previously known as Church) Street in Pretoria in order to develop broad guidelines for the layout and design of streets spaces to support social interaction.

1.5.2 Secondary aims

The secondary aims of this study include the following:

- To understand people's interaction with their environment as a basis for optimal social functioning;
- To give an overview of existing theories, policies and guidelines that inform the urban planning and design of streets; and
- To explore the social interaction in Helen Joseph Street

1.6 Methodology

This study consists of an introductory literature study to give an overview of existing theories, policies and guidelines and an empirical study that consists of observation and interviews to explore the social dynamic within the research setting (see **Figure 4**). This study is ethnographic in nature as an overall methodological framework. Ethnography is an important method in social oriented research and enabled the researcher to get an 'insider's view' of the research setting to provide detailed, in-depth descriptions of the research setting (Hoey, 2014). However, it is not pure ethnographic research, as the researcher did not become a participant in the research setting.

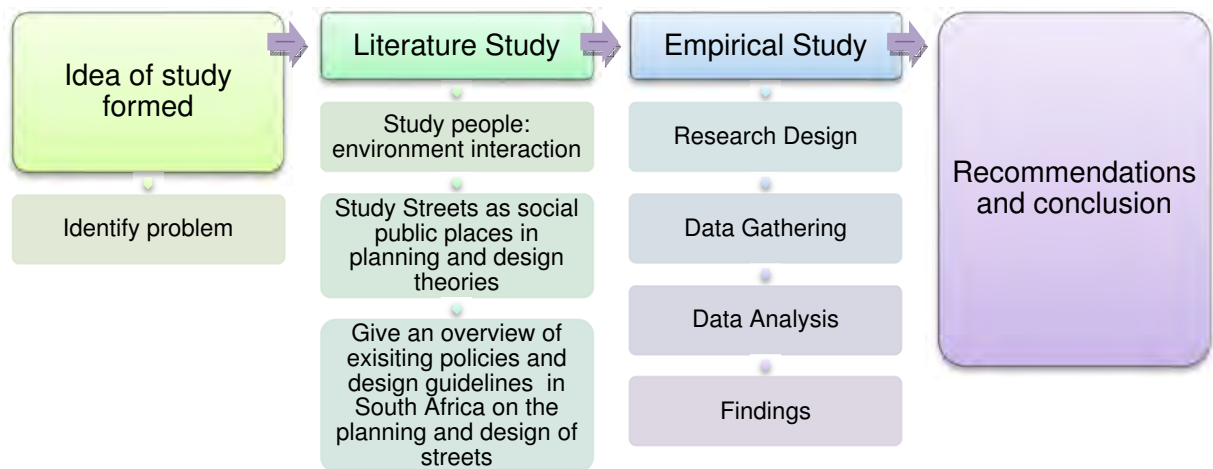


Figure 4: Methodology flow chart (Source: Compiled by researcher)

1.6.1 Literature review

A variety of international and national resources, articles by various authors, academic books and peer-reviewed published works were perused by the researcher to direct the study and to gain an understanding and insight into environmental psychology, street theories and policies and guidelines.

Environmental psychology was used as point of departure to understand how people and their environment interact. Different theories on the interaction of people and their environment and the psychology behind the influences they have on one another was studied, for example. A further study of what sociability is and what factors influence inhabitants of a neighbourhood was needed; this was integrated with how streets are assembled to accommodate people who use, reside and dwell in them. A study of street design policies and standards was done to establish the problem areas and areas for improvement in these policies and design standards to enhance sociability in streets. Streets were primarily explored as social spaces with the theories in mind.

1.6.2 Empirical study

1.6.2.1 Research approach

A qualitative approach was followed as suggested by Leedy and Ormrod (2010:133) as the study involved people and social aspects in the town planning field. The aim was to study social patterns, order and structure to gain an in-depth understanding of the specific situation of Helen Joseph Street, rather than a brief overview of a large sample of information gathered. Shank (2002:5) defines it as a systematic empirical inquiry into meaning. This type of inquiry is based in the world of experience and how to make sense of this experience.

1.6.2.2 Research Methodology

Data was generated about people in a social setting. The methods used included observations as well as semi-structured interviews with various users of the street.

✓ Observations

Observation is a collection method in this approach. An observation is defined as the systematic process of recording behavioural patterns without contact or interference (Maree, 2007:83). With observation, the behaviour of people in their natural environment can be recorded. These observations were made with periodical visits to the research setting coupled with taking photographs to capture the setting and possible behavioural patterns with minimalistic interference in the research setting. Data was analysed and categorised into different patterns on how a street is used. This method is discussed further in Chapter 5 (5.6.1).

✓ Interviews

The observations were followed by semi-structured interviews with various users of the street. Descriptive data of the street, other users, activities, and attachments were essential to the study. The interviews served the purpose of gaining insight of the research setting as well as knowledge of the daily users' purposes for using the street and their experiences as users. Data was analysed by means of context analysis in which verbatim transcriptions were used to categorise the data through the use of open coding. As various codes developed, the data could be contextualised to create overarching themes. This method is discussed further in Chapter 5 (5.6.2).

1.6.2.3 Trustworthiness

Triangulation was used to establish the trustworthiness of the data. Triangulation is used when there is more than one approach to gathering data to ensure the accuracy of the findings. Triangulation is especially used in social and behavioural studies. The suggestion is that the

findings are confirmed by more than one measurement process, thus reducing uncertainty and inaccuracy. If the methods contradict each other, the use of more than one method is highlighted and will prompt new methods of inquiry (Bryman, 2008:1). Trustworthiness is discussed further in Chapter 5 (5.7).

1.6.2.4 Ethical aspects

Collecting data in a natural environment raises ethical issues (Lambert, Glacken and McCarron 2011:22) and the use of ethnographic research methods must be ethical and practical. The participants' physical and psychological well-being must be protected and is the responsibility of the researcher (Schembri and Boyle, 2013:2153). The ethical conduct of the study is discussed in Chapter 5 (5.8)

1.7 Limitations to the study

The study is qualitative in nature, and involves the understanding of social interaction that is formed within a specific context and research setting and can therefore not be extrapolated to fit another context. However, the street forms an example of the type and kind of dynamics that is present in such an intensively social street even if the findings cannot be extrapolated to fit another context. The themes identified around the specific street can therefore aid in the awareness of the social interaction that exist between people and the street environment that can be used to guide street design policies.

The method used for sampling in the interview phases was convenience sampling. This sampling method is based on the participants' convenient proximity and willingness to participate in the study. The sample universe was however defined strictly as a geographical homogeneity, restricting generalisation (Robinson, 2014:32).

The interview phase involved participants from various cultures and even though there was an interpreter who is proficient in six languages, some participants struggled to express their views verbally.

Participants had limited continuous time available for interviews, which caused some interviews to yield rich data and some interviews not. This was however supplemented by complete observations with rich data.

1.8 Structure of the study

This research study consists of eight chapters and is compiled as follows:

1.8.1 Chapter 1: Contextualisation and orientation of the research

Chapter one aims to give a broad orientation to the primary components of the study and includes a section to contextualise the study within broad theoretical debates on streets as a primary public space and sociability of streets. It further demarcates the research setting, set out the aims of the study and summarises the methodology applicable for this particular study.

1.8.2 Chapter 2: People: Environment interaction

Through the study of environmental psychology an understanding of people: environment interaction was gained to serve as a basis for the empirical study and its approach. The behaviour of people in different settings and situations was reviewed in order to find an understanding of the role of streets. The transactional nature of people/environment interaction serves as a background to explore a street as a micro context in which people interact.

1.8.3 Chapter 3: Planning and Design theories about streets

Various theories of authors such as Jacobs, Appleyard, Gehl, and Whyte that developed over time is discussed. This chapter focuses on streets as a primary spheres of social interaction. It focuses on the importance of the role of streets in the daily interaction of users and inhabitants. This chapter focuses on the physical and psychological aspects that form a society that is neighbourly and lively.

1.8.4 Chapter 4: A critical analysis of policies and guidelines for the planning and design of streets as social spaces in South Africa

A critical analysis of various national and local policies and guidelines with regard to streets, as well as those that influence the planning and design of streets was conducted. The main aim of the chapter is to evaluate whether existing policies and guidelines incorporate the social dimension of streets and support people/environment interaction.

1.8.5 Chapter 5: Research Design

A discussion of the research methodology of all the studies that were conveyed to collect the needed data is discussed. This chapter is a step towards understanding streets as a social space in an existing inner city street. The main aim of the chapter is to explore the interaction and role of the street environment with social activities and people behaviour.

1.8.6 Chapter 6: Findings: Helen Joseph Street as a social space

Chapter six represents the findings of the empirical study that was conducted in terms of how a street is used and experienced by its users as how the physical (built) environment is utilised for social interaction. Patterns and themes that relate to the role of streets with regard to social

interaction is explored in-depth. The chapter is concluded by an integrated discussion of the patterns and themes in order to align the empirical part of the dissertation with the theoretical foundation of the study.

1.8.7 Chapter 7: Synthesis and planning recommendations

Chapter seven is a summarising chapter on the literature and empirical studies in order to reflect on the research questions and aims. This chapter includes planning and design proposals developed from the in-depth exploration of Helen Joseph Street in Pretoria, South Africa in order to enhance the sociability of streets and enhance the experience of its users.

1.8.8 Chapter 8: Conclusion

The main conclusions from the study are presented as well as possibilities of the way forward in terms of follow-up research.

CHAPTER 2: PEOPLE: ENVIRONMENT INTERACTION



CHAPTER 2: PEOPLE: ENVIRONMENT INTERACTION AS POINT OF DEPARTURE

“All the world’s a stage. And all the men and woman merely players; they have their exits and their entrances. And one man in his time plays many parts” (As you like it, Act II, Scene VII)

- W. Shakespeare –

2.1 Introduction

People are affected by their surroundings (Kara, 2013:288; Freedman, Sears and Carlsmith, 1978:538). In the social sciences, it is recognised that people are connected to the spaces that they live and dwell in and that the place develops a personal meaning for the inhabitants (Kara, 2013:289; Ley and Samuels 1978, Pile 1993, Sack 1997:132, Sibley 1991, Tuan 1977). Fried (2000:193) describes the physical environment as an important part of urban social life. Tonnies (1963) said that the connection between people and the environment is essential for a feeling of community. Durkheim (1995) went even further and said that this connection does not only contribute to the feeling of community but also has an influence on the social and psychological well-being of people. Therefore, the relationship between people and their environment is important.

The concern of the relationship between people and the built environment has been significant since the first publication in 1886 on psychology in Architecture (Günther, 2009:359). In recent years, the relationship that exists between persons, their identity, and place has been studied by anthropologists, sociologist, urban planners, and other related disciplines. Numerous disciplines have acknowledged that people and their environment are interrelated. However, the way people experience, internalise, and understand the environment is complex. (Appleyard, 1981; Kaplan and Kaplan, 1978). This study takes people-environment relationships as a point of departure to guide the study’s focus on people and streets as social spaces.

Environmental psychology serves as a valuable platform for planners to understand the relationship between people and their environment, and forms a key component to people as well as environmental well-being and is essential for policymaking (Vlek, 2000; Uzzell and Rätzzel, 2009:341). The first part of the chapter aims to provide some background information on what Environmental Psychology entails in terms of the definition and development of the field. The second part of the chapter includes the different aspects of environmental psychology, namely people and the environment and finally the complex transactional nature of the interaction between people and the environment.

2.2 Environmental Psychology as platform

In 1970 Proshansky, Ittelson and Rivlin (1970) published their book “Environmental Psychology: Man and his physical Setting” that brought together the different schools of thought from physical sciences to social sciences to this central theme of people: environment interaction. It motivated further research on the role of the environment on people’s behaviour (Uzzell, Rätzsch, 2009:340; Günther, 2009:359). People-environment studies are a constantly evolving field with different definitions and research concerns in different time periods. However, attempts to formally define Environmental Psychology has not existed until the 1970s (Proshansky, Ittelson and Rivlin, 1970:5; Kruse, 1974:3)

2.2.1 Definition of Environmental Psychology

A definition for Environmental Psychology was formed in 1973 when Craik (1973:403) focused his research on the relations between people and the environment from a psychological perspective, stating that environmental psychology has a multidisciplinary character and that made it a distinct field (Craik, 1973:402). This multidisciplinary character lends it to assign different terms to describe the study of people-environment relationships e.g. ecological psychology and architectural psychology. Ecological psychology is focused on the influence of the natural environment on people’s behaviour. Architectural psychology is the study of how the built environment or architectural setting influences people’s behaviour (Bonnes and Secchiaroli, 1995:1, 2).

Craik coined the term Environmental Psychology due to the term being ‘inclusive and theoretically neutral’ (Craik, 1973,403). A vast array of definitions has ever since developed. Levy-Leboyer and Bernard (1987:6) offered a definition for environmental psychology as a field that studies a specific aspect of behaviour that represents the relationship between people and their physical environment, with this relationship seen as active and transactional. Gifford (1987:2; Gifford, 1997) concurred with this definition of environmental psychology being “the study of transactions between individuals and their physical setting”. He differentiated between individual, social, and societal processes being different levels of person dimensions in the relationship between behaviour and the environment (Gifford, 1987).

In 2002 Bonnes and Bonaito made a combined definition; environmental psychology of sustainable development. This combined definition was focused on behaviour and the psychological processes influencing it and the affects it has on natural resources or processes on a local and global level (Giuliani, Scopelliti, 2009:367). Stokols (1995:822) commented on the identity of environmental psychology as a distinct field that is ‘diffuse and transparent’ because of three reasons, its multidisciplinary character, its international scope and the use of it in a wide variety of sectors in psychology.

From the various definitions, above, it is clear that there was a paradigm shift in the development of environmental psychology from a focus on the environments' behavioural influences on people to the peoples' influence on the environment to a complex transactional view. This development of environmental psychology is briefly discussed in the following section.

2.2.2 Development of people-environment interaction in Environmental Psychology

The development of environmental psychology has led to different focus points within the field from an isolated focus on people and the environment to a co-existence that cannot be separated as part of a complex transactional process. This development of people-environment interaction in environmental psychology will be discussed in the following section.

2.2.2.1 Spontaneous interaction: co-existence of people and their environment

Environmental psychologists argue that there is an interrelationship between people and the environment that is dynamic in character. The environment in which people live is a combination of physical, cultural, and biotic features. People act as an active factor in this setting, adapting to the environment according to their competencies and needs (Yadav, 1987). The relationship between people and the environment can best be understood when looked at historically.

In ancient times, people were dependant on the natural environment around them for their most basic needs; food, water and shelter. The form and nature of the surroundings thus made the difference between survival and death. Accessibility to a person's needs prescribed the location of shelter and the form that it took on (Mumford, 1989; Alavi, 1965:69). The earliest cities of around 3500 B.C. found in the rich valleys of the Tigris and Euphrates (Mesopotamia, see Figure 5) and Nile rivers show this development of people activity around natural elements to provide in people's needs (Knox and Marston, 2000:5). People were dependent on their environment for their survival. This dependency on the environment was expanded to an environmental deterministic view of people's relationship with the environment.



Figure 5: Mesopotamian city located in rich river bed (Source: designhome.info, 2016)

There is thus an inextricable relation between people and the environment that has been acknowledged spontaneously since ancient times.

2.2.2.2 Forced interaction: the power struggle between people and their environment

The Greeks argued that their strategic location in the Mediterranean played an integral role in their ability to develop (Thomas, 1925:227) even going so far as to say that it was because they were exposed to a perfect balance of the four elements (fire, water, earth and air) (Brondizio, Moran, 2013:3). The Romans attributed their success to geo-climatic reasons and the location of Rome (Brondizio and Moran, 2013:3) in itself. The Romans built their cities in a manner that overruled the landscape, cutting unswervingly across hills and rivers, forcing a geometrical order onto the landscape as a form of order that was imprinted on the vast Roman Empire (Mumford, 1989:205) seen in Figure 6.



Figure 6: Typical Roman city (Source: The History Files, 2016)

After the fall of the Roman Empire, the theories of people environment interaction survived through Christian and Arab schools of thought in terms of people-environment relationships (Castaglioni, 1958:258-263). The Arab scholars elaborated on the Roman theories, theorising that the concept of people-environment relationship consisted of two viewpoints; geographical based on climate, and astrological based on the star constellations (Brondizio and Moran, 2013:3). Al-Mas'udi, an Arab scholar, discussed the correlation between climate and how it influenced people's behaviour and actions (Alavi, 1965:69-70).

The overemphasis of the environment and the influence it has on human development, is known as environmental determinism. The forced-interaction of the environment with people were thus seen as deterministic of power and the ability to rule over their empires.

2.2.2.3 Division of people and environment: people and environment as separate entities

In the late 1990s the field of Environmental Psychology, began to be more focused on specific limited topics (Guilliani and Scopelliti, 2009:367). Hellbrück, and Fisher (1999:31) presented their work on environmental psychology as the impact of material and energetic external conditions

on behaviour and experience, and how the environments can be used to generate certain effects and behaviour that is desirable. Jonathan Sime (1999:192) turned his focus of environmental psychology study to something that is 'seen and felt', part of academic knowledge and what is taught. Others consider it as a sub-discipline of psychology whilst others see it as an overlapping field between psychology and other disciplines. By approaching environmental psychology qualitatively, it can be a 'sense of being-in-the-world' disclosed through phenomenology (Sime, 1999:192).

Stewart (1955:36) approached the people-environment interrelationship functionally. This approach was concerned with the relationship of a variable towards a certain set of variables instead of trying to compare an entire system. Stewart suggested a comparative method to analyse connections between social structures and modes of survival, steering away from environmental as well as cultural determinism towards the process of utilising resources (Brondizio and Moran, 2013:8). The focus of environmental psychology started to form a divide as the focus was not on a holistic interrelationship of people and the environment.

Environmental psychology developed two contrasting viewpoints in the urban and natural environmental research schools. The one view being how the environment can be adapted to accommodate the needs of people and the other being how people can adapt to reduce their impact on the environment (Uzzell, R  thzel, 2009:341). In other words, a focus on the environment or focus on the person in the environment.

2.2.2.4 Focus on the environment

Environmental psychologists divide the environment into two categories, the built environment, and the natural environment (Nagar, 2006:33; Uzzell and R  thzel, 2009:341), seen in Figure 7. Each facet of the reality or conceptual that surrounds us forms part of the physical environment (Nagar, 2006:33; Kaplan and Kaplan, 2009:329). As the study is focused on the built environment and the exploration of street as social spaces, this section will turn its focus on the built environment.



Figure 7: People are influenced by the natural and built environment (Source: Compiled by researcher from The Nature Conservancy, 2016; Center for Health and the Global Environment, 2016 and freepik, 2016)

2.2.2.4.1 Built environment

The built environment has received much attention from environmental psychologists as it promotes or inhibits desirable or undesirable behavioural patterns (Newman, 1972; Nagar, 2006:33). Kaplan and Kaplan (2009:329) described environments as patterns of information and people are seen as intrigued with gaining an understanding of this information. The environmental psychologist then wants to understand how individuals respond to the environmental information they receive (Gifford, 2014:565).

Proshansky, Ittelson and Rivlin, in their publication *Environmental Psychology: Man and his Physical Setting*, (1970) brought professions faced with the problem of people and their environment together (Uzzell and R  thzel, 2008:340). It was believed that environmental psychologist now possessed the knowledge of people behaviour to satisfy people's needs through architecture (Uzzell, 2000) and environmental design. This however did not realise but the seed was planted that the contributions made by environmental psychology and the

collaboration of both fields can contribute to the solving of environmental problems (Uzzell and Rätzzel, 2008:340).

The focus of Environmental Psychology changed to Architectural psychology when Canter (1977) focused his attention to the role of psychological processes in the relationship between people and the built environment. An initiative taken by William Ittelson and Harold Proshansky at the City University of New York led to a study of how the spatial or architectural setting of a psychiatric hospital can affect patient's behaviour. They continued their work and expanded the study from the physical setting of the hospital to behaviour in a general environmental setting (Bonnes and Secchiaroli, 1995:1, 2). It is still used as a reference point for planners and architects, with regard to design integration and catering for the needs of the potential users by creating place identity and attachment (Giuliani and Scopelliti, 2009:386).

Buttimer (1976:277) showed an interest in how people's lives link with place and the environment and argued that environmental aspects, such as a sense of place, social space, and time-space rhythms offer a unique geographical and environmental contribution to phenomenological research. Lang (1987) stated that if the built environment can support people's desired activities, patterns of interaction and movement it can satisfy most people needs. Access to both the natural landscape as the urban landscape is however needed to satisfy the basic needs of people (CSIR, 2000: Chapter 3:2).

As an inquiry into the understanding of the people-environment interaction Gibson's concept of environmental affordances theory – that put it forward that a certain environment affords activities and events; and the theory of place, that proposes that a certain environment is understood as an amalgamation of the activities connected with it, the physical features and the meaning attached to it will be studied.

2.2.2.4.2 Environmental Affordances – Gibson

The term 'affordances' was coined by Gibson in 1979. The affordance of an object or place refers to the potential uses or activities it presents to users through its physical properties. Gibson distinguished between physical and social affordances. Social affordance is the potential forms and consequences of interpersonal interaction in a certain situation (Stokols and Schumaker, 1981:99). When an object or setting is changed, the affordance is changed, and even if it is not changed, the setting or object's meaning can change with the individual's change in needs or each individual's background that he perceives it with (Lang, 1987). This however does not mean that the mere existence of an affordance will result in an activity or will prompt certain behaviour (Gibson, 1979:129) as it depends on the limitations, personality or capability of a person to perceive it (Gaver, 1991). The affordance is therefore not deterministic

for behaviour (De Oliveira & Neto, 2015:9). The environmental affordance is an important concept in the design of urban spaces as opportunities are created through the modification of the physical environment that needs to form positive affordances (Gibson, 1986).

2.2.2.4.3 Place theory

The theory of place, and the creation of place, originated in the built environment as an important principle of urban design. Canter (1977) stated that environments and places are defined by its physical characteristics and the activities that occur within these places or environments and the meaning that it holds for people. It is thus suggested that people's understanding of a place is formed by the how they feel about a place and what activities they are involved in. The creation of place is thus a union of the environment or the space and people to form a place with a sense of place.

- Space

One of the first definitions of space was that of Newton, who considered space as an absolute, constant, static, and concrete term that is merely the container of objects (Madanipour, 1998:5). Geographically, space is seen as 'mappable', it can be presented and geographically referenced as an absolute concept. This paradigm removes people from the 'box' that the spatial arrangement of geometrics created around space (Hubbard, Kitchin, & Valentine, 2004; Mumford, 1998; Taylor, 1998; Murdoch, 2006). Miller (1991) describes this space as the locations that a person moves through and has direct contact with in their daily activities. It thus creates a locality where activities manifest in (Mason, 2010: 927).

Kirby (1996: 146) stated that space creates a means to draw elements of identity together to define the space. The spatial arrangement thus influences the shaping of space and is therefore subjective (Massey, 1998). Massey (1991: 275) connects 'sociality' and 'spatiality' stating that the composition of space influences identity. Urban space is the assembly of people, objects, and the events that occur in this space (Madanipour, 1998:5). The spatial composition in our daily lives is a key factor in shaping subjectivity (Shields 1989, 1991, 1992, 1997; Sibley, 1995a; Anderson & Gale, 1992; Kirby, 1996 and Massey, 1998). Space creates a background for elements and factors that make out people's identity, movement, and social categories (Kirby, 1996:146). Massey (1991: 275) said that that there is a correlation between space and sociality and it plays an important role in identity creation. Mason (2010:926) refers to it as 'activity space'. These activity spaces are the forming tools for our daily lives, creating a context for routine locations and the psychological, social and health related experiences of the formed space (Golledge & Stimson, 1997; Sherman *et al.*, 2005). It is thus important to study space and how it construct our daily lives in this study in order to understand the full extent of the influence on our social lives and street composition.

Space is a term with a wide variety of implications and meanings. There is a variety of different kinds of space that needs to be understood to create an environment with space that suffice for all the needs of people. However, Space is thus not merely the spaces between, but is a shaping tool for the city and the inhabitants (Madanipour, 1998: 5).

- Place

The geographical, sociological en psychological schools of thought have place models that try to explain the complexity of place. All these models come to the conclusion that place is not merely a physical concept, but is made of the physical place with the activities that take place in it together with the emotions and significance of this ensemble (Brandenburg and Carrol, 1995; Greider and Garkovich, 1994; Canter, 1977; Relph, 1976; Tuan, 1974). This emotional attachment and meaning that people connect to a place is how Relph (1976) and Tuan (1974) explain the development of space to place. Tuan (1974:6) explains this transformation further by stating that what starts out as undefined space transforms into place when people get to know it better, creating meaning and value as they experience it. Sack (1992) regards places as the ground on which people decide what the world means, as it drives people's actions.

Geographers traditionally approach place phenomenologically by studying how place forms through personal attachment and experiences to space (Relph 1976, Steele 1981; Tuan, 1974). Sociologists on the other hand apply a social perspective, studying the values and symbols associated with a space that create meaning (Berger and Luckmann, 1967; Greider and Garkovich, 1994). Psychologist have a cognitive approach to deriving a meaning for place. This approach is built on the brain processing impulses from the immediate surroundings and forming a view of the place that influence their behaviour in the formed setting (Proshansky *et al.*, 1983 Stedman, 2002, Canter, 1977).

Places are continually made, not just when buildings are built in a space or when professional designers are involved, but also through everyday activity and ordinary people moving objects or themselves through or in a space (de Certeau, 1984, Etlin 1997). Most places are the result of people living there and creating their own unique social profile that acquires over time a character (Friedman, 2010:159). This idea is affirmed by Ryden, (1993:37-38) who wrote that a place is given meaning by people 'through the process of living in it', as well as Tuan (1977) who stated that spaces become places through the meaning that is imbedded through life experiences. Tuan (1977:6) went further by saying that an 'unexperienced' setting is a 'blank space' without a meaning of its own. It is thus a socially constructed view of a 'sense of place' created only by people assigned meaning. Greider and Garkovich (1994:2) followed this view by saying that a landscape is the reflection of cultural identities of the people rather than the natural environment. Massey (1998) proposes that a sense of place is a process. A process of a

network of relations, meaning that interaction is not static but that a certain turn of events will lead to a following event, creating for example a culture that is the product of certain social interactions that took place. The sense of place is thus formed by the connection between social interactions.

Place making is relevant on any scale, from a small scale private space to a whole region (Alexander: 1979). The cultural and natural context of the area must be studied in detail to ensure that the existing elements are conserved regardless of the development and advancements. Through this conservation and development, the visual qualities of the area must be enhanced and developed to fit in with the 'sense of place' that needs to be created (Behrens and Watson, 1996: 67-71).

- Place-making

Place-making is the creation of a 'sense of place' or 'Genius loci' (Hague and Jenkins, 2005). This term refers according to Norberg-Schulz (1980) to the 'spirit' of a place that is gained by a location having a distinct character. It is a multidimensional concept that is cultural, physical, social, or spiritual (Aravot, 2002: 209). Over the years the concept of making places for people as an urban design concept, has evolved from in 1953 where Frederick Gibberd (1953) said that the purpose of designing a town is to ensure that the urban composition is not only functional but also has a pleasing appearance, to 1988 where Peter Buchanan said that place making is not just a place in a specific space but all the activities and events that make it possible. Agnew, (1987) described a sense of place as the 'structure of feelings', it examines the ties and connections that people have with places. A 'sense of place' is not only places where people feel good, as Gieryn (2000) described it, it is the meanings that people connect with the objects that are gathered in a space such as 'ours or theirs; safe or dangerous; private or public, known or unknown, beautiful or ugly; accessible or restricted' to name but a few or as Moore and Greale (1994); Hummon (1992); Greider and Garkovich (1994); Williams and Stewart (1998) and Nanzer (2004) said: the symbolic value that is associated with a certain setting. A 'sense of place' propose that something more than the physical and sensory is experienced by the people dwelling in these places and that this place identity is formed unconsciously (Arefi, 1999). Sense of place is a result of place-making and is regarded by Aravot (2002:202) as a need that is vital for the well-being of people and their feeling of security and orientation to not feel estranged in their own living spaces. An emotional bond is formed between people and the environment they dwell in, creating place attachment. (Hummon, 1992; Low and Altman, 1992; Moore and Greafe, 1994) This place attachment is defined by Shumaker and Taylor (1983; 221) as a 'person-place' bond that is shaped by certain characteristics of a place and the people. Gordon Cullen (1961) said it is the creation of a 'sense of being here'. Hay (1998:5) suggests that this 'sense of being here' goes even deeper.

Tourist and transients do not develop the same attachment to a place that the long-term residents of an area develop, thus meaning that the 'sense of being here' is not enough. A sense of place thus promotes the understanding of people dimensions (Kaltenborn and Williams, 2002) and is important when creating spaces for people to dwell in or 'place-making' in urban design. It is a concept that has been getting attention in the study of place preference, public participation, natural resource and landscape access control, cultural and social factors influencing the value of land, landscape planning and policy (Soini, Vaarala and Pouta, 2012:)

Place-making is thus the creation, using, designating, building, interpreting, remembering, and designing (Gieryn, 2000:468) of a space in order to create a place with a sense of place, seen in figure Figure 8. A unique character must be established with a fine balance between the natural and human environment (Behrens and Watson, 1996: 67). An example of a safe and balanced urban surrounding is that of Greenwich Village that was praised by a critic of planning, Jane Jacobs (Jacobs, 1961).

The focus on the built environment as a tool to satisfy people's needs led to the formulation of architectural psychology. But creating an environment that affords people activities and events needs to be combined with the meaning that is attached to the environment that creates unique places. People and the environment both play a role in the interaction that is needed to create peoples' places.

WHAT MAKES A GREAT PLACE?

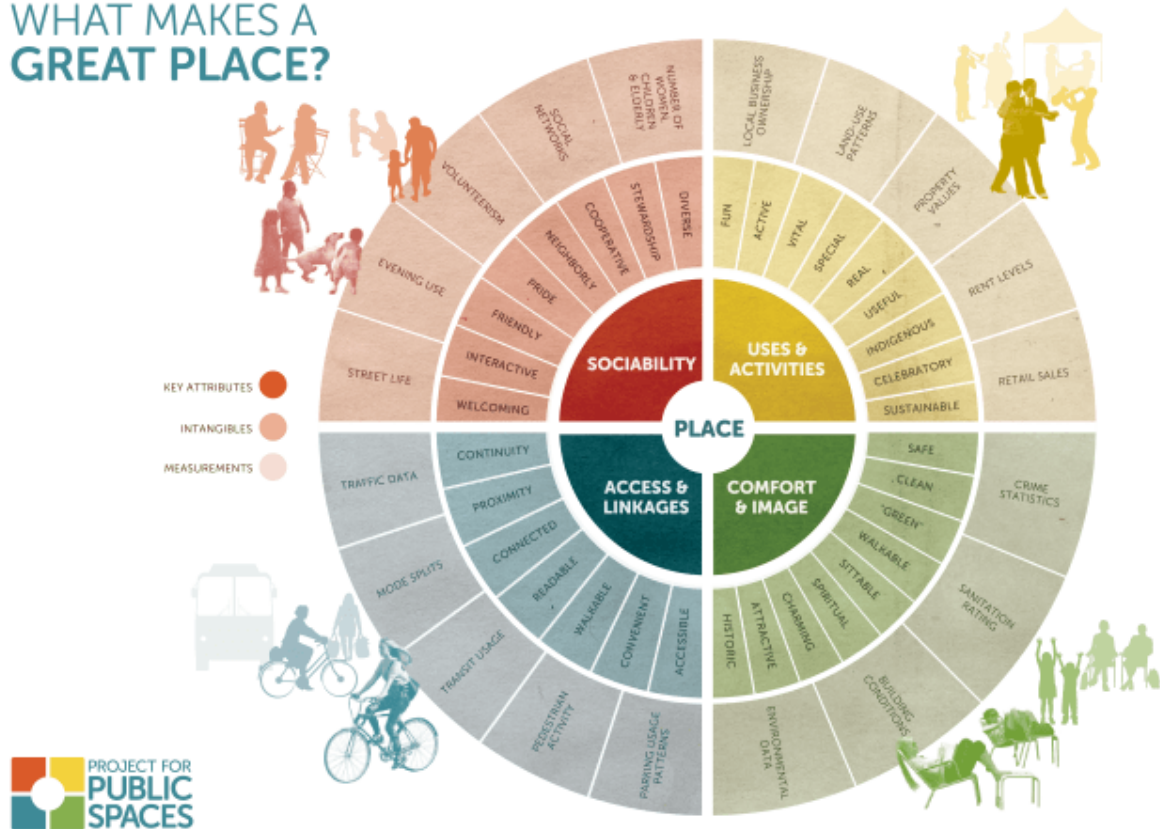


Figure 8: Place- making (Source: Project for Public Spaces, 2009)

2.2.2.5 Focus on people

People are influenced by different stimuli, factors, and activities, occurrences and variable experiences. The relationships between people and the environment can range from people dominated environments to environmental determinism (Nagar, 1958:28). Environmental psychologists have studied the impact that people have on the environment and vice versa, with results showing the positive or negative impact people and the environment can have on each other.

Uzzell and R  thzel (2009:340) argues for a 'Transformative environmental psychology', starting with assessing structures and processes where people's relationship to the environment is shaped and what the influence of people is in this environment. Their intention with this argument is to study how people make sense of the world, how they act in a social process, and how opportunities and obstacles are recognised in an attempt to understand the conditions of social life and what needs to change, thus creating sustainable lifestyles with a sustainable society (Uzzell and R  thzel, 2009:341). Cognition and perception form two key variables in

people-environment interaction. It forms part of the mental process to perceive, sense, interpret, and make decisions accordingly (Gold, 1980).

This section will focus on the relationship between people and the environment with a focus on people needs and their behaviour in certain environments, as well as the actions and reactions of the environment creating this relationship. To change people behaviour the variables and decisive factors that make up behavioural processes must first be understood (Uzzell and Rätzl, 2000:341), it is necessary to address the origin of the desire or need that leads to certain behaviour.

From a people perspective, the interaction that exists can be divided into an adjusting relationship, using the available environmental resources to survive and adjust to, for example, the environment when developing a township, or a manipulative interaction. This is for example the adjustment of the environment to satisfy people needs, such as air pollution (Nagar, 1958:28). Anne Buttimer looked for an all-inclusive and thoughtful way to understand the actions of people with regard to their social, spatial, and physical environments (Buttimer, 1976, 1987; Buttimer and Seamon, 1980; Seamon, 2004). Uzzell and Rätzl (2009:341) stated that behaviour cannot only be the result of deliberate, rational, and individual evaluation but is based on emotion, social influence, tradition or culture or even wider influences. Internal and external processes influence the interaction.

2.2.2.5.1 Paradigm shift from focus on internal mental processes and to external mental processes

Initially psychology only studied internal mental processes (Wilson and Keil, 1999). Some, like Ivan Pavlov (classical conditioning) and Edward Thorndike (instrumental learning) studied earlier behaviourism (Heimlich and Ardoin, 2008:217). Psychology is defined by Uzzell and Rätzl (2009:341) as the 'science of people behaviour' and is therefore ideal to research the understanding and changing of people's perceptions, attitudes, and behaviour towards the environment (Uzzell and Rätzl, 2009:341).

John B. Watson opposed the study of only internal mental processes in 1913 with his doctoral paper, 'Psychology as the Behaviourist Views It', that studied visible behaviours rather than non-visible mental processes (Hineline, 1992) based in natural science traditions of logical positivism (Reber and Reber, 2001). This encouraged a paradigm shift towards behaviourism and that people behaviour develops as a result of stimuli from the environment and the response to the stimuli (Tomprowski, 2003). A framework of the relationship between behaviour and the observable social and physical environment were formed (Jensen, 2006).

A paper published by the psychologist Kurt Lewin in 1944, 'Psychology Ecology', changed the focus of psychology from looking within the person for behaviour influences to the external environment having a forceful influence on an individual's behaviour (Nagar, 2006:22).

As an inquiry into the understanding of the people-environment interaction Barker's concept of behaviour setting – that study people behaviour in a particular setting – will be studied.

2.2.2.5.2 Behavioural Setting - Barker

Lewin stated that behaviour is a function of a persons' personality and environment, showing that the settings are as important as the person and both must be analysed to gain an understanding of behaviour. The term 'setting', in psychological literature, refers to a set of interconnected elements, or a particular place where people share recurring patterns of activity and familiarity (Argyle, 1977, Magnusson, 2015). The broadest analyses of setting was done by Barker (1960, 1968) in his theory of behavioural setting, classified into dimensions (Nagar, 2006:25) and Bronfenbrenner (1977, 1979) with his analysis of the ecology of people development. Although these theorists focused on different fields of study, they both agree on the interdependence of the physical setting, social structures, and personal components (Stokols and Shumaker, 1981:92).

Barker's theoretical basis was that environments would select and shape the behaviour of the people who inhabit it (Walsh, 1973:9). A behaviour setting consists of three key components, namely a milieu, a recurring activity, and the harmonious relationship between it (Barker, 1968; Bechtel, 1977, 1997; Lang, 1987). An increase of the harmony between the milieu and the recurring activity will create a better behavioural setting that can accommodate people behaviour and needs (Mehta, 2007:17). People will generally behave in similar ways in a specific setting despite their individuality, leading to the conclusion that environments have a coercive influence on people's behaviour (Walsh, 1973:9).

Koffka (1935) expressed his phenomenological orientation in his publication 'Principles of Gestalt Psychology'. He reasoned that the environment is not as it is, but rather as it is perceived and experienced.

The environment and people are thus inseparable in their interaction with each other.

2.2.2.6 People-environment interaction as transactions

Carmona *et al.*, (2003:3-19) described environmental psychology as a social dimension where people interact with the environment. The surroundings can influence the social relationships and behaviour and will depend on the specific situation, whether it is cultural, physical or just perceptual. When the environment is changed, people's behaviour will change. The people's

basic needs must be satisfied, people have a psychological need for warmth and convenience, they also need to feel safe and secure in their environment, they need to feel part of the community and environment and to be appreciated for who they are.

The collective term to address the improvement of people experience is known as 'quality of life' (Costanza *et al.*, 2007:268). This refers to how well people's needs are provided for, or the level of satisfaction or dissatisfaction with their environment. The 'objective' measurements of quality of life is usually calculated by using economic, health and social indicators measured by the GDP (Gross Domestic Product) per capita or the UN Human Development Index (Cummins *et al.*, 2003). In contrast to this, the 'subjective' measurement will focus on people reporting on their own experience that adds to the economic, health and social indicators creating an indicator of apparent need satisfaction (Costanza *et al.*, 2007:268). Haas (1999), however argues that quality of life is just a 'subjective sense of well-being' creating the problem of people comparing their well-being with others rather than giving a true assessment of their own well-being (Schwarz and Strack, 1999).

To assess, an environment in the light of people's needs is not sufficient to understand what opportunities the environment poses for the group or individual. It is necessary to determine to what extent the opportunities are repressed or stimulated by the environment and how accessible, flexible or creative that environment is, and more importantly how the person can influence that environment that shapes their opportunity (Ekins & Max-Neef, 1992:202). The principle of environmental psychology is that the environment influences behaviour, the design of a space can inhibit or promote desirable or undesirable behaviour (Nagar, 2006; Newman, 1972). Kaplan and Kaplan (2009:330) turned their focus, based on this principle, to creating environments that promote positive behaviour that will lead, not only to better society, but also to a better quality of life.

After reviewing numerous studies by authors such as Stokols and Altman (1987), Veitch and Arkkelin (1995) and Bell, Fisher Baum and Greene (1996), Aragone's and Ame'rico (2002:26) defined environmental psychology as a discipline that studies the mutual relationship between people's behaviour and the socio-physical environment. Levy-Leboyer and Bernard (1987:6) view the relationship between people and the environments as active and transactional. Gifford (1987:2; Gifford, 1997) referred to environmental psychology as "the study of transactions between individuals and their physical setting". Gifford (2014:544) summarized the basic foundation of environmental psychology as that 'we are always embedded in a place'. Layers of places - a room, building, street, neighbourhood, province to the world, surround us. People/environment interaction is mutual and crucial with the one shaping the other (Gifford, 2014:544).

Mozzer and Uzzell (2003:423) following the interactionist paradigm, defined it as the mutual relationship between persons and environments, and is essentially a “psychology of space”. This leads to the forming of four analysis levels, namely; private spaces, public or private environments, public environments and global environments (Günther, 2009:359). Moser, (2006:22) defined environmental psychology as a reciprocal relationship between individuals or groups or communities and the physical and social environment.

People have an effect on the environment while the environment directly affects the everyday life of people and through our senses people perceive, and get a feeling for their environment. Some theorists describe the interaction as transactional, as there is a stimulus and a reaction that creates interdependency.

2.2.2.6.1 Transactional Theory

According to Walsh (1973:156), the transactional theory developed by Aaron Pervin is the most phenomenologically oriented theory of person-environment interaction. Dewey and Bentley (1972) critiqued the interactional models of their time, typified by behaviourism and called these models ‘interactional’ and their alternative, ‘transactional’ in their book ‘Knowing and the Known’ (Khalil, 2003:167). This refinement led to the ‘transactional view’ (Khalil, 2003:167). Dewey and Bentley’s (1972:98) critique was based on the reflex arc concept, which was later named the ‘stimulus-response’ model, of behaviourism. The stimulus-response model presented a disjointed psychology for Dewey as the agent and the environment is independent of each other and Dewey argued that they are interdependent in what he and Bentley referred to as the ‘transactional field’ (Dewey and Bentley, 1972:121). Dewey and Bentley’s transactional view thus consisted of three parts: beliefs, behaviour, and constructed objects, meaning that a belief is formed by an experience and this orients the body to behave in a certain manner that will perceive the object (Khalil, 2003:168).

Stokols (1978:259) defined the people environment interaction as transactional. People attempt to optimise their relationship with the environment through a process where they become conversant with the environment by using existing information, objectives, and prospects. People are directly influenced by the environment and uses the current context and setting as a framework for future activity and goal achievement (Stokols, 1987:259).

Pervin (1968) made the distinction between interpersonal and non-interpersonal environments that match an individual’s personality or not. A higher degree of satisfaction and performance will be achieved by a better match of an individual with the environment while a low degree of fit will probably lead to dissatisfaction and a decrease in performance (Walsh, 1973:156).

The people/environment transaction can be divided into two dimensions: cognitive vs. behavioural and active vs. reactive, creating four modes of transaction: Interpretive, Evaluative, Operative and Responsive (Stokols, 1987:377). Social-psychological theories make two assumptions about cognitive imbalances. The first is that cognitive consistency allows individuals to behave more effectively in their interaction with others because they can make predictions that are more accurate and the second is that there is a basic tendency for individuals to reduce inconsistency and imbalance (Argyris, 1969). The categorization of the different levels of settings that reflects the level of social organization and interdependence offer theoretical insight into the transactions between peoples and places.

The transactional nature of the interaction between people and the environment is however not a mere linear transaction but is more complex. The Complexity Theory is thus a more accurate description of the unique complex interactions that exist between the two elements of environmental psychology.

2.2.2.6.2 Complexity Theory

The definition of complexity theory is elusive as it is tailored to suit the transdisciplinary interests of research (Thompson, Fazio, Kustra, Patrick and Stanley, 2016:2; Manson, 2001:405), although Cilliers (2013:38) defines it as “complexity is a characteristic of a system”. Burnes, (2004:310) states that complexity is concerned with the materialisation of order in a dynamic non-linear system, operating at the edge of chaos.

The complexity theory allows a researcher to study complex systems without reducing the system to individual components (Strumberg and Martin, 2013:15). The interactions of the different system components result in the behaviour of the overall system. These interactions arise from individuals responding in a certain way to the environment and the changes that occur in it (Thompson *et al.*, 2016:2). There is limited control over the system and consequently new system behaviour is unpredictable and difficult to find the source of the change. It seems that the rules of cause and effect do not apply (Wheatley, 1992; Beeson and Davis, 2000; Haigh, 2002).

Fields like computer science and mathematical fields use the complexity theory for quantitative modelling whilst social scientists use the complexity theory metaphorically (Thompson *et al.*, 2016:2). In the development process, three related, although different theories emerged, namely the dissipative structures theory, chaos theory and the theory of complex adaptive systems. The theories differ in the sense that the dissipative and chaos theory are focused on mathematical modelling and the complex adaptive systems theory is focused on modelling the same phenomena by using different agent-based approaches. The complex adaptive systems

theory thus formulates rules of interaction for individuals in a system rather than rules for a whole population (Burnes, 2004:314).

The development of environmental psychology has developed progressively from a focus on people/environment interaction as a spontaneous process based on the dependency of people on the environment to an environmental determinism view or a focus on only people. This changed over the years to acknowledge the transactional nature of both these elements that form an integrated complex system where the environment cannot be separated from people or vice versa. A holistic view has thus formed from the once simple approach to the elements of environmental psychology in isolation or separated from each other.

2.3 Conclusion

People-environmental interaction is a focus on the relationship between people and their environment and the influence that the environment have on people. This interaction can result in people adapting to or modifying the environment or that the environment influences the reaction of people, as people are connected to the spaces that they live in. People-environment interaction is mutual and crucial with the one shaping the other (Gifford, 2014:544). Scientific psychology research began in the 1800s, but only in the middle of the 1900s did it start to include the physical environment (Gifford, 2014:579). Environmental psychology is a key component to people as well as environmental well-being and is essential for policymaking (Vlek, 2000; Uzzell and Rätzl, 2009:341). Changing the built environment to adapt to the needs of people will result in a better quality of life as the people's behavioural patterns will adapt to a more vibrant environment. Once environmental characteristics are linked to a better quality of life, policy interventions can be justified. The transactional nature of people/environment interaction serves as a background to explore theories on the design of streets and a street as a micro context in which people interact.

CHAPTER 3: PLANNING AND DESIGN THEORIES OF STREETS AS SOCIAL SPACES



CHAPTER 3: PLANNING AND DESIGN THEORIES OF STREETS AS SOCIAL SPACES

“If we can develop and design streets so that they are wonderful, fulfilling places to be – community building places, attractive for people - then we will have successfully designed about one third of the city directly and will have had an immense impact on the rest.”

- Allan Jacobs -

3.1 Introduction

Streets cover the largest area of public open space in towns or cities (Barker, 2009:155). Streets are visited daily, making them one of the most important public spaces (Appleyard, 1981; Carmona *et al.*, 2003; Chekki, 1994; Jacobs, 1961; Jacobs, 1993; Lofland, 1998; Mehta, 2007; Southworth and Ben-Joseph, 1996; Vernez-Moudon, 1991) where people-environment interaction occur. Streets provide the social platforms in which people meet and socialise (Guerrero, 2007:7). This chapter will focus on theories that support streets as primary spheres of social interaction. The focus will be on the role of streets in the daily interaction of users and inhabitants and the physical and psychological aspects that influence the social life of streets.

Various theories support streets as social spaces, for example Gehl's (1971) theory of Life Between Buildings, Appleyard's (1981) theory of Liveable Streets and Jacobs's (1995) theory of Great Streets. These theories will form the focus of this chapter. However, the importance of streets will first be discussed as well as streets as public open spaces and successful streets.

3.2 The importance of Streets

Traditionally in historical cities, streets served to provide in basic survival, communications, and entertainment needs (Lofland, 1998; Rudofsky, 1969). Public spaces have been an inevitable component in cities for centuries and its primary functions are to facilitate social interaction and social events promoting public life and creating an extension of people's living space (Behrens and Watson, 1996:208) essential to satisfy the human need for contact, communication and relaxation. Jacobs (1961) stated that streets are the structural organs of a city (see Figure 9). Streets form the arteries of cities and neighbourhoods that affect the quality of life (City of London, 2010:9) as it forms a social space with its own characters and social organization (Barker, 2009:155). Carmona *et al.*, (2003:111) described streets as the purest form of public space as it is accessible to everyone. It is the structuring element of the urban form and its design is a reflection of the historical changes of the city (Guerrero, 2007:1). Streets are therefore vital 'organs' in cities.

Open spaces are related to social, political and physical health of residents and it is argued by theorists like Jacobs (1961), Whyte (1980), and Tibbalds (1992) that high-quality neighbourhood

spaces can invoke interpersonal connections and generate a sense of community (Boyer, 1994; Hayden, 1995). Political theorists state that the public sphere can even strengthen democracy because diverse cultural and class groups can meet and gather in a communal space (Carr *et al.*, 1992; Habermas, 1962; Madanipour, 2003; Sandercock, 1998; Sennett, 1971). Public spaces play a critical role as people attach meaning to the public space they dwell in daily or where they meet friends (Hester, 1993; Low, 2000).

Various fields related to urban studies have found that plazas, squares, parks, and streets have the potential to form the platform of everyday communal life (Carr *et al.*, 1992:3)

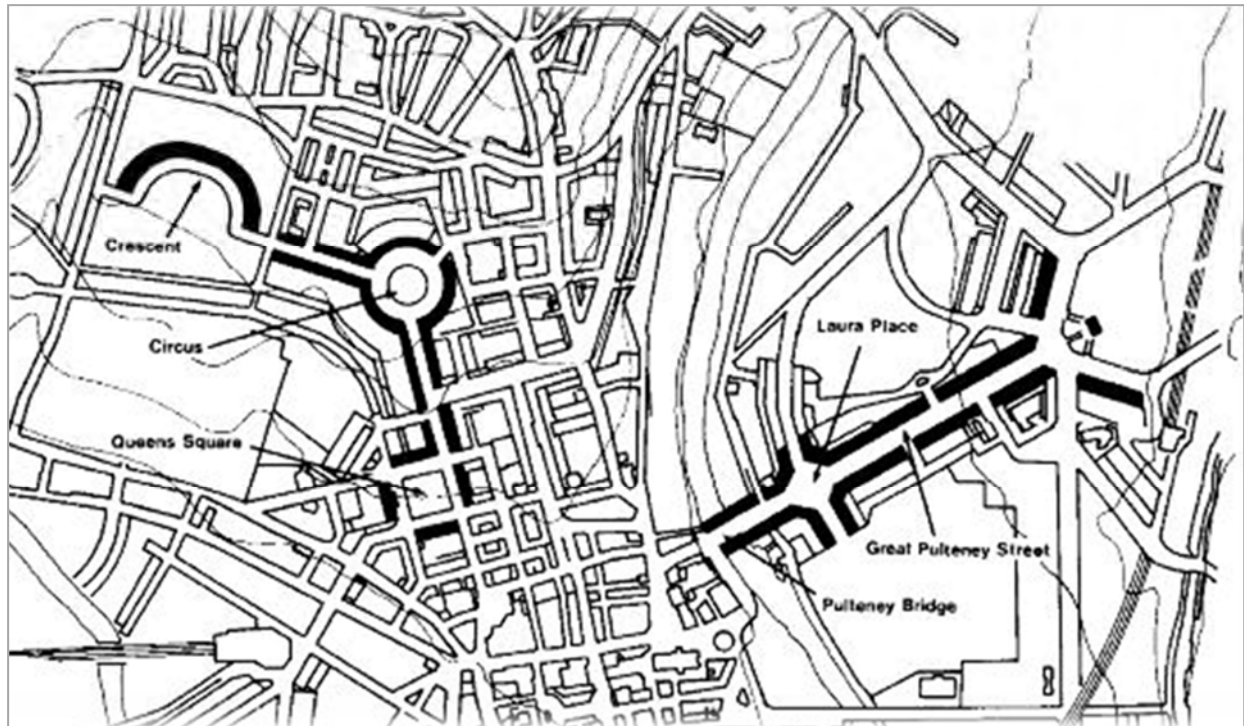


Figure 9: Streets as structural 'organs' of a city

Streets form a multi-functional space (City of London, 2010:9) that provide people with functional, social and leisure activities (Gehl, 1987; Vernez-Moudon, 1991; Carmona *et al.*, 2003) including activity, movement and enclosure. The functions of a street have included pedestrian, vehicle and cyclist circulation, transit, travel, shopping, building access, play, meeting, relaxation, utility routes, storage space for especially cars and public space (City of London, 2010:9; Jacobs, 1961; Appleyard, 1981; Jacobs, 1993; Southworth and Ben-Joseph, 1996; Lofland, 1998). These functions are said to be present in most streets but the balance between the different activities vary and often one activity dominates (City of London, 2010:9). The design of streets focused in previous years on movement, whereas the street has many other functions that are neglected (City of London, 2010:9).

3.2.1 Streets as Public open spaces

Open space includes all un-built spaces, regardless of its public accessibility and includes roads and footways (Behrens and Watson, 1996:208; Stanley, Stark, Johnston and Smith, 2012:1089). Public open space is defined according to its ownership, access and control, Madanipour (1998:144), however defines it as only the space that is not in the control of private institutions or individuals, open to public use. Streets form a battlefield between public and private boundaries, boundaries that are constantly argued and negotiated over (Barker, 2009:160). According to Guerrero, (2007:5) streets stem from the separation of public and private space as streets did not exist in the early hunter/gatherer villages where one's family extended to the whole of the community, with less division and social organization and status. Open space can range from private to semi-private, semi-public or public depending on the use and control of the space (Behrens and Watson, 1996:209; Stanley, Stark, Johnston and Smith, 2012:1089). Private space is owned by private entities or persons and may be fenced off and access to the general public is not permitted. Semi-private space falls within the ownership of, for example, a community and access can be gained by these people. Semi-public spaces are spaces where access can be prohibited and public space is where the ownership falls within the public authority and is accessible to all.

The privatisation of public spaces and plazas as well as the introduction of shopping malls and virtual realms has replaced traditional public spaces (Banerjee, 2001; Brill, 1990:11; Rybczynski, 1993).

3.2.2 Successful Streets

The success of a place can be dependent on the connections it has, i.e. street connections, with local services and the bigger city area (City of London, 2010:9). Streets that have proven to be successful are streets where traffic and other activities have been integrated and where the needs of people shape the environment (City of London, 2010:9). Mixed land uses are thus advocated in literature where neighbourhoods do not only accommodate residential uses but also work, light industrial, retail and entertainment uses to create a vibrant, safe, attractive, viable, and sustainable urban lifestyle (Calthorpe, 1993; Ewing, 1996; Krier, 1992; Yeang, 2000; Whyte, 1988).

3.3 Street Design Theories

Various authors developed theories that support streets as social spaces. These theories include Safe Streets, Shared Streets, Life Between Buildings, Liveable Streets, The Social Life of Small Urban Spaces, New Urbanism, Great Streets and Complete Streets. The rest of the

chapter will focus on these theories and the planning and design for streets that form social spaces.

3.3.1 Safe Streets - Jane Jacobs (1961)

3.3.1.1 Background

Jacobs' (1961) publication on "The Death and Life of Great American cities" have changed the way people look and think about cities (Farnham, 2014: 13). Robert Fishman (1996) stated that Jacobs urged America to 'recover the true meaning of urbanism'. Jacobs was at the helm of the paradigm shift that occurred in the 1960s in urban development. She observed the diversity in urban activities and the importance thereof, she opposed urban renewal projects initiated by the public sector, and she recognised how streets can function as public spaces (Farnham, 2014:31).

Jacobs used Greenwich Village (Jacobs, 1961), her own neighbourhood in New York City, as a study area to observe urban life, as can be seen in Figure 10. She used it as an example to demonstrate how important it is that a place has its own character and the value of genuine urban conditions. Jacobs also used the Village to formulate lessons for creating authentic urban neighbourhoods (Farnham, 2014:16).



Figure 10: Greenwich Village, New York as studied by Jacobs (Source: Kornblit Tours)

3.3.1.2 Theoretical construct of Safe Streets

Jacobs (2008:124) believed that her neighbourhood's success, or foundation of the street ballet, lay in four elements. These elements are (i) the mix of land uses in the neighbourhood, (ii) a very dense population, with between 75 000 to 100 000 people, (iii) city blocks that is of a short distance and the streets narrow and lined with commercial activities on the ground floor and (iv)

the buildings on the street were built over time (Hill, 2007:302; Hospers, 2006:726). She attributed the different kinds of people that wandered the streets at different times of the day to these four elements.

(i) The mix of land uses that provide several functions and creates diversity, contribute most to the street being busy at all times of the day as facilities are needed at different times of the day (Farnham, 2014:27; Hospers, 2006:726).

(ii) The dense and compact population results in active streets with many shop owners, residents, and street dwellers that create the element of passive surveillance that in turn enhances safety and economic activity (Jacobs, 1958:124). The crowded sidewalks also generate excitement and interaction that form the beauty of appealing cities (Hill, 2007:303). The variety of residents is increased with the increased population, creating more opportunity for a variety of functions that can be supplied in the street (Hospers, 2006:726).

According to Jacobs, societies are good if they are resilient, complex and creative (Hill, 2007:304). The assumption is made by Jacobs, that diversity – such as social class, culture – is the greatest virtue in a city and creates a balance in society (Jacobs, 1961:95). This diversity can only be accomplished by a high population density and a mix of ethnic, cultural, social, and economic variety. This requires proper planning (Hill, 2007:304). The mix of uses needs to be sufficiently complex and diverse to sustain safety, public contact and use (Watson, Plattus and Shibley, 2003:2.10-1).

(iii) The short and intricate street network creates a place where pedestrians do not need to take the same route daily but can discover new places (Hospers, 2006:726).

(iv) The presence of buildings, which have been built in different eras, styles, and host different functions create a varied city image (Hospers, 2006:726). The buildings, shaping the urban form look out onto an active corridor-street, vibrant with pedestrian life (Hill, 2007:302). According to Jacobs (1961) the wide variety of people, buildings and functions that is accommodated in the street play an important role in social cohesion, as people get a feeling of belonging because there is enough interaction, which in turn creates 'social capital'.

The elements of a street are compared to the organs of a body where the one cannot function without the other and the streets form the arteries of the cities – the life - where city dwellers meet and the activities of the city unfold. Jacobs describes the streets as the backdrop to the 'sidewalk ballet'. Everyday activities are seen as vital to a cities' wellbeing.

Jacobs celebrated an organic and unplanned city where the unplanned nurtured a safe, urbane community (Jacobs, 1958: 124). Jacobs' idea of urbanism is an organic, self-organising process

that unfolds over time and is not planned or designed. Jacobs saw a neighbourhood that will be described as disorganized and inefficient as a place of 'organised complexity. If this neighbourhood was truly understood, it will be described as economically efficient and orderly (Page and Mennel, 2011:13). It thus moves away from planning being a controlling aspect of city planning towards planners being observers and listeners to the inhabitants of an area (Farnham, 2014:19).

Jacobs' criticism of urban renewal projects, super blocks, countryside new towns, cul-de-sacs and suburbs was directed at preserving these four elements as she saw the new buildings as sterile tower blocks built over long city blocks with no commercial activity and low-density suburbs with no diversity and intensity (Hill, 2007:302, 304; Jacobs, 1958:124; Sharifi, 2016:5). This created walking distances that are too long for pedestrians on streets with no life (Jacobs, 1958:124) reducing the social encounters, as it isolates the people from the sociological functions of the street, and increasing the use of cars (Hill, 2007:306; Sharifi, 2016:6).

Jacobs' vision of how a city should work, evolved through the years and she later wrote 'The Economy' of Cities (1969) and 'Cities and the Wealth of Nations' (1984). Jacobs wrote about cities and the problems that cities have and how these play a role in society and the economy until the middle 1980s, whereafter she focused her attention on philosophical and social issues (Hospers, 2006:725).

3.3.1.3 Safe streets and social space

According to Jacobs (1961; 44) a well-used street is a safe street. This implies that the more opportunity is created for social encounters the safer a street will be. The principles identified in Jacobs work for the design of streets all contribute to creating safe streets as a social space. By "zoning for diversity" (Jacobs, 1961:252) and increasing the mix of uses, functions, diversity of people, networks and density, the safety is increased. Ownership is taken of a street when a sense of belonging exist in residents and a public identity is formed (Jacobs, 1961:67) and public responsibility is taken (Jacobs, 1961:93). With the increase in safety, more people are drawn to these areas (Jacobs, 1961:92). Sections of the downtowns of cities such as San Francisco, London, Paris, Hong Kong and Tokyo approach Jacobs' ideal and the energy and liveliness of these cities attract people (Hull, 2007:312).

Although wildly criticised for her lack of rigour, inconsistent use of sources (Farnham, 2014:18) and her lack of sensitivity to the historical context of urban development (Jacobs, 1958:125) Jacobs's ideas are more relevant than ever (Farnham, 2014:14) as her recommendations became a norm in urban planning teaching (Jacobs, 1958:124).

3.3.2 Shared Streets – Colin Buchanan, 1963 or ‘woonerf’ - Niek De Boer, 1969

3.3.2.1 Background

‘Shared streets and ‘woonerfs’ is a concept where pedestrian activity and car movement are accommodated on one shared surface (Carmona *et al.*, 2003:80). Southworth and Ben-Joseph (2003:117) describe the shared street or woonerf as one of the most intriguing design innovations.

Although the concept of shared streets was first implemented in The Netherlands, the philosophical origin of the concept was developed by Buchanan, with his team. They wrote a report, *Traffic in Towns* (1963) in response to the England Ministry of Transportation order to investigate improvements for urban transport. This issue had to be addressed through congestion reduction and accepting the use of cars (Hass-Klau, 1990). Buchanan recognised the conflict of providing easy traffic flow and ruining the residential fabric of the street. This led to the revolutionary approach to evaluate and restructure the urban traffic system into specific zones. This was named ‘urban rooms’ or ‘environmental areas’ (Southworth and Ben-Joseph, 2003:118). The physical aspect of the street would thus be redesigned and the public domain reclaimed for pedestrians. This approach to traffic calming and integration was not well received by policymakers in England. Later in the 1970s, when the Ministry of Housing and Local Government and the Ministry of Transport merged the first attempts were made to address the issue of land use and transport planning as one issue (Southworth and Ben-Joseph, 2003:119) under the guidance of this report.

In Germany and The Netherlands the ideas of Buchanan were well received and Buchanan is referred to the “father of traffic calming”. The theoretical constructs of the *Traffic in Towns* (1963) report inspired De Boer to design streets, which he named ‘woonerfs’, where car users would feel as if driving in a garden, as can be seen in Figure 11. This setting would then make drivers attentive to other road users and give pedestrians right-of-way in sensing that they are visitors in a pedestrian zone and have to be more cautious (Carmona *et al.*, 2003:80). De Boer’s ideas were implemented in the Inner City of Delft in the lower-income neighbourhoods in 1969. This was a success and the concept was translated into guidelines and regulations and distributed all over The Netherlands and later, in 1976, adopted as a legal standard for designing and regulating traffic by government (Southworth and Ben-Joseph, 2003:120).



Figure 11: “Woonerf” concept (Source: Canin Associates, 2014)

3.3.2.2 Theoretical construct of Shared Streets

The basic principle of a shared street is integration with prominence given to residential users and the community. In the shared street concept, playing children, cyclists, car parking, moving cars, and pedestrians all share the same space, as can be seen in Figure 12. These uses are conflicting in nature, but with the physical design of the shared street, where motorists do not have the right-of-way, a safe space is created for the users, where the driving speed of cars is decreased and social uses are supported (Curl, Thompson and Aspinall, 2015:118; Gehl, 2010:234; Southworth and Ben-Joseph, 2003:117; Watson, Plattus and Shibley, 2003:6.9-5).

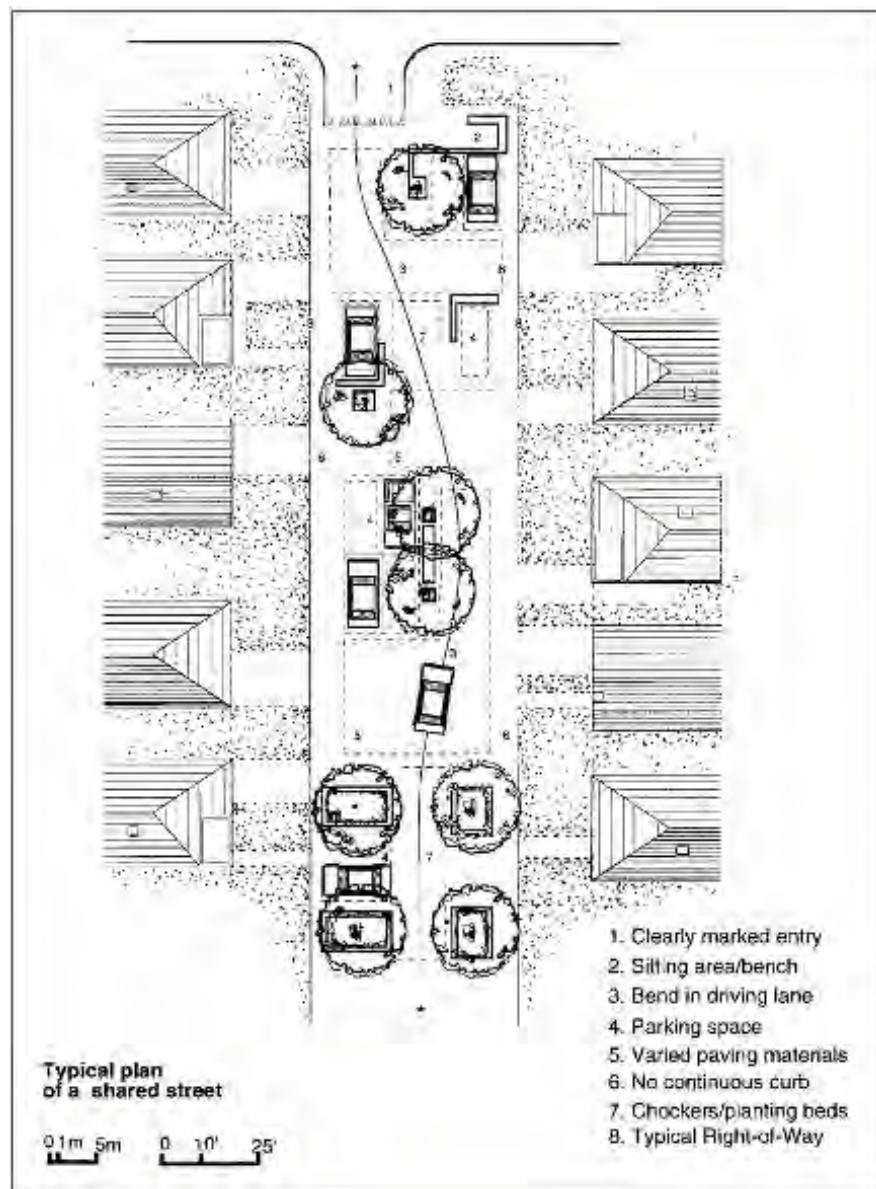


Figure 12: Typical plan of a Shared Street (Southworth and Ben-Joseph, 2003:118)

The concept developed by Buchanan evaluated the area according to the traffic levels and environmental quality that is indicated by noise, social activity, pollution, visual aesthetics and pedestrianisation. The streets design would then vary according to the functions of the street (Southworth and Ben-Joseph, 2003:118), separating cars and pedestrians in some areas and mixing uses in others (Southworth and Ben-Joseph, 2003:119). De Boer's design of the woonerf was placed in lower-income areas in Delft because the street provided in much needed open space for children to play. The sidewalk and roadway created were integrated to create the impression that the houses had a yard with trees, benches, and small gardens (Hass-Klau, 1990; Jonqui re, 1987). The shared streets system is very adaptable to the needs, shape, or street setting and is characterised by the following principles:

- The street is a public space in a residential area;
- The entrances to the shared street is marked clearly and announces to the visitors to the street that a shared street is entered;
- Vehicular traffic that passes through the area are discouraged by design;
- Physical barriers such as trees or planting beds and curves are used to reduce vehicular speed;
- Inhabitants of the area are allowed vehicular access to their properties;
- Pedestrians have right-of way and the paved areas are shared by both pedestrians and cars. The whole street is dedicated to walking and playing;
- The street is not built in a conventional way with curbs that separate the vehicular and pedestrian spaces. The different areas are not marked strictly;
- The street can only accommodate one car at a time, allowing passing only in certain areas, and the travel route shifts from side to side every 40 meters to prevent speed built-up;
- Parking is provided in clustered areas, with no more than six parking spaces at a right angle to traffic. The parking spaces are marked with physical elements such as street furniture or planting beds and trees;
- The shared street can consist of a combination of connected public spaces, or can be a street or public square; and
- The area is landscaped and street furniture is provided (Biddulph, 2003; Curl, Thompson and Aspinall, 2015:118; Southworth and Ben-Joseph, 2003:122).

The shared street's ability to accommodate irregular street forms has freed designers to develop spatial patterns that are not constrained by linear streets (Southworth and Ben-Joseph, 2003:123)

3.3.2.3 Shared streets and social space

The integration of traffic and residential activity in a shared space has encouraged design configurations that promote pedestrian activity and increase social interaction in countries such as The Netherlands, England, Japan, Israel, and Germany (Polus and Craus, 1990; Southworth and Ben-Joseph, 2003:117; Webster, Tilly, Wheeler, Nichols and Buttress, 2006). The shared streets support children activities and social activities close to home in an extension of their personal space into the former traffic lanes (Gill, 2006; Southworth and Ben-Joseph, 2003:124). In Figure 13, below, a German street is shown of a study of activity before and after the conversion of the street to a shared street. This shows that the shared street attracted more play and complex activities (Southworth and Ben-Joseph, 2003:124).

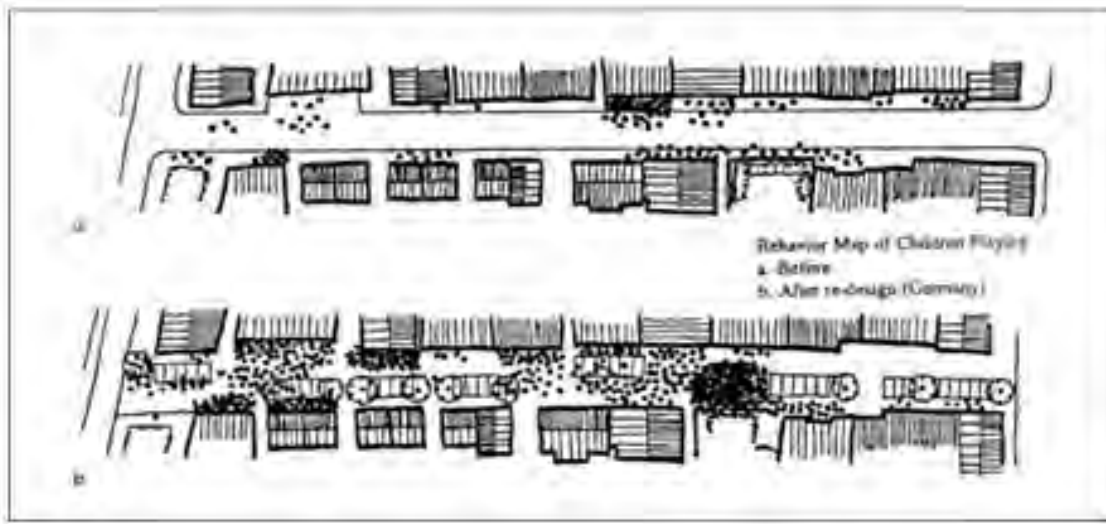


Figure 13: Comparative study, before and after the shared street conversion (Source: Southworth and Ben-Joseph, 2003:124)

Before the high levels of car ownership, the street was a mixed-use public domain that is re-established by shared streets that create a social milieu (Southworth and Ben-Joseph, 2003:124). Streets are more than just movement corridors for cars. They are places where pedestrian interaction occurs, and people socialise.

3.3.3 Life between Buildings- Jan Gehl (1971)

3.3.3.1 Background

Gehl is an architect with an interest in the performance and quality of public spaces. Gehl published his book "*Life Between Buildings*" (1971) as an examination of the patterns of the use of outdoor space and the physical environment (Campos, 2012:125). When a person leaves a building, they enter the open space between buildings, whether it is public or private, designed or natural (Gehl, 1987). The concept of 'life between buildings' includes the full array of people activities in the public space available to them. This can include walking, stops, shopping, conversations, trade, playing and entertaining (Gehl, 2010:19) that occur in streets, plazas, natural areas, gardens or sidewalks.

Gehl (1987:43) stated that the lack of vitality in street life is a result of twentieth century design. He studied pedestrian flows and the spatial components that increase or reduces the flow, such as entrances, building heights, active frontages and multifunctional areas, accessibility and visibility. He concluded that to create lively and successful public space, there needs to be moving and stationary activities present in the space (Campos, 2012:126).

3.3.3.2 Theoretical construct of Life Between Buildings

Gehl (1987) has stressed the importance of streets as public spaces and has explored methods to make these spaces attractive for its inhabitants and visitors (Thompson, 2002:59). The variety and mix of activities that occur in outdoor spaces are influenced by the physical environment (Gehl, 1996:11).

Gehl (2010:65) suggests placing elements such as shops, restaurants, public functions, and monuments in places where people pass, as it creates the perception that walking distances are shorter. City life should be encouraged by creating, compact, direct routes that are not too wide, with clear indications of which spaces are more important. Gehl, (2010:67) warns against too many open and too big open spaces without one being important and well used by people.

Gehl (1996:11) classified outdoor public activity, based on a street scene, into three categories. These categories are (i) necessary, (ii) optional and (iii) social activities, that each has different demands for the physical environment. The quality of the environment has a big impact on the type of activities that will occur in a public setting (Van Rensburg and Da Costa, 2008:51). (i) A poor quality outdoor space will not attract optional activities but will be limited to necessary activities. These activities are compulsory, such as going to work or school; the people are thus required to do these activities regardless of the environment, throughout the year (Gehl, 1996:11).

(ii) Optional activities occur when people are enticed by the time and place to participate and will only occur in favourable conditions (Gehl, 1996:11). These activities include walking, sitting or standing and taking in the environment. As the environment has the biggest influence on this type of activity, the design and physical planning is important (Gehl, 1996:12).

(iii) The presence of people in the same space and time creates the opportunity for social contact, the intensity of the contact, however, varies. The intensity can vary from close friendships to passive contact (Varna and Tiesdell, 2010:585) as can be seen in Figure 14.

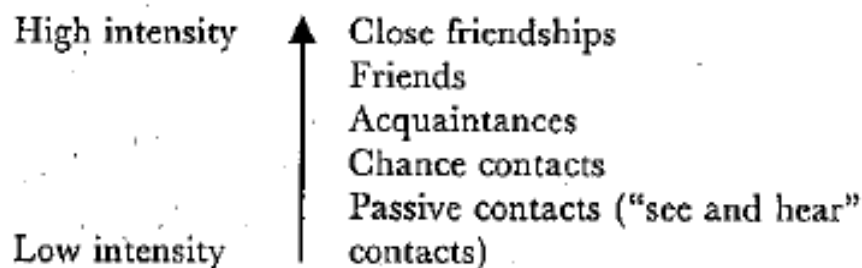


Figure 14: Varying degrees of contact in a space (Source: Gehl, 1996:17)

The lowest intensity of contact refers to seeing and hearing of the people around. This is a non-committal form of contact, but forms the basis for higher intensity contact. When the environment is of a low quality, the intensity of contact is generally low, and the life between buildings are at a minimum (Gehl, 1996:19) while well-designed spaces create opportunity for interaction and create life between buildings.

Life between buildings creates an environment where people can be among others. Being able to see, hear and experience other people creates a positive experience and a person does not feel alone or lonely, participating passively in the environment (Gehl, 1996). The low intensity contact can be transformed into a higher intensity form of contact as it is unpredictable or unplanned and only requires the presence of people. These unplanned contacts are however only brief. These brief contacts, on a regular basis, create opportunities for establishing acquaintances that can develop into friendships that can be maintained because there is regular contact opportunity created by the environment. Well-designed spaces are formed where the design promotes the use of the space and the interaction of people; activities occur that are optional to the users and not necessary, creating a social space (Gehl, 1996), as can be seen in Figure 15.

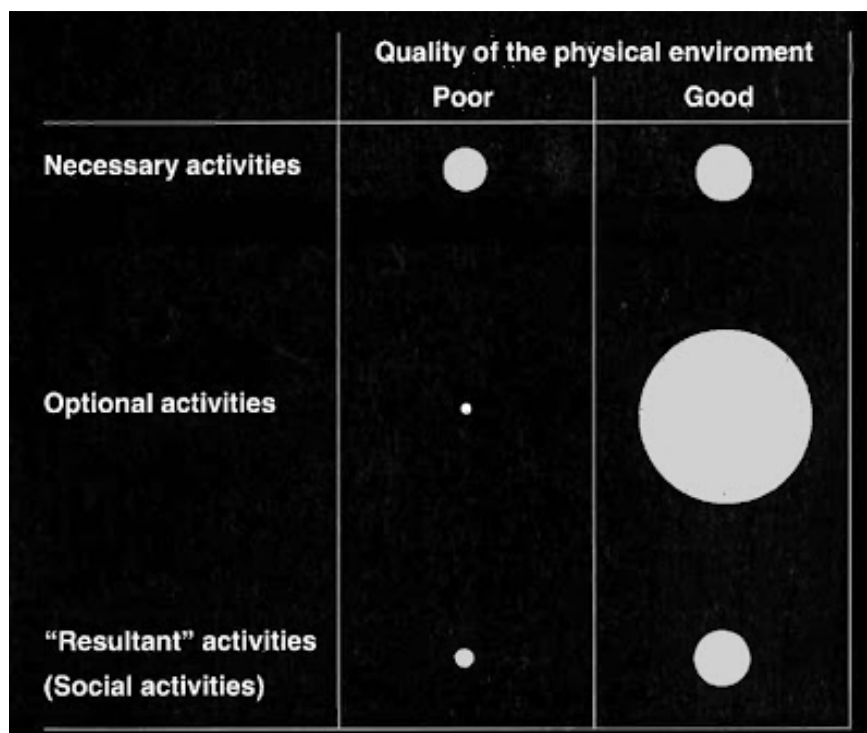


Figure 15: Quality of the physical environment increases opportunity or inhibits necessary, optional and the resultant social activities. (Source: Gehl, 1996:13)

3.3.3.3 Life between buildings and social space

The city's public domain made up of the streets, squares and parks form the platform for people to meet, trade or relax. Gehl has the understanding of how to create spaces where people will have a better quality of life (Gehl, 2010:IX).

Life between buildings, is made up of the whole range of activities that occur in a space, that come together to form a communal space (Gehl, 1996:16). Gehl (1996:15), interprets social activity, very freely, as any contact when two or more people are in the same space. Just seeing, hearing and meeting people is seen as a form of social contact. These meetings and social contact, where people interact and spend time together, can be influenced by architects and planners in creating opportunity for these activities through the design of the physical environment (Gehl, 1996:15) as can be seen in Figure 16. The planners do not only design the aesthetic aspects of a space but have an influence on the perception people have of a space and thus need to design to create life and vitality in the streets (Ferreira and Batey, 2007:434; Woolley, 2003).



Figure 16: New York City Revitalizes the Life Between Buildings (Source: buildipedia.com, 2011)

3.3.4 Liveable Streets - Donald Appleyard (1981)

Appleyard, an environmental psychologist, has influenced the work of architects, planners, engineers, and landscape architects with his work in the field of environment and behaviour (Anthony, 1983:411). Appleyard was influenced by his mentor Kevin Lynch and later wrote the book *Liveable Streets*, (1981) where he studied the lay person's perception of the environment around him. Appleyard challenged the traditional views, analysing streets with a role-conflict approach of social and political views, with equal opportunity for different modes of traffic,

instead of technical and economic views, of roads with a limited capacity to accommodate different vehicles (De Vasconcellos, 2004:3). This change in approach has an impact on policy formulation (De Vasconcellos, 2004:4). He concluded in his study of three city streets, that residents who live in the most travelled streets did not know their neighbours and that they were unhappy (Anthony, 1983:412; Litman, 2002:16) as illustrated in Figure 17.

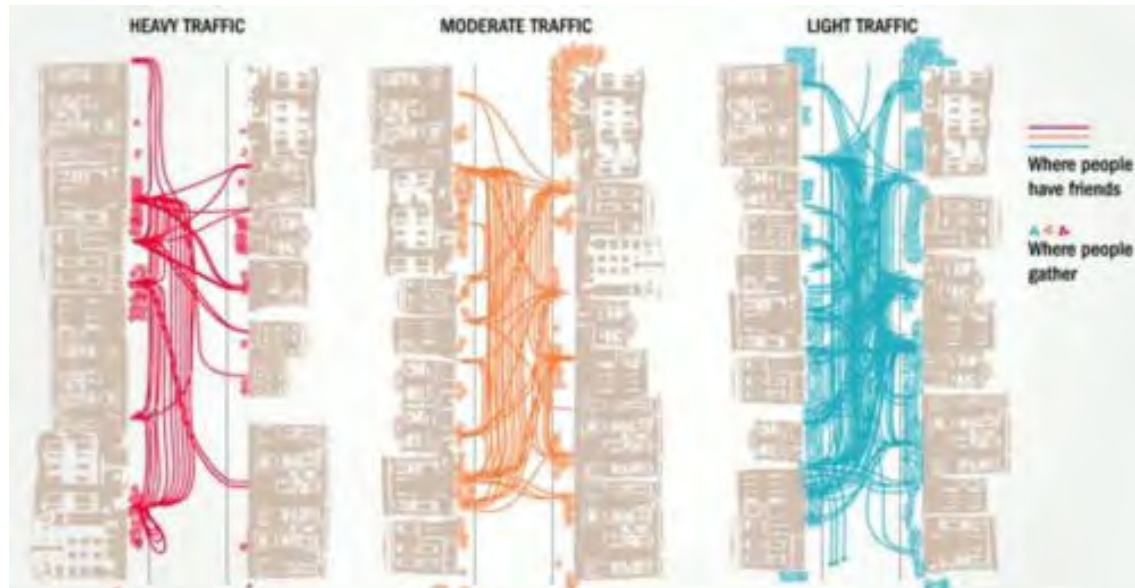


Figure 17: Social interactions on three streets - neighbouring and visiting (Source: safestreetstrategies.wordpress.com, 2011)

3.3.4.1 Background

Appleyard (1972) wanted to integrate environmental psychology into planning by using participatory planning and situational research to integrate social sciences into the design process. He studied the relationship between people's needs and the environment to understand how people are affected by the environment (Cuff, 1984:76).

According to Appleyard, (1980:106) streets are the most important part of the urban environment, however, streets have become noisy, dangerous, impersonal, and unliveable, and still people live in these streets. The street needs to be reshaped to the liveable communities and resident territory it once was. The aspects associated with liveability in streets, safety, territorial extent, stress, pollution, social interaction and absence of noise were found to decrease with the increase in traffic intensity and led to families vacating these streets (Appleyard and Lintell, 1972: 84).

Traditional approaches to street design see traffic as a non-negotiable element in a street with mobility and the flow of traffic as objectives and motorists as the main beneficiaries of the street

network (De Vasconcellos, 2004:4). As an alternative approach, people are considered with equity and the environment in mind. Appleyard stated that people and the physical environment are critically linked in the planning or understanding of an environment (Cuff, 1984:75). Appleyard focused his work on understanding the environment as it is understood by the people who live in the environment and to design environments accordingly.

3.3.4.2 Theoretical construct of Liveable Streets

Appleyard wanted to address the issues experienced with traffic with a study of the quality of life in residential areas, and the impact traffic has on these communities (De Vasconcellos, 2004:8). Appleyard (1980:107) argued that the streets are the most important element of the urban environment as they are the spaces where people live, outside of their houses. Streets should therefore be safe from speeding cars, walkable and safe to cycle in, it should not be polluted with car noise and vibrations or gases and form places where people can engage in conversation and children can play (Appleyard, 1980:107). Streets should be able to accommodate communal life that is directly influenced by the design of the public space (Bohl, 2000:788). When communities are formed in streets, ownership is taken of the street and people tend to maintain the streetscape (Appleyard, 1980:108).

Donald Appleyard and Allan Jacobs together wrote a paper '*Towards an Urban Design Manifesto*' in 1987, suggesting that there are seven objectives that are essential for a good environment in a city. These seven objectives are (i) liveability, (ii) authenticity and meaning, (iii) access to opportunity, joy and imagination (iv) identity and control (v) an environment for all, (vi) urban self-reliance, and (vii) community and public life (Jacobs and Appleyard, 1987:115,116).

(i) Liveability refers to a well-managed urban environment where people can live in comfort, where they can make a living, without being overcrowded, or in a polluted, noisy, or dangerous area. (ii) The urban environment must be understandable where the opportunities, layout, and public functions are clear and there is symbolic meaning that identifies with the citizens. (iii) Apart from being understandable the urban environment must also create opportunities for new experiences, meeting people, entertainment or more functional opportunities such as a diverse housing market that was created through being imaginative (Jacobs and Appleyard, 1987:116). (iv) The environment should create an enabling environment for expression, participation and choice, where people have a sense of ownership. The urban space should be designed for the users of the space and not the owners of the space, increasing a sense of responsibility and identity.

(v) The urban environment should be accessible to all, rich and poor, groups and individuals. Different values, interests, and cultures are represented in an environment. (vi) The urban environment must be self-sustaining in terms of energy and other resources, which will reduce

dependence on other areas and increase authenticity of the urban environment (Jacobs and Appleyard, 1987:116). (vii) the urban environment should be encouraging to public life through the design of public space, creating a sense of participation and community.

To reach the seven objectives, there are certain physical elements or conditions, of which all need to be met in an environment. These objectives are: public space that is defined by buildings or other elements, higher residential density and intensity of land uses, an integrated mix of activities and uses, the street needs to be liveable and form neighbourhoods and separate buildings with distinct characteristics, complexly arranged (Jacobs and Appleyard, 1987:117).

Liveable streets and neighbourhoods mean a clean, safe, and secure environment with trees, vegetation, open space, well-scaled buildings, no noise pollution, and design to ensure sufficient sunlight. These standards should however be applied in moderation and integrated in the city. The minimum density of people and activities are needed to create a lively street where there is diversity and public life (Jacobs and Appleyard, 1987:117). The integration of activities and land uses create diversity and an identity for the community that brings life to the area. These uses should be accessible and provide in basic play, work, and living needs, illustrated in Figure 18. The buildings that accommodate the higher density of residential and other activities should be built and arranged in a way that supports and defines the public space of the street. The buildings should create spaces for pedestrians to ensure street activities that are accessible where people can interact. The buildings should also be of a human-scale and should create an interesting character in the street space (Jacobs and Appleyard, 1987:119).



Figure 18: Liveable Streets providing in people's needs (Source: la.streetsblog.org, 2013)

3.3.4.3 Liveable streets and social space

The dependence on and design for car-oriented streets reduce the opportunities for public life (Carlson, Wormser and Ulberg, 1995:15). Appleyard (1981:243) had a different approach than the traditional car-oriented approach and saw the street as a pedestrian territory, and stated: “traffic is people” (Appleyard: 1981:32). The negative correlation between high traffic volumes on a street and the interaction between people was one of Appleyard’s main concerns in the design of liveable streets, where people can talk, sit, children can play and where people can go for a leisurely walk (Appleyard, 1981).

3.3.5 The Social Life of Small Urban Spaces - William Whyte (1980)

Whyte was a student of metropolitan life and made contributions towards protecting open space and promoting public space design (Jacobs, 1958:125). Whyte did not agree with the movement of city life to the suburbs and country that he saw around him in the American cities and denounced the urban sprawl it brought (Glazer, 1999:31). He argued that the city was the best place for business. The decentralisation caused the city to lose the functions that were enjoyed most by people, of which the most important is the function of being a gathering place (Allis, 1989)

3.3.5.1 Background

Whyte was concerned with the way people live and how details of the physical environment influenced the choices that people made (Glazer, 1999:29). Glazer (1999:29) ranks Whyte with Jane Jacobs on being sharp observers as to why cities work, and what the practical lessons are (Watson, Plattus and Shibley, 2003:2.12-1).

In 1970, Whyte established a research group named The Street life Project, which started its study in New York City, looking at informal recreational areas (Watson, Plattus, Shibley, 2003:2.12-1) through time-lapse photography (Glazer, 1999:32). Whyte analysed how people reacted to changes in the environment and what attracted or repelled people (Glazer, 1999:32). It was found that the presence of space did not attract people on its own; many streets did not have any people in it (LaFarge, 2000). The study observed crowding in city spaces, as illustrated in Figure 19.



Figure 19: Crowding of people in a city space (Source: fabrica.org.uk, 2011)

In the study of crowding in city spaces, it was found that children used the street space as playing areas in streets, with amongst other things, stoops of fire escapes where parents could watch over the children (Whyte, 1980). The study went closer to the centre of New York and an imbalance of the use of space was found. Some spaces were not used at all while other spaces functioned as large concentration points of crowds, such as subway stations (LaFarge, 2000).

Since the 1960s the City of New York has given incentives to developers to provide open space. This created a trend of providing numerous plazas, but only some were used. Whyte made a study of the use and non-use of the plazas and proposed a new open space zoning code, which was adopted by the city (Whyte, 1980).

3.3.5.2 Theoretical construct of The Social Life of Small Urban Spaces

The supply of good urban spaces created a demand. The sociable spaces were found to be the best-used spaces with a high proportion of groups that indicated selectiveness (Watson, Plattus and Shibley, 2003:2.12-2). When people go to a place in a group of two to three or meet each other there, it was found that it was out of choice.

The number of people in a space was also found to attract people who are alone, as a lively place is the best place to be when you are alone. The crowds did not repel the people but rather excited the users, making them eager to adapt to it (Glazer, 1999:32). This attraction was

created by urban density, as people enjoy the ease of access to facilities and specialised providers that is made possible by the number of people in an area (Glazer, 1999:32).

In the open space zoning code, Whyte stipulated that developers should set back their buildings rather than creating plazas to create wider streets that allow movement of the crowd and permit air and light into the street. Whyte found that there are small details that will draw a crowd to a space, such as moveable chairs, giving control to the people, and the availability of food and something to drink in an area (Glazer, 1999:33). The presence of food and the availability of seating create an atmosphere where people will stay longer and will create opportunities for social interaction (Whyte, 1980).

Whyte promoted narrower streets for cars and wider sidewalks (Allis, 1989) with as many shops as possible on a ground floor of a building to attract activity and people that define the street. He also proposes that the use of skywalks, sunken plazas and walls around parks should be eradicated from the city (Allis, 1989) and that there should be trees, awnings or overhangs to provide shade and shelter (Whyte, 1980). However, as Whyte found in his studies, what attracts people most to a space, is other people (Watson, Plattus and Shibley, 2003:2.12-4).

3.3.5.3 Small Urban Spaces and social space

Whyte was convinced that a street corner formed the best place to meet people and that streets form the life of a city, as can be seen in Figure 20. A street should have as many entrances and exits as possible as it forms the stage of urban life (Allis, 1989). These entrances and exits create vibrancy and complexity in a street and attract enough people to support the competing businesses in the street. The permeability of the street creates sensory stimulation for pedestrians (Whyte, 1980) that heightens interest and activity.

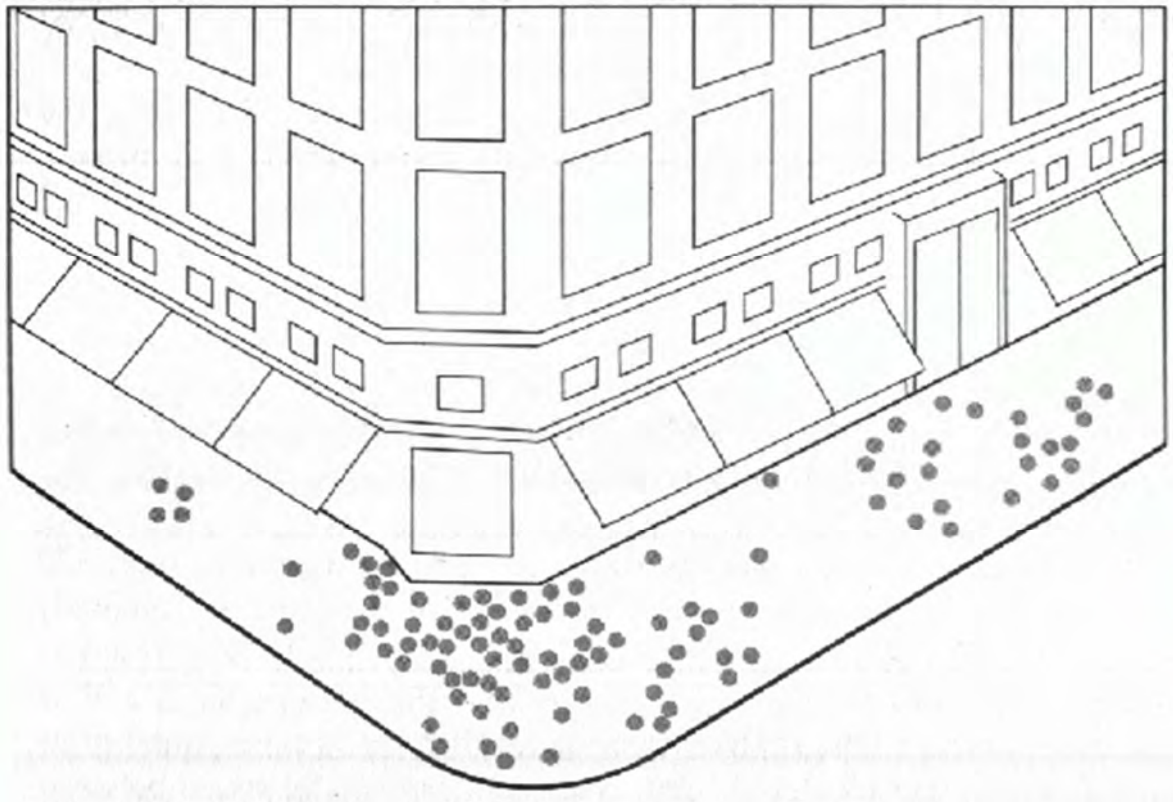


Figure 20: The street corner creates a platform for social activity as Whyte observed, people gathered on the corner and around entrances (Source: Whyte, 1981)

3.3.6 New Urbanism (Traditional Neighbourhood Design) – Andres Duany and Elizabeth Plater-Zyberk, 1983; Peter Calthorpe, 1990

3.3.6.1 Background

In the late 20th century cities were still suburbanised, with a variety of problems (Sharifi, 2016:7). The singular function and use of streets and land use have led to a sprawling city, with declining inner cities, inequality, social segregation and traffic problems (Gillette, 2010; Grant, 2006; Rohe, 2009; Trudeau & Malloy, 2011). In response to these urban problems, planners turned towards Neo-Traditional planning. Many different terms have been used to describe the neo-traditional planning principles, such as Traditional Neighbourhood development, Transit Oriented Development (TOD), New Urbanism and Smart Growth (Sharifi, 2016:7; Guerrero, 2007:20). The aim of the New Urbanism movement was to work against urban decay, suburbia and urban sprawl and rather towards infill development and sustainable growth (Garde, 2004:154).

Duany and Plater-Zyberk became known for their design of a resort on the Gulf Coast of Florida, Seaside in the 1980s (Encyclopaedia Britannica, 2009). Duany and Plater-Zyberk

changed their way of thinking from modern architecture to the more traditional design that will affect society positively, in the 1980s under the influence of Leon Krier (The American Enterprise, 2002:14). Krier introduced them to the concept to design for social life in a community by putting people first in the design process. Duany criticised modernism and the result of modernist thinking in design as it does not take cognisance of the past (The American Enterprise, 2002:14).

With the design of Seaside, Duany and Plater-Zyberk used 19th century town planning concepts to form the development with compact, beautiful streets and walkable neighbourhoods (Encyclopaedia Britannica, 2009). The development was a great success and their design philosophy became known as New Urbanism. The Congress for New Urbanism was formed in 1993 (Congress of New Urbanism, 2002) with the aim to create a high quality of life through design.

Lewis Mumford and Ebenezer Howard influenced Calthorpe in his approach and design of Transit Oriented Development. He concluded that people should be within a ten minute walking distance from transit.

3.3.6.2 Theoretical construct of New Urbanism

The principles of New Urbanism are not new concepts, but rather a variety of known concepts that form a 'traditional sense of community' (Marcuse, 2000:4). These concepts are (i) walkability, (ii) mixed land use, (iii) connectivity, (iv) accessible public transport, (v) high density, (vi) variety of housing types, (vii) sustainable development, (viii) traditional neighbourhood design with public open spaces that are utilised, (ix) quality architecture and urban design that support social interaction and (x) increased quality of life (Basiago, 1996; Day, 2003; Gillette, 2010; Nasar, 2003; Silver, 2006).

The street is seen as a multi-functional space, particularly as a public space (Guerrero, 2007:20). New Urbanism advocates the creation of pedestrian friendly areas to reduce vehicular use and solve the problems of congestion and urban sprawl. (i) The most important principle of the movement is walkability. In traditional neighbourhoods, roads are designed to accommodate pedestrian movement in streets that are safe and that meet the pedestrian's needs in terms of the design and the accessibility of functions and activities on the street. This type of street design caters for narrower streets and wider sidewalks with trees and street furniture and not parking and roadways (Congress of New Urbanism, 2002; Day, 2003: 84) with interesting building facades and an enclosed street space, as can be seen in Figure 21.



Figure 21: A walkable environment. (Source: Better Cities & Towns, 2010)

(ii) One of the aims of New Urbanism is mixed land uses and diversity. Land use regulation where the community is involved in the process and the developer's need is catered for encourages the 'traditional neighbourhood feel' (Ohm, Sitkowski, 2003:785) that Jacobs (1961) also promoted. Mixed land use and a diverse built environment generate activity and by creating destinations closer together the accessibility and connectivity of a neighbourhood increases (Rodriguez, Khattak, Evenson, 2006: 43; Calthorpe, 2000:68).

(iii) Connectivity is created by using smaller block sizes in a grid pattern. This increases accessibility and connectivity of not only vehicular traffic but also pedestrian and cyclist movement, that can be enhanced with landscaped sidewalks and streets (Bohl, 2000:767). Streets form the connection between the different city functions and activities. (iv) the accessibility of public transport facilities is critical for creating connectivity, a variety of modes of transport must be available to connect different functions.

(v) Increasing the density of the city not only mitigates urban sprawl but assist in creating a diverse city with different activities and functions as well as a (vi) variety of housing types that can cater in a wide variety of people's needs. (vii) With the increased population density public

transport becomes more viable as there are more users. The use of public transport and increased densities are more sustainable as urban sprawl and pollution is decreased.

(viii) The base of the New Urbanism movement is a combination of traditional neighbourhood elements (Katz, Scully, & Bressi, 1994; Norquist, 1998). One of the elements of a traditional neighbourhood is the creation of a central space at the centre of a city to form a focal point and create a character that is memorable and unique of a city (Gindroz, 2002: 1420). Public space plays an important role in the creation of spaces where people want to live, play and work.

(ix) The creation of good quality architecture and urban design form one of the principles of urban space that has a room-like quality is where people are the most comfortable to visit (Gindroz, 2002: 1420) as can be seen in Figure 22. The unique design of building facades and sidewalks creates a space that is not merely there to conduct traffic, but creates an urban space, that is on a human-scale and enlivens the street (Congress of New Urbanism, 2002). People must be able to observe city life from balconies, windows and doorways to increase safety. (x) Through the implementation of these principles the quality of life can be increased, creating vibrant cities with a sense of place and belonging.



Figure 22: A room-like public space in Columbia Heights, Washington, D.C. (Source: Congress for the New Urbanism, 2015).

3.3.6.3 New Urbanism and social space

The essence of New Urbanism, according to Talen (1999), is the creation of a 'sense of community' and bringing social change through design (Sharifi, 2016:8). As New Urbanism is an alternative to vehicular dominant planning, an environment is created that is pedestrian- and

cyclist-friendly in the attempt to recreate the streets as a social space (Du Toit, Cerin, Leslie and Owen, 2007:1679). Informal social interaction is promoted through the design, as people are encouraged to use the street by creating dense communities in an area where a mix of land uses is present and the design of the public environment is of a high quality (Calthorpe 1993; Duany and Plater-Zyberk 1991; Steuteville 2004).

3.3.7 Great Streets - Allan Jacobs, 1995

3.3.7.1 Background

Jacobs has studied numerous streets and boulevards to understand what makes great streets. Jacobs (1995) used the method of observation as a research tool of the public realm that is formed by spaces, parks and streets (Project for Public Spaces, 2016). When reference is made to the public realm, reference is largely made to streets as this forms the biggest area (approximately 25 to 30 percent) of a city (Jacobs, 1995:5). *Great Streets* (1995), is about the best streets in the world, and what designable characteristics make them the greatest streets (Jacobs, 1995:1). Jacobs (1995:2) made use of cross sections, dimensions, urban contexts, patterns and details of streets to compare the physical characteristics of streets.

3.3.7.2 Theoretical construct of Great Streets

The street has different roles in a city, the role of public access has been overemphasised over the years, but as Jacobs states, streets are more than conduits for engineering service lines and linear spaces that bring people from one end to the other (Jacobs, 1995:2). Streets structure urban communities and allow people to be outside and create a space where social and commercial interaction can occur (Jacobs, 1995:3). According to Jacobs (1995:3), the basic reason to have cities is to create space where people can meet, and streets form the most basic of spaces where these meetings transpire. The city creates a form of movement, of people, faces, changing postures and forms that pass by (Jacobs, 1995:3). When visiting a street people are aware and comforted by the presence of other people, whether the person is passing through, standing or sitting and watching the streets scene.

Jacobs (1995) analysed the qualities of streets and that which make them great. The physical environment and the physical context of urban living was studied to understand the different constructs of a great street (Jacobs, 1995:1) of which most are related to social or economic criteria. The criteria for great streets all have to do with building good cities, namely safety, responsibility, comfort, 'publicness', participation, accessibility, liveability and bringing people together (Jacobs, 1993). He looked at trees, interesting building facades, building heights, intersection design, windows that create vantage points, places where people can stop, space for walking and the beginning and ending of streets (Project for Public Spaces, 2016). These

factors have been identified by Jacobs as the necessary factors for transforming streets to public realms (Project for Public Spaces, 2016). These qualities, although necessary, do not create a great street. It is rather the design and composition of all of these elements in an integrated and balanced manner that create a great and memorable street (Jacobs, 1993).

Jacobs' inquiry into the design of great streets focused mainly on the best streets for people, as the pedestrian space forms the space where people meet and experience other people (Jacobs, 1993). It is where socialising and the feeling of community can be experienced and the space where it can occur easily. Streets therefore need to provide in space for people to walk, at any pace with leisure and comfort.

Comfortable streets provide sunlight and warmth or shade and coolness when it is hot or cold. There is protection against the elements.

Great streets are defined by the surrounding boundaries, vertically with buildings or trees and horizontally with the spacing of the vertical boundaries. There needs to be a good proportion that creates harmony and scale.

Streets need to create quality that ensures interest from people. According to Jacobs, (1993) people's eyes move around in a street, taking in all the visual splendour, or the lack thereof. The eye needs to be engaged by different surfaces, and the light moving over the surfaces, creating visual complexity. Transparency can also create interest for the public. By creating transparent windows and doors, the pedestrian can see what happens beyond the walls that define the street (Jacobs, 1993). These windows and doors create an invitation and entice the pedestrian.

In great streets, the buildings are complementary of each other. It is not necessarily the same buildings, same height or style but the characteristics that respect each other. Maintaining the street is also one of the keys to a great street. The high quality of a street have different qualities that contribute to creating great streets. These qualities have been identified by Jacobs (1993) as trees, beginnings and endings of a street, length, contrast, changes in elevation, diversity of buildings, details such as fountains, benches, canopies or paving, the creation of places along the street, such as plazas or parks, accessibility, density and time as it brings diversity over the years. These qualities can be seen in Figure 23.



Figure 23: A great street with trees, beginnings and endings of a street, contrast, changes in elevation, diversity of buildings, details, created places along the street, accessibility and density (Source: Better Cities & Towns, 2010)

3.3.7.3 Great Streets and social space

According to Jacobs, (1995:3) cities exist to a large extent because of sociability and streets form the biggest part of the public space where sociability develops. Some streets form showcases of what the community has to offer in terms of services or goods that spill out into the street on displays. Apart from the role of business space, the street is also a political space, where people discuss initiatives and celebrate political victories or march for a cause (Jacobs, 1995:4). The street has a symbolic, social, political, and social role and is not limited to merely play the role of being a movement network or to provide access (Jacobs, 1995:4). If designers can redesign or change streets to be attractive places that are fulfilling places to be, one-third of the city will have been transformed and this will have an immense impact on the whole of the city (Jacobs, 1995:5).

3.3.8 Complete Streets – Barbara McCann and David Goldberg, 2013

3.3.8.1 Background

McCann is the author of the book 'Completing Our Streets: The Transition to Safe and Inclusive Transportation Networks' (2013). This book describes the origin of the concept of Complete Streets that was formulated to address the need for federal American law to make cycling one of the basic elements in the design of streets (U.S.1 Newspaper, 2016). Goldberg, involved in Smart Growth America, was invited by McCann to discuss the problem of formulating this design concept and Goldberg proposed the term 'Complete Streets'. The Complete Streets movement is a radical new way of approaching transport infrastructure. McCann stated that complete streets are imperative for the future liveability, resilience and sustainability of American cities (Better Cities and Towns, 2010). The complete street policy has been adopted by local ordinances, through resolutions passed by city councils and even on state level in the USA (Tumlin, 2012:45; U.S.1 Newspaper, 2016).

3.3.8.2 Theoretical construct of Complete Streets

The roadway has been designed largely to accommodate cars; this resulted in a lack of accommodating pedestrians, cyclist, and public transport users (Tumlin, 2012:46). 'Complete Streets' is a method of designing streets in a holistic manner that will include all street users (U.S.1 Newspaper, 2016). The concept of a 'complete street' has been formulated to design streets that are safe, and create convenient and comfortable movement for multiple modes (Tumlin, 2012:46). These transportation modes include pedestrians, cyclists, public transport modes, automobiles and freight. The focus of complete streets has shifted the focus of solving individual problems to solving the holistic problem of transportation.

The principles of complete streets are the creation of (i) wide sidewalks with (ii) cycle routes that create access and a (iii) safe pedestrian environment (Tumlin, 2012:46) in close proximity to a variety of opportunities and integrated land uses, seen in Figure 24. It creates access to a variety of transport modes, such as transit, vehicular, cycling or walking.



Figure 24: Complete Street (Source: White and Burke Real Estate Investment Advisors, Inc, 2016)

3.3.8.3 Complete Streets and social space

The principles of complete streets create a wide variety of street users, where pedestrians, cyclists, shoppers, or transit users create a vibrant and lively street. The policy provides the opportunity for a diverse number of people to participate in a liveable community (Smart Growth America) as can be seen in Figure 25.



Figure 25: Complete Streets as social space (Source: Smart and Resilient Cities)

3.4 Streets as social spaces

Safety and traffic flow and the accommodation of cars in traditional streets, led to an effacement of social space by movement space (Carmona *et al.*, 2003:79). Public space is often considered solely for movement space and the social function is lost (Buchanan, 1988:32). Authors such as Lynch, J. B. Jackson, Whyte (1980), Jacobs, (1961), Appleyard, (1981), Vernez-Moudon, (1991) and Gehl, (1987) suggested that there should be a paradigm shift from thinking of streets as movement routes to thinking of streets as social spaces. The case is argued for using streets as an integrated space for vehicular movement, civic activities, and social interaction as the street forms part of the social and physical component of the living environment (Southworth and Ben-Joseph, 2003:117).

Guerrero, (2007:7-8) described the early streets as 'theatres of life' with the design creating a 'backdrop', accommodating communal and social life. Jane Jacobs was of the opinion that streets should have constant activity and accommodate people who work and live in the street (Hill, 1988:302). Crowded sidewalks create the interaction and excitement of the great cities around the world that create a public identity and safety (Jacobs, 1961:41, 67). These functions, to the loss of society, have been moved out of the right-of-way to benefit faster and more vehicular traffic (Lynch and Hack, 1994:202).

Tension exists between the public space network as a movement space and as social space. Carmona *et al.* (2003:79) suggest that a multi-purpose public space is needed where an overlap exists of the two functions. Cautious design is needed to unite the different forms of movement and in practice this means creating pedestrian-dominated areas to protect social space from vehicular impacts (Hass-Klau, 1990; Moudon, 1987; Southworth and Ben-Joseph, 1997).

3.5 Conclusion

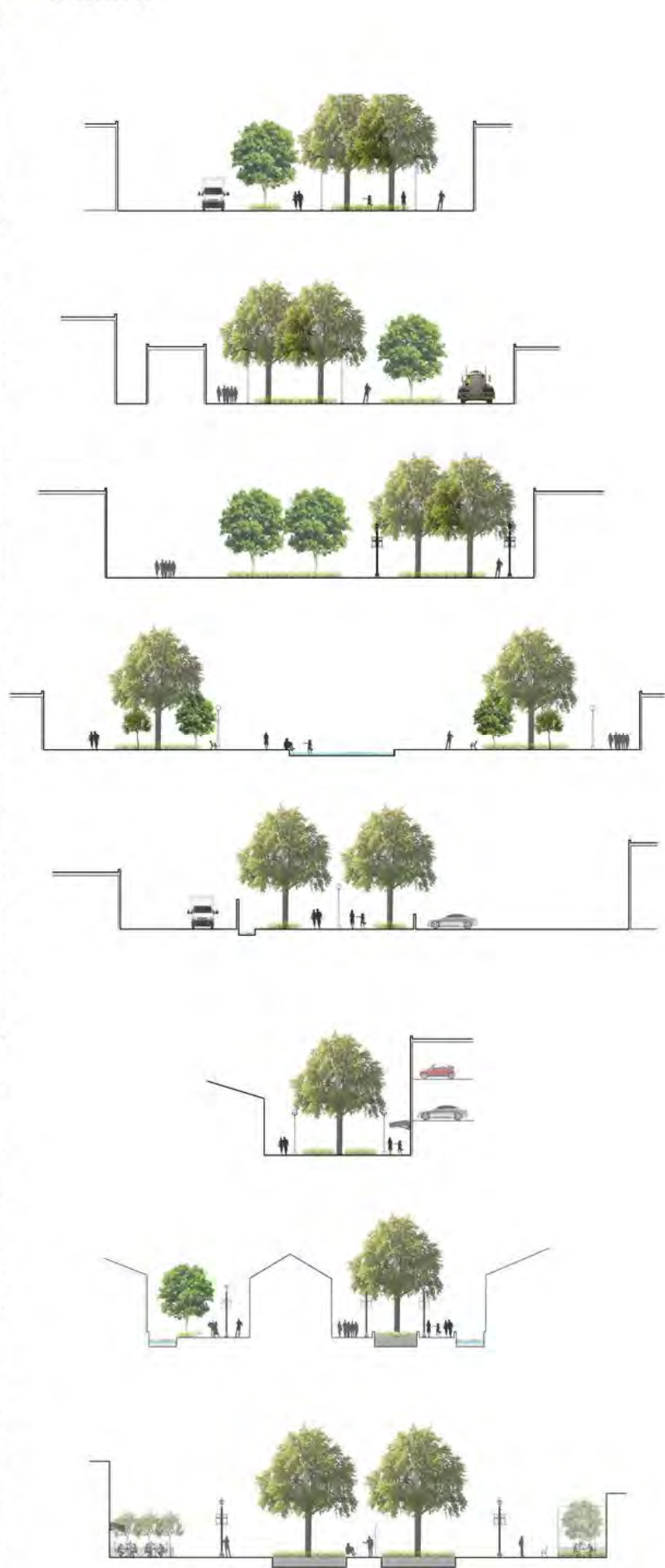
Streets form the most basic public space where people meet and interact. The intensity and form of social interaction is influenced by the environment. The design of streets have evolved over the years from having a socialist view, where street should be a place for social interaction to the view of streets that is multi-functional and needs to be designed as an integrated space to provide the platform for social interaction. Jacobs, (1961:15) stated that planning theory fails to accomplish the theoretical upliftment that was proposed. These theoretical principles need to be incorporated into policies and guidelines that inform the creation of street space. The policies and guidelines that guide the street planning in South Africa are evaluated in the following chapter.

CHAPTER 4: A CRITICAL ANALYSIS OF POLICIES AND GUIDELINES FOR THE PLANNING AND DESIGN OF STREETS AS SOCIAL SPACES IN SOUTH AFRICA

MASTER PLAN



SECTION



CHAPTER 4: A CRITICAL ANALYSIS OF POLICIES AND GUIDELINES FOR THE PLANNING AND DESIGN OF STREETS AS SOCIAL SPACES IN SOUTH AFRICA

Good cities know that streets are for people, not just cars. Great cities know that streets are places to linger and live, not just move through

- Brent Toderian -

4.1 Introduction

Chapter 3 discussed various theories of authors, such as Jane Jacobs, Jan Gehl, Donald Appleyard, William White and Allan Jacobs. These theories form theoretical building blocks for streets as social spaces. The importance of social interaction in streets and incorporating the social dimension of streets are emphasised. While streets are promoted as social spaces in theory, it cannot be assumed the policies, legislation and guidelines that regulate the planning and design of streets support its social dimension. However, planning policies and legislation form an important framework for the planning and design of human settlements and its components such as public spaces.

The main aim of the chapter is a critical analysis of South African policies and guidelines in order to evaluate these documents in terms of streets as social spaces. An overview of the most important national and local policies and guidelines with regard to streets, as well as those that influence the planning and design of these spaces in cities is included in this discussion. However, the South African policy and legislative context for the planning and design of human settlements are not isolated from the larger international context – therefore the chapter will start with a brief discussion of relevant international policies that influenced settlement design in South Africa. Furthermore, South African policies/guidelines are analysed on a national, provincial and local level with special reference to Tshwane Metropolitan Municipality as the chosen study area. The policies and guidelines on international, national, provincial and regional level do not necessarily inform the design of streets but are important as these documents create the sphere for the development of detailed planning on a local and precinct level. The policies and guidelines are then deduced to the correlation of these policies and guidelines to the theories discussed in Chapter 3.

4.2 The importance of policies as regulatory mechanism for planning

Valverde (2012) states that the legislative context must be taken into account to understand the way existing street spaces are ordered. Policies and legislation are socially and politically constructed instruments that have power over the physical structure, economy and social

practices that may take place in a street (Barker, 2009:159). For example, Valverde's study made an inventory of the legal mechanisms that govern everyday life on a sidewalk, roadway and buildings at an important intersection in Toronto. Her inventory showed that although the street is seen as a space of freedom, encounters in the street are guided and regulated by the law, such as municipal by-laws (Barker, 2009:159). An examination of the Turtle Lake traffic circle in Ho Chi Minh City, Vietnam by Harms (2011) showed that planning regulations influence people's experiences of the street. Where the traffic circle was previously known for its intense economic and social facilities that maximised social interaction (e.g. the presence of numerous sidewalk cafes and street vendors), new legislation (municipal by-laws) cleared these functions and negatively affected the vibrancy of the street. The public and private spheres of this street that were once merged, were now separated in the name of geometrical order (Barker, 2009:159). While it is acknowledged that policies, legislation and guidelines are important to regulate the spatial environment, it is also seen that these instruments can negatively affect dimensions such as the social aspects in cities. Ernst and Wenzel (2014:123) stated that a large scale change in people's behaviour is only marginally based on cognitive or motivational bases, but dependent on physical, economic, social or institutional structures such as policies.

4.3 The governmental and policy formulation structure

The formulation of policies and guidelines in South Africa is directly linked to the government structure where there are three spheres of government. This implies that the National Government formulates high-level policies that guide the formulation of provincial policy, which in turn guides local planning policy formulation. In Figure 26, the three spheres of government is illustrated with the applicable policies and guidelines discussed in this chapter. On the local level the policies are split between municipal planning and precinct planning. This figure illustrates the influence that national, provincial and local government policy have on the formulation of precinct plans that are practically implementable.

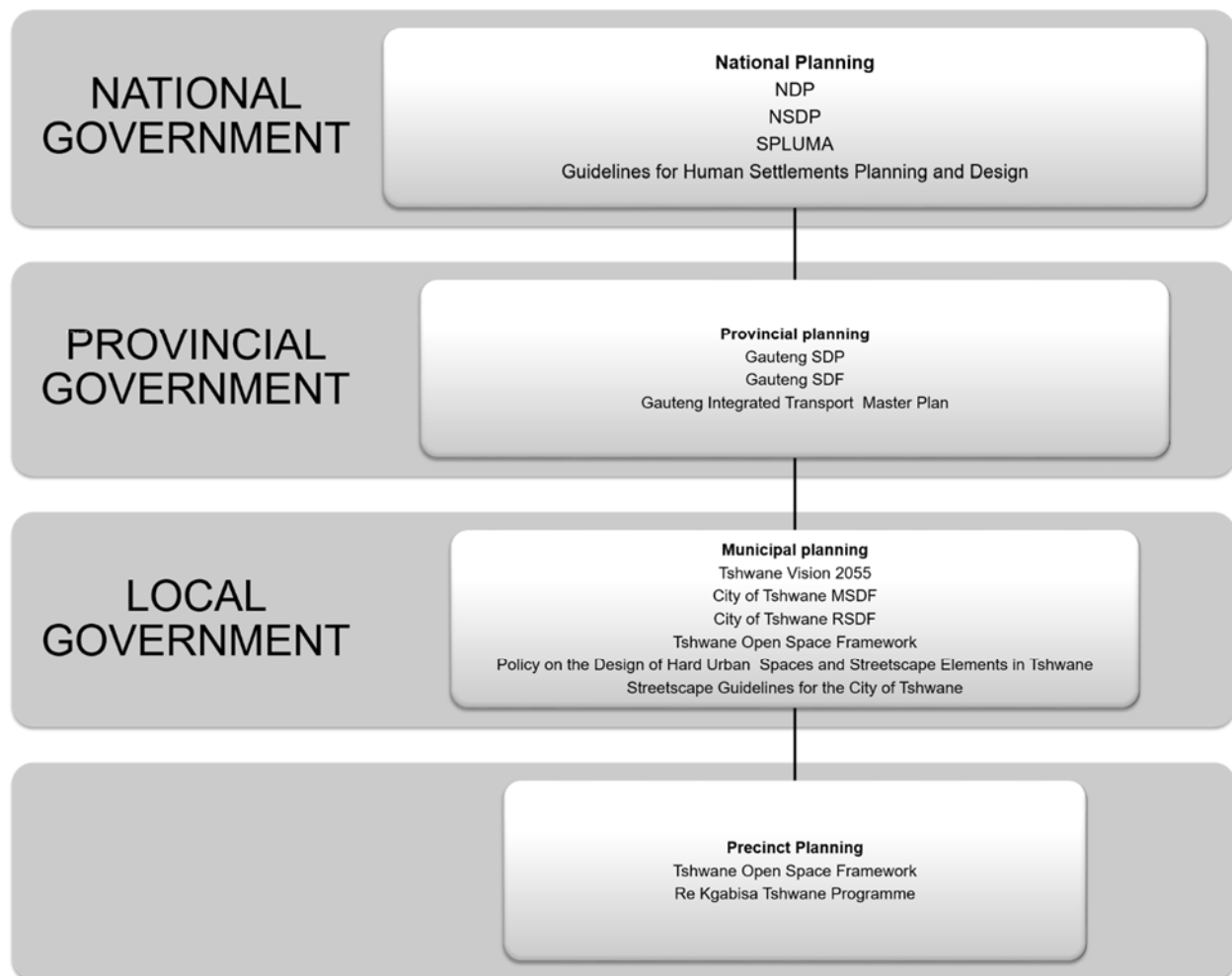


Figure 26: Government structure direct policy formulation structure (Source: Compiled by researcher)

4.4 International policy, legislation and guidelines

The policies discussed in this section include The Habitat Agenda and the Millennium Development Goals.

4.4.1 United Nations Human Settlement Program: The Habitat Agenda (1996)

The Habitat Agenda was adopted by 171 countries at the 1996 Habitat II conference and contains recommendations and commitments made for the development of human settlements. The need to improve the quality of human settlements was identified as one of the issues that needs to be addressed as the quality of settlements impact on the well-being of people (United Nations, 1996).

In order to ensure improvement of human settlements, certain challenges were identified (United Nations, 1996). These challenges include creating equitable human settlements,

improve, develop and plan human settlements sustainably, eliminate poverty, improving health and the quality of life of people, creating a sense of identity, citizenship and cooperation, creating partnerships and solidarity, safeguarding the interest of current and future generations in human settlements and strengthen families as the basic unit of society. The empowerment of all people, especially vulnerable groups, is encouraged by participating in all the available activities in a settlement to encourage community coherence (United Nations, 1996). By agreeing to the Habitat Agenda the countries committed themselves to protect and promote human rights including the right to development. They also took on the responsibility to provide adequate shelter for all their people (United Nations, 1996).

The goals and principles formulated in the Habitat Agenda include (i) the eradication of poverty by providing basic human needs, (ii) the planning, development and improvement of human settlements to be sustainable, (iii) creation of equal access to a good standard of settlements, fully serviced and with the necessary supporting infrastructure and (iv) improving the quality of life for inhabitants that will not only strengthen families but also the community (United Nations, 1996). These goals and principles are important when it comes to the spatial planning and design of settlements and its components, such as streets)

4.4.1.1 Application in terms of the planning and design of streets

By committing countries to improve human settlements, the Habitat Agenda has achieved a norm that needs to be established in every one of the 171 countries – South Africa is one of these countries. The norms and standards should, as stated in the Agenda, be focused on the improvement of people's living conditions.

Streets form the structuring element of human settlements (Guerrero, 2007:1) and thus the heart of the Habitat Agenda improvement and upgrading program. Therefore, streets must be planned and designed in accordance with the goals that were set in the Agenda. Streets must thus improve the living area for residents by creating spaces that fit into the people's needs, enhancing family structures and strengthening community bonds with access to all public services and amenities.

4.4.1.2 Synthesis and analysis

Through the adoption of the Habitat Agenda 171 countries committed themselves to implement the principles and goals set in the agenda in all spheres of government in the form of policies or programmes (United Nations, 1996). The alignment of South African settlements to Chapter 7 of the Agenda 21 for sustainable settlements started with the beginning of democracy and the subsequent drafting of policies and legislation that will address the issues associated with South African settlements. These issues mainly include fragmentation, unsustainable urban spaces

and urban sprawl (Cilliers, 2010:1) The response to the Agenda from the South African perspective focused mainly on three areas: (i) the provision of adequate shelter, (ii) the improvement of human settlement management and (iii) the promotion of sustainable land-use management (United Nations, 2003). The Habitat Agenda deals with the most basic needs to improve the quality of life in settlements and does not focus on the creation of streets as social spaces or as an extension of the living space of people.

4.4.2 United Nations Millennium Development Goals

The Millennium Development Goals were agreed upon in 2000 by 193 United Nation countries to be achieved by the year 2015 (United Nations, 2000). The goals are very similar to the Habitat Agenda; (i) aiming at encouraging education, (ii) eradicating poverty, (iii) better maternal health, (iv) reduction in child mortality rates, (v) fighting diseases such as malaria and HIV, (vi) gender equality, (vii) a sustainable environment and (viii) development partnerships (United Nations, 2000).

4.4.2.1 Application in terms of the planning and design of streets

The eight development goals set by the Millennium Development Goals are focused on creating a sustainable, living environment where social facilities such as schools are accessible and health care facilities are in close proximity. These goals all speak to the development of integrated human settlements with the necessary engineering and social services. These sustainable developments are structured with a street network that creates access and opportunity and the design of the streets thus forms an integral part of the achievement of these goals.

4.4.2.2 Synthesis and analysis

The design of streets is not addressed in the Millennium Development Goals, but as is it is one of the structuring elements of a sustainable human settlement it is important that the design of the street supports the achievement of these goals.

4.5 National Policies and guidelines

The policies formulated on a national level, such as the NSDP and NDP and acts such as SPLUMA are aimed at giving strategic direction to planning and forms an essential instrument for policy coordination, as such, it is not discussed as part of this study as it does not relate directly to streets as social spaces. The national Guidelines for Human Settlements Planning and Design are discussed in this section.

4.5.1 Guidelines for Human Settlement Planning and Design, 2000

The Guidelines for Human Settlement Planning and Design was compiled as a result of a mutual concern of Government Departments for the quality of the built environment and the natural resources available and the realisation of the impact human settlement planning has in the protection or destruction of it (CSIR, 2000: Chapter 1:1).

4.5.1.1 Application in terms of the planning and design of streets

According to the document, the movement of finance, goods, services and people is the 'energy network' of a human settlement. The modes and different movement and stopping points create a continuous rhythm of accessibility in a settlement, creating clustering activities and opportunities for all settlement activities, seen in Figure 27. This results in a synergistic land use pattern where the one benefits the other (CSIR, 2000: Chapter 3:2).

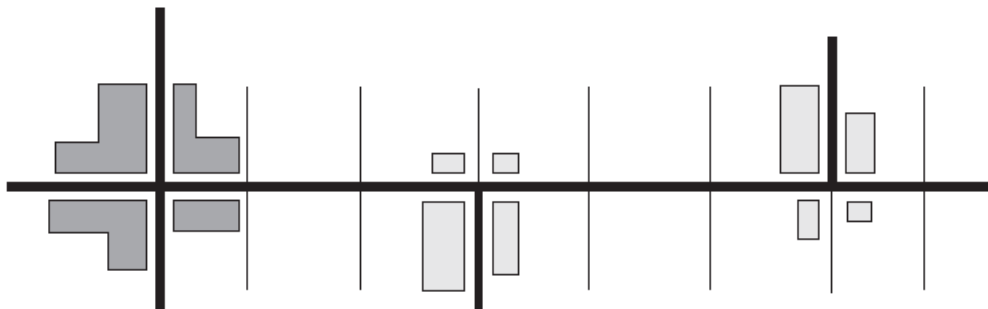


Figure 27: Hierarchical concentrations along routes (Source: CSIR, 2000: Chapter 3:3).

A continuous public space network is also important in achieving a sense of enclosure and definition. Buildings, walls and vegetation should contribute to defining public space, as seen in Figure 28. Along higher order routes discontinuities of movement can be applied to create public squares and parks (CSIR, 2000: Chapter 3:3) where on lower order routes privacy can be created with the discouragement of traffic. It is proposed that higher-order urban activities such as social facilities are not located within residential areas but rather on movement routes where the functionality will not be dependent on the local community alone. This will also enhance private quality of life within neighbourhoods (CSIR, 2000: Chapter 3:3).



Figure 28: Open Space Network defined by the built form (Source: Luka Beograd, 2010)

The promotion and support of public transport is found in these guidelines, stating that new development should provide public transport as far as possible and especially in areas with low levels of car ownership. With higher density mixed-use development and strategic planning of stopping points, the viability of public transport will increase. Movement should be seen as an activity within social space and should generally make provision for both pedestrians and vehicular traffic, seen in Figure 29. It should consist of a flexible space that allows for meeting places, markets and parking (CSIR, 2000, Chapter 3:8). According to the CSIR (2000: Chapter 3:8) the most important social spaces are low-order local streets and these streets should in particular accommodate pedestrian movement and activities.



Figure 29: Movement within a social space accommodating all modes of transport (Source: Curbed Los Angeles, 2012)

4.5.1.2 Principles and guidelines in terms of the planning and design of streets

The principles discussed in this section include movement networks as a public right-of-way, role of movement networks, vehicle-only and mixed-mode links, identifying a continuum of different network configurations, movement networks that contribute to a sense of place and movement networks as hard open space.

4.5.1.2.1 Principle 1: Movement networks as a 'public right-of-way'

In the Guidelines for Human Settlement Planning and Design a sub-chapter is dedicated to 'Movement Networks'. These movement networks are defined as a 'public right-of-way' network in contrast with the previous editions and versions of the guidelines that saw it as road layouts intended for use in all types of developments, developed or developing, high or low income areas, dominated by vehicular use (CSIR, 2000: Chapter 5.1:1). The new approach to movement network planning is to focus on public right-of-ways in planning and design, conventional road classification is prevented to preconceptions of functions and cross-sections and the promotion of continuous pedestrian-friendly public right-of-ways (CSIR, 2000: Chapter 5.1:1). These approaches were aligned with international paradigm shifts towards a decrease in automobile dependency and green developments. The movement networks consists of a series of links and junctions making up the public right-of-way. These networks are made up of different overlaid movement modes such as roadways, cycle ways, pathways and footways (CSIR, 2000: Chapter 5.1:1).

4.5.1.2.2 Principle 2: Role of movement networks

The role of movement networks in human settlements is summarised as the basic spatial framework within which urban processes such as the physical movement of people, goods and services find form (CSIR, 2000: Chapter 5.1:3). The role of the operation of the movement network is to enable convenient, affordable, efficient and safe movement of people, thereby providing in the users' needs and facilitating the local space economy. Movement should be seen as a means to satisfy needs rather than the end goal (CSIR, 2000: Chapter 5.1:3). The qualities identified by the CSIR mean that a movement network should have to perform these roles are: (i) to prioritise non-motorised needs that are sensitive to distance and public transport; (ii) to be convenient, safe and provide multiple-use patterns over time and (iii) the movement network should accommodate various movement demand and socio-economic functions (CSIR, 2000: Chapter 5.1:3). To bring these roles and qualities into practice a relationship needs to be built between vehicle-only, mixed-mode and pedestrian only links and public right-of-way networks need to be configured in generic ways (CSIR, 2000: Chapter 5.1:3).

The movement network must be designed to maximise opportunities for entrepreneurs and spaces for economic activity as the local economy is sensitive to socio-economic, security, financial and development control factors. Movement networks define the space where consumers move and thus influence spatial patterns of economic opportunity (CSIR, 2000: Chapter 5.1:10).

4.5.1.2.3 Principle 3: Vehicle-only and Mixed-mode links

Interconnections between vehicle-only and mixed-mode links are used to provide higher speed alternatives for vehicles. It is thus advised by the CSIR (2000: Chapter 5.1:3) that mixed-mode and high capacity vehicle-only routes run parallel to each other and should be close enough for vehicles to move between the two routes (CSIR, 2000: Chapter 5.1:4). On mixed-mode links that carry higher volumes of traffic it is proposed that the distance between intersections should be bigger. The intersection of two high volume mixed-mode traffic link will create opportunity for commercial activities and traffic must be able to stop a walking distance from these activities and buildings should face the intersection (CSIR, 2000: Chapter 5.1:4). In contrast, intersection spacing of lower traffic volume mixed-mode links should be influenced by pedestrian circulation, internal service reticulation and block subdivision. Network configurations can thus be used to enhance the pedestrian use of streets for social and recreational purposes (CSIR, 2000: Chapter 5.1:4). An interconnection between mixed-mode and pedestrian-only links is deemed essential to give multi-directional access to pedestrians and cyclists. Pedestrian routes, crossings and cycleways should be direct and convenient (CSIR, 2000: Chapter 5.1:5).

4.5.1.2.4 Principle 4: Identifying a continuum of different network configurations

Network connectivity can be used as a basis for identifying a continuum of different network configurations. At the one end there are closed networks and on the other open networks based on how the road hierarchy is used to define movement within a network. According to the CSIR, (2000: Chapter 5.1:5) studies that were conducted on the impact of closed or open networks on travel behaviour and quality of life have shown that different configurations can have advantages and disadvantages, for example open networks increase accessibility and the use of public transport and decrease vehicular kilometres travelled, but is associated with fast moving through traffic, which results in noise and safety concerns. On the other end of the continuum, closed networks manage through traffic but can lead to segregation of neighbourhoods that will increase trip lengths for both non-motorised traffic and vehicular traffic.

The central planning approach proposed by the CSIR (2000: Chapter 5.1:7) is that public rights-of-way must be incorporated in networks that are multi-directional. This creates the possibility for a multi-directional pedestrian and cycle circulation system that is easy and directly paired

with limited vehicular through movement. A multi-directional configuration creates the possibility to adapt the movement network to be more open or closed as modal split and land-use development alter the movement demand and function of the links. Network configurations have a considerable influence on how land is sub-divided and the allocation of land use rights (CSIR, 2000: Chapter 5.1:6). Figure 30 gives an example of a multi-directional public right of way network.

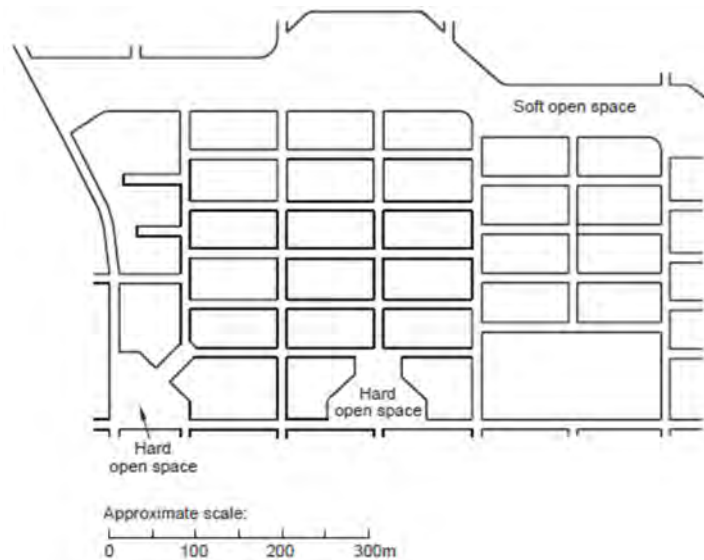


Figure 30: A multi-directional public right-of-way network (Source: CSIR, Chapter 5.1:7)

4.5.1.2.5 Principle 5: Movement networks that contribute to a sense of place

The CSIR (2000, Chapter 5.1:11) states that the movement network and the way it is configured can create a 'sense of place'. It is recognised that a sense of place cannot be created by standardised planning and design but rather involves the enhancing of the natural and unique setting of a place in planning proposals. Movement networks can thus be configured to contribute to the sense of place. This can be achieved by planting tree lined avenues or boulevards to align and connect important symbolic, public art, buildings or objects creating vistas and enhancing gateways to public spaces. Aligning roads to create vistas, focussing on landmarks that make settlements memorable. Road alignments can also be designed to follow natural features, incorporating it visually into a settlement. This will create vistas to natural features such as trees, mountain peaks or hills and retain the natural landscape features (CSIR, 2000: Chapter 5.1:12).

4.5.1.2.6 Principle 6: Movement networks as hard open space

Public space is defined by the CSIR (2000: Chapter 5.3:1) as all land that does not belong to individuals or private institutions and consists of soft and hard open spaces. Soft open spaces

refer to 'green space' following natural lines. Hard open spaces refer to accessible spaces in the built environment. A vital relationship exists between movement networks and hard open space as it exists mostly within public hard open spaces.

This chapter of the *Guidelines for Human Settlement Planning and Design*, focuses on providing guidelines for the development of hard open spaces to avoid it being mere left-over space. These guidelines describe the role of hard open space as well as the different functions of hard open space. The functions distinguished are: social functions, movement functions, economic functions and political or symbolic functions. Different generic forms of hard open spaces are then defined as being: mixed-mode streets, pedestrian-orientated streets, squares or plazas, markets, parking areas and public transport stops and stations. General, specific and managerial qualitative guidelines are then given to guide the design and implementation of these principles.

4.5.1.3 Synthesis

The "Guidelines for Human Settlement Planning and Design", 2000 aims to provide practical guidance to build environment professionals in support of the creation of sustainable and vibrant settlements. The document was visionary in the detail design of spaces in South Africa, and the first to combine urban design concepts with engineering standards that can be used to create streets as public places where social interaction opportunity is created.

4.6 Provincial policies and guidelines

The policies and guidelines discussed in this section include the Gauteng Spatial Development Perspective, the Gauteng Spatial Development Framework and the Gauteng 25 year Integrated Transport Master Plan.

4.6.1 Gauteng Spatial Development Perspective, 2007

The importance and need for a provincial spatial perspective arose as the vision for making Gauteng a globally competitive city region materialised (Gauteng Department of Economic Development, 2007:3). The Gauteng Department of Economic Development (2007:3) aims to use this Perspective as a tool to guide the development of the space economy. This document guides the development of the Gauteng Growth and Development Strategy, the Provincial Spatial Development Framework, municipal Integrated Development Plans and sector specific strategies.

The Perspective's purpose is to identify the development challenges, identify the strengths and opportunities and propose guidelines to address the challenges and build on the strengths. This perspective should ensure integration and coordination in government intervention (Gauteng

spatial fragmentation eradication, poverty alleviation and the development of a sustainable urban area (Gauteng Department of Economic Development, 2007:63).

4.6.1.2.1 Principle 1: Economic growth

A number of 'Principle-led Investment Responses' were identified with one of the Strategic Investment Responses being the integration of infrastructure and creating transport solutions to counter the high congestion levels in the province (Gauteng Department of Economic Development, 2007:65). Another strategic investment response is to maintain a high quality environment that includes minimising urban decay and pollution and the creation of open space that is safe and secure (Gauteng Department of Economic Development, 2007:65). Pretoria Central is mentioned specifically as an area with a high contribution to the Gross Value Added (GVA) and with strong links with high poverty concentrations.

4.6.1.2.2 Principle 2: Socio-economic inclusion

'Inner City Poor' were identified as a key locality for an investment response to spatial fragmentation. The Johannesburg and Pretoria CBDs are home to many poor people. The investment response in this case is to formalise high density housing in the inner city and granting subsidies. This should be aided with supporting infrastructure and social services as well as economic intervention. The improvement of the flow of people between poverty concentrations and economic activity is based on transport interventions (Gauteng Department of Economic Development, 2007:71).

4.6.1.3 Synthesis

The focus of the Gauteng Spatial Development Perspective is to guide development in support of better living conditions, accessibility improvement, economic growth and desirable land use patterns (Gauteng Department of Economic Development, 2007:3) in line with the NSDP. The issue of accessibility that will address exclusion, spatial fragmentation and poverty alleviation is identified as a key issue, but not taken to an implementation level. Municipalities should align their Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs) to the provincial policies and as the problem of accessibility is not addressed this problem will not be solved at a lower government sphere level.

4.6.2 The Gauteng Spatial Development Framework, 2010 (GSDF)

The GSDF is a long-term development plan for Gauteng and is one of the first of its kind in South Africa. This document aims to provide a provincial spatial structure that will accommodate growth and sustainability, give objectives for municipalities to realise this spatial structure; provide plans that will help municipalities in pursuit of this structure; to provide a shared

planning construct for all the Gauteng municipalities to use in their planning processes and plans to enable and direct growth (Gauteng Department of Economic Development, 2010:10).

Gauteng forms the economic hub of many sectors of the economy and houses a dense population in a small provincial area. It forms an urban area that is strongly defined by the movement corridors that pass through the province, linking and connecting cities as well as countries in all directions (Gauteng Department of Economic Development, 2010:14).

The aim of the Gauteng City Region is to develop sustainably, based on the following principles: reducing private transport and promoting public transport, reducing energy use, the integration of open space into built-up areas with the aim of a better quality of life, creating access to opportunities for all inhabitants (Gauteng Department of Economic Development, 2010:11).

4.6.2.1 Application in terms of the planning and design of streets

The aim of the GSDF is to inform the development of an equitable and sustainable urban system and to structure the urban form. The GSDF follows an Urban Structure Approach (Gauteng Department of Economic Development, 2010:52) to address the problems typical to South African cities. An urban structure approach emphasises the importance of streets that form the basic elements of structuring the urban form.

4.6.2.2 Principles and guidelines in terms of the planning and design of streets

Urban structure is defined as the physical form of the urban system and the relationship between the components that create the physical urban form. Development blocks and land parcels, movement systems and streets, public spaces, buildings and built form, open space, service infrastructure and landscape make up the urban structure. The resultant urban form is thus the spatial materialization of the complex interaction of the urban processes and systems and the human activity associated with these. The urban structure can be reduced to urban activities and movement and the structuring elements formed by this as can be seen in the figure below.

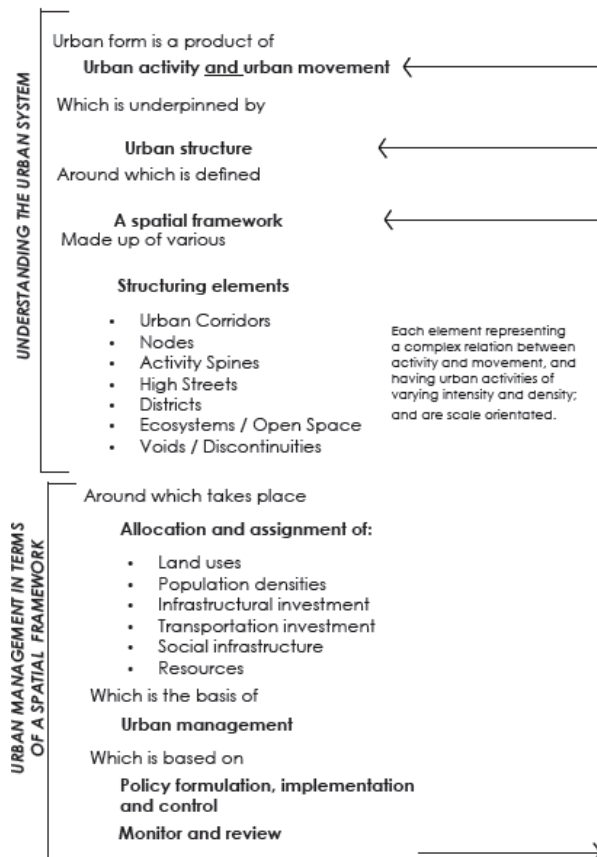


Figure 32: The Urban Structure Approach (Department of Economic Development, 2010:54)

The establishment of a decision-making framework where transportation planning and urban land use is an integrated process, is one of the principles of urban structure theory. Activity is thus attached to movement and the flow of people, goods and vehicles are dictated by urban structure.

4.6.2.3 Synthesis

The GSDF uses the urban structure approach to establish a development direction towards creating a sense of place and an environment that supports social activities in communities. It guides the decision-making framework for future development. According to the GSDF transportation and movement is the lifeblood of the city and its energy. It wants to move away from the purist notion of highly stratified and rigidly determined road functions and towards generating local economies, complex networks of association and an open-ended framework. A holistic view of movement in cities has never been more important in the design of South African cities.

4.6.3 Gauteng 25-year Integrated Transport Master Plan, 5-year Transport Implementation Plan

The aim of the document is twofold, the delivery of a 5-year Gauteng Transport Implementation Plan and a 25-year Integrated Transport Master Plan. The 5-year Gauteng Transport Implementation Plan aims to increase the implementation speed of the urgent projects with regard to transport initiatives. The plan acts as an assessment of existing plans and their integration. The goal of the document is to aid in creating sustainable transport systems that can strengthen the economy and social and cultural structures (Gauteng Department of Roads and Transport, 2012: vii).

4.6.3.1 Application in terms of the planning and design of streets

Principles and departure points were identified to support the Integrated Network Plan that is (i) the transformation and restructuring of urban communities and social integration, (ii) the use of scarce resource in an innovative manner and (iii) a sustainable global city regions. The areas for which these principles and departure points are proposed for is land use, network continuity, economic development, public transport, network hierarchy, freight, airports, non-motorised transport, road networks, standards and sustainable transport solutions (Gauteng Department of Roads and Transport, 2012:49).

4.6.3.2 Synthesis

With the compilation of the document an assessment was made of the 'state of planning' in terms of the integration between existing plans, the shortcomings between plans as well as the trends. The assessment brought the following to the fore: public transport planning is not centrally organised but spread across government spheres that do not integrate their plans with each other, network planning was not done according to the standard with a hierarchy of roads and continuity and planning around different modes of traffic. The document speaks out against the little attention given by all spheres of government to non-motorised transport planning and the few plans that exist for pedestrian facility provision (Gauteng Department of Roads, 2012: 288). This situation is however changing. The City of Johannesburg has started two programmes, 'Complete Streets' and 'Streets Alive' in an attempt to address safety, liveability, access and a sustainable environment for all the inhabitants and the City of Tshwane is implementing a Non-Motorised Master Plan.

4.7 Local policies and guidelines

The policies discussed in this section include municipal plans and precinct plans. These are the Tshwane Vision 2055, City of Tshwane Metropolitan Spatial Development Framework, Regional Spatial Development Framework, Tshwane Open Space Framework, Tshwane Inner City Local

Open Space Plan, Policy on the Design of Hard Open Spaces and Streetscape Elements in Tshwane, Streetscape Guidelines for the City of Tshwane and Re Kgabisa Tshwane.

4.7.1 Tshwane Vision 2055

The aim of the Tshwane Vision 2055 is to provide the city with a development logic to guide the decision-making process and the implementation of agreed upon short to long- term priorities. A year-long stakeholder consultation process was conducted and the vision was formulated as follows: *'In 2055, the City of Tshwane is liveable, resilient and inclusive whose citizens enjoy a high quality of life, have access to social, economic and enhanced political freedoms and where citizens are partners in the development of the African Capital City of excellence. Tshwane, my City, our Capital'* (City of Tshwane Metropolitan Municipality, 2013b:34). The Vision has identified 6 outcomes to realise the vision of being the African Capital City:

- Outcome 1: A resilient and resource efficient city
- Outcome 2: A growing economy that is inclusive, diversified and competitive
- Outcome 3: A city with quality infrastructure development that supports liveable communities
- Outcome 4: An equitable city that supports happiness, social cohesion, safety and healthy citizens
- Outcome 5: An African capital city that promotes excellence and innovative governance solutions
- Outcome 6: South Africa's capital with an activist citizenry that is engaging, aware of their rights and presents themselves as partners in tackling societal challenges

4.7.1.1 Application in terms of the planning and design of streets

The various concepts used in the vision statement guide the policy and investment priorities of the city. One of these concepts is the creation of quality of life. For the City of Tshwane quality of life is a multi-dimensional concept that assesses the conditions of life for the people living, investing, working and playing in the city. The city seeks to improve these aspects by implementing the principles of New Urbanism and Cradle-to-Cradle (City of Tshwane Metropolitan Municipality, 2013b:110).

4.7.1.2 Principles and guidelines in terms of the planning and design of streets

The principles discussed in this section include New Urbanism and Cradle-to-Cradle.

4.7.1.2.1 Principle 1: New Urbanism

New urbanism, as discussed in Chapter 3, explores methods of improving quality of life by creating more viable and better places to live in. It also focuses on creating diverse, vibrant,

compact, walkable mixed-use communities that are integrated and form complete communities. New urbanism principles are endorsed as follows in the Tshwane Vision 2055:

- Walkability and Connectivity: implement pedestrian friendly street design and the creation of a high-quality pedestrian network and public realm;
- Traditional Neighbourhood Structure: create a high quality public realm, public open spaces should be designed as civic art;
- Mixed-Housing: a wide range of sizes, types and price class should be provided in closer proximity;
- Quality Architecture and Urban Design: aesthetics, beauty, creating a sense of place, and human comfort; and
- Sustainability: development should have a minimum impact on the environment.

4.7.1.2.2 Principle 2: Cradle-to-Cradle

Cradle-to-cradle directs its focus on eco-effectiveness (City of Tshwane Metropolitan Municipality, 2013b:110). Cradle-to-cradle is a concept where all used products are recycled to be used for another purpose without any wastage. The eco-effective transformation process of cradle-to-cradle is used in terms of city planning to transform urban areas. This implies that these principles can be used as an instrument to comply with sustainability concepts (Kusumo, 2011:32). Cradle-to-cradle principles are described as follows in the Tshwane Vision 2055:

- Green public spaces should be within a 15-30-minute walking radius;
- The city should be safe and easy to walk in;
- The creation of attractive space between buildings invite citizens to interact;
- Energy efficiency and effectiveness should be improved in new as well as existing buildings;
- The provision of public transport must be effective and easily accessible;
- Noise and air pollution can be reduced by the introduction of electric and hybrid cars and sufficient charging stations;
- Cycle and motorcycle infrastructure should be well designed;
- Improve the quality of life for the city's inhabitants;
- City leaders must be made aware that innovation, creativity and prosperity can be driven by sustainability.

4.7.1.3 Synthesis

The vision for the City of Tshwane has been revolutionary towards adopting design principles that enhance the quality of life for its citizens, not only create a functional city but a liveable city,

for example, one of the strategic actions is to focus on the “role of the street as a multi-functional urban space”.

4.7.2 City of Tshwane Metropolitan Spatial Development Framework, 2012

The Metropolitan Spatial Development Framework (MSDF) forms a spatial representation of the City Vision. It forms the tool to integrate the different aspects of spatial planning, i.e. pedestrian, vehicular and other movement pattern planning, land use planning, open space network planning, service and road infrastructure planning, building and built-up area regulation and guides decision-making processes (City of Tshwane Metropolitan Municipality, 2012:34).

The MSDF gives guidance in the formulation of smaller scale plans, these plans must take the city vision, the efficiency and functionality of the city, the creation of unique, viable, attractive and vibrant environments, the city form restructuring, the enhancement of the identity and legibility of the city as well as the economic and social opportunities into consideration (City of Tshwane Metropolitan Municipality, 2012:42). It should also address land use and built form aspects such as the impact on the green open space network, urban design on streetscape, the impact on services and traffic volumes.

4.7.2.1 Principles and guidelines in terms of the planning and design of streets

The principles discussed in this section include intensification and densification, quality built environment and clustering of facilities.

4.7.2.1.1 Principle 1: Intensification and densification

Walking and cycling is promoted in relatively high density residential areas with mixed land uses that is achieved with the policy of densification and compaction. This is an urban design concept that promotes infill development and the intensification and densification of land uses. A large population is formed with opportunities for social interaction and the formation of a safety component – ‘eyes in the street’ (City of Tshwane Metropolitan Municipality, 2012:4).

Some of the objectives of densification and compaction is to reduce the footprint of the city and improve the efficiency and optimal use of urban areas. The increased density improves the viability of public transport and aid in the convenience of residents with better access to amenities.

4.7.2.1.2 Principle 2: Quality built environment

According to the MSDF the public realm encompasses the space where most time is spent. The quality of the built environment is important for the efficiency of the environment. Urban areas are more susceptible to urban deterioration such as urban decay and the management of the environment is thus important. Urban design and the management of the quality of the

environment can have an impact on the environment, city image and a competitive edge. Urban design is vital for preserving the natural environment as it deals with the quality of the built environment. Urban and architectural design can thus be applied to reduce the negative effect of climate change. The quality of the environment can directly translate into the image of a city. This image can have a ripple effect on the investments that are made in a city and the level of sophistication that is associated with a city and have a direct impact on how successful a city is (City of Tshwane Metropolitan Municipality, 2012:105). The city image determines the visitors of a city and the reasons for the visits. People seek desirable locations with friendly, caring communities, good quality housing good education facilities, healthy and safe environments as well as a stimulating, competitive atmosphere essential for business development.

4.7.2.1.3 Principle 3: Clustering of facilities

The City of Tshwane aims to cluster and integrate the design of public facilities to create places of opportunity. This will be realised by creating community activity areas and focus points, activity linkage strengthening, the enhancement of the pedestrian environment, transforming transport interchanges into civic termini and installing public art and green structures to improve the quality of the environment (City of Tshwane Metropolitan Municipality, 2012: 56).

4.7.2.2 Synthesis

The Metropolitan Spatial Development Framework has placed emphasis on the development of good quality public environments to improve the image of the city. This document has a theoretical focus and incorporates good urban design principles in line with the creation of opportunities for social interaction.

4.7.3 Regional Spatial Development Framework (RSDF), 2013

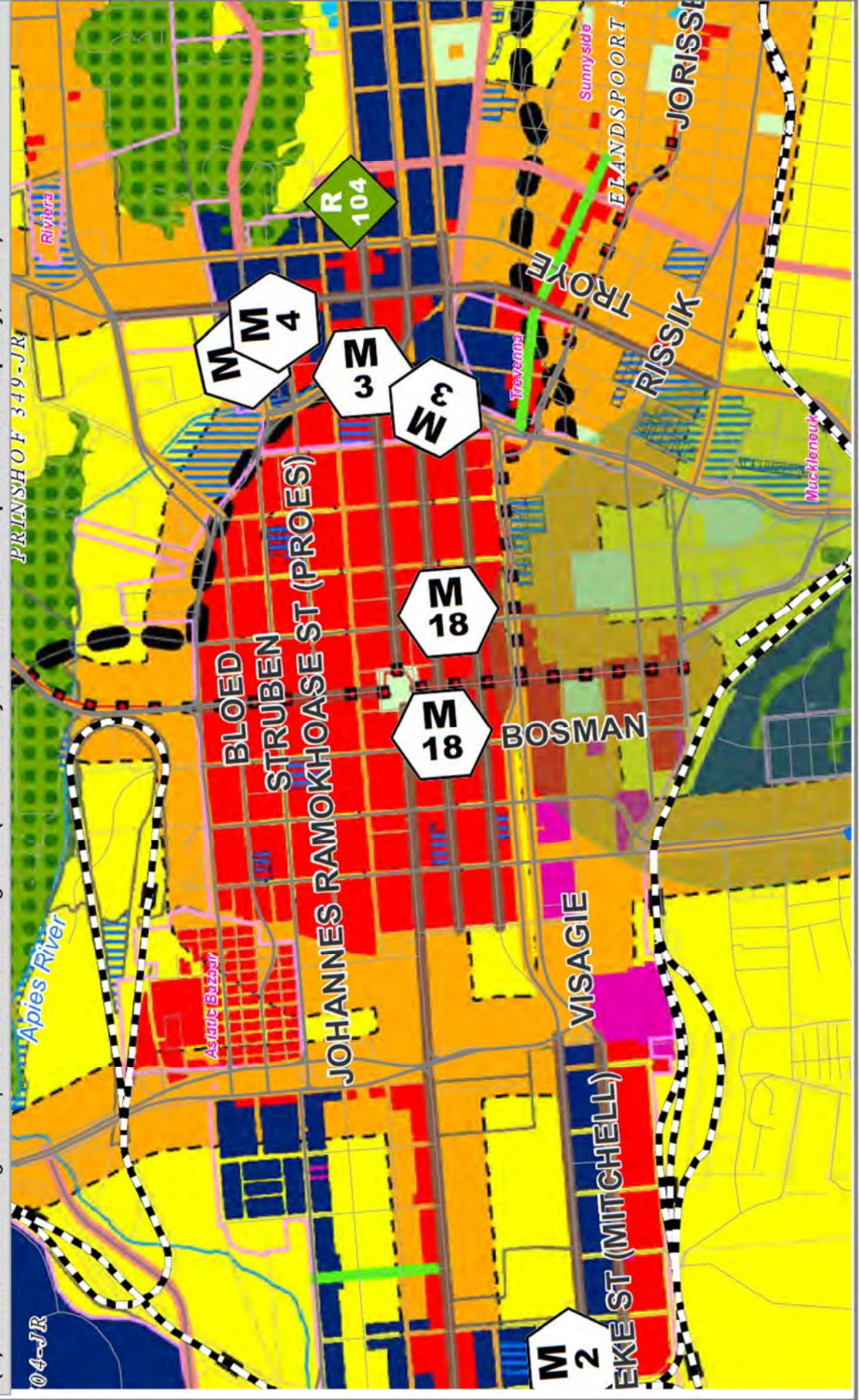
The City of Tshwane is divided into seven planning administration regions (seen in Map 5 (D)). The regional Spatial Development Frameworks need to align to the Metropolitan Spatial Development Framework. The Spatial Development Framework is aimed at indicating strategic areas for private and public investment as well as areas where development should be restricted or discouraged. This provides guidelines for municipal decision-making (City of Tshwane Metropolitan Municipality, 2013a:1) as can be seen in Map 1 (A). The RSDF is formulated to address critical issues and catalytic planning interventions. In the Regional Spatial Development Framework of Region three of the City of Tshwane, Helen Joseph Street is shown as an Activity Spine and is earmarked for a linear densification area in the Business core of the capital city (City of Tshwane Metropolitan Municipality, 2013a) as shown in the Map 1 (B).

MAP 1: TSHWANE REGION 3 SPATIAL DEVELOPMENT FRAMEWORK

(A) Regional Spatial Framework Region 3 (source: City of Tshwane Metropolitan Municipality, 2013a)



(B) Extract of the Regional Spatial Framework Region 3 (source: City of Tshwane Metropolitan Municipality, 2013a)



4.7.3.1 Application in terms of the planning and design of streets

The RSDF describes the movement system as the arteries of the city as there is no life without the linkages they create. The flow of people, finance and goods are essential energy generating elements that keep a city alive. The movement system can function as structuring elements and integration enablers (City of Tshwane Metropolitan Municipality, 2013a:49).

The energy potential of these movement networks is released by stopping. These stopping points create rhythms along a movement line as all the different modes differ in their stopping patterns. Movement systems create patterns of activity that are reinforced by different activities.

4.7.3.2 Principles and guidelines in terms of the planning and design of streets

It is the intention of the RSDF to create spines along which there are concentration nodes where mixed-use development is promoted and stopping points encouraged (City of Tshwane Metropolitan Municipality, 2013a:50). The Tsosoloso Programme was introduced to create liveable cities with a high quality public environment that draws investment and people (City of Tshwane Metropolitan Municipality, 2013a:30). To realise this vision a comprehensive program was formulated to identify concentrated investment areas to maximise the impact. These areas are centres, community facilities, linear spines of activity and inter-modal interchanges. Critical elements were identified as tools for the intervention in these areas, namely public squares, markets, public art, public transport routes and stops, pedestrian walkways and green structures such as trees, landscaping, natural open space and gardens (City of Tshwane Metropolitan Municipality, 2013a:30). There are five points of action identified: the creation of community activity centres and focal points, the strengthening of activity linkages, transformation of transport interchanged into civic termini, the enhancement of pedestrian linkages and the enrichment of the quality of the public environment with public art and green structures (City of Tshwane Metropolitan Municipality, 2013a:30).

4.7.3.2.1 Principle 1: The strengthening of activity linkages

Activity linkages and streets are dependent on the movement of people. The public environment is thus important and will enhance the safety, enjoyment and convenience of people that move along these linkages (City of Tshwane Metropolitan Municipality, 2013a:30). Permanent 'forces of attraction' can promote activity along linkages and will create a sustainable economy and lively public environment. These 'forces of attraction' can be created by strategic planning and placing of land uses and public transport routes to increase accessibility (City of Tshwane Metropolitan Municipality, 2013a:31).

4.7.3.2.2 Principle 2: The enhancement of pedestrian linkages

Pedestrian linkages, along desire lines, between nodes and public transport must be created. Trees and shelter must be provided for pedestrians to enhance the quality of the environment and provide enough shade and cover from the elements (City of Tshwane Metropolitan Municipality, 2013a:31).

4.7.3.3 Synthesis

Although the RSDF admit to the importance of streets for the development of a good quality city environment, there is little focus on how to improve the movement networks to create these environments, except for the principle of intensification and densification along certain routes and the planting of trees and provision of sufficient shelter.

4.7.4 Tshwane Open Space Framework, 2005

The Tshwane Open Space Framework is based on the awareness that resources are finite and the current method of city building is harmful to environmental resources. The framework is aimed at formulating a metropolitan-wide plan to protect environmental resources in the context of urban sprawl and population increases (City of Tshwane Metropolitan Municipality, 2005b:1). Open Spaces have to be better structured, funded and managed to ensure a high quality public environment. The Open Space Framework defined open space as: “*Areas predominantly free of building that provide ecological, socio-economic and place-making functions at all scales of the metropolitan area*” (City of Tshwane Metropolitan Municipality, 2005b:5).

The Open Space framework classifies the following as examples of open spaces: dams, wetlands, conservation areas, water courses, ridges, play parks, city entrances, sport areas, cemeteries, sport fields, vacant land, infrastructure servitudes, parking areas, squares, traffic islands, boulevards and, most importantly for this study, streets. These spaces can be defined along a continuum of hard, brown or urban spaces to soft, green and natural spaces as can be seen in the figure below. Open space can be classified as private or public spaces, but regardless of ownership, accessibility can contribute to the character of the area and amenity (City of Tshwane Metropolitan Municipality, 2005b:5). Open spaces play an integral role in quality of life and is a vital element in cities (City of Tshwane Metropolitan Municipality, 2005b:6,7).

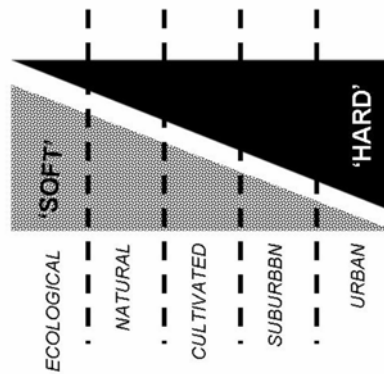


Figure 33: Continuum of soft to hard spaces (Source: City of Tshwane Metropolitan Municipality, 2005b:5)

4.7.4.1 Application in terms of the planning and design of streets

The Tshwane Open Space Framework categorises open space according to scale, function, form, character, ownership and location (City of Tshwane Metropolitan Municipality, 2005c:4). The Open Space Framework is made up of different open space typologies namely, Green, Blue, Red, Grey and Brown Nodes and Ways (City of Tshwane Metropolitan Municipality, 2005c:4). These typologies can be seen in the Map2 (A), where the Inner City is classified into mostly red nodes and ways and blue ways. The red nodes are formed by the parks and the red ways by Paul Kruger Street and WF Nkomo, Helen Joseph and Stanza Bopape Street. The blue ways are formed by the Steenhoven Spruit and Apies River.

The red ways and nodes are seen as the place-making elements of the Open Space Network. Red ways can include boulevards and ceremonial streets. There are two proposed ceremonial streets in the Tshwane Inner City, Paul Kruger Street and the former Church Street that should be developed as well-designed, tree-lined, pedestrian friendly and landscaped streets that form a space for people. The red ways should form landmarks with prominent public art (City of Tshwane Metropolitan Municipality, 2005c:62). Along these red ways, red nodes create “place-making moments” that create a certain character and sense of place.

4.7.4.2 Principles and guidelines in terms of the planning and design of streets

All new development in Tshwane is required to provide sufficient open space to realise the Tshwane Open Space Framework and to create places that support ecological and socio-economic functions that will provide in the needs of the community that surrounds it (City of Tshwane Metropolitan Municipality, 2005c:67).

In the design of boulevards and civic squares, trees should line both sides of the street and the sites abutting the boulevard must add to the character of the street space with building facades or landscaping (City of Tshwane Metropolitan Municipality, 2005c:74).

In the design of traffic circles and roads all surfaces must be paved or landscaped. The buildings that are situated next to these roads must be surrounded with landscaped areas. Roads that make provision for on-street parking must be lined with trees to soften the visual impact of the cars parked on the street and to provide shade for the cars (City of Tshwane Metropolitan Municipality, 2005c:74). Around bus stations and stops more trees should be planted to soften the impact of the structures on the streets visual splendour. Conflict between different modes of traffic must be avoided by using for example different levels, bollards and visual screening.

4.7.4.3 Synthesis

Public spaces that are well designed can aid in community and interpersonal interaction that will lead to a sense of community and create a safer environment. Successful spaces provide in a variety of uses and spaces and is robust and legible with an aesthetically pleasing character (City of Tshwane Metropolitan Municipality, 2005c:75). The quality of the environment should be considered and not the quantity. Streets are classified as part of the open space network. This is important for the design of streets, not seen as movement networks or service conduits, but part of the designed space that needs to provide in the needs for people as part of the public space network.

4.7.5 Tshwane Inner City Integrated Development Framework, 2007

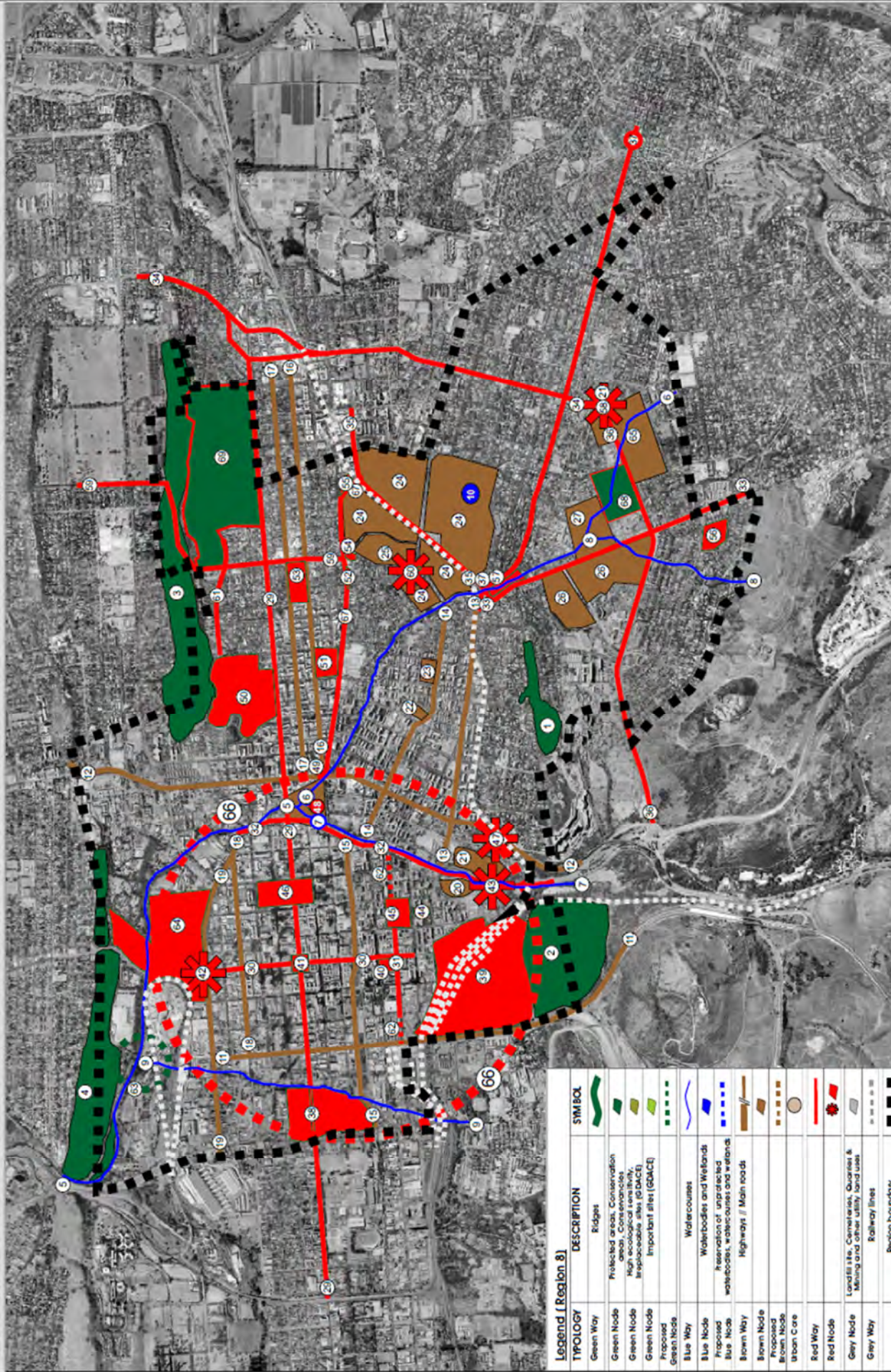
The City of Tshwane was identified as the seat of government and the Department of Public Works and the City of Tshwane has engaged in planning with the focus on the Inner City (City of Tshwane Metropolitan Municipality, 2007b:4). This document is focused on creating an integrated plan for the Inner City, as much planning endeavours were undertaken, with a shared vision and development guidelines (City of Tshwane Metropolitan Municipality, 2007b:5). The aim of the document is to accentuate the city as the capital city through branding the city, symbolism and promoting the city as the administrative capital through a spatial plan (City of Tshwane Metropolitan Municipality, 2007b:5). The aimed outcome is to refresh the identity, promote socio-economic sustainability and enhance the liveability of the city, creating a city with a sense of place.

The document is focused on implementing the previous planning frameworks and plans and for this purpose the document identified seven focus areas as priorities for implementation. These seven focus areas are: Define the Capital Core; Strengthen the Government Precinct (Re

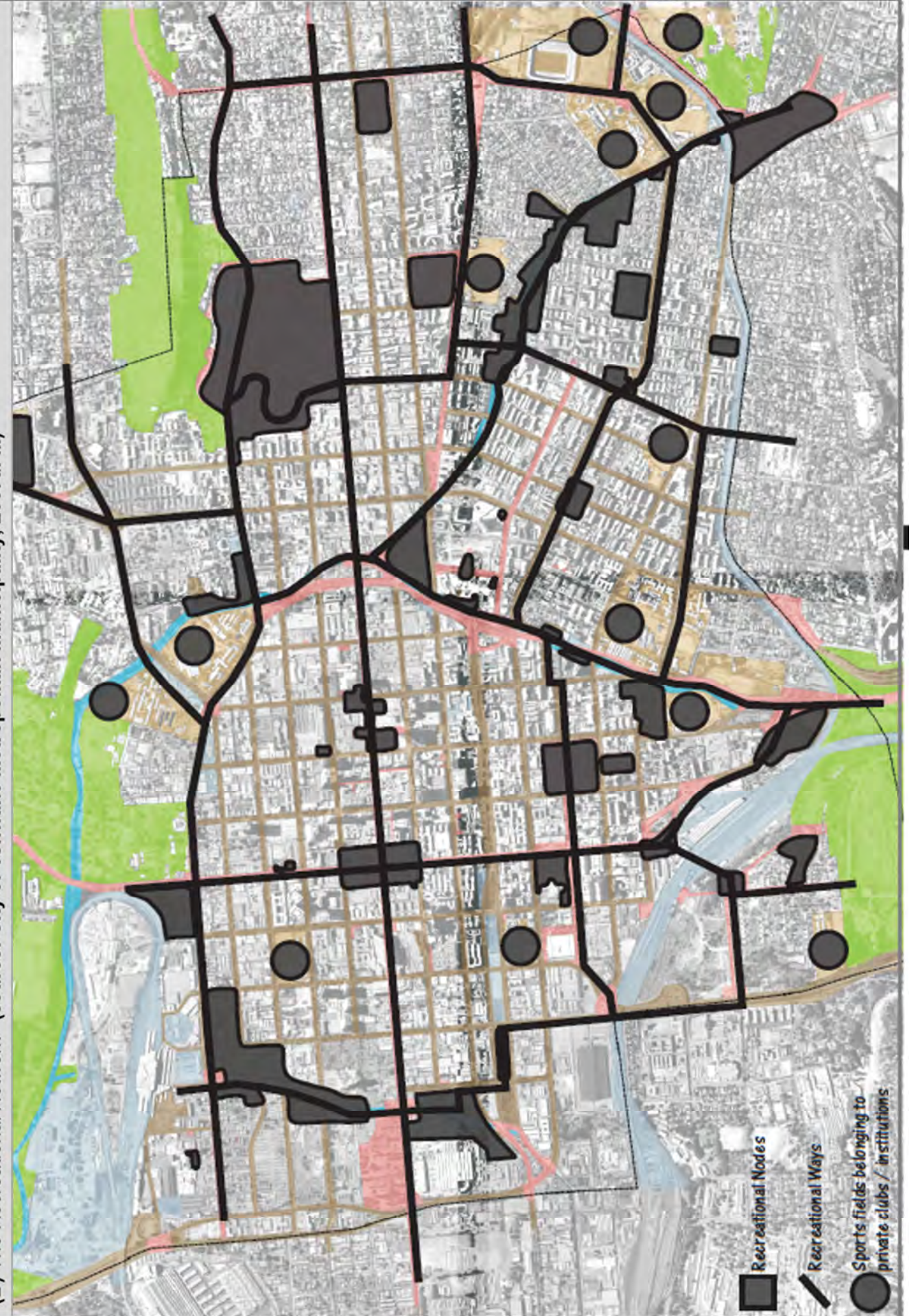
Kgabisa Tshwane); Support Mixed-Use Private Sector development (Inner City Social Housing and Rental Stock Projects); Develop Cultural Identity and Tourism Potential (Redevelopment of Marabastad, Tshwane Kopanong Concept, Tshwane West Park); Create a Quality Public Environment (Inner City Local Open Space Plan, Streetscape Design Requirements for different types of Hard Open Spaces); Provide for Integration of Movement; Endure Effective City Management and Maintenance

MAP 2: REGION 3 OPEN SPACE FRAMEWORK AND RECREATIONAL NETWORK

(A) Region 3 Open Space Framework (source: City of Tshwane Metropolitan Municipality, 2005b)



(B) The Recreational Network (source: City of Tshwane Metropolitan Municipality, 2007a: iii)



4.7.5.1 Synthesis

The document is a prioritising and implementation plan for the plans that were already formulated for the city, with the focus of creating a combined vision and outcome. The integration of these plans is essential to create a city with an identity and especially an identity as the capital city of South Africa. This informs the character of the street design.

4.7.6 Tshwane Inner City Local Open Space Plan, 2007

As part of the Tshwane Open Space Framework the Tshwane Inner City Local Open Space Plan was formulated as detail implementation plan. The objective of the Plan was to gain an understanding of the open space situation within the Inner City in terms of development, expansion, available land, connectivity and ratios and to provide implementation guidelines. The purpose of the plan is thus to provide management guidelines that are visionary and graphically strong for the ease of implementation (City of Tshwane Metropolitan Municipality, 2007a:2).

The provision of public open spaces is important in the creation of sustainable, healthy communities in areas with increased residential density. The scarcity of land put an emphasis on the creation of well-designed and functional open spaces. The image of the city and identity can be enhanced by unique, high quality open spaces as these spaces form the 'breathing space' of the city (City of Tshwane Metropolitan Municipality, 2007a:21).

As part of the Tshwane Open Space Framework, the open spaces accessible by the public, that host recreational activities, was used to create the Recreational Network as can be seen in Map 2 (B). The nodal spaces of the Recreational Network are linked with linkages to create safe, pedestrian friendly, movement areas (City of Tshwane Metropolitan Municipality, 2007a:2).

4.7.6.1 Application in terms of the planning and design of streets

The Open Space Plan is referred to as 'ways' that can include different types of movement space such as linkages, corridors, activity streets, collector roads, ceremonial boulevards and the full road reserve and adjacent open spaces fall within this category. Streets as linear spaces that are structural or memorable because of certain functions or characteristics that create unique spaces. These linear spaces can link important urban elements, whether these elements are visual or functional of nature. These spaces are defined by the buildings that line it and the planning of the interface between the public space and private spaces is important for creating unique spaces for people. Surfacing, landscaping, lighting and public furniture play an important role in creating the character and look and feel of the street as these elements can be used to create the setting of the streets. The management of the street space is important, this goes hand in hand with the regulation of land uses and planning parameters on the adjacent erven

(City of Tshwane Metropolitan Municipality, 2007a:65). Street character plays an integral role in supporting a positive city image (City of Tshwane Metropolitan Municipality, 2007:83).

4.7.6.2 Principles and guidelines in terms of the planning and design of streets

The Open Space Plan categorised the different elements of the open space network into different typologies (City of Tshwane Metropolitan Municipality, 2007a:6). The different typologies do not manifest in the same forms and do not function in the same way. The typologies are therefore broken down further into different ways or nodes within the same typology (City of Tshwane Metropolitan Municipality, 2007:49). General guidelines to the provision of open spaces are outlined as environmental design for safety, design for quality and maintenance (City of Tshwane Metropolitan Municipality, 2007a:7). Detailed design guidelines are however given for each Local Open Space Plan (LOSP) typology discussed under the following headings: Management, Open Space Activities, Adjacent Land Uses, Urban Form, Open Space Design and Interface Treatment (City of Tshwane Metropolitan Municipality, 2007a:51).

4.7.6.2.1 Principle 1: Red ways

Red ways are classified as the ceremonial streets, boulevards, pedestrian arcades and special streets that have a symbolic element made of linear hard open space with civic qualities. These routes are valued because of their contribution to the image of the city as the capital; and certain place-making guidelines are needed to guide the development of these ways as are represented in the figures below (City of Tshwane Metropolitan Municipality, 2007a:65).

Ceremonial Street

This is a democratised linear hard open space with civic qualities. The main activity in this street is made up of vehicular movement but also accommodates pedestrian movement on wide sidewalks. The land uses proposed can be of a wide variety as they should stimulate pedestrian activity; no blank facades are therefore allowed and the interface should be accessible and transparent to create an attractive, and people-friendly character. No fencing or erf boundary walls are permitted and the upper storeys of the buildings should overlook the street space. The street space must be strongly defined with buildings placed on a similar build-to line. Buildings must be of good architectural standard. The space must be predominantly paved or tarred for accommodating large volumes of people but should be landscaped with trees, lighting for vehicles and pedestrians and a wide variety of public furniture (City of Tshwane Metropolitan Municipality, 2007a:65). These design principles are shown in the figure below.

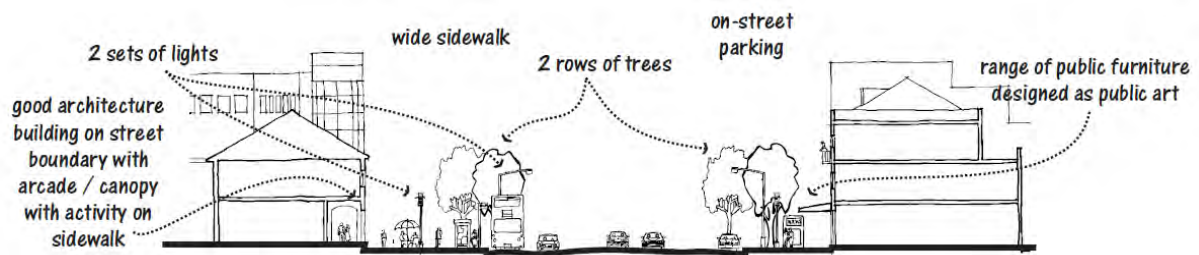


Figure 34: Ceremonial Street design concept (City of Tshwane Metropolitan Municipality, 2007a:56)

Special Street

This is a street with unique characteristics that is memorable. Activities in these streets relate to the special characteristics and can accommodate pedestrian or vehicular movement or activities such as entertainment or commercial activities. The character of the street space should inform the adjacent land uses as well as the interface treatment that will support and enhance the street space. Landscaping elements and surfacing should be designed specifically for the street space (City of Tshwane Metropolitan Municipality, 2007a:66). These design principles are shown in the figure below.

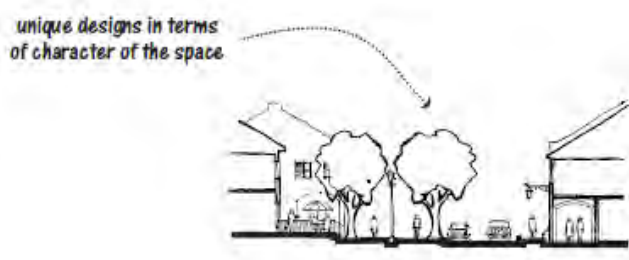


Figure 35: Red Way 2 Special Street (City of Tshwane Metropolitan Municipality, 2007a:66)

Boulevard

This is a street that creates a visual or physical link to important elements in the city. The main activity in this street is made up of vehicular movement but it also accommodate pedestrian movement on wide sidewalks. The streets must be visually enhanced to support the city image and frame the important elements. The land uses adjacent the street should not remove the focus from the status or character of the street. The street must be defined by buildings that can have arcades and should have a manicured landscaping strip in front of the buildings. Buildings must be of good architectural standard. The space must be paved or tarred with ample provision

of soft landscaped areas that are symbolic or historical. The street should be landscaped with trees and the lights and public furniture should be treated as public art elements (City of Tshwane Metropolitan Municipality, 2007a:65). These design principles are shown in the figure below.

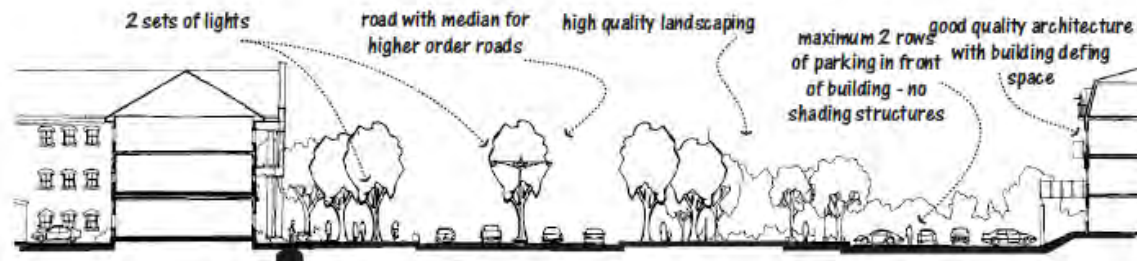


Figure 36: Red Way 3: Boulevard (City of Tshwane Metropolitan Municipality, 2007a:67)

Pedestrian Arcade

This is a pedestrian linear hard open space. The main activity in this street is made up of pedestrian movement on the whole of the road reserve with pedestrian activities such as restaurants, cafés that live out onto the street. The land uses proposed can be of a wide variety as it should stimulate pedestrian activity, no blank facades are therefore allowed and the interface should be accessible and transparent to create an attractive, and people-friendly character. No fencing or erf boundary walls are permitted. The street space must be defined with buildings placed on the street boundary. The space must be paved with little level changes. The street should be landscaped with trees for ambience and shade. Sufficient lighting should be provided to create safe spaces and public furniture must be provided for pedestrian comfort (City of Tshwane Metropolitan Municipality, 2007a:68). These design principles are shown in the figure below.



Figure 37: Red Way 4: Pedestrian arcade (City of Tshwane Metropolitan Municipality, 2007a:68)

4.7.6.2.2 Principle 2: Brown ways

Brown ways are classified as the corridors, activity streets, linkages and collector roads that are focused on movement through the city. These routes are valued because of their contribution to socio-economic interaction and their structural function. Certain place-making guidelines are needed to guide the development of these ways as is represented in the figures below (City of Tshwane Metropolitan Municipality, 2007a:83).

Metropolitan and Local Important Linkage

These streets' main function is connectivity. These streets connect the city with the region or areas surrounding it. The focus of the activities in these streets are thus vehicular. The land uses will be determined by the area it runs through. Blank facades should be architecturally articulated but avoided as entrances of buildings should be on the street. Fencing must be of a transparent nature. The street space must be strongly defined with buildings placed on a similar build-to line. The space must be predominantly tarred and a small area paved for pedestrians. Trees should be planted and lighting should be provided for (City of Tshwane Metropolitan Municipality, 2007a:65). These design principles are shown in the figure below.

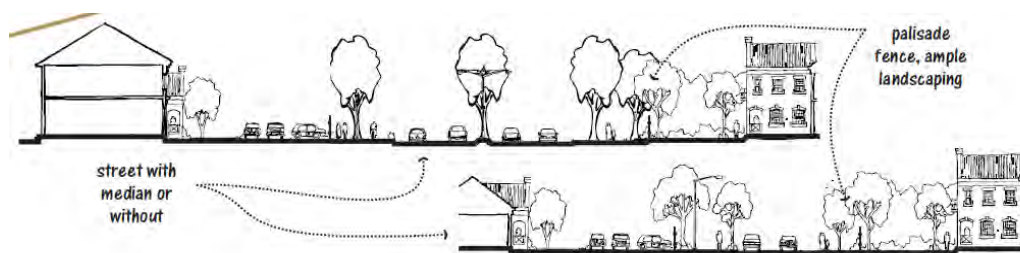


Figure 38: Brown Way 1 and 2: Metropolitan and Local Important Linkages (Source: City of Tshwane Metropolitan Municipality, 2007a:85)

Capital Core Street

These streets relate specifically to the Inner City as part of the core node of the city. The main activity in this street is made up of vehicular movement but also accommodates pedestrian movement and public life activities. The land uses proposed can be of a wide variety as they should stimulate pedestrian activity, and must be mixed to create a 24 hour uses of the street space. No blank facades are therefore allowed and the interface should be accessible and transparent to create an attractive, and people-friendly character. No fencing or erf boundary walls are permitted. The street space must be defined with buildings placed on a similar build-to line. Buildings must be of good architectural standard, oriented towards the street. The space must be paved or tarred with a coordinated paving pattern throughout the inner city. The street should be lined with trees and public furniture must be designed for pedestrians (City of

Tshwane Metropolitan Municipality, 2007a:86). These design principles are shown in the figure below.

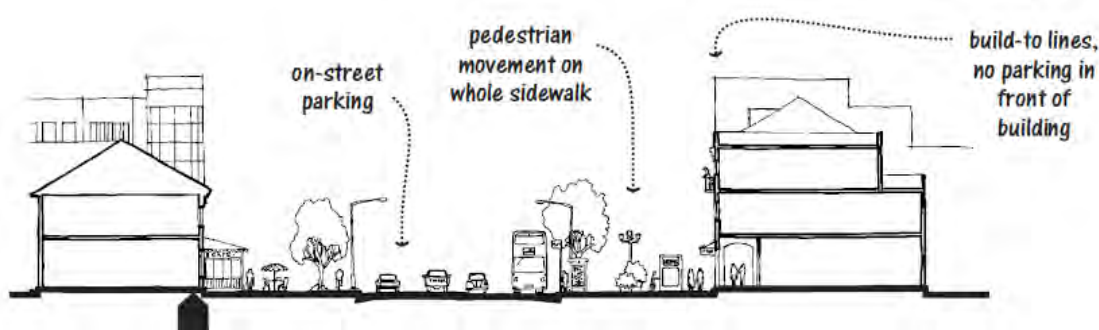


Figure 39: Brown Way 3 Capital Core Street (Source: City of Tshwane Metropolitan Municipality, 2007a:86)

4.7.6.3 Synthesis

The purpose of this plan was to create a visionary plan for the implementation of management guidelines of public open space in the inner city. These guidelines should guide the design of the streets, but have not been implemented in the inner city and as a result have not improved the city image, pedestrian or vehicular movement. The implementation of these designs will ensure that the street network is seen as part of the public open space and provide a high quality public environment, creating opportunity for social interaction.

4.7.7 Policy on the Design of Hard Urban Spaces and Streetscape Elements in Tshwane, 2005/ 2007

The Policy on the Design of Hard Urban Spaces and Streetscape Elements in Tshwane was approved by council in 2005, and is aimed at enhancing the appearance and pedestrian experience of the hard open spaces in Tshwane and to ensure that the streetscape elements are well coordinated. It also depicted design guidelines for the different urban spaces (City of Tshwane Metropolitan Municipality, 2005a).

The policy was born out of the concern that the provision of hard open spaces is left to the private sector and that the importance of hard open spaces is not valued by the public sector. Most of the urban spaces are regarded as vehicle or service conduits and do not play the integral role it should as spaces for social and economic life in the city. The hard open spaces are not designed to accommodate activities such as window-shopping, trading, strolling, sightseeing or people-watching. The spaces that are provided are not necessarily focused on social or cultural activities as they are provided by the private sector who have shopping and entertainment in mind.

The public sector therefore needs to focus their attention on the creation of public streets and squares that create a social and aesthetic space for the users.

This document was revised and amended in 2007 and renamed as the Streetscape Design Guidelines.

4.7.8 Streetscape Guidelines for the City of Tshwane, 2013

The aim of this document is to set certain guidelines based on international models, that have not yet been tested in South Africa for streetscape design (City of Tshwane Metropolitan Municipality, 2013c:2). These guidelines should assist in beautifying the commercial district and improving the functionality of public spaces (City of Tshwane Metropolitan Municipality, 2013c:4). The Streetscape Guidelines speak to the issues experienced in streetscape that impair the quality of life of the inhabitants, such as accessibility, neighbourhood identity and safety. It also focuses on the development of streets as places for people where residents, commuters and tourists alike can work, live and play (City of Tshwane Metropolitan Municipality, 2013c:4).

4.7.8.1 Application in terms of the planning and design of streets

The document focuses on the design of edges, i.e. buildings and property edges, public furniture, i.e. benches, bollards, public art, trees, surfaces, i.e. as sidewalks, roadways and parking, service infrastructure, i.e. traffic control, water meters and hydrants, power lines, signage, i.e. informational, advertising or traffic signs and streetscape structures, i.e. lighting, bus shelters, vending kiosks and stalls (City of Tshwane Metropolitan Municipality, 2013c:2).

4.7.8.2 Principles and guidelines in terms of the planning and design of streets

The principles discussed in this section include organising the streetscape and functional requirements.

4.7.8.2.1 Principle 1: Organising the streetscape

To plan a streetscape, there needs to be an understanding of what a streetscape is made of, what elements, spaces and components need to be present to create a neighbourhood identity (City of Tshwane Metropolitan Municipality, 2013c:8). The streetscape areas are where public and private come together. The streetscape can be made up of a variety of elements, such as street furniture, bus stops, vehicle movement areas, parking, cycle lanes, sidewalks and signage. There are three zones identified where these elements are placed, namely the sidewalk zone, parking zone and roadway zone, that is illustrated in the figure below.

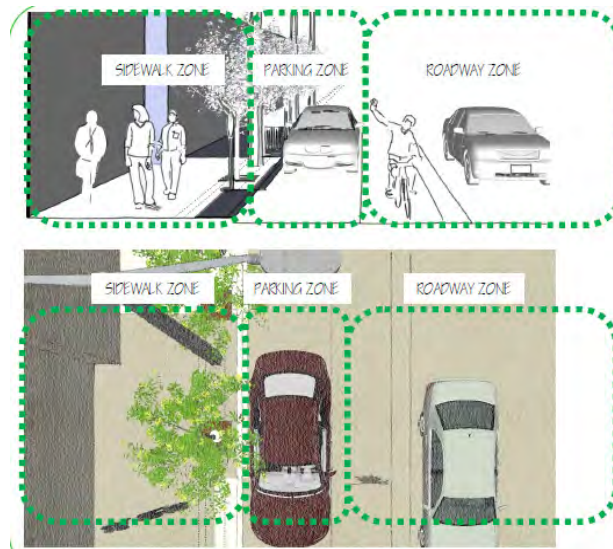


Figure 40: Streetscape Zones (Source: City of Tshwane Metropolitan Municipality, 2013c:8)

The sidewalk zone is where people interact and it forms the ‘porch’ of the buildings adjacent the street. Pedestrians are the main users of this space. Although these zones are distinct there is interaction between the zones and uses overlap.

To successfully organize the streetscape, the interaction and relationship of the activities within these zones must be understood. Many aspects of the public right-of-way need to be considered when designing a streetscape, such as the need for a bus stop, density of land uses, pedestrian usage, parking needs, bicycle lanes, traffic volumes and number of lanes and safety. These elements affect how many pedestrians and residents will be attracted to the area (City of Tshwane Metropolitan Municipality, 2013c:9).

The streetscape should create a rhythm according to the arrangement and emphasis of the different streetscape elements. These elements are arranged along the ‘Element Line’. A line that runs parallel to the street, seen in the figure below, where all the street scaping elements are arranged according to a certain balance (City of Tshwane Metropolitan Municipality, 2013c:11).

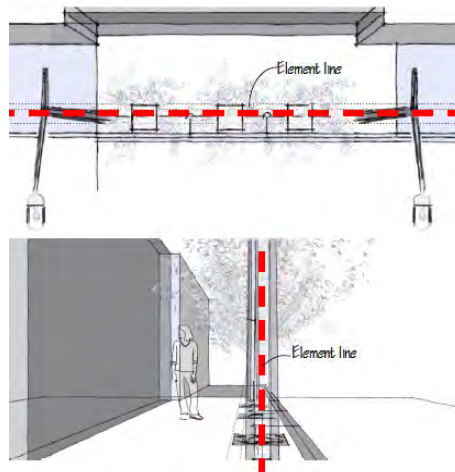


Figure 41: The Element Line (Source: City of Tshwane Metropolitan Municipality, 2013c:10)

The way that people react to space and make use of it must be taken into account when organising a streetscape. The design of the space where pedestrians dwell can be guided by John Fruin's idea of a 'body ellipse'. This concept is based on the amount of space an average person will fill, roughly 50 by 60 centimetres, without discomfort, as can be seen in the figure below (City of Tshwane Metropolitan Municipality, 2013c:12).

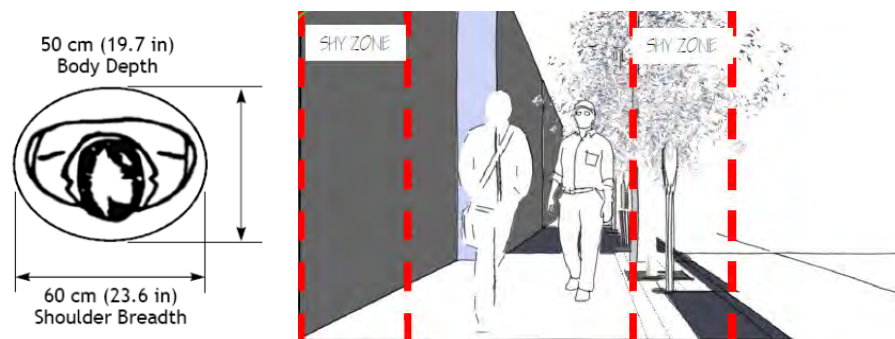


Figure 42: Body Ellipse and the Shy Zone (Source: City of Tshwane Metropolitan Municipality, 2013c:12, 13)

When there are storefronts adjacent to the street a pedestrian will keep a certain distance from the windows as well as from the streetscape elements. This area is referred to as the 'Shy Zone' and represents the space that storefronts and streetscape elements actually occupy, beyond its physical dimensions, as shown in the figure below.

The goal of streetscape design is to create space where people want to dwell; the shy zones and body ellipse must thus be considered in the design process.

4.7.8.2.2 Principle 2: Functional requirements

Sidewalks differ in width and determine the streetscape as all the streetscape elements must be accommodated within this space. Limitations to the size and scale of these elements are determined by how narrow the sidewalk space is. Three categories of sidewalks were identified, namely, less than 2.7 m, 2.7 to 3.6 m and wider than 3.6 m. The narrowest sidewalks create the biggest challenges as a sidewalk of 2.7 m or less can only accommodate a 1.5 m pedestrian zone. In these sidewalks trees are not required and it is recommended that plantings are rather added in the form of hanging baskets or planter boxes adjacent the buildings (City of Tshwane, Metropolitan Municipality, 2013c:15).

Sidewalks with a width of between 2.7 m and 3.6 m offer more options. It is required that trees must be planted in tree grates. These sidewalks can also accommodate street elements such as benches or kiosks (City of Tshwane, Metropolitan Municipality, 2013c:16).

Sidewalks with a width of more than 3.6 m can accommodate the widest variety of street elements. Care should however be taken to preserve the pedestrian zone and not impair pedestrian flow. More green space can be provided in these sidewalks as well as streetscape elements such as transport shelters, public art and furniture (City of Tshwane, Metropolitan Municipality, 2013c:16).

4.7.8.3 Synthesis

This document states the importance of streetscape design in the creation of places for people and the importance of its role in the liveability, vitality and character of the city. The document aims to promote the renovation and improvement of neighbourhoods and commercial areas through the improvement of the streetscape (City of Tshwane, City Planning and Development Department, 2013c:5). The document outlines an implementation process that is vital in the realisation of policies and guidelines.

4.7.9 Re Kgabisa Tshwane Programme, 2005

The Re Kgabisa Tshwane programme was launched in November 2005 as a programme to improve the physical working environment of the headquarters of national government departments. The aim of the programme was to establish a network of uniquely South African squares in the Inner City of Tshwane (National Department of Public Works, 2005:25).

The programme prepared a spatial and financial strategy to give guidance in the placement of government departments in the Inner City. This programme is aimed at improving the city image and stimulate growth. The programme will create a better working environment for civil servants

that will result in better service delivery. The key investment areas of the programme is focused on public infrastructure and urban management improvement as well as the establishment of a public transport network and public space (City of Tshwane Metropolitan Municipality, 2013b:83). These investments in public infrastructure will stimulate private investments into the city and create opportunities.

4.7.9.1 Application in terms of the planning and design of streets

The programme is structured by two redevelopment corridors, namely Paul Kruger street and the former Church Street. This will create an axis within the historical grid layout of the city (City of Tshwane Metropolitan Municipality, 2013b:34) where investment and improvements will be concentrated, as seen on Map 3 (B). The strategy was to create a network of public squares and pedestrian walkways along these two spines (National Department of Public Works, 2005:2).

Seven precincts were identified along the corridors, as nodes, that will develop into detailed precinct plans with architectural designs as well as engineering and infrastructure documents.

4.7.9.2 Principles and guidelines in terms of the planning and design of streets

The principles discussed in this section include improve public space and detailed precinct plans.

4.7.9.2.1 Principle 1: Improve Public Space

One of the core principles of the Re Kgabisa Tshwane Program is the improvement of public space. This includes the streets that form the core axes, public squares, public private partnerships to create public space and the improvement of pedestrian linkages (National Department of Public Works, 2005:41). These public space improvements will be prioritised according to size and impact. These projects then need to be interlinked.

4.7.9.2.2 Principle 2: Detailed Precinct Plans

The Sammy Marks Precinct forms part of the seven identified precincts for which a detailed plan was formulated. The Sammy Marks Precinct is located on the former Church Street and the surrounding areas stretching north to Johannes Ramokhoase Street and south to Pretorius Street, as can be seen in the figure below.

The concept of the precinct redevelopment plan is to maximise the opportunities and vibrancy that the second economy of the informal traders bring to the areas by improving the public space as can be seen in Map 4 (B). The improvement of pedestrian linkages to public transport as well as the extension of the public space network is also planned together with the

improvement of safety and comfort (National Department of Public Works, 2005:92). The former Church Street forms one of the key structuring elements of the Re Kgabisa Programme and the improvement of the pedestrian area is thus vital (National Department of Public Works, 2005:93). It is proposed that the street should be planted with large trees to create legibility and a visual character (National Department of Public Works, 2005:94). The street is also proposed to be closed for private vehicular traffic between Du Toit and Thabo Sehume Streets to (National Department of Public Works, 2005:98)

It is proposed that the Square in front of the State Theatre, Sammy Marks and Lilian Ngoyi squares should be redeveloped to create a coherent public space, in conjunction with the improvement of Lilian Ngoyi and Church streets with trees (National, 2005:93).

The current built form is made up of commercial and office buildings as well as landmark buildings such as the State Theatre. The mix of land uses should be retained in the precinct. (National Department of Public Works, 2005:95) Guidelines that address the future built form is provided in the Re Kgabisa Programme. Buildings should enclose public spaces and create visual continuity. The ground floors of the buildings should accommodate active land uses, especially along public spaces. The buildings should ensure that focus is not taken away from vistas created by the public space network as well as public art. The skyline of the precinct is varied and this pattern is encouraged with the provision that buildings cannot overshadow existing public space more than the current buildings. (National Department of Public Works, 2005:94).

4.7.9.3 Synthesis

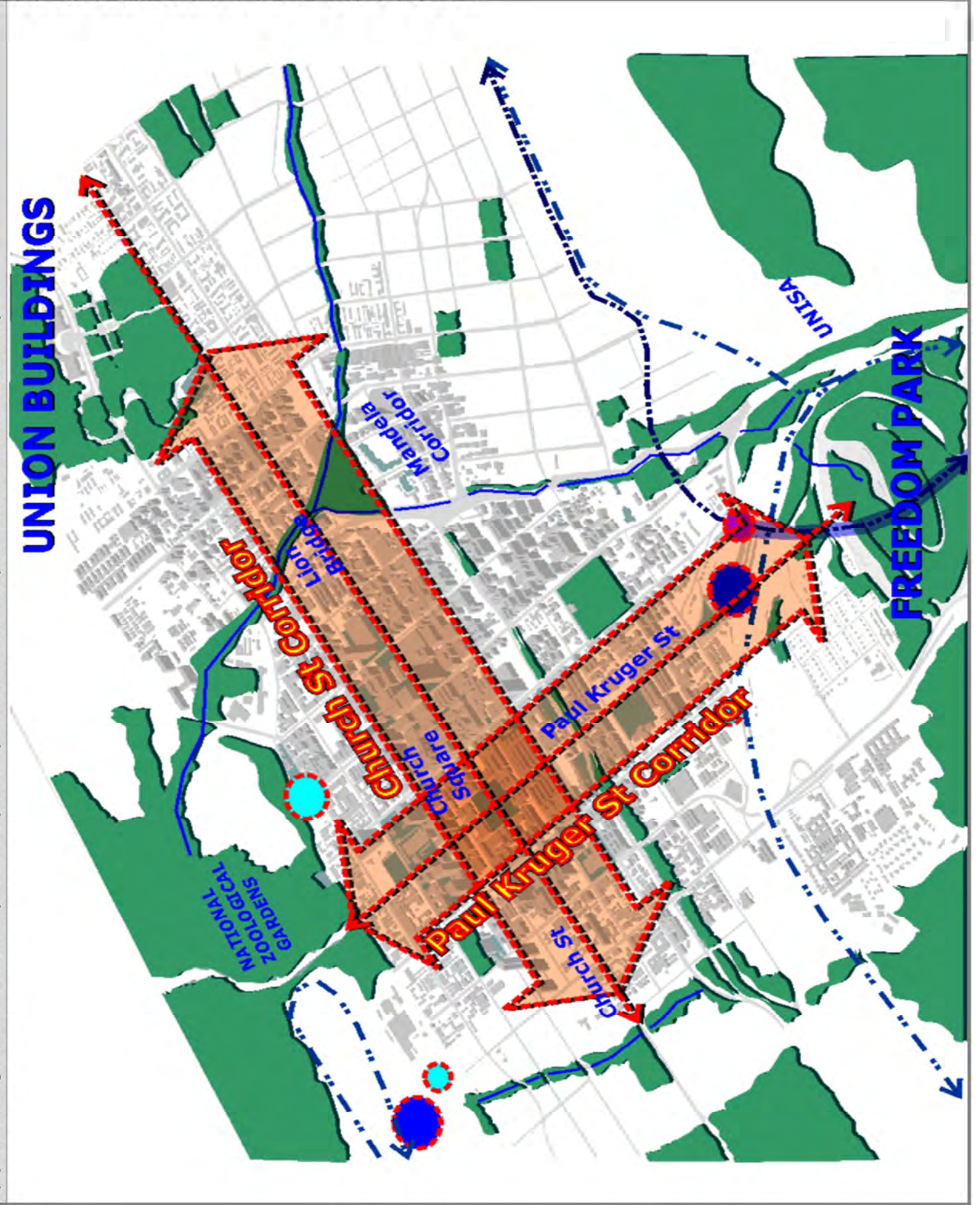
This programme has taken policy to implementation with principles and guidelines set out as a spatial management tool for the implementation. The policy is accommodated in a Development Manual and Design Code that guides the implementation framework with detail precinct plan guidelines (National Department of Public Works, 2005:1). The investment in the public sector will improve the city's image and bring a stop to the decay and trend of businesses to move out of the CBD. The Precinct Plan for the Sammy Marks Precinct, that includes the focus area of this study, has not been implemented yet.

MAP 3: RE KGABISA PROGRAMME

(A) Strategic Concepts of the Re Kgabisa Programme (Source: City of Tshwane Metropolitan Municipality, 2013b)



(B) Structuring axis of the Inner City Redevelopment (Source: National Department of Public Works, 2005)



MAP 4: RE KGABISA PROGRAMME

(A) Public Space Improvements (Source: National Department of Public Works, 2005:41)



(B) Structuring axis of the Inner City Redevelopment (Source: National Department of Public Works, 2005)



Fig 5.c ii Public Space

4.8 Synthesis of policies and guidelines

Policies and guidelines in South Africa and especially in the City of Tshwane are comprehensive and has a direct correlation to street design theory as discussed in Chapter 3. The synthesis is a deduction of theoretical concepts as described in chapter 3 and the correlation of the policies and guidelines and to what theoretical concepts it relates. Many of these guidelines are reflected in the theory and indicates a better understanding by policy formulators of what is good urban design.

In Figure 43 the principles identified in the policies and guidelines discussed in this chapter are categorised into three categories, according to its relation to theoretical concepts, namely (i) function, (ii) design guidelines and (iii) place-making. The subcategories of each includes (i) Streets as structuring elements, public transport, defining public space, provision for vehicular movement, public right of way versus roadway, socio-economic functions, streets as public open space, people-environment interaction, activity of people is attached to movement, pedestrian network and pedestrian street (ii) Streetscape design, higher density along corridors/ compact urban development, cycle lanes, land use, trees, public art, building design, placement and facades, creation of vistas and focussing on landmarks, walkability, mix land use, street character or identity, sidewalk design, public furniture and pedestrian comfort (iii) Improve the quality of life through street design or improvement, strengthen community, streets as social space, user needs, creating streets with a sense of place, high quality public realm, Streets as place-making element, safe open spaces, 24 hour use or city.

Function refers to the functions or role of streets whether it is as a structuring element in cities, built as a movement network of vehicles, pedestrians or public transit, or as a socio-economic or public open space and how the street is perceived in the policies in guidelines. The design guidelines category refer to reference in the policies and guidelines to street design and elements that needs to be accommodated in streets to improve the quality of the environment. The place-making category refer to policies and guidelines that promote elements in streets that will improve the environment to improve living quality and to create a vibrant and liveable city through the design of streets. The sub-categories of the design guidelines and place-making category was deducted from the principles set out by various authors in and discussed in Chapter 3.

As can be seen in the figure below the higher order plans and guidelines are focused on the functional role of streets as conduits of movement. The Guidelines for Human Settlements Planning and Design, a national plan, however, address design guidelines and place-making elements such as higher compact urban development, mixed-use, the provision of cycle lanes,

trees, public art, building design and placement, the creation of vistas, sense-of place and the improvement of quality of life through streets design. On provincial level and municipal level, The City of Tshwane have been inclusionary of guidelines and street theory principles that is accepted internationally as was deducted from Chapter 3 where there has been a paradigm shift from seeing streets as a roadway to seeing the street as a public-right of way where all users of the street need to be accommodated and provided for.

Policy or Guideline	Principles in line with the planning and design theories of streets		
	Function	Design Guidelines	Place-making
1. United Nations Human Settlements Program: The Habitat Agenda	Streets as structuring element	Streetscape Design	Improve the quality of life through street design or improvement
2. United Nations Millennium Development Goals	Public transport	Higher density along corridors /compact urban development	Strengthen community
4. Guidelines for Human Settlement Planning and Design	Defining public space	Cycle lanes	Streets as social space
5. Gauteng Spatial Development Perspective, 2007	Provision for pedestrian movement	Land use	User needs
6. Gauteng Spatial Development Framework, 2010	Provision for vehicular movement	Trees	Creating streets with a sense of place
7. Gauteng 25-year integrated Transport Master Plan	Public right of way versus roadway	Public art	High quality public realm
8. Tshwane Vision 2055	Socio-economic functions	Building design, placement and facades	Streets as place-making element
9. City of Tshwane Metropolitan Spatial Development Framework, 2012	Streets as public open space	Creation of vistas and focussing on land marks	Safe open space
10. Regional Spatial Development Framework, 2013	Human: environment interaction	Walkability	24 hour use or city
11. Tshwane Open Space Framework, 2005	Activity of people is attached to movement	Mix land use	
12. Tshwane Inner City Integrated Development Framework, 2007	Pedestrian network	Street character or identity	
13. Tshwane Inner City Local Open Space Plan	Pedestrian street	Sidewalk design	
14. Policy on the Design of Hard Urban Spaces and Streetscape Elements in Tshwane, 2005		Public furniture	
15. Streetscape Guidelines for the City of Tshwane, 2013		Pedestrian comfort	
16. Re Kgabisa Tshwane Programme, 2005			

Figure 43: Synthesis of policies and guidelines (Source: Compiled by researcher)

4.9 Conclusion

The policies and guidelines that are analysed in this chapter do however not reflect upon the street designs, as few of these guidelines and policies are implemented to create social streets with a high quality of life. In reality, our cities are fragmented, unsustainable and uncoordinated, and therefore theory and practice are still far apart.

It is clear that the legal mechanisms that need to guide the everyday life on the sidewalk are not effective. In the following chapter the research approach and methodology to explore Helen Joseph Street in-depth is discussed to gain an understanding of the role and function it has for its users as well as to understand how the physical environment, which is shaped by policies and design guidelines, contribute to the activities that occur in the street.

CHAPTER 5: RESEARCH DESIGN



CHAPTER 5: RESEARCH DESIGN

Research is creating new knowledge

- Neil Armstrong -

5.1 Introduction

As seen in the literature review (Chapters 2 and 3) the relationship between people and the environment (e.g. streets) is a continuous two-way process (Carmona *et al.*, 2003:106). The focus on social interaction between people and their environment (streets) served as foundation to choose an appropriate research approach and suitable methods to explore this interaction in depth. Leedy and Ormrod (2010:133) stated that a study contributing to social aspects in the town planning field does not focus on the physical quantitative, but rather qualitative, aspects of an environment. Therefore, a qualitative research design is proposed. The qualitative point of departure informed the rest of the research design, namely the methodology, methods and presentation of the research context. These components of the research design are discussed in detail in this chapter.

5.2 Research Context

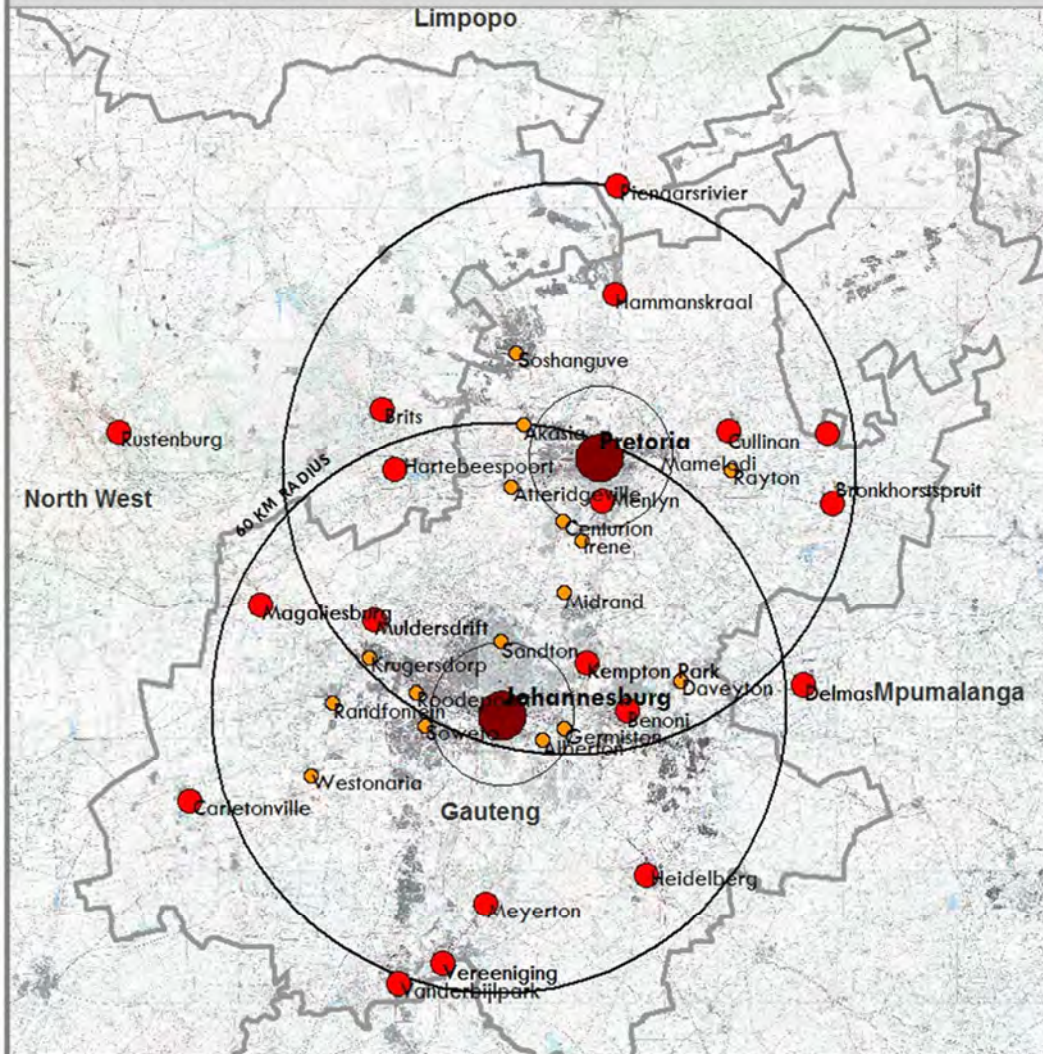
The broader research context is Pretoria, situated in the City of Tshwane Metropolitan Municipal area (see Map 5 (E)) in the Gauteng Province (South Africa) – the fastest growing economic region in Africa (City of Tshwane, 2005:2). National routes connect Pretoria with surrounding towns, cities, as well as neighbouring countries such as Zimbabwe, Botswana, and Mozambique (see Map 5 (B)). The N4 national route runs from Maputo, the capital of Mozambique in the east through Pretoria to Botswana in the west intersecting with the N1 that runs from Musina, through Pretoria, Johannesburg to Cape Town. These routes create important development spines in the larger context of South Africa.

Tshwane is the largest municipality in South Africa. It consists of a metropolitan (Pretoria with suburbs such as Menlyn, Atteridgeville, Sunnyside, Arcadia) as well as rural areas (Bronkhorstspuit, Ekangala, Cullinan and Hammanskraal) situated on the periphery of the metropolitan, (see Map 5 (A)). The Tshwane Metropolitan Municipality is divided into seven administrative regions (see Map 5 (E)). The research setting is situated within Region 3.

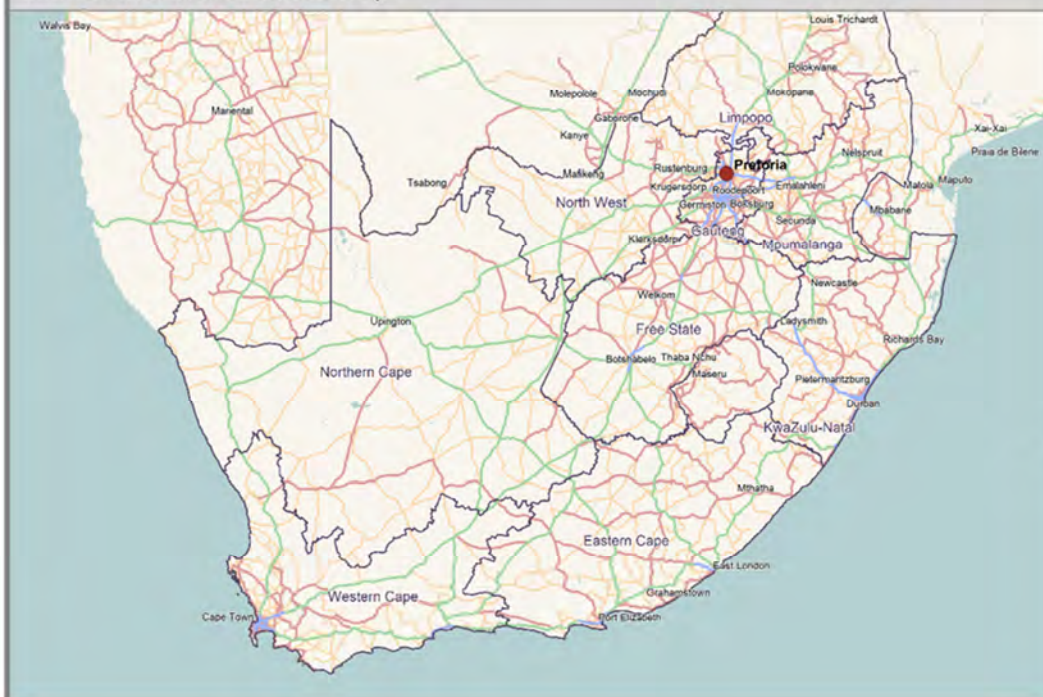
The city is known for serving as the seat of the executive branch of government, as well as for educational facilities, research entities, and foreign embassies (City of Tshwane, 2005:2).

MAP 5: MACRO LOCALITY

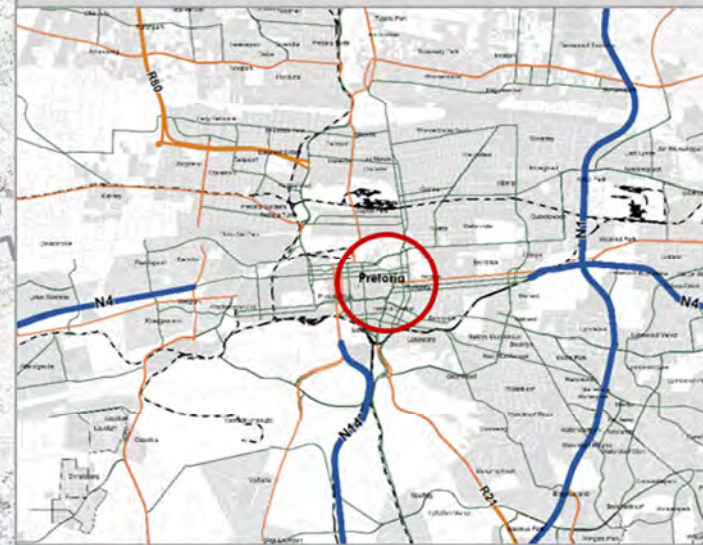
(A) Contextual map of Pretoria within Gauteng (Source: Compiled by the researcher from PlanetGIS)



(B) Contextual map of Pretoria within South Africa (Source: Compiled by the researcher from PlanetGIS)



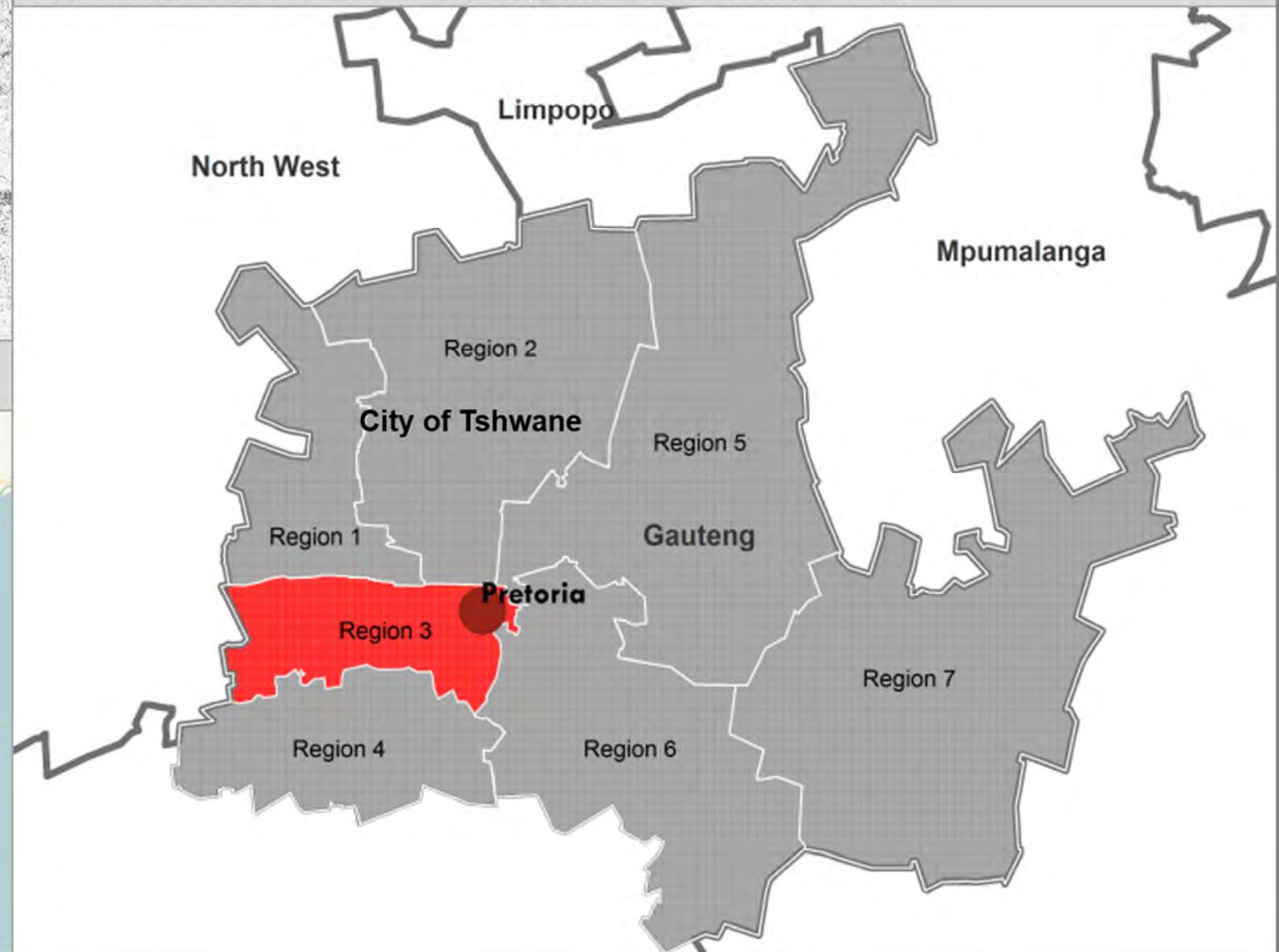
(C) Contextual map of Pretoria CBD within Pretoria (Source: Compiled by the researcher from PlanetGIS)



(D) Contextual map of the research setting within Pretoria CBD (Source: Compiled by the researcher from PlanetGIS)



(E) Tshwane municipality administrative regions (Source: Compiled by the researcher)



Pretoria is a city rich in architecture as well as history that formed the city as it is known today. Until the gold rush with the Witwatersrand gold discovery in the 1880s; Pretoria was a rural town with a typical Voortrekker grid layout (as can be seen in the figure below) with Church Square as the main focal point from which a set of wide roads spread out (The City of Tshwane 2005:18). Paul Kruger and Church streets formed the main axis of the inner city.

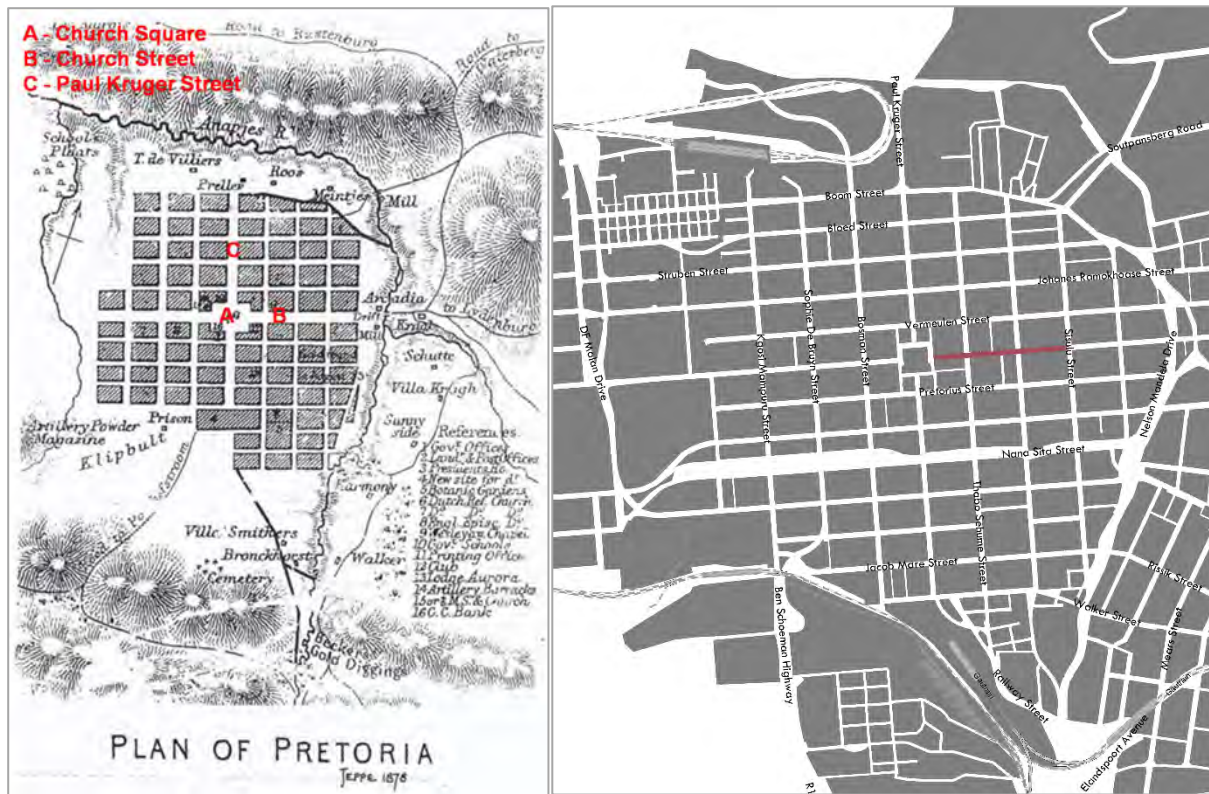


Figure 44: Historical Grid of Pretoria in 1878 and the current grid layout of the inner city
 (Source: Adapted by researcher from Melvin Residence, 2015; compiled by researcher from PlanetGIS)

5.3 Research Setting

The micro area to be explored (research setting) is situated in the Central Business District (CBD) of Pretoria, seen in Map 5 (C), under the jurisdiction of Administration Region 3, bounded by Sisulu Street (previously Prinsloo Street) in the east and Church Square in the west. The research setting includes a 650 m long section of Helen Joseph Street (previously known as Church Street) as a micro area to be explored in-depth (see Map 5 (D)), stretching over three street blocks.

Helen Joseph Street is pedestrianised east of Church Square or Paul Kruger street up to Sisulu Street (previously Prinsloo) from which it is a two way, four lane road leading in and out of the

CBD. The research setting is bound by church square in the west as it is currently under construction with the installation of the Bus Rapid Transport (BRT) system. The street includes a multi-modal section of Helen Joseph Street stretching over the length of three city blocks, as can be seen in Map (6).

This multi-modal street consists of a single lane roadway that is closed for public vehicle use and only used by owners and residents of the area and delivery vehicles for access. There are wide sidewalks that accommodate pedestrians and informal trader stalls that create a vibrant character (seen in Figure 45). The land uses in this area are mostly commercial, with The South African State Theatre and the Women's Memorial Museum as cultural uses. The area is thus diverse in culture and use, creating opportunities for social activities.



Figure 45: Vibrant and diverse character of the multi-modal Helen Joseph Street (Source: photograph taken by researcher)

The former Church street, of which Helen Joseph Street now forms part of the principle axis of the historical grid layout of the city. It is strategically important, as it has been identified as an important redevelopment corridor in the Re Kgabisa Tshwane Project (City of Tshwane, 2013:34) as well as the Tshwane Inner City Revitalisation Strategy Project. The street thus falls within an area earmarked for investment by the public and private sector. This research context and setting currently has a high priority in terms of development in South Africa and therefore face possible changes in character and identity. With the proposed change it is important to take the cultural and historical context of the area into consideration as this space is an example of a space that should acknowledge social aspects as important underlying driving forces for urban renewal initiatives (Puren and Meiring, 2015).

MAP 6: MICRO LOCALITY

(A) Research Setting: Helen Joseph Street within the CBD of Pretoria (Source: Adapted from Google Earth by researcher)



5.4 Research Approach – a qualitative point of departure

Qualitative research has become a more commonly used research method across a variety of disciplines (Easterby-Smith, Golden-Biddle, & Locke, 2008; Elliott, Fischer, & Rennie, 1999; Pitney, 2004; Temple, 1998; Whittemore, Chase & Mandle, 2001) and is increasingly accepted in social studies (Hazzan & Nutov, 2014:1). Every data gathering method generates different kinds of data that lead to different insights (Draper and Swift, 2010:7).

The choice between quantitative and qualitative research is determined by the research question of the study. While quantitative research is focused on answering mechanistic “what” questions through testing of hypotheses and producing generalisable results, qualitative research focuses on answering humanistic questions “why” and “how” aimed at understanding complex psycho-social problems (Marshall, 1996:522). Qualitative research aims to understand people’s experiences and the meanings of behaviour in certain social or cultural settings (Elliott *et al.*, 1999; Fossey, Harvey, McDermott, & Davidson, 2002; Long & Godfrey, 2004; Pitney, 2004). According to Gordon (2011:176) qualitative research has a ‘socio-psycho-cultural’ perspective on people’s behaviour. Evered & Louis (1981) distinguishes between an “inquiry from the outside” and an “inquiry from the inside”. In the “inside”, approach the researcher tries to gain a holistic picture to derive meaning through a qualitative study. With an “outside” approach the researcher, isolate a phenomenon to reduce complexity in testing a hypothesis through quantitative research methods (McDermid, Peters, Jackson and Daly, 2014:28).

Different to quantitative research, designed to analyse large amounts of data and reaching generalisations based on statistical projections, qualitative research is focused on ‘telling the story’ from the participants’ viewpoint (Trochim, 2004; Denzin and Lincoln, 2000) providing rich descriptive data (Trochim, 2004) aimed to understand the meaning of, for example, behaviour (Keegan, 2009:11). Qualitative research aims to generate ‘insight’ (Gordon, 2011:175) and has the potential to do an in-depth exploration of a topic (Carlsen and Glenton, 2011) with the aim to get insight into social aspects, understanding preference and choices and decisions made (Gordon, 2011:176).

This study is guided by the research question: What roles do streets play in the social interaction of people? Secondary questions include (i) to what extent does current South African planning and design guidelines for streets support the social role of streets?; (ii) how is a specific street (Helen Joseph Street, Pretoria) used in terms of social interaction? (iii) how can the planning and design of a street space support social interaction in streets? With the above in mind a qualitative approach is considered more appropriate than a quantitative approach. A

qualitative approach in this case allowed the generation of an in-depth understanding of a specific research setting (Helen Joseph Street).

Some of the disadvantages of qualitative research is that this type of research is contextually bound, subjective and ethically complex because of the participants' involvement in the research process and the social context that the research is conducted in (de Witt and Ploeg, 2006; Pitney, 2004; Temple, 1998; Lincoln, 1995). The researcher is placed in the unique position, with qualitative research, where the researcher and the participants come into direct personal contact, which increases the complexity of the ethical relationship (Zitomer and Goodwin, 2014:213). Furthermore, there is no control over influences from extraneous factors and social phenomena. However, according to Ospina and Wagner (2004:1) the advantages of doing qualitative research are that there is flexibility to follow unexpected ideas and to explore it, it is sensitive to the context, it gives the researcher the ability to study symbolic dimensions and social meaning, and it creates opportunity to develop empirically supported new ideas and theories.

5.5 Research Methodology: An Ethnographical framework

The research was informed by Ethnography as overall methodological framework. However, it is not pure ethnographic research, as the researcher did not become a participant in the research setting in order to study the everyday context of the people, and become part of the community, but has spent only three weeks in the research setting. However, ethnography was used as a framework for the methodology as ethnography leads to an understanding and interpretation of the described patterns of behaviours, values, knowledge, language, and beliefs of a social group (Hunter, 2013:49).

Ethnography is an important method in socially oriented research and requires the researcher to become involved in the world and environment of the people studied (Gilbert, 2008:282) to get an 'insider's view' of the research setting to provide detailed, in-depth descriptions of the everyday life and practice (Hoey, 2014).

Definition and background: The term 'ethnography' and 'ethnographic' have been common research terms since the 1950s (Spindler, 2000). Initially, ethnography specifically referred to anthropological research, (Mackenzie 1994, Laugharne 1995, Hammersley, 2010:386; Hunter, 2013:48) used to describe a culture (Malinowski 1922; Byrne, 2001:82) with particular interest in minority and subordinated groups (Hammersley, 2010:386). From the 1960s the term ethnography was being used in other disciplines and with a wider interpretation (Hammersley, 2010:386).

Ethnography can be defined as a qualitative design where the shared and learned patterns of behaviours, language, or values of a group are described and interpreted by the researcher. It is a method of studying a 'culture-sharing' group, immersed in the daily lives of the participants (Creswell, 2007:68). In etymological terms, 'ethnography' means 'writing about people' and now refers to the study of the way of life of a group of people (Hammersley, 2010:386). Ethnographic research forms the design for understanding and describing a culture (in the broadest sense of the word) in a certain context. As this particular study aims to understand social interaction in streets, this study is ethnographic in nature, as the characteristics of ethnographic research have informed this study.

Criteria and characteristics: Lambert, Glacken and McCarron (2011:17) states that there are essentially two core criteria of ethnographic research: (i) it is a field-orientated activity and (ii) it has cultural interpretations (Wolcott 1999).

- Field-orientated activity

The most common characteristic of ethnographic research is the conduction of fieldwork. Researchers collect data at the site where the participants are studied, in the natural setting, not in a laboratory or through any contact from a distance (Creswell, 2007:37). The researcher is thus actively involved in information gathering, first-hand from the people, in the research setting research setting by participating in the people's daily lives.

- Cultural interpretations

From the fieldwork patterns and themes are identified by the researcher, the researcher then makes certain interpretations of repeating and identifiable thoughts and behaviour of the participants in the study. The researcher does not just describe the fieldwork, but attach meaning to it (Creswell, 2007:96).

Ethnography combines different methods, including as described by Wolcott (1999) as a 'trilogy' of techniques, interviews (enquiring), observations (experiencing) (Spradley 1980; Fetterman 1998; Gilbert, 2008:266; Byrne, 2001:82) and examination (archival research). It is about telling a rigorous and credible story, voicing people's own local context, relying on quotations and rich descriptions of events (Bickman and Rog, 2009:543). Ethnography is a participant observation method. It allows the researcher to observe people's actions (Gans, 2010:97; Byrne, 2001:82) and interactions in the context where they take place, and to listen and record what they do and say (Gilbert, 2008; 282). It also creates the opportunity to talk to the people about these actions (Gans, 2010:97; Marcén, Gimeno, Gutiérrez, Sáenz and Sánchez, 2013:761) through informal or formal interviews (Hammersley and Atkinson, 2007). In this way, it allows the researcher to get a deeper understanding of the people (Gans, 2010:98) and the meanings that they ascribe to their own life and environment (Gilbert, 2008:282) that cannot necessarily be captured by surveys (Hunter, 2013:49).

The main characteristics of Ethnography include:

- In ethnographic research the researcher is seen as an instrument of research as the researcher becomes a participant (Byrne, 2001:82), going onto the field to do observations and interviews (Schembri and Boyle, 2013:1252).
- Data collection and analysis is a cyclical process -
 - o a set of gathered information may lead the researcher to look at another type of data for clarity and confirmation (Byrne, 2001:82).
 - o The process of analysis does not stop with the fieldwork but continues until there is no more data to consider (Sayre, 2001:189).
- Ethnography is naturalistic in character –
 - o People are studied in their everyday context in terms of actions and behaviour.
- Ethnographic research produces verbal descriptions, explanations and theories (Hammersley, 2010:387).
- Data can be gathered from a variety of sources -
 - o Participant observations and conversations are the main gathering methods, but statistics, documentation or the like may also be used.
- Unstructured –
 - o Pre-structuring of observations, interviews, or documents that are used for data gathering are limited; it is unstructured with no fixed research design at the beginning but rather a forming of a process through data gathering (Hammersley, 2010:387).
- The study will typically focus on a small group or a single setting (Reed-Danahay, 2001).
- A reflexive approach is used in the analytical process where field notes must be organized and interviews must be transcribed, arranging the data in a meaningful way (Schembri and Boyle, 2013:1252).
- The analysis of the gathered data is dependent on interpretation of what the different actions and activities of the people mean and what their functions are in the context of the study.

Research steps that guide Ethnographic type of research: Wolcott (2009:37) explains that a good place to start with the analysis is in the field with basic questions:

- “What is going on here?”
- “How do things happen as they do?”
- “What do people in this setting have to know in order to do what they are doing?”

These questions can guide the research process and the focus of the analysis, creating an identification process of broad categories that can be refined to specific categories or themes.

With observations, the researcher documents certain dimensions, such as the physical layout, objects in the environment and all the people should be acknowledged, obvious, occasional and visiting people should be taken note of, combined with their actions, activities and the timing thereof (Byrne, 2001:83). The different data sources are reviewed repeatedly to identify themes or patterns of behaviour (Mead, 1995). The data is compared, sorted and resorted into categories until the patterns are made evident, it is thus important to start the analytical process during the early stages of the fieldwork and to continue the analyses (Schembri and Boyle, 2013:1252).

In conclusion, Ethnography is a creative process where culture and society are experienced, interpreted and represented (Bryman, 2001). Ethnography, and particularly participant observations, is seen by Gans (2010:99) as the most scientific method in sociological study as it gets the closest to the people that are studied. It is therefore an interpretive method (Schembri and Boyle, 2013:1252) that assumes that reality is socially constructed, implying people and the world are inseparable.

5.6 Research Methods

Two methods, namely interviews and observations, were chosen to generate data in this study, as these methods are suitable for obtaining the specific type of in-depth data and findings needed (Leedy & Ormrod, 2010:133).

5.6.1 Phase one: Observations

Observation is a qualitative method that has the potential to generate rich data on behaviour, roles, and actions and the understanding of these in context (Walshe, Ewing and Griffiths, 2011:1048). Observations can contribute to this understanding as it is conducted without the researcher having preconceived ideas or being involved and influencing the natural setting. This method is focused on what people do and not on what people say they do (Draper and Swift, 2010:5) or how the researcher think they do (Carmona *et al.*, 2003:165). It is therefore imperative for the researcher to observe peoples' actions and interactions in the context in which it takes place, without preconceived ideas.

The role of the researcher in observations can be either as participant-observer or as non-participant observer (Hudelson, 1994; Robson, 2002). As participant-observer, the researcher is unknown to those who are observed. As non-participant observer, the researcher is removed from all interaction. Researchers are often between these two poles and the role they take changes as the research setting become more familiar (Dewalt & Dewalt, 2002:19- 23; Walshe, Ewing and Griffiths, 2011:1051). In this study, the role of the researcher was that of a non-

participant observer as the focus of the study falls on the social interaction and perspective of the observed participants.

5.6.1.1 Aim of observations

The primary aim of this study is to develop an understanding of the role of streets in order to inform the layout and design of streets in spatial planning initiatives. In order to get a deeper understanding of the role of streets in social interaction the street must be explored in-depth. By using observations, rich descriptive data of how a street (Helen Joseph Street) is used, can be generated. Observations in this instance assisted in understanding the role streets can potentially play in generating and maintaining social activities (Mehta, 2007:33). For this reason, the researcher attempted to do spatial mapping/patterning of how Helen Joseph Street is used, with a focus on social interaction.

5.6.1.2 Procedure

The procedure that was followed consisted of deciding on the sample, generating the data, analysing the data, and mapping the patterns that were observed.

5.6.1.2.1 Observation framework

Gehl (1996, 2010:22) divides activities in spaces between buildings (public spaces) into three categories: (i) necessary activities, (ii) optional activities, and (iii) social activities. Necessary activities refer to compulsory activities in a space, such as going to school or work, waiting for a bus or shopping. These activities are only slightly influenced by the environment. Optional activities are voluntary, if the setting, time, place, and weather allow, people will walk for fresh air, stop for coffee, sit, and watch people. Optional and necessary activities are conditions for social activity (Gehl, 2010:22). Social activities are dependent on other people in a space, for example greeting, conversation, or even passive contact. These activities occur spontaneously because people are in the same place at the same time. Because social activities are characteristic of good quality public spaces according to Carmona *et al.*, 2003 (107) Gehl's classification of activities served as a framework for what to observe in the research setting.

5.6.1.2.2 Data generation

Observations were conducted in two different time periods. The period included a two-week period spent in the research setting during November 2014. The first section was used so that the researcher could orientate herself in the research setting, gain a holistic image of the research setting, experience the street, and observe the different activities/patterns that existed. The second time period included a week spent in the research setting as a follow-up to check

whether the patterns observed can be confirmed and whether new patterns missed during the first phase of the observations can be identified. This ensured data saturation.

The following time schedule was used to for the observations over the three-week period to ensure an even distribution of the time of day spent in the research setting. This enabled the researcher to observe different activities that happen throughout the day as well as to confirm that these activities are repeated daily or weekly.

Table 1: Observations time schedule (Source: Compiled by researcher)

Time observed	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:00-08:00						
08:00-09:00						
09:00-10:00						
10:00-11:00						
11:00-12:00						
12:00-13:00						
13:00-14:00						
14:00-15:00						
15:00-16:00						
16:00-17:00						
17:00-18:00						
18:00-19:00						

Guidelines from Maree (2007:86) were used in capturing the observation data in a methodical, well-thought-out manner:

- Accurate field notes: Recording of what is seen, heard, felt and smelt as if it is experienced for the first time;
- Making note of observations made;
- Both verbal and non-verbal behaviours were captured to capture more of the social element;
- Reflection on observations took place as soon as possible and included predetermined ideas of what a situation encompassed (Maree, 2007:86).

The observations were done by walking through the research setting and stopping to sit and observe possible patterns. The researcher made use of field notes that recorded observations made, notes were taken of situations, actions and especially any social interaction, people in conversation, movement patterns, possible occupations of the users, locality of actions, behavioural trends or anomalies, contributors to social activity and passive street users. Notes were also taken of how different settings and changes in the environment affected the users of the street. These notes were taken with the use of spatial maps drawn by the researcher, as can be seen in Annexure A, where the different patterns were drawn to gain a visual understanding of movement and the more important lingering and standing activities.

Photographs were used to support the observations and notes made; this was also helpful in the reflection on the gathered data and captured non-verbal data. As the observations progressed and more time was spent to reflect on the captured data, the researcher could start to explore not only the data captured, but also the more complex underlying social patterns in the research setting.

5.6.1.2.3 Data analysis

Data analysis of observations was done in order to study the level of agreement between different sets of observational data (Roland, Jansen, Wiertz, Meyer and Noldus: 2003:392). The different sets of data were generated by the researcher in the two sections of the observation. The impression of consistency (Leedy and Omrod, 2010:138) became evident during the second section of the observations as these two data sets correlated.

The observations were categorised into different patterns of how the street was used. The researcher identified repetitive patterns and sub-patterns in various situations and interpreted them to gain meaningful insight (Spradley, 1980; Fetterman, 1998; Wolcott, 1999). This was done in relation to the patterns as identified in literature that informed the observation framework as discussed in 5.6.1.2.1

While observations allow researchers to see what participants do, interviews assist a researcher to ask why participants do it (Walshe, Ewing and Griffiths, 2011:1048). Interviews were chosen as a suitable and appropriate follow-up method in order to obtain insight with regard to the activities and behaviour observed.

5.6.2 Phase 2: Interviews

In qualitative research, interviews are the predominant method of data collection (De Vos, 2014:342) and are based on asking questions, listening, reacting to interviewees and probing for interpretations (Hazzan and Nutov, 2014:19). Interviews are designed to produce rich data that enables the researcher to gain insight into the people's experiences, feelings, opinions, attitudes and to gather information that is inaccessible otherwise (Borbasi *et al.*, 2004; Hewitt, 2007; Matthew and Ross, 2010). The interview is one of the most commonly used data gathering techniques in qualitative research, and yet is a complex social process (Draper and Swift, 2010:4). An interviewer must be willing to listen and remain interested in the participants and probe for a deeper understanding (Draper and Swift, 2010:7).

The type of interview method selected for this study was face-to-face semi-structured in-depth interviews. In-depth interviews generate valuable data that aids in the understanding of complex human behaviour (Gledhill, Abbey and Scheitzer, 2008:84). De Vos (2014:8) describes face-to-face interviews as formal conversations with a purpose, usually to gain an understanding of the participants' experience and the meaning of the experience. Face-to-face interviews allow the researcher to explore an issue and determine individuals' opinions, perceptions and reactions. This method of interviewing thus gives the researcher the opportunity to get insight into the behaviour observed. Semi-structured interviews were selected because they allowed the researcher to address certain questions, with the flexibility of giving the interviewee the freedom to give unanticipated responses and the researcher to probe for more insight into a matter (Draper and Swift, 2010:4). All interviews were guided by a set of talking points that enabled the researcher to clarify and probe with follow-up questions (Brinkmann & Kvale, 2009).

5.6.2.1 Aim of Interviews

During the observations, analyses and reflections on the observations questions arose about the reasons for certain behaviour. The aim of the interviews was thus to gain insight into the reasons for particular actions and reactions (behaviour patterns) to occur. On the one hand the interviews gave the researcher answers to the why and the how of certain patterns identified in the observations and on the other hand confirmed, validated, and triangulated the findings of the observations.

5.6.2.2 Procedure

5.6.2.2.1 Sampling

Sampling is an important component of qualitative research design (Mason, 2002). Robinson (2014) identified four key points in sampling: defining a sample universe, deciding on a sample size, devise a sample strategy and lastly, sourcing the sample.

- Defining a sample universe

The sample universe is a practical boundary that helps in the sampling process by specifying what the sample is a sample of. The interpretation process is eased as it also clarifies what the study is about. The clarity of the description of the sample universe makes the study more credible and valid (Robinson, 2014:28). Defining a sample universe is the decision about the target population – who should be included or excluded (Robinson, 2014:25). Criteria should thus be decided on for inclusion or exclusion (Luborsky and Rubenstein, 1995; Patton, 1990).

Inclusion criteria should look at certain attributes that the participant must have to be included, whilst exclusion criteria must look at attributes that will disqualify the participant from the research study. These criteria then define the sample universe (Robinson, 2014:26). The more criteria the researcher defines as being inclusion or exclusion criteria the more homogenous the sample universe is.

There is a variety of parameters for homogeneity. These are demographic homogeneity, life history homogeneity, physical homogeneity, psychological homogeneity and geographical homogeneity (Robinson, 2014:26) that are appropriate for this research study. Geographical homogeneity (in this study using the same geographical area) is a sample defined by criteria that includes participants only from a certain location.

Only participants that were found within the research setting, the public space on Helen Joseph Street, were included in this study. People found outside of this boundary were excluded, as well as people who were not able to understand the languages spoken by the researcher or the interpreter. The diversity of the participants that were included, gave a wider variety of interpretations and views of the subject at hand, creating richer data. Thus, people from different age groups and sex were included, as well as newcomers to the street and people who had been using the street for many years.

- Deciding on a Sample size

Deciding on a sample size is important for the planning of the project. A provisional number must be defined, based on theoretical and practical considerations. The decision on a sample size is only provisional and is flexible (Draper and Swift, 2010:6). The choice of sample size or the number of participants, involves thoughtful decision-making; too few participants may reduce the depth and breadth, whilst too many participants can produce superficial or unwieldy volumes of data (Sandelowski, 1995:179). According to Cleary, Horsfall and Hayter (2014:474) it is important for the researcher to justify their sample size on the grounds of quality data.

Small sample sizes (as used in qualitative research) are motivated by authors such as Draper and Swift (2010:6). Some researchers give general guidelines for sample sizes for conducting interviews, for example Creswell (2007:64) and Morse (2002) recommend at least 20 to 30 participants, while Denzin and Lincoln (2005) recommend between 30 and 50 interviews. Guest, Bunce and Johnson (2006) calculated a Cronbach's alpha (shown in Figure 46), measuring reliability of code frequency distribution, with the progression of the analysis process. With this method Guest *et al.* (2006) found that the increase in new information slowed down after 12 interviews and that data saturation occurred within 30 interviews, as the results improved at a decreasing rate with further interviews.

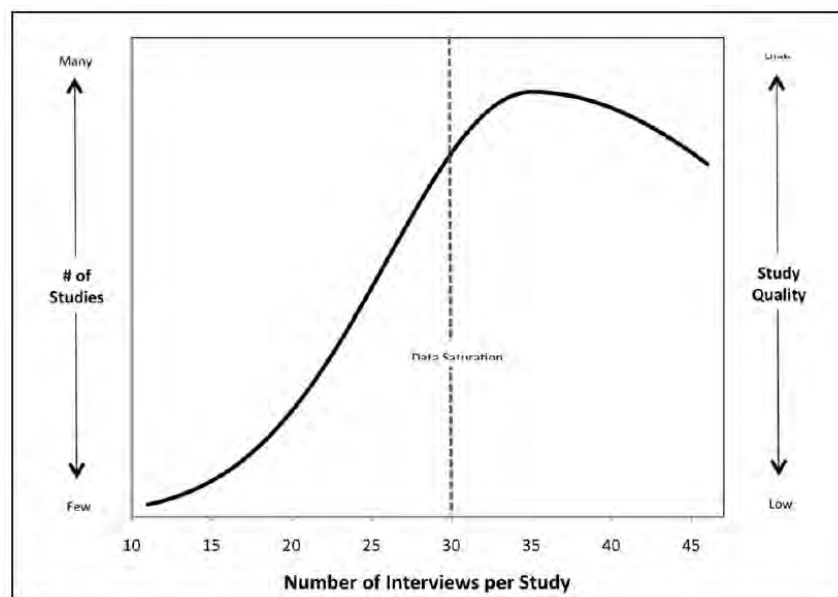


Figure 46: Cronbach's alpha (a measure of internal consistency), indicating the cumulative frequency of new data captured (on the y-axis) with the increase of the number of interviews (on the x-axis), improving at a decreasing rate after data saturation is reached (Source: Guest, Bunce and Johnson, 2006)

According to Thompson's (2002) smaller studies involved more contact time with participants; theoretical saturation occurs between 10 to 30 interviews and lastly, that once saturation was reached more interviews were needed to test if the existing themes and categories are sufficient.

The number of interviews conducted in this research was guided by data saturation. An analysis was done after each interview to evaluate if saturation has been reached. According to Morse (2002) saturation is the 'key to excellent qualitative research'. The term 'saturation' originated in grounded theory (Carlsen and Glenton, 2011) and means that new participants are brought into the study until the data set is complete, i.e. that data replication occurs (Marshall, Cardon, Poddar and Fontenot, 2013:11) and no new concepts or themes surface in the following interviews (Cleary *et al.*, 2014:474). Sobal (2001) stated that the researcher should stop interviewing more participants when, given the gathered interview data, one or many more interviews will make no contributions to the level of insight.

- Deciding on a Sample Strategy

Selecting a sample strategy follows after the sample universe and size have been determined. Strategies to select the participants must then be defined. These strategies are either random or convenience sampling, or purposive sampling (Robinson, 2014:31). In this case, convenience sampling was chosen.

Convenience sampling is the process of selecting participants within the sample universe in a random selection process. This process is generally used in opinion polls and social surveys. Participants are located, based on their convenient proximity and willingness to participate if they fall within the criteria. This works on a first come first served basis until the sample size is filled. The best use of convenience sampling in qualitative research is to define the sample universe very strictly demographically and geographically, restricting generalisations and making it logically justifiable (Robinson, 2014:32).

Purposive sampling strategies are purposefully selecting participants, ensuring particular categories or cases are represented in the selected sample. The foundation of this strategy is that the researcher assumes that certain categories of participants may possess unique or different perspectives on the research at hand that may be important to be included in the sample (Mason, 2002; Trost, 1986).

Robinson's (2014) fourth key points in sampling is sourcing the sample. Once the researcher has decided on the sample universe, a provisional sample number and a sample strategy the practical part of the research must be done.

Following the explanation above the parameter for homogeneity chosen is geographical homogeneity as the study is limited geographically to a section of Helen Joseph Street, with the sampling method being convenience sampling. The sample size will be determined by data saturation and should, according to Thompson (2002), occur between 20 and 30 interviews.

5.6.2.2.2 Data Generation

Once the sampling methods, sample size and strategy are decided the researcher must go over to sourcing participants and capturing data (Robinson, 2014:35).

- Question Design

The question design and structure depend on the level of interview structure that is chosen. When unstructured interviews are chosen, questions are not predefined, but an interview guide is still compiled (Lofland and Lofland, 1995; Robson, 2002). For semi-structured (as is the case in this particular study) and in structured interviews the questions are predefined and the wording is important to communicate the key concepts of the research question (Draper and Swift, 2010:7). Questions must be designed to make sense to the participants (Stone and Campbell, 1984) but should not lead the participant into certain responses (Draper and Swift, 2010:8). The interviewer must ask questions relating to each theme of the research question and then ask a follow-up and a probing question to encourage the participant to reveal more information, this allows the interviewer to keep the interviewee on topic while giving the participant freedom to express his (or her) own observations, attitudes and perceptions (Owen, 2014:9; Davenport and Anderson, 2014:630). With the follow-up and probing questions, the researcher can pursue detail, vividness, depth and nuance in an effort to gather rich data, unravelling complexity (Owen, 2014:9). Every interview was tape-recorded and transcribed verbatim with the help of an interpreter.

Table 2: Interview schedule (Source: Own construction)

Questions for interview: Role of streets in social interaction		
Primary Question	Follow up question	Confirmation
1. What are the reasons that you come to this street?	What social activities do you take part in, in the street? Describe the activities you do when you visit this street.	You thus use the street for....

2. How would you describe your experience of this street? (physical/ built environment)	Follow-up question will be determined by issues that arise, e.g. dirty, ... Would you like more/less?	So you would prefer ... to make the place more enjoyable? Your experience of the area would thus be improved with...?
3. Are there any physical changes you would like to see in the street?	How will this change affect you and the other users of the street? Will this improve your experience of the street?	This physical change will thus create....
4. How would you describe your experience of the people in the street? (social experience)	Follow-up question will be determined by issues that arise e.g. if they feel safe: Why do you feel safe? What makes you feel safe? Do you feel safer here than in other areas? Why? How does it influence you?	So it gives a positive/ negative feeling to the area?

5.6.2.2.3 Data Analysis

The data analysis required both interpretation and organisational skills. The analysis of data is divided into three stages (Creswell, 2007:67): (i) Provisional data analyses was done during the interviewing process to determine if the data being captured speak to the aim of the study and to determine if data saturation had been reached; (ii) After each interview, a reflection was done on the newly generated data and (iii) With the completion of the interview process, a content analysis was done to see if data saturation has indeed been reached, where after all interviews were transcribed.

The third stage consisted of two phases. In the first phase of content analysis, the researcher focused on content analysis to analyse the transcriptions and formulate broad categories of information. Early in this stage, breadth is more important than precision, to make sure that themes or subcategories are not lost (Thorne, Reimer Kirkham & O'Flynn-Magee, 2004:5). Transcriptions were summarised and analysed after each transcription of the interview was done, allowing the researcher to look with more insight into the next transcription, creating a responsive interaction between the process of data analysis and the ongoing data collection process (Hunt, 2009:1287). As the process of analysis progressed, the researcher went beyond the initial broad categories to develop an understanding of the data and to be able to interpret the data.

In the second phase, the initial content analysis went over to the phase of open-coding as the analysis progressed. Open coding was used to identify categories and linkages in the interview data. Within each category, properties or subcategories were found, because the initial categories were focused on breadth. The coding enabled the researcher to identify categories that were more sophisticated. With the coding process, the researcher was careful to preserve the viewpoints, events, context, phrases, or words used in the interviews by zooming in and out of the detail in an iterative manner so as not to lose focus or perspective (Thorne, Reimer Kirkham & O'Flynn-Magee, 2004:7).

As this is a qualitative study the topics were not counted, as the depth and meaning were of the essence. Once the gathered data were coded and categorized the researcher could start interpreting it. With the interpretation, the goal is to structure the data to be understandable. The categories and subcategories identified with the coding were analysed for general themes, patterns and relations through an iterative and reflexive process (Davenport and Anderson, 2014:631).

The categories were based on the identification of themes and sub-themes that gave insight into the roles of the street for participants.

5.7 Trustworthiness

Credible ethnographic research requires that trustworthiness must be addressed in detail (Schembri and Boyle, 2013:1253). According to Gordon (2011:179) triangulation forms the best tool for understanding human behaviour. Triangulation is when two or more different research methods are used in a study, with different perspectives of the situation, to come to an understanding of the results (Gordon, 2011:179; Henning, 2005) and to evaluate if they lead to the same conclusions (Lewis, 2009; Tracy, 2010). Tracy (2010) states that if the same conclusion is reached by two or more of the sources then the conclusion is more credible. It also

shows the effort to explore the phenomenon at hand in depth (Denzin and Lincoln, 2005). The use of more than one method of data gathering eradicates personal biases of researchers and overcomes shortages in single researcher, single-theory or single method studies, thereby increasing validity (Tobin and Begley, 2004:393). Triangulation offers completeness of a study (Jick, 1979, Fielding and Fielding, 1986, Redfern and Norman, 1994) and is important as it allows for the recognition of multiple realities (Tobin and Begley, 2004:393). In this study triangulations were achieved, through the use of observations and validating the observations made with the conducting of interviews, enhancing the quality of the data captured.

Yardley (2000) compiled criteria to assess the trustworthiness and evaluate qualitative research sensitivity in terms of context, rigour, transparency, coherence and impact and importance (Robinson, 2008; Smith *et al.*, 2009). Zitomer and Goodwin (2014:201) suggested six criteria to establish trustworthiness in qualitative studies, namely reflexivity, credibility, significant contribution, ethics (which will be discussed in 5.3.5), resonance, and coherence. The approaches of Yardley (2000) and Zitomer and Goodwin (2014:201) were followed as a micro-guidance to ensure the trustworthiness of the study.

- Reflexivity

Reflexivity can ensure the quality of the study as the researcher should acknowledge how values and assumptions of the researcher can affect the interpretation of data gathered (Spencer *et al.*, 2003). Reflexivity is a way of ensuring rigour (Etherington, 2007). A reflexive researcher has the ability to look critically at the role he/she plays and his/her awareness of potential influences (Guillemin and Gillam, 2004). Reflexivity should be an active ongoing procedure that tests every phase of the research (Guillemin and Gillam, 2004) as a continual process of interaction and engagement with what happens in the study (Stige *et al.*, 2009).

Reflexivity necessitated self-awareness, genuineness and honesty from the researcher with herself, the research process and the readers of the study report (Morrow, 2005; Walsh and Downe, 2006; Tracy, 2010).

- Credibility

Credibility refers to the extent to which the respondents' views and the researcher's representation thereof compare (Tobin and Begley, 2004:391). Thick description is one of the most used ways of achieving credibility (Morrow, 2005; Tracy, 2010), providing in-depth descriptions of the context of the study, the participants and the emerging themes (Zitomer and Goodwin, 2014:209). This also contributes to the study's resonance (Creswell and Miller, 2000). Credibility was ensured by giving rich descriptions of the observations made and by preserving the context and views of the participants that were interviewed.

- Coherence

Coherence is achieved by a systematic fitting of the sampling process with the research aims, question, data collection and analysis so that there is theoretical consistency (Robinson, 2014:38) with a clear epistemological perspective from the start of the study to its conclusion (Cohen and Crabtree, 2008; Kline, 2008, Savall *et al.*, 2008). Coherence is achieved when the study achieves its stated purpose when the methods and representation match, the theoretical approach and interconnectedness exist between the literature review, the used methods, and the findings (Tracy, 2010).

- Sensitivity to context

Sensitivity to context must be achieved through a well-defined sample universe to avoid unwarranted generalisations and ensure the study is located in a meaningful group and place (Robinson, 2014:38). The researcher ensured sensitivity to context by defining a sample universe with inclusionary and exclusionary criteria for participants, using the same geographical area, creating geographical homogeneity.

- Rigour

Rigour depends on how sufficient the sample is in supplying all the needed information for a complete analysis (Yardley, 2000:221). Rigour can be enhanced by ensuring the sample and the sample universe relate to each other. The number of interviews conducted in this research was guided by data saturation. An analysis was done after each interview to evaluate if saturation had been reached.

- Transparency

Transparency is enhanced by explaining in full how the sample universe, sample size, sample strategy and sample source were met (Robinson, 2014:38), as was explained in the procedures of the observations and interviews.

5.8 Research Ethics

Collecting data in a natural environment raises ethical issues (Lambert, Glacken and McCarron 2011:22) and the use of ethnographic research methods must be ethical and practical. The governance of ethical conduct in human research places a strong focus on potential participants giving the researcher voluntary and informed consent (Schembri and Boyle, 2013:2153; Gledhill, Abbey and Schweitzer, 2008:85). The participants' physical and psychological well-being must be protected and is the responsibility of the researcher (Schembri and Boyle, 2013:2153). According to Cohen and Crabtree (2008), research must be conducted in a

respectful, honest, humane, and empathic way to honour the relationship between the researcher and the participants.

Participants must be informed of the research aims and what the study entails as well as any information that will help them to give an informed consent to participate in the study. With this in mind, the researcher used informed consent forms (see Annexure D – research was conducted under the researchers maiden name and therefore refers to the researchers previous surname) to obtain the necessary permission to conduct the interviews. Participation in this study, was based on an informed voluntary decision, without any influence from the researcher, by the participant and this consent could be withdrawn in any stage of the interview. The consent was given without any remuneration. The informed consent stated clearly to the participants that the researcher would ensure their anonymity to protect participants' identities and that by signing the consent they gave permission to use the primary data in follow-up secondary research.

5.9 Conclusion

Following the literature review the focus of the study was moved to an in-depth exploration of social interaction between people and their environment in the subject area of Helen Joseph Street. This chapter is concerned with the characteristics of the environment of Helen Joseph Street situated in the Central Business District of Pretoria and establishing the importance and context of the research setting. A qualitative point of departure informed the research design. As part of the ethnographical framework of the study, observations, interviews, and examination was used to study this social role and to design a practical methodology to generate data. The observations were complemented by spatial mapping, field notes and photographs. While the observations allowed the researcher to observe what participants did, interviews allowed the researcher to obtain insight with regard to the activities and behaviour observed. The observations were thus followed up by interviews, revealing people's feelings, opinions, attitudes, interactions and reactions to the street and physical environment, providing empirical data to inform the study, that is inaccessible with observations. Through the process of data generation and analysis the trustworthiness of the study and ethical compliance were ensured. The observations and interviews generated two sets of data that were analysed in order to come to consolidated findings, presented in the next chapter.

CHAPTER 6: FINDINGS: HELEN JOSEPH STREET AS A SOCIAL SPACE



CHAPTER 6: FINDINGS: HELEN JOSEPH STREET AS A SOCIAL SPACE

6.1 Introduction

This chapter will present the findings of the empirical study that was conducted in terms of how a street is used and experienced by its users as well as how the physical (built) environment is utilised for social interaction. The findings are presented in three sections, the physical (spatial) environment as context in which social interaction occurs, patterns that emerged from the observations and themes that emerged from the interviews. The patterns and themes are illustrated in relation to the spatial/built environment. The chapter is concluded with an integrated discussion of the patterns and themes in order to align the empirical part of the dissertation with the theoretical foundation of the study.

6.2 The physical environment as context

This section presents Helen Joseph Street (the research setting) in terms of its physical (spatial) characteristics. Scale, the urban fabric, land uses, movement systems and street furniture and landscaping are briefly discussed.

- Scale

In order to understand the size and scale of the research setting, the site is compared to the Johannesburg CBD and Menlyn, a suburb in the City of Tshwane, as can be seen in Figure 47. This gives a clear indication of the size of the research setting. The research setting is approximately 650 metres in length. The city blocks in Pretoria CBD are larger than the city blocks in Johannesburg, influencing the walkability of the blocks. The same area covers a larger part of Johannesburg CBD but is comparable to Menlyn (Menlyn is a suburb, east of the research setting, host to a large shopping mall, shown in Figure 47 (c), comparable in scale to Helen Joseph Street.



Figure 47: Scale comparison, Research setting, Johannesburg and Menlyn: (a) city blocks surrounding the research setting of Helen Joseph Street, (b) Johannesburg CBD and (c) Menlyn

- The urban fabric

Urban fabric refers to the physical form of an urban area that is composed of different building forms and spaces that create an urban grain. The urban fabric is compiled of a combination of streets, building structures and open spaces. The urban fabric is presented by a figure ground study that includes the solids, or buildings (presented in white) and the voids (black), or open spaces and the relationship between these elements. The figure ground study is a technique used to analyse the morphological construct of the physical environment and highlight the relationship between the voids and building mass. This gives an understanding of the placement of buildings, the scale and the spaces between vertical edges (Trancik, 1986:101). The figure ground diagram provides a two-dimensional figure to portray the urban space.

In this case the urban fabric (see Figure 48) defines the street space and public squares of Helen Joseph Street, with the solids framing the voids. This enclosure of public spaces in the research setting has a positive effect on social activities as it creates outdoor living rooms for people to socialise. The building mass seen in Figure 48 is larger than the open space, creating a continuous space that is well defined. Spaces that are spatially contained and well defined create a positive experience for its users. The research setting reflects a well-structured environment.



Figure 48: Figure ground study of the study area, with the black indicating the public space on Helen Joseph Street (Source: Compiled by researcher from PlanetGIS)

- Movement

Helen Joseph Street is intersected by three, one-way, four-lane vehicular dominant streets with high volumes of traffic that travel through the study area as illustrated in Map 7 (C). The street is paved and vehicular traffic in this street is regulated with access control points, only allowing a limited amount of traffic into the street, such as delivery trucks, inhabitants and business owners (see Map 7 (D)). The line of informal trader stalls creates a barrier between the pedestrian who uses the middle section of street and the building facades, leaving a narrow sidewalk next to the buildings (see Map 8 (D)).

- Land Uses

The research setting hosts a mix of land uses (see Figure 49) that attract a variety of users. Mixed land use provides for several functions and creates diversity, contributing to the street being busy at all times of the day, as facilities are needed at different times of the day (Farnham, 2014:27; Hospers, 2006:726).

Helen Joseph Street mostly functions as a trading street and is promoted as a pedestrian-friendly area, as illustrated in Map 7 (A). The street is lined with informal traders, selling goods in informal structures, especially between Sammy Marks Square and Thabo Sehume Street, as illustrated in Map 7 (B).

Helen Joseph Street is a historic street that comprises historically significant buildings, such as the Sammy Marks Building, the South African State Theatre and the Cuthbert's Chambers as illustrated in Map 7 (E). The buildings are built with no setbacks or fencing, creating containment of the street (see Map 7 (F)). Similar to the land uses, the buildings also accommodate various uses in one building. Most of the buildings house businesses and some banks on the ground floor and offices on the upper floors, as can be seen in the figure below. The buildings have awnings, providing shade and shelter as can be seen in Map 8 (A). The business uses on the street create an active frontage, whereas the uses such as the bank create blank facades as can be seen in Map 8 (B).

Mix land uses and many activities in the same building create a lively street. In this case activities start each morning around 07:00, when the first informal traders arrive to set up their stalls and the employees of the businesses in the area arrive to open their shops and offices. The area is transformed into a lively street.



Figure 49: Land use map indicating uses hosted by buildings (Source: Compiled by researcher)

- Street furniture and landscaping

The street contains seating space and objects of street furniture. The street is furnished with public seating in some areas, some built around trees (see Map 8 (C)). The public seating is distributed throughout the street, and supported in its function with landscaping, such as steps and bollards. The Sammy Marks Square has a Clock Tower with steps around it at the base of the tower, forming a change in the landscape (see Map 9 (B)). The State Theatre square is interrupted with a built entrance into the underground structured parking; the entrance however provides seating on the street level. In terms of landscaping the square is host to the famous 'Applaud' (see Map 9 (C)) statue that forms a focus point in front of the state theatre. The historical tram track is preserved in glass boxes in front of the theatre (see Map 9 (D)). The street is lined with trees and street lighting (see Map 9 (A)) that form a visual axis to the statue of Paul Kruger in Church Square. This line of trees is interrupted in the areas next to the public squares. (Lilian Ngoyi Square was under construction and the space could not be accessed by the time the research was conducted (see Map 9 (E)).

MAP 7: PHYSICAL ENVIRONMENT AS CONTEXT



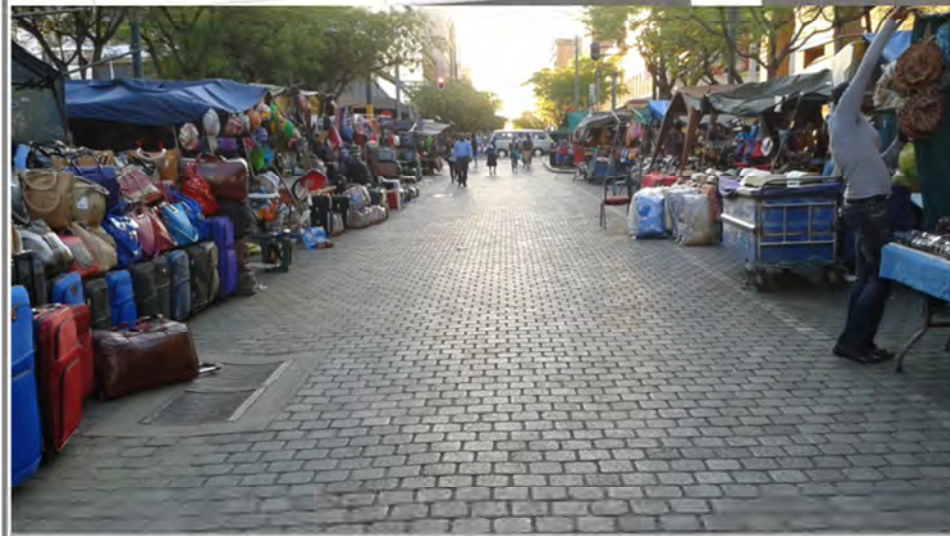
(A) paved, pedestrian friendly street
(Source: Photograph taken by researcher)



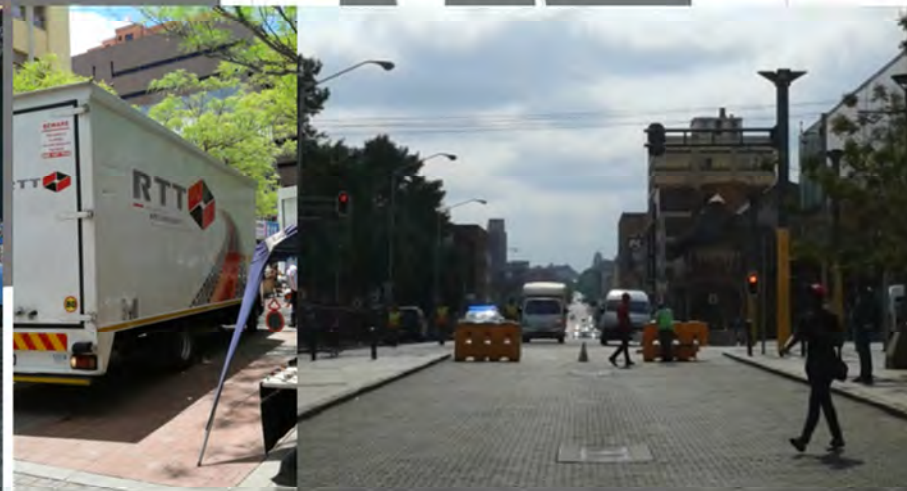
(C) Lilian Ngoyi Street intersection with vehicular traffic moving in a northern direction



(E) Historical Buildings (Source: Photograph taken by researcher)



(B) The street is lined with informal trader stalls (Source: Photograph taken by researcher)



(D) vehicular access is controlled, but delivery trucks and other vehicles are allowed (Source: Photographs taken by researcher)



(F) Buildings on erf boundary that line the street with an active frontage (Source: Photograph taken by researcher)

MAP 8: PHYSICAL ENVIRONMENT AS CONTEXT



(A) Awnings providing in shade and shelter, some building's awnings create colonnaded walkways (Source: Photograph taken by researcher)



(C) Public seating provided (Source: Photograph taken by researcher)



(B) Active v blank facades (Source: Photograph taken by researcher)



(D) Informal trader stalls act as a barrier in front of building facades, creating a narrow sidewalk (Source: photographs taken by researcher)

MAP 9: PHYSICAL ENVIRONMENT AS CONTEXT



(A) line of trees, bollards, historical lighting in front of a colonnaded walkway (Source: Photograph taken by researcher)



(C) State Theatre square with the famous "Applaud" statue in the background (Source: Photograph taken by researcher)



(B) Sammy Marks Square Clock Tower with steps around it at the base of the tower (Source: Photographs taken by researcher)



(D) : 'preserved historical tram track (Source: Photograph taken by researcher)



(E) Lilian Ngoyi Square currently under construction (Source: Photograph taken by researcher)

6.3 Observations

The aim of this study is to explore the role of streets in the social dynamics of Helen Joseph Street in order to develop broad guidelines for the layout and design of street spaces to support social interaction. The aim of the observations was to explore the street in-depth to gain an understanding of the role of the street in social interaction and activities. The researcher conducted the observations over two time periods, and during this time the researcher observed different activities that occur throughout the day. The observations provided data on patterns of street usage and the role of the street, as well as the types of activities that take place – especially social activities. The spatial mapping of the activities creates a link between the setting or location and the activities.

Gehl's (2010:20) classification of activities (as discussed in Chapter 3, section 3.3.3.2) divided them into (i) necessary activities, (ii) optional activities and (iii) social activities, was used as the primary framework to observe social interaction in Helen Joseph Street. As necessary and optional activities are prerequisites for social activities, Gehl's (1996:19) further description of social activities and definition of a scale of intensity of contact were used as a secondary framework for the observations. The observations were used to generate rich, descriptive data of how the street is used through spatial mapping (see original observation map in Annexure A), field-notes and photographs. The observations can be summarised into four main themes, as seen in Figure 50, and discussed in the following section.

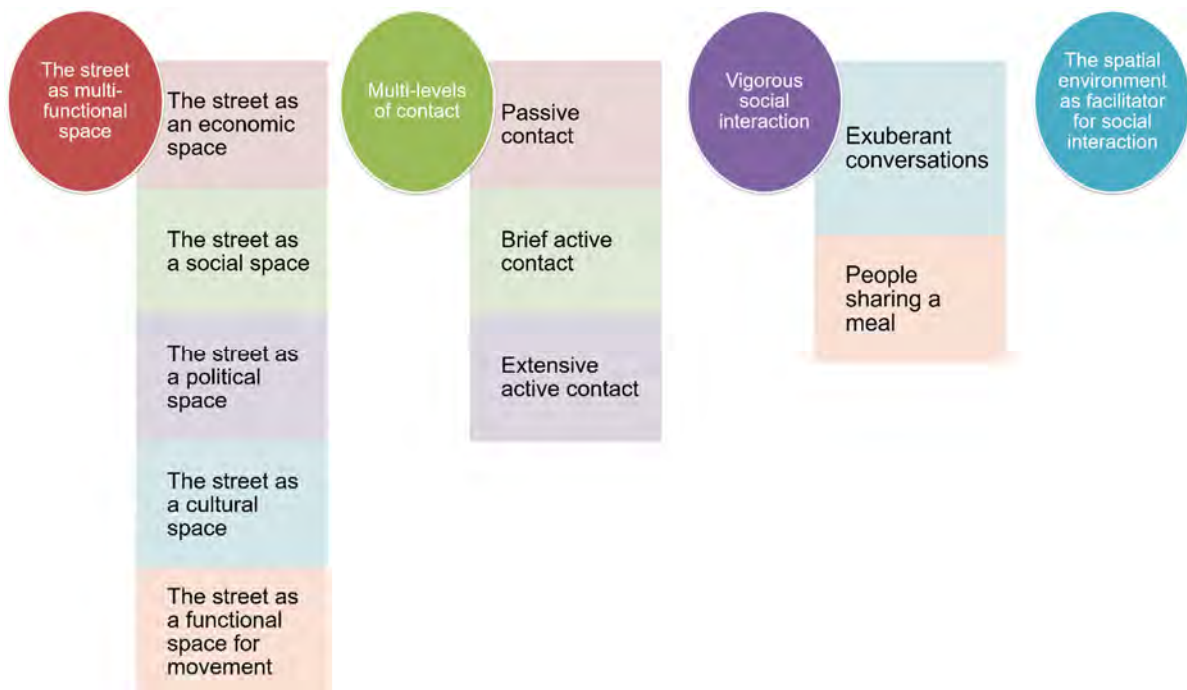


Figure 50: Patterns and sub-patterns identified in the observation process (Source: Compiled by researcher)

6.3.1 Pattern 1: The Street as Multi-functional Space

Helen Joseph Street is a multi-functional space that consists of the street as an Economic Space (Sub-Pattern 1), Social Space (Sub-Pattern 2), Political Space (Sub-Pattern 3), Cultural Space (Sub-Pattern 4) and as a Functional Space for Movement (Sub-Pattern 5). As the heart of the Central Business District, this street serves a multitude of functions and attracts a variety of people that use these functions. The street space is versatile and there is a complexity of activities found in the street.

6.3.1.1 Sub-Pattern 1.1: The Street as an Economic Space

The street as an Economic Space is illustrated in Figure 51 (a-d) below. The street is lined with informal and formal businesses, where a variety of products are sold and services provided. The informal traders, for example, sell fruit, vegetables, clothing and jewellery, while the formal business is made up of grocery stores (e.g. OK Grocer), clothing stores (e.g. Woolworths, Milady's, Markhams, Ackermans), restaurants (e.g. KFC, King Pie) and banks (e.g. First National Bank).

As the street forms part of the busiest area of the CBD, the street plays an integral role in the economy. This area is characterised by the economic freedom it provides to citizens as it creates a space where informal traders can make a living.



Figure 51: Economic space – formal (a and b) and informal businesses (c and d) (Source: Photograph taken by researcher, 2014)

6.3.1.2 Sub-Pattern 1.2: The street as a Social Space

The street is lively and filled with people, and as Gehl (2010:22) states, where there is activity and life, there is social interaction. From the observations the social interactions seemed unpredictable, unplanned and occur spontaneously between individuals and groups of people. The life and social interaction in the street are self-reinforcing processes as people come to places where other people are (Gehl, 2010:65). People gather in the street and engage in conversation as can be seen in Figure 52 (a-b) where people sit on benches or steps or stand and interact.



Figure 52: Social space (Source: Photograph taken by researcher)

6.3.1.3 Sub-Pattern 1.3: The street as a Political Space

Political space is created in areas where people feel free to discuss initiatives and celebrate political victories or march for a cause (Jacobs, 1995:4). The purpose is to strengthen democracy because diverse cultural and class groups can meet and gather in a communal space (Carr *et al.*, 1992; Habermas, 1962; Madanipour, 2003; Sandercock, 1998; Sennett, 1971) where there is freedom of expression.

The Political Space is made up of planned activities such as demonstrations (i.e. for higher salaries or against violence against women and children, see Figure 53 (a)), campaigns, for example for HIV awareness and blood donations (see Figure 53 (b)). The public space creates a space where ideas and opinions can be exchanged, and functions as a space where people can express themselves. Political expressions are mostly concentrated in Sammy Marks Square, because of the space available, the number of people who pass through the square that create an audience and the lack of obstructions such as informal trader stalls. These activities are not constant but occur in the street at random times/days of the week.



Figure 53: Political space - freedom of expression (a) protest for salary increases; (b) and (c) campaign stalls (Source: Photographs taken by researcher)

6.3.1.4 Sub-pattern 1.4: The street as a Cultural Space

The street functions as a Cultural Space as activities occur, such as markets, street performers (Figure 54 (a)), street parties and cultural gatherings. The presence of the South African State Theatre also has a cultural influence on the street as the upcoming shows are advertised in the area. The Sammy Marks square is used for a cultural gathering every second Friday where speakers are set up and performers sing and dance (see Figure 54 (b, c and d)). The social activity is based on people's curiosity and willingness to participate, in for example demonstrations and street parties.



Figure 54: Cultural space (a) street performer; (b) advertisement for the culture hour; (c) and (d) gathering of people for the culture hour (Source: Photographs taken by researcher)

6.3.1.5 Sub-pattern 1.5: The street as a Functional Space for Movement

The streets that intersect with Helen Joseph Street carry high volumes of traffic and public transit forms (see Figure 55 (a) and (b)). These create very busy intersections with vehicular traffic travelling north - south and pedestrians travelling east-west, and north-south, regulated by traffic lights (see Figure 55 (c)).

Walking activities differ in purpose, some people are goal-oriented and need to get to a destination, others stroll to take in the view around them; but regardless of purpose, these people interact socially in a passive manner along their way. The speed of walking is impacted by the quality of the route and the design and layout of the space, as well as the crowd that pushes forward, or is more relaxed. As the pedestrian has right of way, people are observed to be more apathetic in their movement. This changes at the intersections, where vehicular traffic

crosses the pedestrians' path. People crowd around the intersections, waiting for the traffic signal to indicate that they may cross the street.

Vehicular traffic also occurs in an east – west direction, although regulated, in Helen Joseph Street to find parking and to deliver goods, see Figure 55 (d).



Figure 55: Movement space (a) pedestrians crossing Lilian Ngoyi Street; (b) pedestrian movement in a north-south and east-west direction; (c) modes of traffic intersect at intersections; (d) movement of vehicles through Helen Joseph Street (Source: Photographs taken by researcher)

Although the study is focused on streets as social spaces, the observations led to the conclusion that the street has a multitude of roles which are wider than just social in nature. The focus of this study is however on the social interaction in the research setting.

6.3.2 Pattern 2: Multi-levels of contact

There are different levels of contact present in Helen Joseph Street which consist of Passive contact (Sub-Pattern 1), Brief active contact (Sub-Pattern 2) and Extensive active contact (Sub-Pattern 3).

6.3.2.1 Sub-Pattern 2.1: Passive contact

Passive contact implies that people connect in different ways by seeing, hearing and watching the different activities and people moving past their vantage point, exchanging a glance or a smile in passing. According to Gehl (2010:22) this reserved, unassuming form of contact is the most common activity in cities; it is also the activity that is most influenced by urban planning. The physical environment's design should be inviting for these passive contacts, as it forms the background for the other patterns of activity.

Passive contact in the research setting is observed through those participants who do not actively take part in social interaction but are observing other participants in the space (see Figure 56). Examples of these passive forms of contact include individuals or small groups of people who are normally sitting at one spot for long without any conversations (except greeting those familiar to them). These individuals seem entertained by the presence of people and activities around them and are mainly there for the reason of people-watching. (Gehl, 2010:148). People-watching occur throughout the street but spots that are popular for people-watching are the State Theatre Square, Sammy Marks Square, and the central area of Helen Joseph street between Thabo Sehume and Lilian Ngoyi Streets. These observations are made from areas from where they have an unobstructed view over the area, such as the steps, benches, bollards, a quiet corner to stand, outside of the flow of pedestrians and cars (see Figure 57).



Figure 56: Passive Contact – watching, sitting, and walking (Source: Photographs taken by researcher).

Other forms of passive contact include participants sitting by themselves (resting), standing around or waiting (e.g. in front of a shop to open, in queues – see Figure 59 (a and b), at a public transport waiting spot). These passive activities take place throughout the street and

throughout the day. Popular sitting/ resting spots include benches, steps, stairs, bollards and walls. Waiting occurs randomly in front of shops or at intersections on particularly Lilian Ngoyi Street and Helen Joseph Street that form a waiting area for public transport.

When people are given the choice to walk either in a lively or in a quiet deserted street, people choose to walk in street where there are other people present (Gehl, 2010:25). Walking through a busy street is interesting and safer and creates the opportunity to engage further into brief active contact with, for example, the informal traders (see Figure 59 (c)). Passive contact forms the background for social interaction and is necessary to create a safe, vibrant and inviting street environment that can foster social interaction.



Figure 57: Passive contact - (a), (c) and (d) people sit on public seating and (d) steps
(Source: Photographs taken by researcher).



Figure 58: Passive contact (a) and (b) people stop to look at products or (c) rest or wait (Source: Photographs taken by researcher).



Figure 59: Passive contact – (a) Queuing at ATM; (b) people queuing at the parcel collection; (c) pedestrians walking and moving through the area (Source: Photographs taken by researcher).

6.3.2.2 Sub-Pattern 2.2: Brief Active Contact

Brief active contact implies brief interaction such as greetings to passing people or enquiries. This form of contact is unplanned and can occur at any given time or place.

Brief active contact in the research setting is observed through those participants who meet by chance, exchanging a greeting or pleasantries, as well as participants who enquire about prices from the vendors, or who buy products from the informal traders, or participants asking officials

for directions or information. This type of activity leads to brief active contact by participants who engage in short conversations.

Examples of these brief forms of contact include individuals or small groups of people who engage in short conversations. Some of these participants look like acquaintances and some like strangers. Brief active contact occurs throughout the street and is not limited to spatial factors. The informal traders, and for instance security guards and access control officers however, create the opportunity for this type of contact as informal traders would approach passing pedestrians to promote their products or would call out to advertise.

Participants are also observed to make brief contact with fellow participants at market booths, benches or where people wait (see Figure 60). These participants engage in conversation that sometimes grow into contact that is more extensive. This form of contact is spontaneous and unpredictable.



Figure 60: Brief Active Contact - greetings, product enquiries, brief conversation
(Source: Photographs taken by researcher)

The role of brief contact in terms of social interaction is the creation of an atmosphere of accessibility. The people that are present in the street are approachable and friendly, creating a safe and inviting space.

6.3.2.3 Sub-Pattern 2.3: Extensive Active Contact

Extensive active contact consists of social activities between people who are generally better acquainted and would engage in conversation for longer periods of time, using the street as a meeting place. The sub-patterns identified here include participants who socialise in groups. This is mostly seen in participants who form groups, such as students, or school children after school who like to socialise in front of the State Theatre or in Sammy Marks Square, in the

shade. This sub-pattern is influenced by the availability of shade, seating and the absence of the line of informal trader stalls that creates space to socialise (see Figure 61).

The second sub-pattern included here revolves around planned or regular meetings that can take any form of prior engagement to meet in a certain location to discuss a matter or to socialise. This occurs mostly between informal traders, at their stalls, who set up their stalls daily next to each other. Relationships have developed between these participants, and they actively engage in conversation, and some even entertain themselves with games. This activity occurs throughout the street where the stalls are set up.



Figure 61: Extensive Active Contact – groups of people, youth and school children gather in the shade of the South African State Theatre to socialise (Source: Photograph taken by researcher)

The role of extensive contact in terms of social interaction is that the space creates an opportunity not only for passive and brief active contact but for people that come to socialise in the street space. This is important as the opportunity for extensive active contact can be created through the street's design and can lead to continuous vigorous social interaction throughout the street.

6.3.3 Pattern 3: Vigorous Social Interaction

Helen Joseph Street is a vigorous social interaction space that consists of continuous conversations throughout the street (Sub-Pattern 1) and a space to enjoy a meal together (Sub-Pattern 2). Gehl (1996:11) classified outdoor public activity, based on a street scene, into three categories. These categories are (i) necessary, (ii) optional and (iii) social activities, that each has different demands for the physical environment. Optional and necessary activities form prerequisites for social activity.

6.3.3.1 Sub-Pattern 3.1: Exuberant conversations

Gehl (1996) states that where there are people present in the same space and time the opportunity exists for some form of social contact. The sub-pattern of conversations, as an optional activity, is observed through people who stop to greet others, vendors who make small talk to passing pedestrians, people walking in conversation and people sitting together, talking (see Figure 62 a - d). People gather in groups that vary in size, standing in circles talking informally, laughing. The people seem comfortable in the space and with each other.



Figure 62: Informal conversations throughout the street (a) walking in conversation; (b) walking in conversation, sitting and standing in conversation; (c) large

number of people gathered on the Clock Tower steps engaged in conversation; (d) vendors sitting and talking, group of women standing in conversation (Source: Photographs taken by researcher)

6.3.3.2 Sub-Pattern 3.2: People sharing a meal

The sub pattern of people having meals together consists of interaction through people gathering in a variety of sizes of groups to enjoy meals. This can be observed especially in areas with shaded seating areas around Sammy Marks square and the State Theatre, but can also be seen throughout the street and around shops that sell food (see Figure 63). This is a necessary activity but as people choose to share their meals within the street space it becomes an optional activity that leads to a social activity. This activity occurs mostly between 12:00 and 14:00. People involved in this activity are the youth, school children, shoppers and pedestrians.

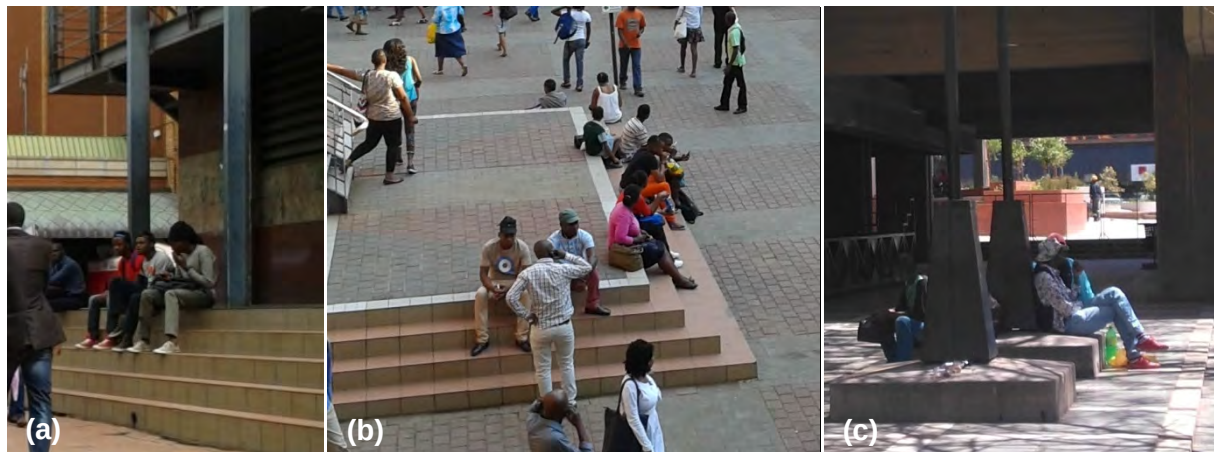


Figure 63: (a) Young men sitting on the Sammy Marks Clock Tower steps eating lunch; (b) two groups of people sitting on the steps eating; (c) people sitting in the shade of the state Theatre, enjoying a meal together (Source: Photograph taken by researcher)

6.3.4 Pattern 4: The spatial environment as facilitator for social interaction

The spatial environment of Helen Joseph Street acts as a facilitator for social interaction as it creates uses or activities to users through its physical properties that afford social interaction (De Oliveira and Debatin, 2015:9; Stokols and Schumaker, 1987:99).

The mix of land uses and the fine urban grain of the street, that is pedestrian friendly, attract a variety of users. The participants are attracted to formal and informal businesses that create the opportunity for social interaction through the buying or selling of products.

Waiting areas are created and supported by the provision of bollards, pillars, benches, rails, steps and stairs to sit or lean against, where participants can wait for taxis or rest. The physical environment thus creates the opportunity to linger in the area that promotes social interaction. This was however observed to be influenced by the weather conditions as participants would seek out the shade to walk or sit in.

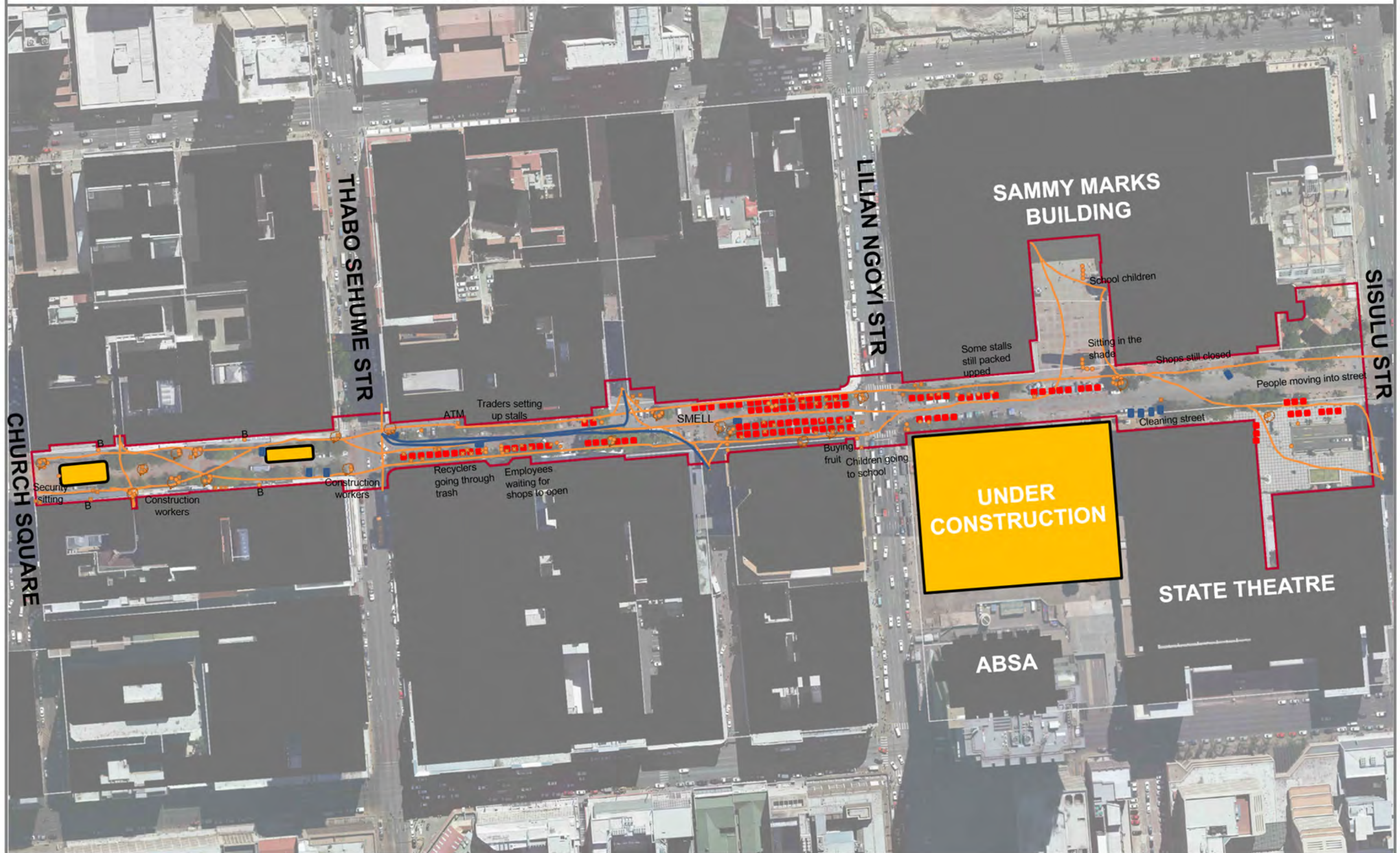
MAP 10: OBSERVATION MAP 07:00-08:00

- Movement of people
- People sitting
- ✱ People standing

- ☁ People in conversation
- M Marketing
- Informal Trader Stalls

- Vehicles
- Vehicular movement
- Construction

- B Beggars



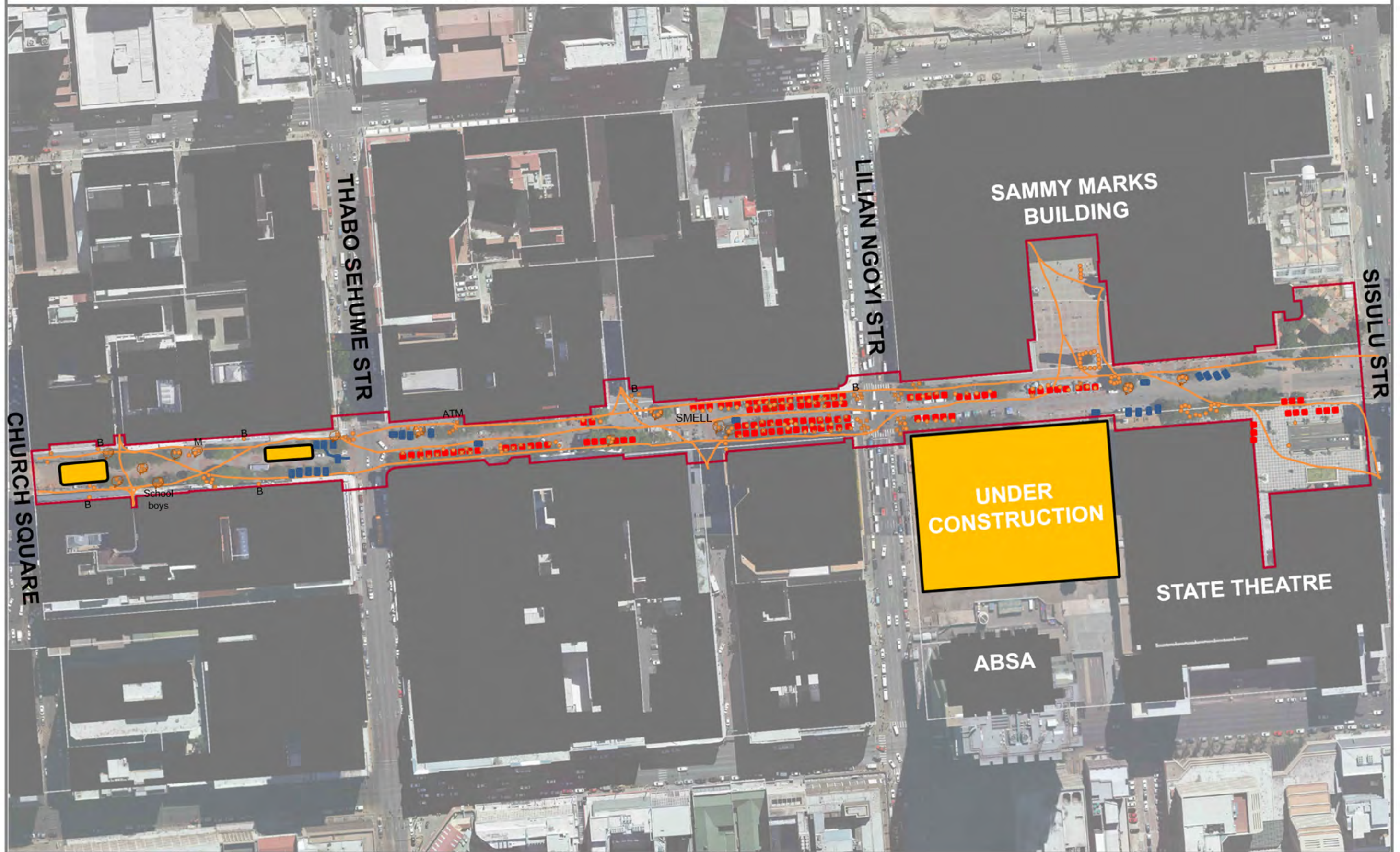
MAP 11: OBSERVATION MAP 11:00-12:00

- Movement of people
- People sitting
- ✱ People standing

- ☁ People in conversation
- M Marketing
- Informal Trader Stalls

- Vehicles
- Vehicular movement
- Construction

- B Beggars



6.3.5 Discussion of observations

The rich descriptive data, of how the street is used was generated during the observation phase. The observations made, showed that several characteristics and physical aspects of the street, supported social interaction in the street (see Map 10).

The social interaction throughout the street can be ascribed to the multi-functional role (City of London, 2010:9) of the street, and the number of people that is drawn to the street's mix of uses, such as residential, retail, commercial and informal activities, that live out onto the street, as well as the presence of and number of people. It was observed that people depend on the street for movement, shopping, meeting, cultural, political, functional and social activities described by theorists such as Donald Appleyard, (1981), Jan Gehl, (1987), Jane Jacobs, (1961) and Allan Jacobs (1993). Jacobs argued that it is at these street interactions where a city's wealth of public life grows (Jacobs, 1961:56, 72). Mixed land uses, that create a multi-functional space, are advocated in literature where not only residential uses are accommodated but also work, light industrial, retail and entertainment uses to create a vibrant, safe, attractive, viable, and sustainable urban lifestyle (Calthorpe, 1993; Ewing, 1996; Krier, 1992; Yeang, 2000; Whyte, 1988). Different kinds of people were observed who wandered the streets at different times of the day (Jacobs, 1958:124), making use of the diverse functions of the street.

Social interaction in the street is observed as a complex network of different types of social interaction on a multitude of levels. The dense population in the street creates opportunity for social interaction as contact is described by Gehl (1996:15) as any contact when two or more people are present in the same space at the same time. Just seeing, hearing and meeting people are seen as social contact. These social dynamics where people interact and spend time together, are observed to be connected to the spatial environment. The spatial environment creates opportunity for these activities (Gehl, 1996:15). According to Ferreira & Batey (2007:434) and Woolley (2003) the aesthetic aspects of streets are important influences on the life and vitality that are present in the streets.

In-depth observation of the social dynamics in the street assisted in understanding social activities within the space and time that they occur in. It allowed the researcher to identify the characteristics of the street that made the users interact socially, engaging in passive, active or sustained social activities. The observations assisted the researcher to understand the role that the street play in generating and maintaining social activities. The observations were followed up by interviews in order to gain the perspective from users of the street and confirm and elaborate on what was observed.

6.4 Interviews

The findings presented here are a combination of the themes that emerge from the 32 interviews conducted with participants using the street.

During the analysis of the transcribed interviews the street as a social space was explored. The interviews can be summarised into four main themes (Figure 64) discussed in the following section.

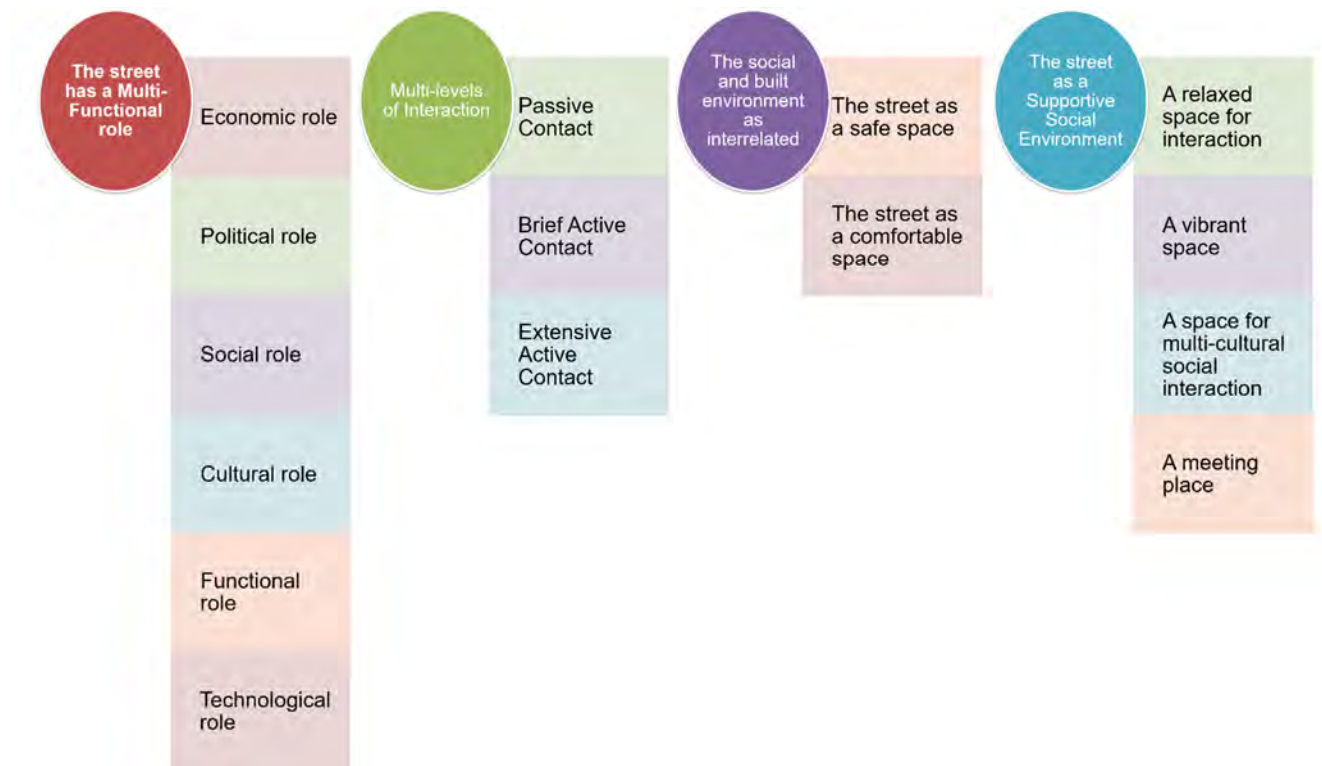


Figure 64: Themes and sub-themes identified during the interview process (Source: Compiled by researcher)

6.4.1 Theme 1: The street has a Multi-Functional role

The street plays a multi-functional role in the lives of the participants that consists of an Economic role (Sub-theme 1), a Political role (Sub-Theme 2), a Social role (Sub-theme 3), a Cultural role (Sub-theme 4) and a Functional role (Sub-theme 5).

6.4.1.1 Sub – theme 1.1: Economic role

The interviews support the observation of the street as an economic space. While some visit the street for economic activities such as shopping (P20 in Figure 65), others visit the street for job opportunities. The economic role of the street is confirmed in terms of its role in providing goods that address peoples' needs (P33 in Figure 65). For other participants, the economic role of the

street involves the fact that it is a way of sustaining their lives directly as they sell goods here (P14 and P16 in Figure 65). They are dependent on the economic opportunities that the street provides. Those who buy and sell form an interactive network that sustains the street's economic life.

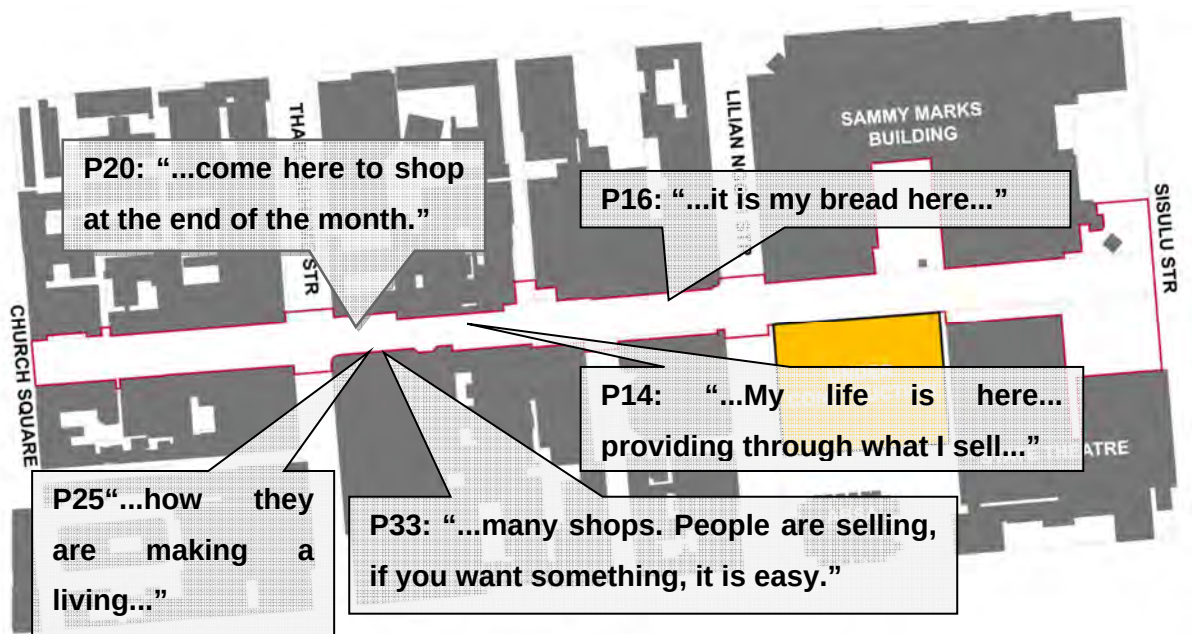


Figure 65: Economical role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.1.2 Sub – theme 1.2: Political role

The street forms a space where people feel free to express themselves in terms of political aspects. Participants (P4 and P33 in Figure 66) both confirm that they have observed political activities, such as protests, strikes against service delivery and for salary increases. Participants (P18 in Figure 66) also confirm running a political campaign for HIV testing and awareness. The street was trashed as part of an outcry in a demonstration. This shows the presence of political freedom and freedom of expression and views in the street.

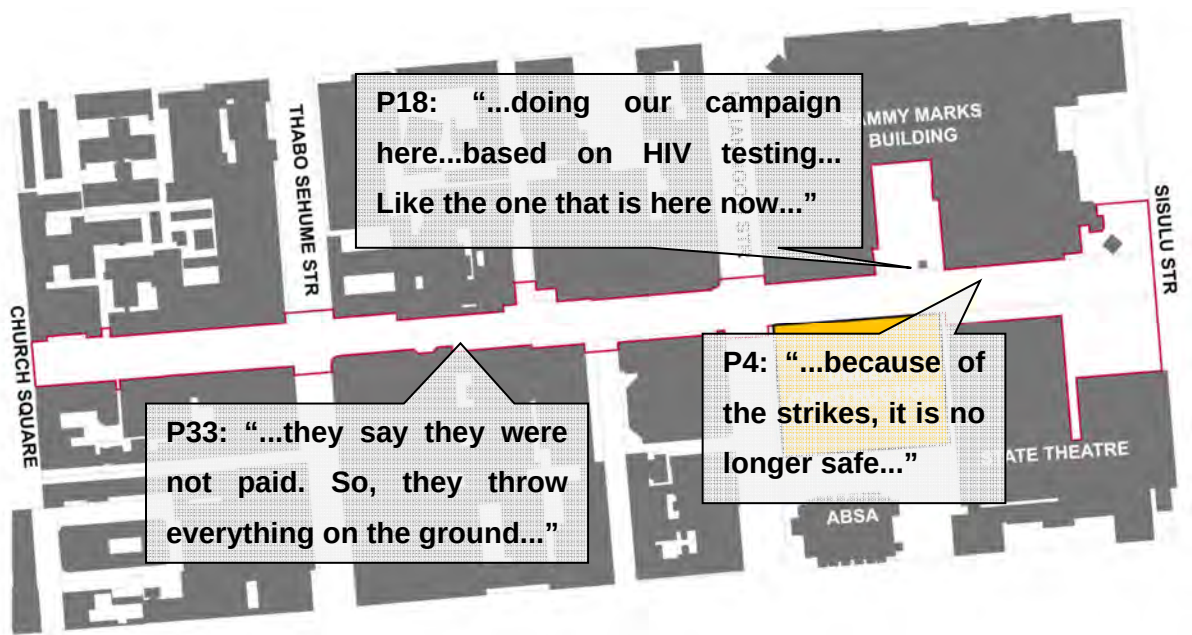


Figure 66: Political role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.1.3 Sub – theme 1.3: Social role

The street function as a platform for social interaction. Participants experience the street as a friendly social space in which they meet with friends (P10 and P18 in Figure 67). Participants come to the street to see (P22 in Figure 67) and meet other people. People interact with each other, engaging in conversation, responding to advertisement campaigns, awareness campaigns and chatting throughout the street (P15 Figure 67). Participants visit the street in groups to socialise or to come to do shopping. The street is also filled with people watchers who observe the activities and people (P22 in Figure 67).

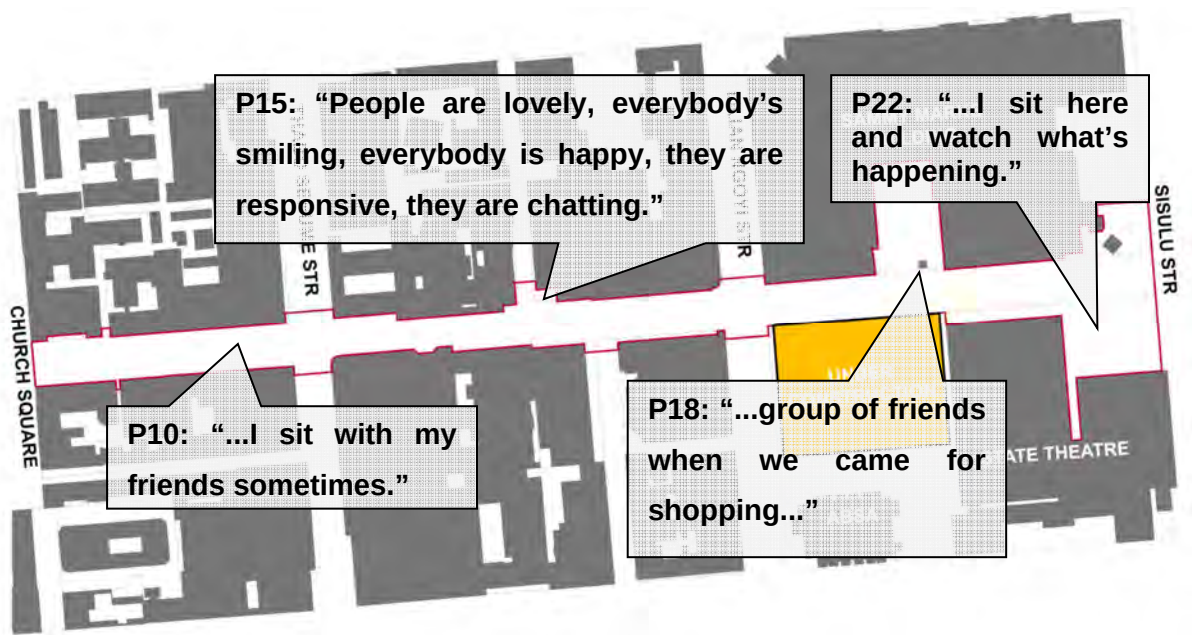


Figure 67: Social role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.1.4 Sub – theme 1.4: Cultural role

The street functions as a cultural space as there are some forms of cultural expression in a street filled with historical connections and buildings (see Figure 68, P21). Participants (P6) visit the street specifically to meet likeminded artists and to perform; the street is thus used by performers to play their music or to sell different forms of art work and display their expertise (see Figure 68, P9). A need for entertainment was expressed by participants who would have stayed for longer periods of time in the space had there been some form of entertainment in the street, street art and statues, cinemas, a pub, parades or celebrity performances (P31 and P19). There is thus need for more cultural experiences in the street and artistic expression.

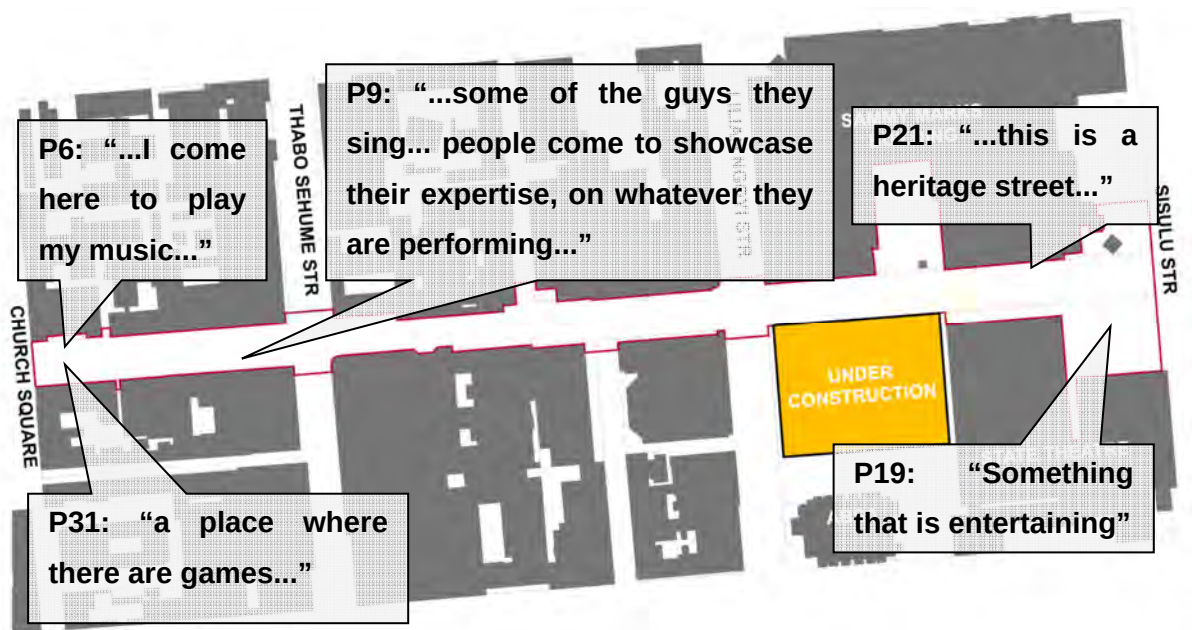


Figure 68: Cultural role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.1.5 Sub – theme 1.5: Functional role

The street plays a functional role in terms of movement in the city as it has a central location in the city as well as the region; it is well-connected and accessible. The street is used as a way of connecting different parts of the city and connecting people with their destinations (see P25 Figure 69). Public transport routes come together in the CBD (see Figure 69, P1), creating a through movement of people who use the street as a connection point between destinations. Some people use the street as meeting place because of the central location and then move from the street to their place of work or further destination such as home.

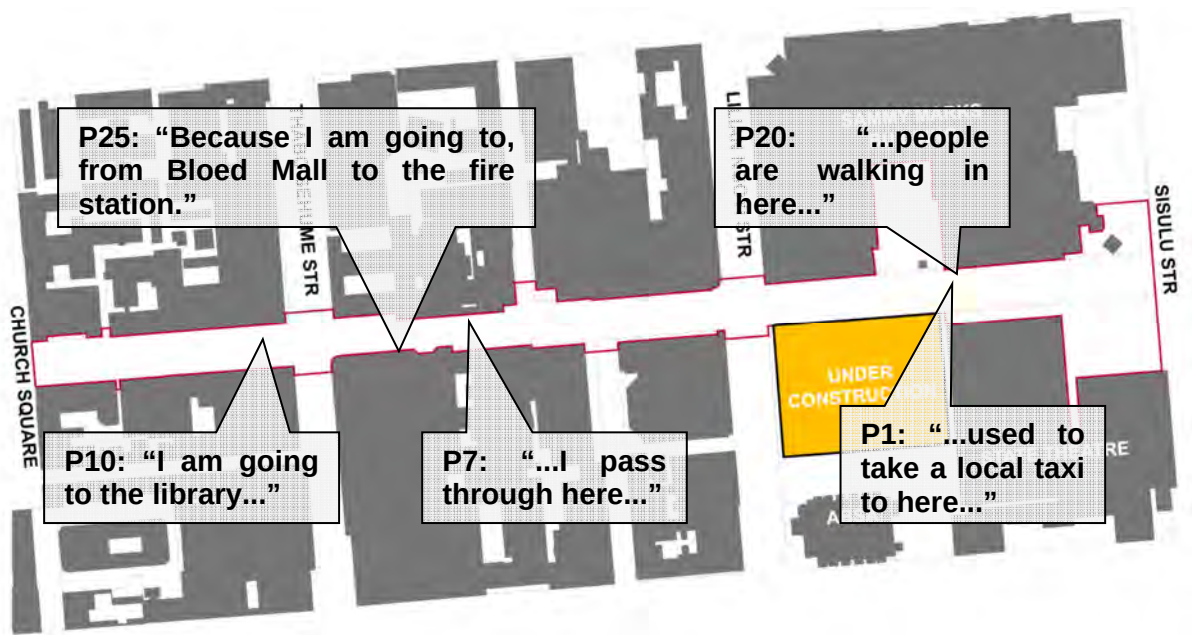


Figure 69: Functional role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.1.6 Sub – theme 1.6: Technological role

The availability of free WiFi in the street has an influence on the number of people, especially young people (P4 in Figure 70) living in the area, to make use of this free service. People connect to the free WiFi to be able to socialise in cyberspace (P19 in Figure 70). Through the use of technology the street becomes part of a global space, connected with people and places that are not present in the street.

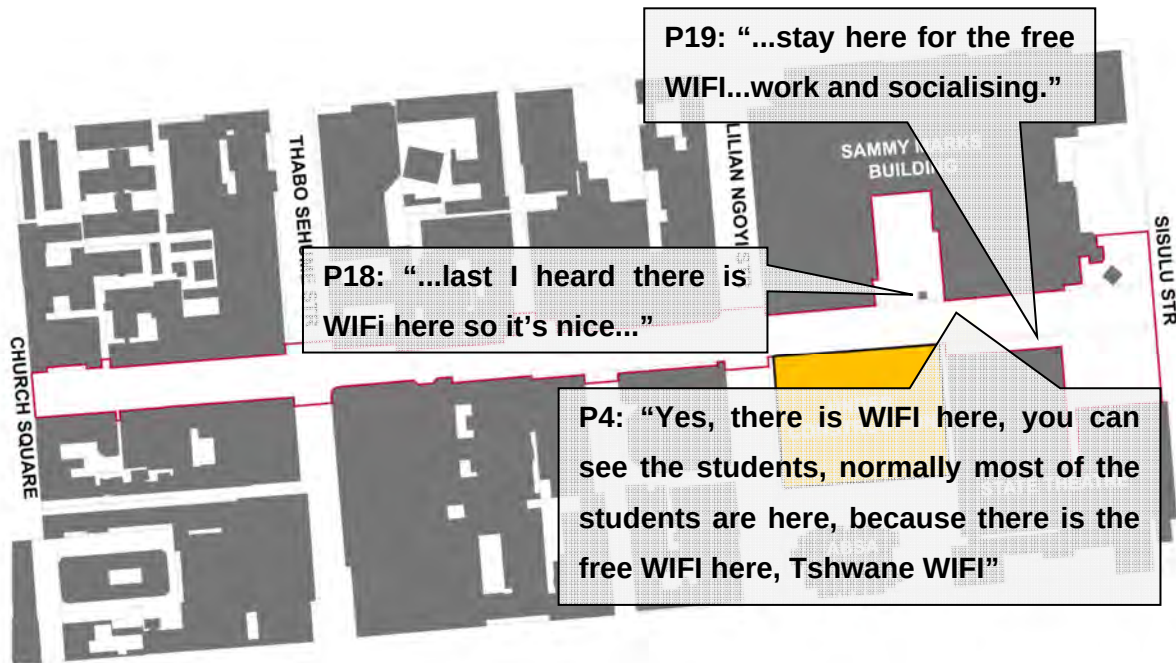


Figure 70: Technological role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.2 Theme 2: Social interaction consists of multi-levels of contact

There are multi-levels of interaction present in the street as people interact with different levels of intensity with each other. These levels are Passive Contact (Sub-theme 1), Brief Active Contact (Sub-Theme 2) and Extensive Active Contact (Sub-theme 3).

6.4.2.1 Sub – theme 2.1: Passive contact

Some participants were recorded to visit the street alone (P23 in Figure 71). They come to the street to make social contact as they come to watch people. They use the street to spend some time alone (see Figure 71, P23), where they are entertained by the activities and people that surround them, enjoying the dynamic space.

People who sit, stand or stop in the street to wait, to meet people or to rest, interact with people in a passive way by seeing, hearing and watching the different activities and people, “like an album”, that move past their vantage point (P29 in Figure 71).

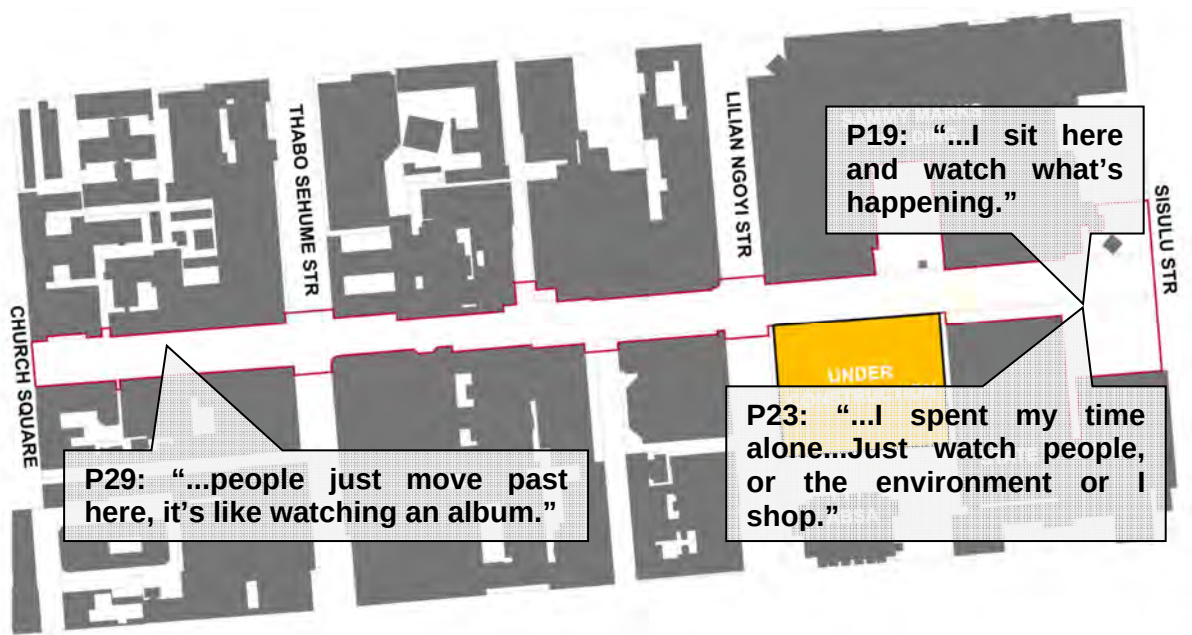


Figure 71: Passive Contact (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.2.2 Sub – theme 2.2: Brief Active Contact

Participants meet each other by chance and stopping for a brief moment to interact. Participants stop to enquire about products from the Informal traders or to ask directions or general information (see Figure 72, P16). They thus spend more time in the street than planned.

Unexpected or spontaneous contact also occurs where people sit or stand and wait with other people. People tend to make small talk when they are together in a space (see Figure 72, P29).

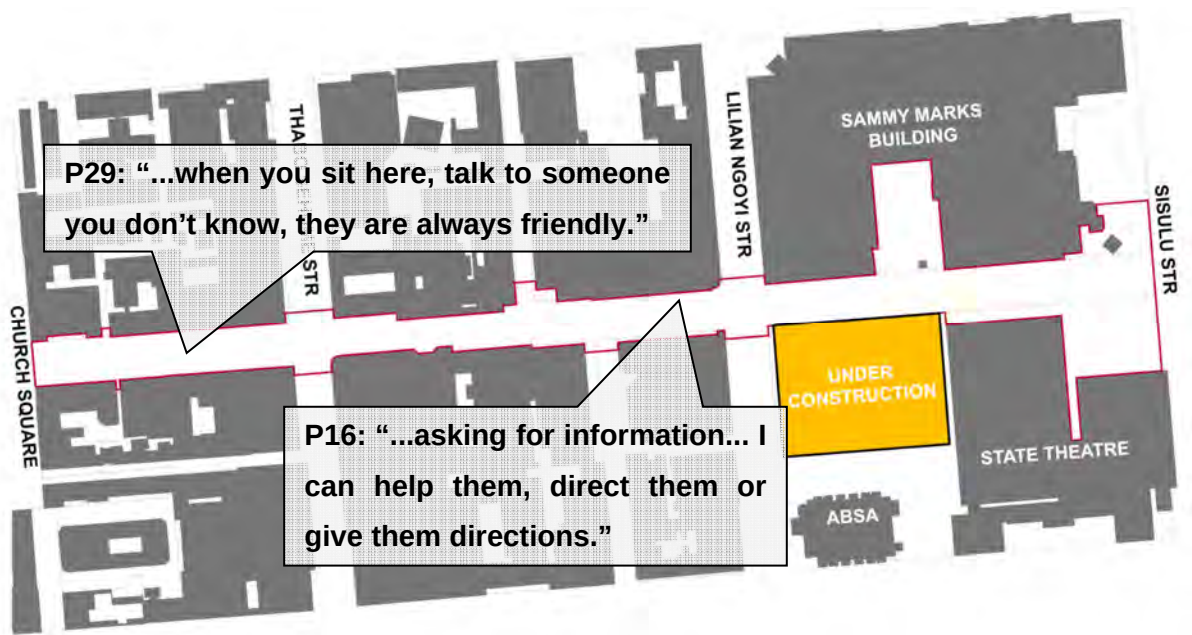


Figure 72: Brief Active Contact (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.2.3 Sub – theme 2.3: Extensive Active Contact

Groups of people visit the street and spend time in the street (P31 in Figure 73), some sitting in the area, socialising. People meet their friends in the street and shop together (P28 in Figure 73). Some people converse and spent time with colleagues, some people come to shop during lunch time with their colleagues, while the informal traders see the other informal traders also as their colleagues and they socialise with them during their 'business hours in the street (P17 in Figure 73).

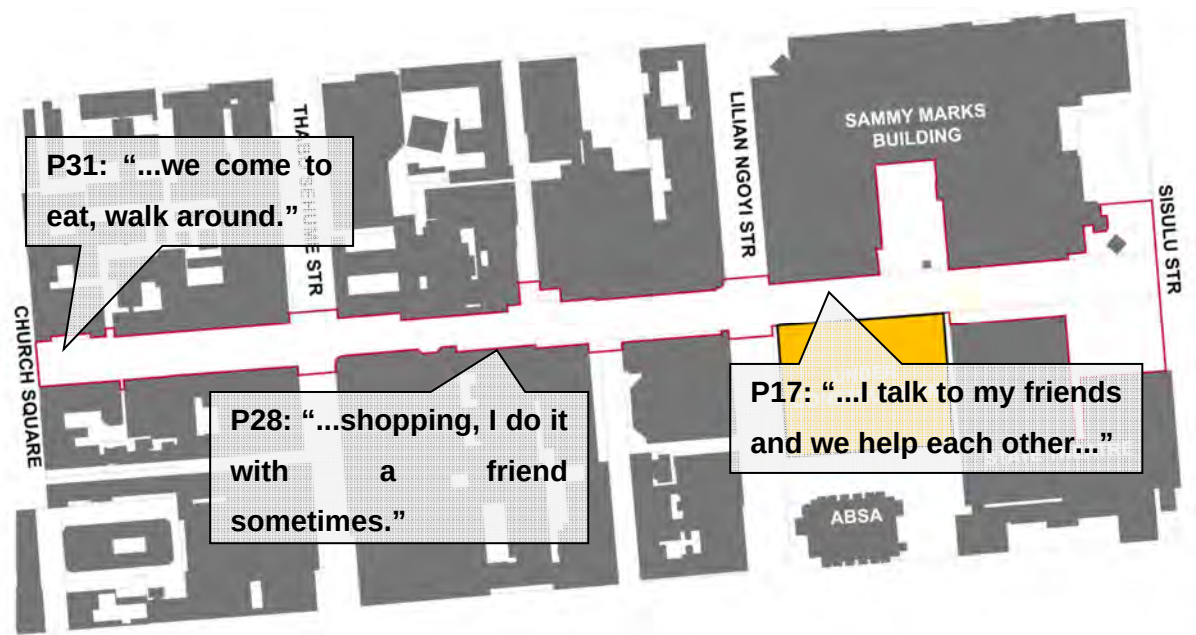


Figure 73: Extensive Active Contact (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.3 Theme 3: The social and built environment as interrelated

The built environment plays an integral role in the activities and social interactions that occur in the street. The street is described as ‘very busy’. The crowding and busy nature of the street influence people in different ways. The built environment is described in terms of the street as a safe space (Sub-theme 1) and the street as a comfortable space (Sub-Theme 2) for the participants.

6.4.3.1 Sub – theme 3.1: The street as a safe space

Experiences of safety in Helen Joseph Street are divided in three categories of protection as supported by Gehl, (2010: 239) who differentiates between three types of protection to be present in a good quality space, namely (i) protection against crime or violence, (ii) protection against traffic and accidents in creating a feeling of safety and (iii) protection against unpleasant sensory experiences. These aspects with relation to experiences of safety emerged in this street space.

With regard to experiences of crime and violence, some participants express their concern for safety in the big crowds, while others appreciate the presence of the people and activities in the street space and feel that the number of people create safety (P25 and P18 in Figure 74). The concept that the presence of people creates safety links to the concept of “eyes on the street”. The congestion and number of people however, create opportunities for pickpockets to steal

from the people (P25 in Figure 74). This makes people uncomfortable and frightened of people around them. There is also a concern for safety with the increase in demonstration in the street and the police firing rubber bullets. The participant is concerned that people can get hurt mistakenly.

The participants were of opinion that with the improvement of safety and security on the street the community's feeling and trust in other people can be improved.

In terms of sensory experiences, participants experience some aspects, such as the presence of litter, the dirty street and unpleasant smells as negative in terms of how safe they feel. People prefer a clean and neat street with clean spaces to sit and stay in the street (P26 in Figure 74). There are street cleaners in the street as well as personnel from the City Improvement District (CID) who are responsible for these tasks. Some participants mentioned that when this street is compared to other streets it is one of the cleaner streets (P6 in Figure 74).

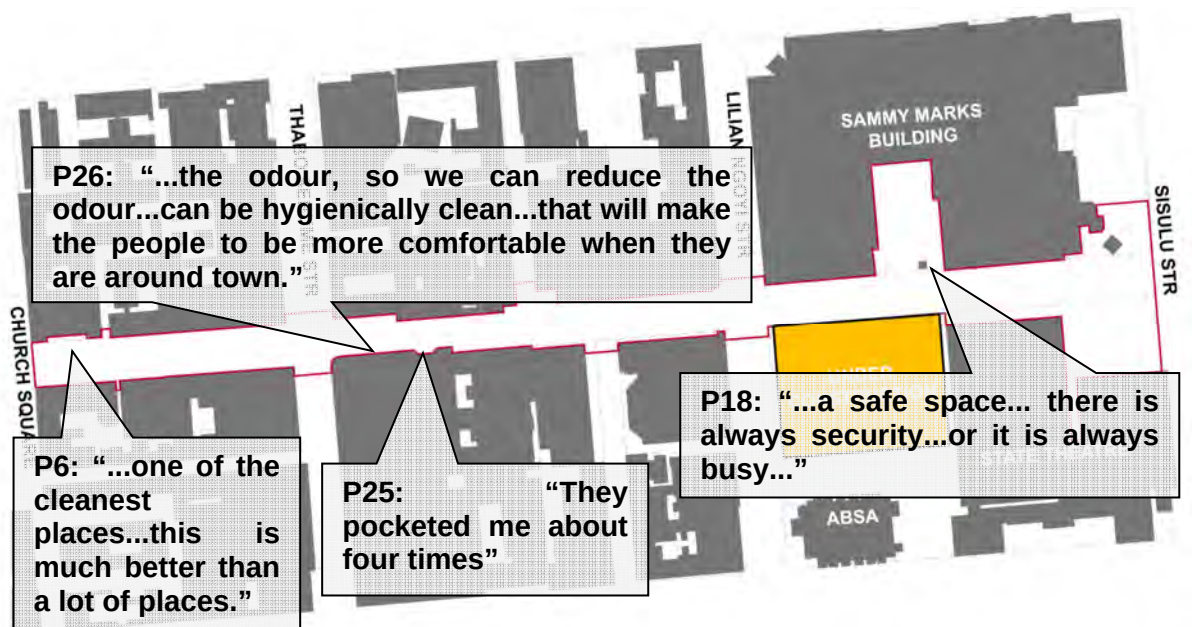


Figure 74: Protection (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.3.2 Sub – theme 3.2: The street as a comfortable space

People are not supported by the built environment in all instances. In very busy time periods, people gather in their numbers in the street and then sufficient seating is lacking. The number of people create a difficulty in terms of easy movement throughout the street, as the people form a congestion. It is suggested by some participants that to accommodate the number of people in the street, the street should be widened and the vehicular movement and parking of cars that

encroach the movement space, should be removed from the street to increase the mobility of pedestrians (P20 and P32 in Figure 75).

It is proposed by the participants that more seating and shade be provided to be able to accommodate the crowds, as people sit on pillars and pedestals of streetlights. This will then serve as waiting areas as well for people who are waiting for public transport or to meet others.

People stop to wait for companions or public transport or stop to rest and put their parcels down. This requires space to sit or rest, preferably in the shade, that is an element that needs attention in the street (P4 in Figure 75). Public facilities, such as toilets and water taps, are needed by the informal traders, to increase their comfort and economic viability.

Some participants feel that the traders should be removed (P26 in Figure 75), partly or entirely, or to be formalised in affordable trading shelters from where they can sell their products in a space that protects them from the elements but also be organised to increase the walking and movement space of the street.

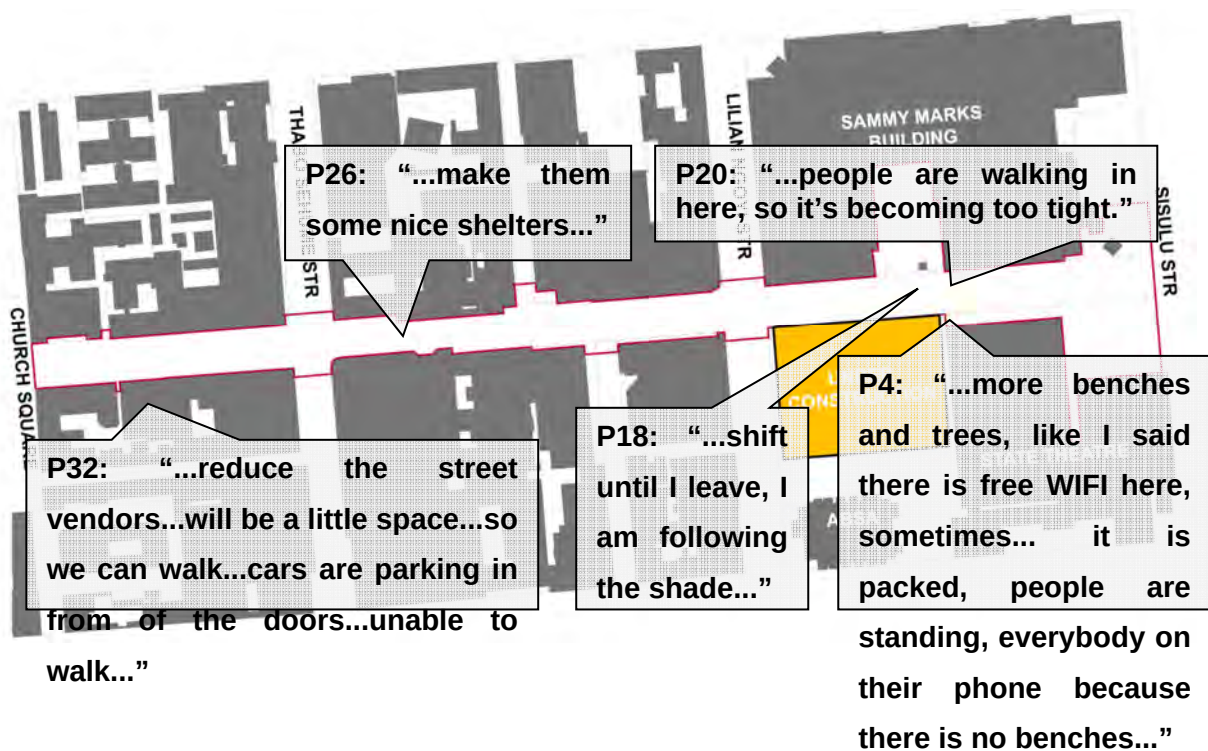


Figure 75: Comfort (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.4 Theme 4: The street as a Supportive Social Environment

The street supports different social activities. The Supportive Social Environment is discussed in terms of a relaxed space for interaction (Sub-theme 1), a vibrant space (Sub-theme 2), a space for multi-cultural social interaction (Sub-theme 3) and a meeting place (Sub-theme 4).

6.4.4.1 Sub – theme 4.1: A relaxed space for interaction

Participants use the street to pass time and relax. Participants describe the street as a place where they can come to ‘relax and refresh’, watching the general activities in the street and the people (P19, P22, P23 and P31 in Figure 76). Participants come to spend time in the street window shopping, shopping, looking for discounts or having lunch with friends. People create a form of entertainment and attract other people with their activities that are stimulating and exciting to the observers (P19 in Figure 76). Some people use the street as a relaxation space in their free time from work or studies, taking a break, but some come to visit the street as an escape from their circumstances (P23, P19 and P31 in Figure 76).

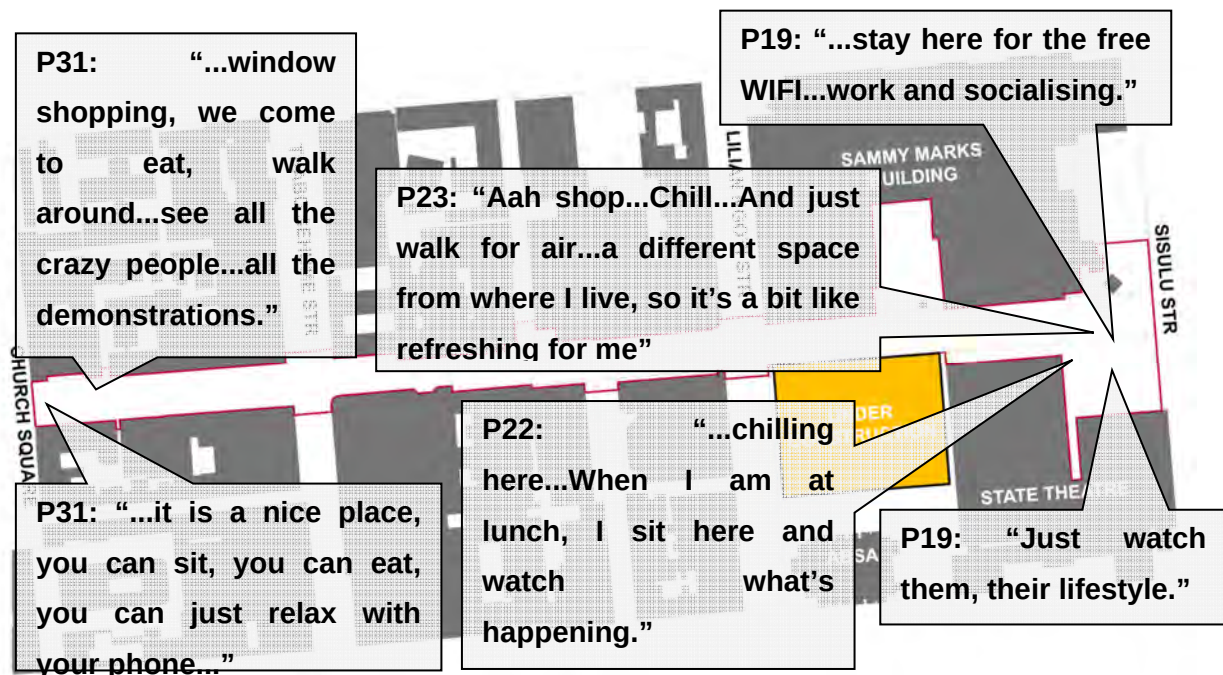


Figure 76: Support a relaxed space for interaction (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.4.2 Sub – theme 4.2: A vibrant space

The experience of city life refers to the sensory experience of the life of the street. “Man is man’s greatest joy” (Gehl, 2010:23) is an extract from an old Icelandic poem that describes the joy and excitement that are created by the presence of people. People create excitement and

entertainment as well as a variety and vitality that attract more people (P19, P29 and P31 in Figure 78).

Participants have different experiences of the people who surround and pass them. By some, people are found to be helpful, nice, happy, friendly, and some are found to be serious, judgemental, unhelpful or rude. The street is filled with people and there are always new faces, people talking and activities that they are engaged in.

The street is described as a busy space, but is calm and some participants enjoy the atmosphere of the street (P23 Figure 78) that is created by the physical built environment, spaces and the presence of the people. The participant has a positive sensory experience of the street space.

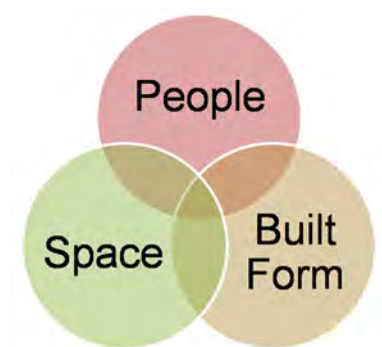


Figure 77: Positive sensory experience (Source: Compiled by researcher)

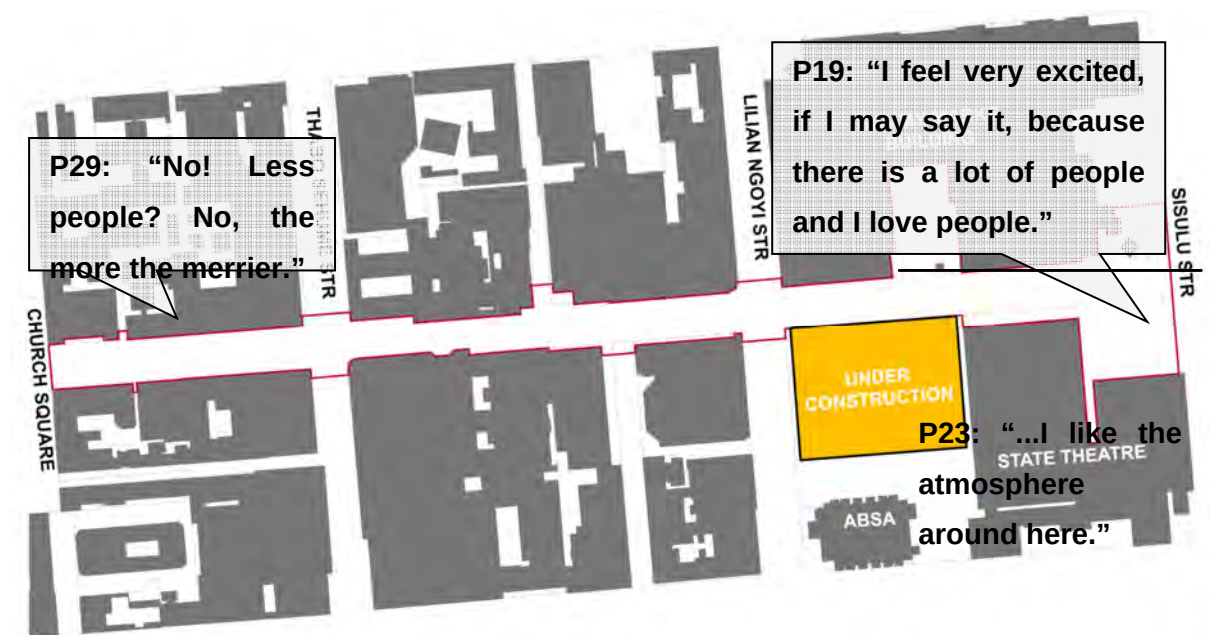


Figure 78: Experiencing city life (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.4.3 Sub – theme 4.3: Community space

A community is formed in the street that is not made up of the residents but by the daily visitors to the street, people who work and make a living in the street. The people are concerned for other people's safety and their well-being (P14 and P16 in Figure 79).

Informal traders become friends and build a relationship with each other (P17 in Figure 79). They take care of each other's stands when they quickly want to run an errand. They engage in conversation and make sure that nothing is stolen from the shops around them, the traders support each other socially. Ownership is taken of the street as they take public responsibility to look after each other and the general public visiting the street. The informal traders have a sense of social loyalty that is shown in the way they do business. They believe in loyalty to certain providers and will send customers to their usual providers when they want to buy from someone new. This avoids conflict between the traders and forms a sense of community.

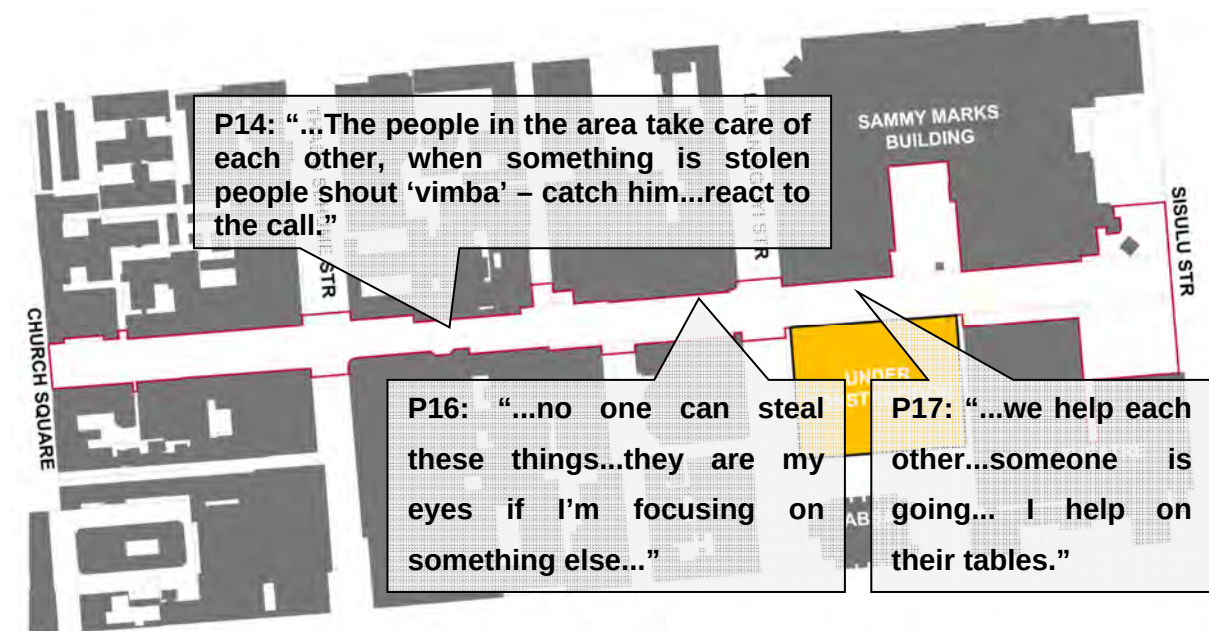


Figure 79: Experiencing city life (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.4.4 Sub – theme 4.4: A meeting place

The street is used and functions as a meeting place (P1, P19 and P20 in Figure 80). The street's central location, proximity to public transport and accessibility create the opportunity for meeting diverse people in a central and well-known location. Public transport creates accessibility on a regional scale as buses and taxis stop in the area.

Participants wait for clients or colleagues and travel from the street to their offices or work places or they spent time in the street, waiting to meet friends or acquaintances (P18 in Figure 80). People also come from as far as Mpumalanga, Johannesburg or Moloto to meet people in the street (P20 in Figure 80). People sit on steps, benches, pillars or any available surfaces that are shaded, waiting for the people they should meet.

People also meet new people, perhaps like-minded people (P29 in Figure 80), in the street as there is always new faces and people are approachable and friendly.

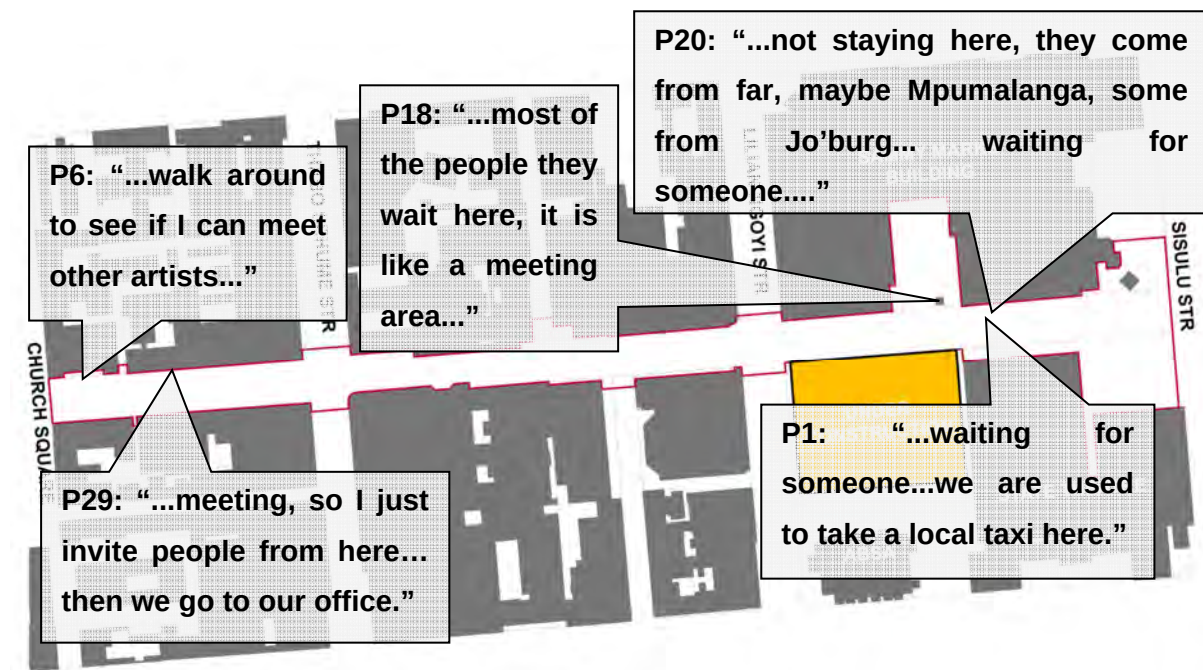


Figure 80: A meeting place (Source: compiled by researcher from transcribed interviews and PlanetGIS)

The street consists of a diverse community with a variety of people (P14, P15 and P20 in Figure 81). People from different countries, cultures, backgrounds, circumstances and ages come to visit this street, creating a diverse and interesting dynamic in the street. The multi-cultural character of the street creates an interesting space for participants in which they see opportunities for meeting new people (P22 in Figure 81) and learning new languages and cultural identities to communicate with the variety of people and to accommodate and respect the different cultures and origins. The street creates a social space for multi-cultural interaction and relationship building between cultural groups. The fact that there is a variety of people means that there is a variety of activities and functions that attract a variety of people from different cultures and ages.



Figure 81: A meeting place (Source: compiled by researcher from transcribed interviews and PlanetGIS)

6.4.5 Discussion of interviews

The aim of the interviews was to obtain insight with regard to how the street is experienced by participants and how it is supported by the social dynamics. The interviews were used to explore the street as a social space from the perspective of the participants in order to gain an understanding of how planning and design of a street space can support social interaction in streets.

Streets fulfil a role that goes further than just a functional role by connecting different destinations with each other. Streets are complex and have the potential to fulfil in a wide variety of people's needs through a multitude of functions as seen in the case of Helen Joseph Street where the potential exists to function as a cultural, social, economic, political, and technological hub. The community's needs are therefore fulfilled by the multi-functionality of the street. The street plays an integral role in the micro and macro economy of the city.

Apart from the multi-functionality of the street, it provides the social platforms in which people meet and socialise (Guerrero, 2007:7). This can be seen in Helen Joseph Street and in the interview process. Social interaction consists of different forms of contact between people that ranges from passive contact to extensive active contact.

The contact between people forms a vigorous social dynamic in the street, as was observed as well. In this social dynamic the environmental affordances of the street and the complexity of the

street emerge. The dynamic non-linear systems of the street emerge as it operates at the edge of chaos (Burnes, 2004:301) with a multitude of components that form part of the vigorous social dynamic that exists in the street. There is limited control over the system and consequently it is unpredictable.

The social interaction and the different forms of contact that take place are not isolated from the physical environment. A strong theme of feelings of safety and comfort thus emerged from the interview process as people are connected to the spaces that they live and dwell in. The environment thus affords certain feelings and perspectives of the participants as the interaction between people and their environment is transactional in nature. The built environment affords some participants a feeling of safety whilst others do not feel safe, or provides elements that aid or inhibit people's comfort.

The interlaced nature of the street as a social and physical place leads to certain experiences in terms of the support that the participants experience in the street space, which in the case of Helen Joseph Street is mostly supportive. The strong and active social dynamic is supported by the street that is vibrant and energetic. This creates a form of relaxation for people and the street is used as a recreational space that creates the opportunity and potential for meeting new people, the creation of social relationships and even learning cultural values and traditions, creating a diverse community.

6.5 Integrated discussion

The observation phase revealed that certain characteristics and qualities of the street supported people's activities and social interaction patterns in the street. The interview process rendered information that enhanced the observation findings, that a multi-functional street such as Helen Joseph Street supported social interaction. The interviews supported the patterns identified in the observation phase and clear themes could be identified. The identification of the patterns led to the understanding of why the social activity patterns that were identified in the observation phase occurred, and the researcher could identify the characteristics and reasoning behind the social interaction that occurred in the street. These characteristics involved the mode of traffic, the public seating, shade and shelter, walkability, active street fronts, availability of certain services, the management of the public space and the mix of functions in the street. It was observed that people depended on the street for movement, shopping, meeting, functional and social activities. These activities lead to a deepening in the relationships that people have with each other, creating friendships and a community feels as well as the relationship with the street and the ownership taken of the street space.

The street is thus more than a functional physical space, as it creates the opportunity and potential to host, support and sustain social interaction. The physical and social environment cannot be separated as the physical environment forms the stage for social interaction. The interrelated relationship that exists between people and their environment is intertwined as both these elements form part of the complex social system that exists in the street.

The design and composition of the physical environment are thus crucial to establish the social environment and the creation of a vibrant or lively street where people engage in optional social activities.

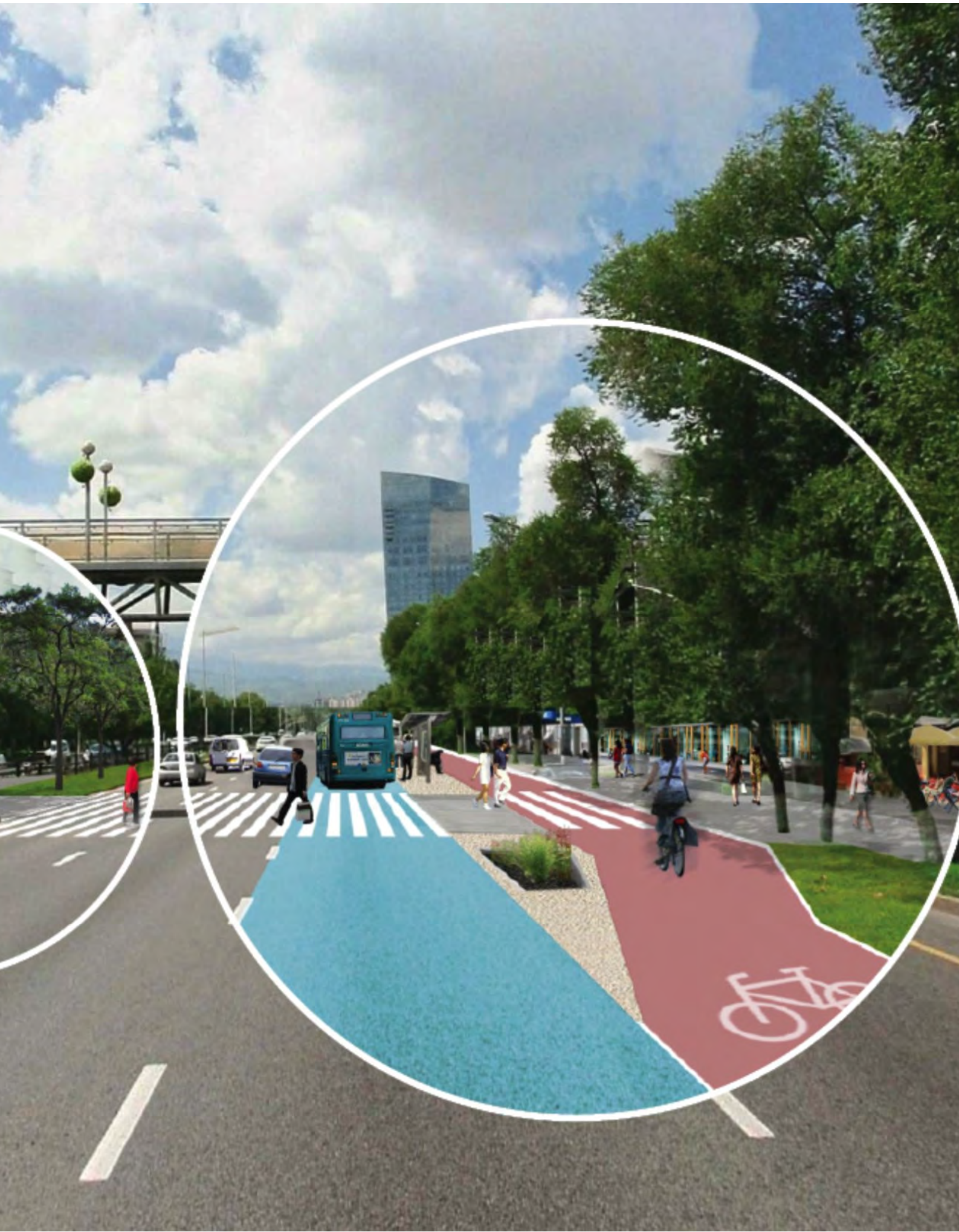
6.6 Conclusion

According to Gehl, (2010:63) the experience of liveliness in a city should not be connected to the quantity of interaction, but rather the occurrence itself. To create a lively street there needs to be a mix of uses, a variety and diversity present in the street that support social interaction but also make room for the necessary activities that need to occur in a street. The quality of the street space should be well-designed to create the potential and opportunity for activity with people at the forefront. People are attracted to places for people, where people can be inspired and entertained by other people and can participate in activities.

The conclusion is made that streets that are well designed create the stage for city life and that the process of activities becomes self-reinforcing as the process spirals into generating more activities that attract more people.

This concept and synthesis of the self-reinforcing street life are further discussed in chapter eight.

CHAPTER 7: SYNTHESSES AND PLANNING RECOMMENDATIONS



CHAPTER 7: SYNTHESSES AND PLANNING RECOMMENDATIONS

Good design is all about making other designers feel like idiots because that idea wasn't theirs
~ Frank Chimero ~

7.1 Introduction

It is widely accepted in literature that streets are more than mere physical spaces (City of London, 2010:9; Jacobs, 1995:2) but social spaces (Behrens and Watson, 1996:208) that form the platform for social interaction (Guerrero, 2007:7). Social interaction in cities is essential for cities' liveability, economic development, public participation, place identity and safety (Jacobs, 1961) as well as the quality of life (Thompson, 2002:60). Helen Joseph Street has been explored in-depth through the use of observations and interviews to gain an understanding of the street as a social space. The findings suggested that Helen Joseph Street form an intricate and rich network of social dynamics. Chapter seven is a summarising chapter on the literature and empirical sections of the study in order to develop planning and design guidelines based on an in-depth exploration of Helen Joseph Street, Pretoria (South Africa).

7.2 Synthesis of theoretical concepts

Space and society are related. Conceiving space without its social content and conceiving society without a spatial context is difficult. There is a continuous two-way relationship between society and the environment (Carmona *et al.*, 2003:106). Dear and Wolch (1989) stated that social relations can be 'constituted through space', 'constrained by space' or 'mediated by space'. Through the design of space such as streetscapes, people's activity and social life are intertwined. The literature review acted as guidance to the research methods and execution of the inquiry.

7.2.1 Synthesis of People-environment interaction (Chapter 2)

People are affected by their surroundings (Kara, 2013:288) and they are connected to the space that they live and dwell in and it is essential for a feeling of community (Kara, 2013:289; Kara, 2013:289; Ley and Samuels 1978, Pile 1993, Sack 1997:132, Sibley 1991, Tonnies, 1963; Tuan 1977). Various Environmental Psychology theories were reviewed in order to understand how people and their environment interact. Environmental Psychology has formed different viewpoints, one being that the environment can be adapted to accommodate people and the other how their impact on the environment can be decreased (Uzzell and Rathzel, 2009:341). Carmona *et al.*, (2003:3-19) stated that the surroundings of a person can influence social relationships and behaviour. When the environment changes, people's behaviour

changes. The needs of the people should therefore be provided for to ensure that a positive social relationship is supported and designed in streets.

The transactional nature of people/environment interaction served as a background to explore Helen Joseph Street as a micro context where people interact daily with the physical environment of the street.

7.2.2 Synthesis of Planning and design theories of streets (Chapter 3)

Streets form part of the biggest area of public open space in the urban form of a town or city and is often used as a synecdoche for the city (Barker, 2009:155). It is an area that is visited daily, making it one of the most important public spaces (Appleyard, 1981; Carmona *et al.*, 2003; Chekki, 1994; Jacobs, 1961; Jacobs, 1993; Lofland, 1998; Mehta, 2007; Southworth and Ben-Joseph, 1996; Vernez-Moudon, 1991) where people/environment interaction occurs. In this study the theories of various theoreticians that focused on streets as the primary spheres of social interaction are discussed.

Authors such as Jacobs, (1961), Buchanan, (1963), Appleyard, (1981), Vernez-Moudon, (1991) and Gehl (1987) suggested that there should be a paradigm shift from thinking of streets as movement routes to thinking of streets as social spaces. Authors such as William Whyte (1981), Andres Duany and Elizabeth Plater-Zyberk (1983), Peter Calthorpe (1990) and Allan Jacobs (1995) supported the viewing of streets as social spaces but realised that it should not be the only focus of the street. The street cannot develop and function as a social space without being designed as an integrated space where numerous factors should be taken into consideration. This led them to lean towards the development of street with a traditional neighbourhood feel that is characterised by accessible public transport, human scale, high density, walkability, pedestrian and bicycle friendly streets, compactness, mixed use, public open spaces that are utilised, and urban design that support social interaction (Basiago, 1996; Gillette, 2010; Nasar, 2003; Silver, 2006).

7.2.3 Synthesis of planning and design policies and guidelines (Chapter 4)

The main aim of the critical analysis of planning and design guidelines was to do a critical analysis of South African policies and guidelines in order to evaluate to what extent these documents support streets as social spaces. An overview of the most important national and local policies and guidelines with regard to streets, as well as those that influence the planning and design of these spaces in cities, especially Pretoria, is included in this discussion.

Policies and guidelines in South Africa and especially in the City of Tshwane, are comprehensive and have a direct correlation to street design theory, as described by authors such as Jane Jacobs, (1961), Buchanan, (1963), Appleyard, (1981), Gehl, (1987), Whyte

(1981), Duany and Plater-Zyberk (1983), Calthorpe (1990) and Allan Jacobs (1995). Many of these guidelines are reflected in the theory and indicates a better understanding by policy formulators of what good street design is. The policies and guidelines that are analysed in this study are however not all reflected in the street design of Helen Joseph Street, as many of the proposed improvements and guidelines are not reflected in the detailed physical design of the street.

7.3 Synthesis of empirical concepts

A qualitative approach was followed in order to get a deep understanding of the specific situation of Helen Joseph Street. Two research methods were used, namely interviews and observations. Different patterns and themes emerged from the empirical study that describe the role of Helen Joseph Street in general but specifically with regard to social interaction.

7.3.1 Identified themes and patterns

The themes and sub-themes that emerged from the interview process as well as the patterns and sub-patterns during the observation process, are summarised in Table 3. In the observation phase, patterns emerged that proved to be more diverse in the interview phase and gave an insight into the 'why' of the observed patterns.

The multi-functional role of the street could be observed and was identified in the interviews. The different sub-themes and patterns could also be verified in both research methods. The street play a multi-functional role in the participants' lives and that could be seen through the use of the space as an economic, political, social, cultural and movement space. The multi-functionality of the street attracts a variety of activities and people to the street. The density of activity has been described by Carmona *et al.*, (2003:179) as a condition for creating vitality. Jane Jacobs (1961:163) argued that an optimal environment is created by a high density, compact city where there is an overlap of activities and uses. The multi-functionality of the street creates convenience, as facilities are accessible and travel distances are reduced. There is also greater opportunity for social engagement in a diverse community that creates vitality and viability for small businesses.

The multi-functionality of the street thus creates the building blocks for the other patterns and themes.

Table 3: Summary of patterns and themes from the empirical study (Source: Compiled by researcher)

Observations		Interviews	
Pattern	Sub-Pattern	Theme	Sub-theme
The street as multi-functional space	The street as an Economic space	The street has a multi-functional role	Economic role
	The street as a Political Space		Political role
	The street as a Social Space		Social role
	The street as a Cultural Space		Cultural role
	The street as a Functional space for movement		Functional role
			Technological role
Multi-levels of interaction	Passive Contact	Social interaction consists of multi-levels of contact	Passive Contact
	Brief Active Contact		Brief Active Contact
	Extensive Active Contact		Extensive Active Contact
Vigorous Social Interaction	Exuberant conversations	The social and built environment as interrelated	The street as a safe space
	People sharing meals		The street as a comfortable space
The spatial environment as facilitator for social interaction		The street as a supportive social environment	A relaxed space for interaction
			A vibrant space
			Community space
			A meeting place

The multi-levels of interaction could be observed and were identified in the interviews. The different sub-themes and patterns could also be verified in both research methods. The passive, brief, and extensive active contacts, however that were identified in the observations, can be diversified as the interviews revealed that these forms of contact had reasoning behind the contact observed. The contact that was identified was found to have a relation to relaxation or leisure space or just experiencing the city life as well as being a meeting place. Some people who were observed sitting or standing in the street had reason to do so other than just sitting, standing or walking as these people had a destination or were waiting to meet someone or for public transport or were just engaged in socialising, whether it was virtual (social media) or with other people in the street. The vigorous social interaction identified in the observations also relate to the theme of a relaxed space for interaction identified in the interviews.

Through the in-depth inquiry into Helen Joseph Street through observations and interviews, patterns and themes were identified that establish the street as a social space.

7.4 Urban planning recommendations for a social street

From the study and the findings, it can be concluded that the design and planning of a street impact on the social interaction that occurs in a street. With the design and planning of a street an in-depth look should be taken into the existing social spaces in a street in order to enhance it and create more opportunities to establish a platform or 'stage' for social interaction. The street as a social space should thus form an integral part of the planning and design process to ensure that the needs of the people are addressed and designed for. In this section the recommendations will be discussed as general recommendations for streets as well as specific recommendations for Helen Joseph Street.

7.4.1 General planning/design recommendations for streets:

7.4.1.1 Streets have a multi-functional role

The multi-functional role of streets needs to be acknowledged. This will however differ from street to street – some streets perform all these roles, others some of the roles. Provision should be made for the potential of different roles in the future as streets are dynamic and should be adaptable and resilient in their design. Streets should meet aesthetic, social, economic and functional needs for a diversity of people (Ariskenhof, 1997:1; Lees, 1994:463).

7.4.1.2 The social and built environment are interrelated

Streets, where the spatial/built environment is integrated with social dynamics, should be acknowledged and the environment should be designed to be supportive of the social dynamics. The street design and the creation of spaces in the street should form enhancers of

civic life where even strangers can socialise (Warner, 2002:56). The street should be designed to form the main assembly point of the city space (Appleyard, 1980) that is unique in character and design (Barker, 2009:157). It is thus important that care and attention to street design, composition, layout and functions are given to redefine streets as sanctuaries that form part of liveable community places (Appleyard, 1980).

7.4.1.3 The multifunctional role of streets and the interrelated nature of the built and social environment as background for the following recommendations

7.4.1.3.1 Economic role

The Economic role is to make provision for a variety of economic activities, for example formal and informal businesses. With the provision of economic opportunities, businesses can benefit from agglomeration advantages. The economic role of the street is enhanced by the agglomeration of not only business uses but offices and other supportive uses that form because of the businesses. The clustering of the uses creates a diverse street that attracts people that make use of the different economic possibilities. The land uses in a street should thus be well planned, structured and the composition and placement of the land uses should contribute to the creation of activity on the street.

The informal component of the economic role of the street should be well planned and structured to add to the character and visual splendour of the street. The stalls should be designed to reflect and complement the existing character of the street through its colours, materials, form and structure. It should form an attractive feature of the street and care should be taken to avoid the construction of the informal trader stalls in front of historical buildings. The stalls should be placed to not impair walkability or movement routes that can create a cluttered feeling in the street.

The economic role of the street is essential to create activity in the street that creates opportunity for social interaction.

7.4.1.3.2 Cultural role

The cultural role of the street should be recognised in terms of the social dynamics present in the specific environment. The cultural role of a street can add to the diversity and variety of functions that are available in the street. It is recommended that provision should be made for spaces for cultural expression. The cultural expression in the street can take on different forms, from street performers to cultural events hosted within the street, or street concerts. These cultural activities can be accommodated by providing stages, small amphitheatres or multifunctional platforms that can be used for cultural events as well.

7.4.1.3.3 Political role

The political role of the street should be recognised, although this cannot be accommodated in all streets. The political role and freedom of expression can add to the health of the community as a platform is created where political views and opinions can be expressed, argued and debated. Spaces for this type of expression should be provided to accommodate public announcements, public debates or marches.

7.4.1.3.4 Functional role

The functional role of the street should not be diminished in the design of a social street. The street should function as a movement space to accommodate all the other functions and activities in the street and to create accessibility to these activities.

7.4.1.3.5 Technological role

Globalization has brought a process of urban transformation in the use of public spaces. It is therefore imperative to design open spaces, and especially streets, to not only accommodate the technological role of the street but to use it to draw people to the public open space. This can be achieved by providing facilities that accommodate the use of technology in the street by providing good connectivity and access to the web. Technology can further be utilised to provide entertainment. The street form a space where interactive games or entertainment can be provided to form events that attract people through technology.

7.4.1.3.6 Social role

Social interaction in the public spaces in a city is essential for liveability, economic development, public participation, place identity, safety (Jacobs, 1961), memory, community and citizenship (Reitan, 2013). The role of streets is important in this interaction, especially with regard to the planning and design that can bring people together intentionally and unintentionally (Hillier, 1996:213). The design of the street should be of a high quality as it will attract a higher intensity of contact between people as there is opportunity for interaction (Gehl, 1996:19). Streets should create an environment where people can be among other people, where they can see, hear and experience other people and the street environment.

A high quality environment can be created by designing a street with visual splendour and a unique character that provide in the needs of people and attract people. This can be accomplished by providing active street fronts that create interest and variety on the ground floor of buildings, attractive building facades and sufficient landscaping. This can further be enhanced by providing street furniture and further activities and entertainment and ensuring a

safe and comfortable environment. There are small details that will draw a crowd to a space, such as moveable chairs, giving control to the people, wide sidewalks with awnings to provide shade and shelter and the availability of food and drinks in an area, (Glazer, 1999:33). The presence of food and the availability of seating create an atmosphere where people will linger and will create opportunities for social interaction (Whyte, 1980).

7.4.2 General planning/design recommendations for streets as social spaces

7.4.2.1 Different types of contact

Streets should make provision for various types of interaction, namely passive contact, active contact and extensive active contact.

7.4.2.1.1 Passive contact

A high quality street environment, with public seating and activity will create an environment that provide opportunity for people to interact passively by seeing and hearing other people and being entertained by the street activities and people.

7.4.2.1.2 Active contact

According to Jacobs (1995:3), the basic reason to have cities is to create space where people can meet, and streets form the most basic of spaces where these meetings take place. The street must thus form a space where people visiting the street are enticed to engage in active contacts, talking to passing people, greeting people or engaging in a short conversation to gain information or to buy a product. This is accomplished by creating an atmosphere where people are comfortable to engage in social activities as optional activities that will only happen if the environment is of a high quality and supportive of social interaction.

7.4.2.1.3 Extensive active contact

Extensive active contact is created by an environment where people become familiar and a community is formed. The street space becomes meaningful and attractive when a combination of intensities of social contact occurs in a space with different activities that feed on the energy generated in the street by this social dynamic that is formed in the street.

7.4.2.2 Freedom of interaction

The built environment should create a freedom of interaction where social interaction is supported and facilitated and not constrained in any way by the street design. The freedom of interaction can be created by ensuring diversity and enough spaces where people can interact. The design should be based on people's experiences.

7.4.2.3 General recommendations for streets as social spaces

The process (e.g. analysis, concept and final proposals) followed by planners, urban designers and most importantly policy formulators should reflect the principles of good urban design and should be accompanied by extensive implementation plans. The implementation plans should be structured in such a way that public participation with a focus on social spaces, and the results of public participation, are conducted and incorporated to ensure that the planning is done with a better understanding of the social spaces and the multitude of functions and activities that are present in a street space or desirable.

Policies, guidelines and legislation should make provision for detailed precinct plans and urban design frameworks that will inform the implementation of the guidelines given by the applicable policies and ensure that street space is designed and planned for on the micro level in a socially supportive manner.

During the planning and design of street spaces, continuous contact should be made with key role-players and stakeholders involved in the street. This will not only result in good places for social interaction but also result in a buy-in from the street users into the concepts and ideas of the designers and planners. The community will have an input in creating the space where they spend time and will take ownership of the space, resulting in a better-maintained space and a sense of community.

After the implementation and construction process, the local government should establish a community forum where the community and the city managers have a platform to discuss problems that arise or the flaws and successes of the designed space. This will yield valuable information for future project in the street but also in other street spaces.

7.4.3 Specific planning/design recommendations for Helen Joseph Street:

7.4.3.1 Support the existing multi-dimensional role

7.4.3.1.1 As economic space

It was found in the empirical study that the economic functions on the street create an important activity that attract people to the street. This function should thus not only be protected but also enhanced.

It is thus proposed that the current formal businesses should be given incentives by the city to stay in the street and not follow the trend of businesses that move out of the CBD to the suburban areas. New activities should also be encouraged through incentives and by creating a better street space and city image to attract businesses to the CBD, and specifically Helen

Joseph Street. These businesses should be in line with good planning principles of providing in active, attractive and interesting frontages to ensure the viability of street life. In line with the Re Kgabisa Tshwane Programme, 2005, that proposes the improvement of the seat of government, the street can be used to house government functions in the office spaces that are available on the upper floors of the buildings on the street. This will strengthen the economic and multi-functional role of the street.

The informal traders should also be accommodated in the street space by providing affordable shelters to them, as can be seen in Map 14 (A). These shelters should be small enough to balance the street space available and ensure that there is enough movement space, but should be big enough and cater for the needs of the traders so that they do not find the need to showcase their products outside of the provided shelter space and impose on the movement space.

The stalls that are provided should be of similar materials, structure and colour and should be attractive to the street users. The stalls should be integrated into the street furniture and amenities. The stalls should provide shelter and protection for the traders and their products. The materials of the stalls should be considered in terms of aesthetics, durability, functionality and must be easy to maintain. The stalls should be spaced at least 5 metres from each other to ensure that pedestrians can move freely between the stalls and at least 3 metres from the building fronts to allow for a free-flow area of pedestrians. The stalls can be designed to face both the sidewalk and the roadway. Clear boundaries should be given to the traders for overhangs, counters, displays, or even seating that the traders want to provide. The placement of stalls in front of historical buildings should be avoided to ensure the character and aesthetics of the street are protected. The stalls should be able to lock-up and should be designed to prevent criminal activity.

Stalls can be used as advertising space; the traders can rent out the sides of their stalls to generate an additional income.

Stalls can be provided with solar panels on the roofs, to provide the traders with electricity. This can have multiple purposes as it can form part of additional street lighting that can light up the street during the night and create the possibility of markets or shops to stay open later in the evening. A metered water system can be provided for every 5 stalls to provide in the traders' need for water.

7.4.3.1.2 As cultural space

The street functions as a cultural space as street performers and artists use this space to showcase their talent and there are bi-weekly cultural events organised. This function of the

street can be enhanced to create an entertainment factor in the street that will not only attract more people but also more and diverse activity. The multi-functionality of the street can be enhanced.

To extend the cultural space around The South African State Theatre, it is proposed that the entrance to the basement parking that is situated on Sisulu Street should be closed and the space used as an extension of the cultural space of the Theatre. This space can provide more seating and leisure space and can form an entertainment space (see Map 14 (B)). The existing structure around the entrance should be kept and adapted for seating and an informal stage should be built under the arch of the state theatre. The square should be defined by completing the tree line and shade provided for with trees around the seating area. The entertainment space can be used to host games. The current restaurants on the south of the square should be enhanced and extended.

7.4.3.1.3 As political space

The street functions as a political expression space that can be enriched by ensuring that the street space can accommodate political debates or announcements by creating a platform for this type of expression as well as ensure that the street space can accommodate marches and demonstrations. The free flow area of the street should thus be cleared of any obstructions to enable crowds to move freely through the street.

7.4.3.1.4 As functional space

In order to provide in the needs of the users of the street, pedestrians must be accommodated, as walking form the basic form of movement and activity.

It is proposed that the street space should be cleared of all the movement obstacles that are not contributing to the street space. The first of these obstacles is the number of parked cars that is found in the street, as can be seen in Map 14 (C). Strict access control should be applied to ensure that only authorised cars and delivery vehicles may enter the space and may only do so for a limited amount of time before being fined. This will ensure that the pedestrian movement space is clear of parked cars and will increase the movement space.

With the increase in movement space the opportunity can be provided to stop or stand in the street space without being trampled by the crowd, as can be seen in Map 14 (D). The opportunity to stop or stand can easily transform into a brief social encounter or passive contact.

To provide in the pedestrians' needs it is necessary to formalise the informal trade and structure their stalls to ensure there is an equal amount of space dedicated to each function of the street.

7.4.3.1.5 As technological space

The technological space can be extended by increasing the area that has access to free WiFi as well as provided in sufficient seating areas where people can make use of technology. The availability and accessibility of free WiFi and the general ownership of smart devices make it possible to develop technological initiatives, such as an integrated portal or web application which can be established to link and show all activities in an interactive online environment. The activities can include social and cultural event notifications, retail special offers, public transport notifications and general information that can improve the people's experience of the street.

7.4.3.1.6 As social space

In order for the street to function as a social space, the street need to be integrated and the pedestrians protected from vehicular movement. It is therefore proposed that the intersections with Sisulu, Lilian Ngoyi and Thabo Sehume streets be paved and designed to give the pedestrian right of way. This can be done by designing the space that leads up to the intersection as a space where drivers will be attentive to other road users, sensing that they are entering a pedestrian zone where they need to be cautious. This setting can be created by visual elements, creating interesting street scenes that will attract the driver's attention, or with physical barriers, as can be seen in Map 14 (A).

A need exists for shaded waiting areas to accommodate the number of people who are waiting in the street to meet people or who wait for public transport. It is therefore proposed that a bosque of deciduous trees should be planted in the Sammy Marks square (Map 13 (A)) with seating that promotes social interaction – thus facing each other, or in semi-circles where people can start conversations – and that is supportive of social interaction, as can be seen in Map 13 (B). This square is a central location for the public transport routes that traverse the street in Lilian Ngoyi Street and Sisulu Street. The public seating that is provided can be integrated with that of restaurants or food stands, (see Map 13 (C)) and should be distributed throughout the street. This area will also create an ideal space for the school children, students and youth that come to the space to make use of the free WiFi and to socialise.

7.4.4 Specific planning/design recommendations for Helen Joseph Street as social space:

7.4.4.1 Different types of contact

7.4.4.1.1 Passive contact

To improve the opportunity and potential for passive contact, sufficient space should be provided for people to be used as vantage points to observe the street. This can be provided for

with sufficient shaded seating and by creating small public spaces where the opportunity to stand, stop, wait or lean against a wall or pillar can present itself (see Map 13 (D)).

7.4.4.1.2 Active contact

By creating an active street with a vibrant and high quality environment the opportunity exists for visitors to the street to engage in active contact. The opportunity should be created in the street to stop, stand or linger (see Map 14 (D)) to greet other people and engage in short conversations at trader stalls or with acquaintances. The street space should thus be designed to create enticement to participate in favourable conditions for walking, sitting or standing and taking in the environment.

7.4.4.1.3 Extensive active contact

The provision of for example seating that is supportive of socialising (see Map 13 (B)), restaurants or food stands (see Map 13 (C)), small squares (see Map 13 (D)) and entertainment space (see Map 14 (B)) create spaces where people will interact socially for extended periods of time as there is opportunity and comfort provided in a high quality environment that will probe and invite social interaction in the street.

7.4.4.2 Specific proposals from the feedback of participants

The social interaction and functions of the street that were identified in the empirical study gave an insider view of the specific needs for the improvement of Helen Joseph Street.

7.4.4.2.1 Recommendations to improve the street as relaxation space

To create a true relaxation and leisure space sufficient shaded seating areas should be provided. This can be useful for outdoor games and food and drink stalls where people can spend time being entertained by either the people that visit the street or some of the games or other forms of entertainment. The creation of a shaded waiting area with entertainment or food available will increase comfort in the street and provide in a bigger relaxation and leisure space. These elements can be enhanced by creating small public spaces along the street, that provide a small amount of seating, shade and a water element or a form of public art, as can be seen in Map 13 (D).

7.4.4.2.2 Recommendations to improve the street as safe space

Many participants expressed the concern for safety in the street. Some participants felt that the street is safe because of the presence of people and others that the number of people create opportunity for crime. Visible policing is therefore proposed with police patrolling the street, as

can be seen in Map 14 (B). Surveillance is also important; cameras can be installed to increase the safety but the most important surveillance is done by the public. A sense of responsibility thus needs to be nurtured through awareness and maybe a community policing forum, whereby people can be involved in the safety of their own street. The safety of the street can also be improved by creating overlapping day and night functions. This will ensure that when the lively daily public life starts to decrease it will be replaced with a lively night-time public life that provide public surveillance.

7.4.4.2.3 Recommendations to improve the street as comfortable space

A lack of shade, seating and shelter has been identified in the empirical study. The extremely hot weather that is experienced during the spring and summer months creates the need for protection against the sun in the street. The number of people in the street is not accommodated by the relatively small number (compared to the number of people) of shaded seats that is provided. The walking space is not completely shaded as well. Many buildings have awnings that create shaded spaces to move in, but some do not have awnings and neither the awnings nor the trees provide shade in the central walkway of the street. It is therefore proposed that the existing tree line be re-established by filling the spaces where trees have been removed, as can be seen in Map 14 (C). This will create a tree canopy during the summer months that will protect the visitors to the street against the heat and sun. It will also soften the street and make it visually attractive for users, and this can further be enhanced by decorating the trees. It is proposed that the trees should be deciduous to ensure that the street space is sunny in the winter months.

A big concern was expressed by some participants about the cleanliness of the street. Although there are numerous street cleaners and recyclers in the street, the street is not clean. This either speak to the effectiveness of the street cleaners or the rate at which the street is dirtied by the vast number of people that visit the street. A bigger work force of cleaners is thus proposed to not only clean the street but also the seating areas. Maintenance of all service pipes and conduits should also be done on a regular basis to ensure that leaking pipes or blocked drains do not create an unpleasant odour in the street.

This will improve the street space and ensure that a socially supportive environment is created. If the street is kept clean a sense of ownership and pride can be nurtured in the street that will ensure that the street stays clean. The police can also play an integral role in keeping the street clean by preventing the street being polluted by demonstrators and fining people who do litter or contribute to any activity that will damage the image of the street.

A concern for public facilities such as restrooms and water sources was also found in the empirical study, as can be seen in Map 14 (D). To increase comfort to visitors of the street, enough public restrooms should be provided and access to clean water. This will ensure visitors to the street will stay longer, as their needs are provided for in terms of these facilities.

MAP 12: RECOMMENDATIONS



(A) Formalised Informal Trade (Source: Compiled by researcher; e-architect, 2009; Building Design Index, 2016a; Solar-kit, ; Building Design Index, 2016b)

(C) Removal of parked cars (Source: Photograph taken by researcher)



(B) Improvement of expression space (Source: adapted by researcher from Google Earth; www.flickr.com; photograph taken by researcher; newyork.thecityatlas.org; George Zisiadis - WordPress.com; <http://cityseeker.com>)

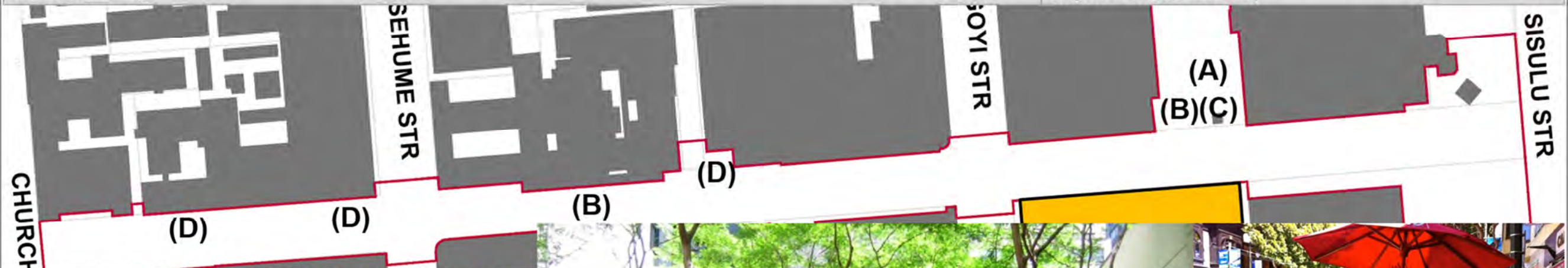
(D) Opportunity to stop or stand (Source: American Society of Landscape Architects Inc., 2016)

MAP 13: RECOMMENDATIONS



(A) The proposed Bosque of trees in Sammy Marks (Source: adapted from photograph taken by researcher; Pinterest; www.flickr.com)

(C) Provision of restaurants or food stands (Source: <http://mostepicstuff.com>)



(B) Seating that support social interaction (Source: Pinterest; <http://naturesacred.org>; American Society of Landscape architecture, 2012)

(D) Provision of small squares (Source: <http://www.sustainablecitiescollective.com/>)

(Source: <http://www.streetsblog.org>; <http://sf.curbed.com>;

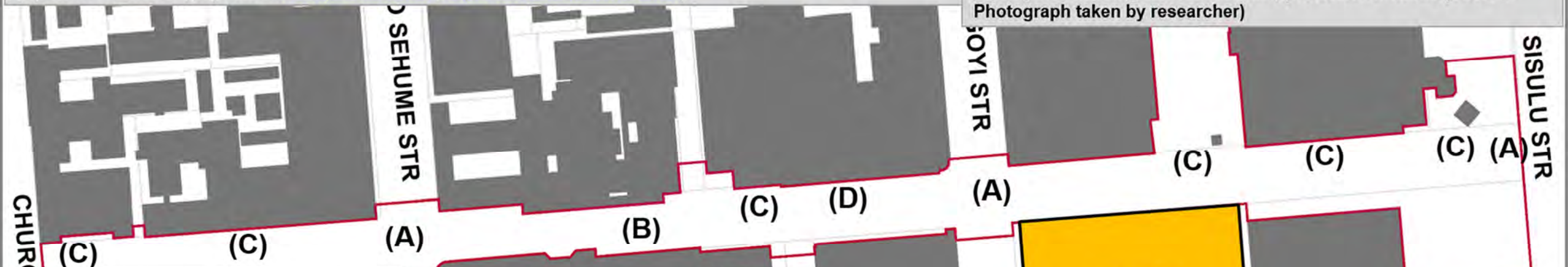
MAP 14: RECOMMENDATIONS



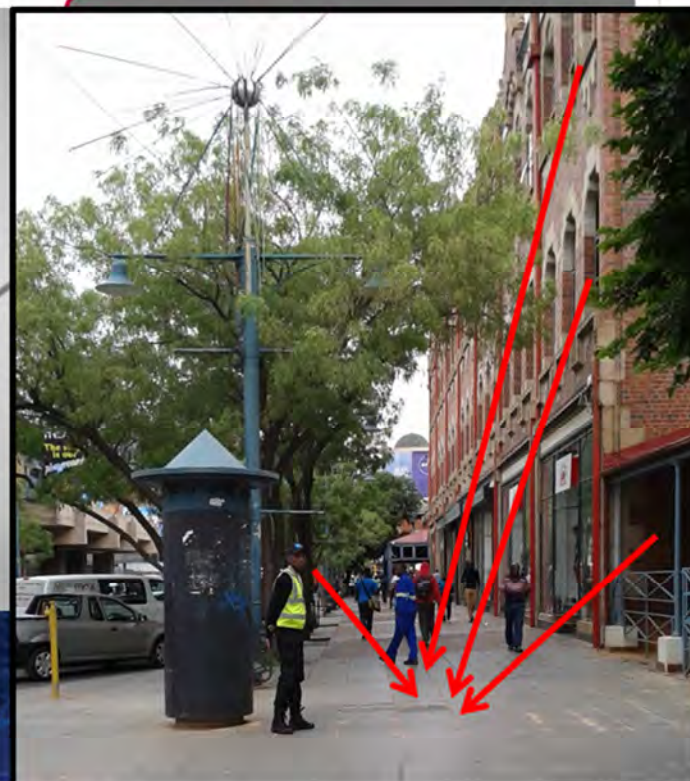
(A) Intersection Design (Source: www.pinterest.com ; <http://www.thisiscoolossal.com/>)



(C) Replace missing trees in tree line, provision of shade (Source: Photograph taken by researcher)



(B) Visual policing and surveillance (Source: adapted from photograph taken by researcher; www.saps.gov.za; <http://www.johnsonelectricsolar.com>; bardcityblog.wordpress.com)



(D) Provision of public facilities (Source: <http://www.ebay.com>; <http://hota.123ddns.com/tap/>)

7.5 Conclusion

This chapter focused on the synthesis of the findings of the theoretical and empirical studies to reflect on the research questions and aims. An understanding was formed of the physical environment of the street and insight gained that allowed the researcher to make certain recommendations for the design of a social street. The street as a social space was explored and recommendations were made to ensure that the street as a social space would be designed and planned for in the formulation of policies and guidelines of streets. The following chapter concludes the study.

CHAPTER 8: CONCLUSION



CHAPTER 8: CONCLUSION

8.1 Introduction

The main purpose of this study was to develop an understanding of the role of streets in social interaction in order to inform the layout and design of streets to support social interaction. The main conclusions from the study will be presented, as well as possibilities of the way forward in terms of follow-up research.

This study is focused on the area bounded by Helen Joseph Street and the demarcated area to study these concepts on a micro scale in order to gain a better understanding of how street design principles and policies must be formulated in order to establish streets as social spaces. The research is unique to the study area and future studies must take this into account and not use this as a blueprint that can be used for other streets, towns or cities without careful study of the specific area.

8.2 Answering the research questions

The theoretical and empirical findings are discussed in detail in the Findings and Synthesis chapters. This section aims to answer the research questions posed:

- **What role do streets play in the social interaction of people?**

It was found in this study that streets play a multi-functional role for people of which the social interaction forms a large part of their relationship to the physical street space. The physical street space informs the intensity, level and extent of social interaction in the street and can be observed in the different spaces where specific social interactions occur or more importantly do not occur. The social interaction is influenced and supported by the physical environment of the street; the positive social interaction in the street create a vitality and inviting area where people want to dwell that attract more people and activities to the street.

- **To what extent does current South African planning and design guidelines for streets support the social role of streets?**

A critical analysis of planning and design guidelines was done to analyse the South African policies and guidelines in order to evaluate to what extent these documents support streets as social spaces. An overview of the most important national and local policies and guidelines with regard to streets, as well as those that influence the planning and design of these spaces in cities was included in this discussion. The evaluation however showed that the South African Planning and design guidance is in

line with the relevant street design theories that support the social role of the street, but are lacking in the implementation of these guidelines, to translate theory into practice.

- **How is a specific street space utilised for social interaction?**

Helen Joseph Street was explored in-depth to gain an understanding of the social interaction in the street. From the exploration, it emerged that certain characteristics and qualities of Helen Joseph Street support people's activities and social interaction patterns that form part of the dynamic vigorous social interaction, forming a complex integrated social network. It was found that the social network consists of extensive social interaction with different intensities from passive contact to close friendships that yield extensive active contact.

The street is thus more than a functional physical space, as it creates the opportunity and potential to host, support and sustain social interaction. The street and the social environment cannot be separated as the street forms the stage for social interaction. The interrelated relationship that exists between people and their environment is intertwined as both these elements form part of the complex social system that exists in the street.

- **How can the planning and design of a street space support social interaction in streets?**

The planning and design of streets can play an integral role in the social interaction in a street as the planning and design of a street create the physical environment and 'set the stage' or create the platform for social interaction. It is therefore imperative to identify the elements and characteristics of streets that will support social interaction. The physical environment needs to be designed in such a manner as to place people first, the space must provide in the needs of people to ensure a vibrant and lively street space is created.

The physical environment plays an integral role in the social activities that occur in Helen Joseph Street. The street forms a supportive social environment that creates opportunity for social integration on multiple levels and with different intensities. The street space and squares are well defined continuous spaces, framed with the built form. The enclosure of the public space has a positive effect on the social activities that occur in the street. The research setting hosts a mix of land uses and many activities in the same building, creating diversity and a lively street.

The street is furnished with trees, public seating and spaces are created that are inviting. The variety of activities and functions available in the street attract people to the street. With the increase of people in the street, the business opportunities increase with the increased buying power and number of people that can be potential customers. People attract more people, as people are attracted by people activity and the entertainment that it forms. The space becomes a social space that attracts more activities and a wider variety of activities to provide in the needs of the ever-growing number of people that visit the street. The street provides more opportunity for social interaction and becomes a space where people come to spend leisure time and to experience the vibrant city life.

The number of people present in the street space creates an audience for political and cultural expression, where people's grievances, outcries or performances and artwork will be seen and heard. This adds another dynamic to the street and can attract more people. The city and street life become a self-reinforcing process, (see Figure 82) (Gehl, 2010:65), where once the process has started, it becomes a positive spiralling effect of growth and social interaction.

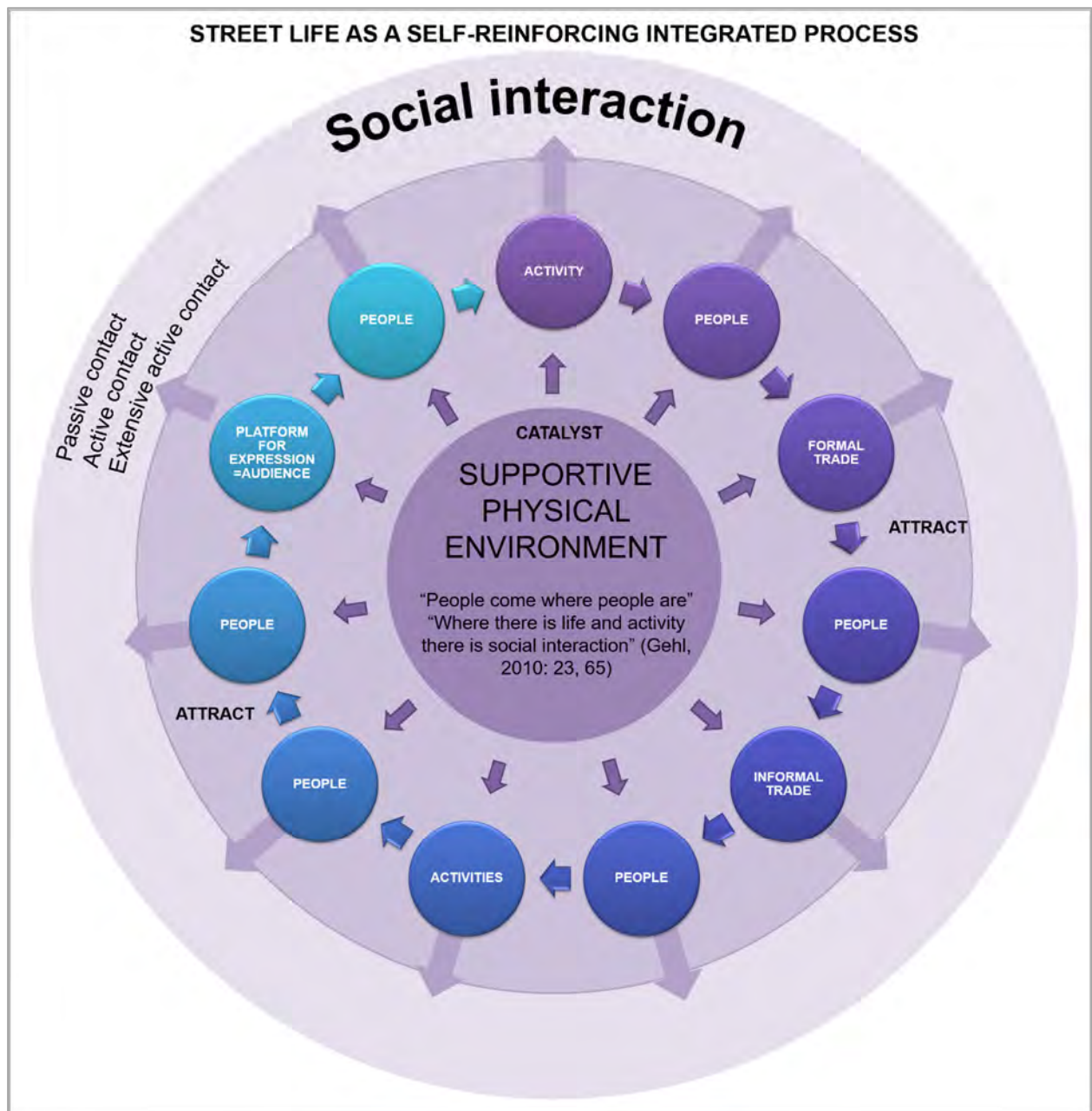


Figure 82: Street life as a Self-Reinforcing Integrated Process (Source: Compiled by the researcher)

The most important conclusions reached in this study:

The street forms a prominent role in social interaction of people as it is one of the most common meeting areas of a city. It forms the biggest part of the publicly accessible space in a city and enhances city life. Urban planning and design can contribute to fulfil this social role as the spatial layout of streets brings people together and can support social interaction. The social space can vary in the intensity of social contact, from

passive contact, watching people as entertainment to extensive contact where friends and groups of people come to hang-out.

8.3 Limitation of the study

This study was based on a micro study executed in the CBD of Tshwane and was focused on the social role of streets. The findings can therefore not be generalised and transferred to other streets, as each street should be seen within its unique context that may produce different findings.

8.4 The way forward

In order to design and plan a supportive social environment in the streets of Tshwane, implementation frameworks with clear guidelines should be formulated with a specific focus on streets as social spaces. A socio-spatial policy for streets is proposed with a focus on designing for streets as social spaces. A socio-spatial policy will create awareness of the design of the physical environment of streets as social spaces. This policy should be supported by funding for the implementation and construction of these streetscapes that will create opportunity and affordance for social interaction.

8.5 Conclusion

Globalization has brought a process of urban transformation that threatens public space in cities. The need to encourage and optimise social interactions as a prerequisite for meaningful public places has been stressed by numerous authors such as Jacobs, 1961; Appleyard, 1980; Lynch, 1984; Gehl, 1987; Vernez-Moudon, 1991; Tibbalds, 1992; Zukin, (1995).

Public space is important for people in cities and plays a multi-functional role in society that includes an economic role (Florida, 2002; Jackson, 2003:191), ecological role (Thompson, 2002:60), social role (Lees, 1994:463; Ariskenhof, 1997:1) political role (Stanley, Stark, Johnston and Smith, 2012:1090), cultural role and technological role. Streets form a primary platform for social dynamics in cities and play a prominent social role in communities' lives (Jackson, 2003:191). It is thus important that care and attention to its design, composition, layout and functions are given to redefine streets as sanctuaries that form part of liveable community places (Appleyard, 1980).

While the current settlement formation in South Africa is of a poor quality (Cilliers, 2010:11) an in-depth understanding of streets as social spaces by planners and urban designers may perhaps contribute in developing planning and design policies and guidelines that acknowledge

streets as important social spaces. This study is a step towards understanding public spaces such as streets in terms of social dynamics in a South African context.

This study explored Helen Joseph Street, situated in the Inner City of Pretoria as a public place with specific focus on the research setting with the aim to improve the street as a social space and create a sense of place where people want to dwell.

Bibliography

Acts **see** South Africa

Agnew, J. A. 1987. *Place and Politics: The Geographical Mediation of State and Society*. Boston: Allen & Unwin.

Alavi, S. M. Z. 1965. *Arab geography in the ninth and tenth centuries*. Aligarh: Aligarh Muslim University, Department of Geography.

Alexander, C. 1965. A City is Not a Tree. *Architectural Forum*, 122(1): 58-62.

Alexander, C. 1979. *The Timeless Way of Building*, New York. Oxford University Press.

Alinaghian, F. 2009. Meaning of streets perceived by users in urban centre. Universiti Teknologi Malaysia.

Allis, S. 1989. Busy Street Contrary to Previous Reports, Cities Are Not Dead What keeps them alive, says William H. Whyte, is the crowd. Time.com
<http://content.time.com/time/magazine/article/0,9171,958279,00.html> Date of access: 1 Oct. 2016.

American Society of Landscape Architects Inc. 2010. *Professional Awards / Project Name*.
<https://www.asla.org/2011awards/192.html> Date of access: 4 Oct. 2016.

American Society of Landscape Architects Inc. 2016. Interview with Jan Gehl.
<https://www.asla.org/ContentDetail.aspx?id=31346> Date of access: 14 Oct 2016.

Anderson, K. & Gale, F. 1992. *Inventing Places*. Melbourne: Longman.

Anthony, K. H. 1983. Major Themes in the Work of Donald Appleyard. *Environment and Behaviour* Volume 15(4): 411-416.

Appleyard, D. 1972. The environmental quality of city streets: the resident's viewpoint. *Journal of the American Planning Association*, (35): 84–101.

Appleyard, D. 1980. Liveable Streets: Protected Neighbourhoods? *The ANNALS of the American Academy of Political and Social Science*, 451 (160): 106-117. SAGE.

Appleyard, D. 1981. *Liveable Streets*. Berkeley, CA: University of California Press.

- Appleyard, D. & Lintell, M. 1972. The Environmental Quality of City Streets: The Residents' Viewpoint. *Journal of the American Institute of Planners*, 38(2): 84-101.
- Appleyard, D. Lynch, K. & Myer, R. 1964. *The View from the Road*. Cambridge: MIT Press.
- Appleyard, D., Gerson, M. & Lintell, M. 1981. *Liveable streets*. Berkeley: University of California Press.
- Aravot, I. 2002. Back to Phenomenological Placemaking. *Journal of Urban Design*, 7(2): 201-212.
- Arefi, M. 1999. Non-place and placelessness as narrative of loss: Rethinking the notion of place. *Journal of Urban Design*, 4(2): 179 – 193.
- Argyle, M. 1977. Predictive and generative rules models of P X S interaction. (*In* Magnusson, D. & Endler, N.S. *ed. Personality at the crossroads: Current issues in interactional psychology*. Hillsdale, N.J.: Lawrence Erlbaum Associates. p 353 – 370).
- Argyris, C. 1969. The incompleteness of social-psychological theory: Examples from small group. cognitive consistency, and attribution research. *American Psychologist*, 24: 893-908.
- Banerjee, T. 2001. The future of public space: Beyond invented streets and reinvented places, *Journal of the American Planning Association*, 67(1): 9-24
- Barker, J. 2009. *City & Society*. International conference on Street Life held by the Centre for Diaspora and Transnational Studies (CDTS). University of Toronto.
- Barker, R., 1968. *Ecological psychology. Concepts and Methods for Studying the Environment and Human Behavior*. Stanford University Press, Stanford.
- Basiago, A. D. 1996. The search for the sustainable city in 20th century urban planning. *The Environmentalist*, 16:135–155.
- Bechtel, R. B. 1977. *Enclosing behavior*. Stroudsburg, PA: Dowden, Hutchinson & Ross.
- Bechtel, R. B. 1997. *Environment and behavior: An introduction*. Thousand Oaks, CA: Sage.
- Beeson, L. and Davis, C. 2000. 'Emergence and accomplishment in organizational change'. *Journal of Organizational Change Management*, 13(2): 178-89.
- Behrens, R. & Watson, V. 1996. *Making urban places: Principles and guidelines for layout planning*. Contemporary Policy Issues. Cape Town: UCT Press.

Bell P., Greene T., Fisher, J., & Baum, A. 1996. *Environmental Psychology*. Ft Worth: Harcourt Brace.

Benjamin, W. 2002. *The Arcades Project*. Cambridge MA: Harvard University Press.

Berger, P. L., & Luckmann, T. 1967. *The social construction of reality: a treatise in the sociology of knowledge*. Garden City, N.Y., Doubleday.

Better Cities & Towns, 2010. How the complete streets movement took hold. <http://bettercities.net/article/how-complete-streets-movement-took-hold-20877> Date of access: 23 Oct. 2016.

Better Cities & Towns, 2010. How to build great streets. <http://bettercities.net/article/how-build-great-streets-20936> . Date of access: 3 Oct. 2016.

Bickman, L. & Rog, D. 2009. *The SAGE handbook of applied social research methods*. Los Angeles, CA.: SAGE Publications.

Biddulph, M. 2003. Towards successful home zones in the UK. *Journal of Urban Design*, 8(3): 217–241.

Blumer, H. 1969. *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs, NJ: Prentice Hall

Bohl, C.C. 2000. New Urbanism and the city: Potential applications and implications for distressed inner-city neighbourhoods. *Housing Policy Debate*, 11(4): 761-801. Routledge. London. Accessed 29 June 2012.

Bonnes, M., Secchiaroli, G. 1995. *Environmental Psychology: A Psycho-social Introduction*. Sage Publications (Originally published in Italian as *Psicologia Ambientale*. La Nuova Italia Scientifica, Rome, 1992)

Borbasi S., Jackson, D. & Langford, R.W. 2004. *Navigating the Maze of Nursing Research: An Interactive Learning Adventure*. Mosby, Sydney, New South Wales, Australia.

Boyer, M. 1994. *The city of collective memory: Its historical imagery and architectural entertainments*. Cambridge, MA: MIT Press.

Brandenburg, A. M., & Carroll, M. S. 1995. Your place or mine? The effect of place creation on environmental values and landscape meanings. *Society and Natural Resources*, 8: 381–398.

- Brill, M. 1990. An ontology for exploring urban public life today. *Places*, 6 (1): 24-31.
- Brinkmann, S. & Kvale, S. 2009. Interviews: Learning the craft of qualitative research interviewing. CA: Sage Publications Inc.
- Britton, E. 2012. Defining principles: Remembering Donald Appleyard. The Safer Streets Challenge. safestreetstrategies.wordpress.com/2011/12/20/defining-principles-remembering-donald-appleyard Date of access: 3 Aug. 2016.
- Brondizio, E.S. & Moran, E.F., eds. 2013. Human-Environment Interactions. Dordrecht: Springer.
- Bronfenbrenner, U. 1977. Toward an Experimental Ecology of Human Development. *American Psychologist*, 32(7): 513 – 531.
- Bronfenbrenner, U. 1979. The ecology of human development. Cambridge, Mass: Harvard University.
- Bryman, A. 2001. *Ethnography*. London: Sage.
- Bryman, A. 2008. *Social Research Methods*. Oxford: Oxford University Press.
- Buchanan, C. 1963. *Traffic in Towns*. Harmondsworth: Penguin Books.
- Buchanan, P. 1988. What City? A plea for place in the public realm. *Architectural Review*, 1101: 31-41
- Building Design Index. 2016a. Custom-built newsagent kiosks. <http://www.buildingdesignindex.co.uk/entry/42504/Prestige-Kiosks/Custombuilt-newsagent-kiosks/> Date of access: 14 Oct. 2016.
- Building Design Index. 2016b. *Complete buildings companies*. <http://www.buildingdesignindex.co.uk/browse/category/1-12/Complete-buildings/> Date of access: 14 Oct. 2016.
- Buildipedia.com, 2011. New York City Revitalizes the Life Between Buildings <http://buildipedia.com/aec-pros/urban-planning/new-york-city-revitalizes-the-life-between-buildings> Date of access: 5 Nov. 2016
- Burnes, B. 2004. Kurt Lewin and complexity theories: back to the future? *Journal of Change Management*, 4(4): 309 – 325. Routledge.

- Buttimer, A. 1976. Grasping the dynamism of lifeworld. *Annals of the Association of American Geographers*, 66: 277–292.
- Buttimer, A. 1987. A social topography of home and horizon. *Journal of Environmental Psychology*, 7: 307 - 319.
- Buttimer, A., & Seamon, D., eds. 1980. *The human experience of space and place*. London: Croom Helm.
- Byrne, M. 2001. Ethnography as a qualitative research method. *AORN Journal*, 74(1): 82 - 84.
- Calthorpe, P. 1993. *The Next American Metropolis: Ecology, Community, and the American Dream*. New York, NY, USA: Princeton Architectural Press.
- Calthorpe, P. 2000. New Urbanism and the Apologists for Sprawl. *Places*, 13(2):66-68.
- Campos, B. 2012. Book Review: Jan Gehl (1987, 2011 revisited ed.), *Life between Buildings: Using Public Space*. *The Journal of Space Syntax*, 3(1): 125-128.
- Canin Associates. 2014. *What in the World is a Woonerf?* <http://www.canin.com/world-woonerf/> Date of access: 2 Nov. 2015.
- Canter, D. Y. 1977. *The psychology of place*. London: Architectural Press.
- Carlsen, B. & Glenton, C. 2011. What about N? A methodological study of sample-size reporting in focus group studies. *BMC Medical Research Methodology* 11: 26.
- Carlson, D. Wormser, L. and Ulberg, C. 1995. *At Road's End; Transportation and Land Use Choices for Communities*. Island Press. Washington DC.
- Carmona, M., Heath, T., Oc, T. & Tiesdell, S. 2003. *Public places urban spaces: The dimensions of urban design*. Oxford: Architectural Press.
- Carr, S., Francis, M., Rivlin, L. G. & Stone, A. M. 1992. *Public Space*. New York: Cambridge University Press.
- Castaglioni, A. 1958. *A history of medicine*. 2nd ed. New York: Knopf.
- Center for Health and the Global Environment 2016 *The Built Environment* <http://www.chgeharvard.org/topic/built-environment> Date of access: 10 Jun. 2016.
- Chekki, D. eds. 1994. *The community of the streets*. Greenwich, CT: Jai Press Inc.

Cilliers P. 2013. Understanding Complex Systems. In: Sturmberg JP, Martin CM, editors. Handbook of Systems and Complexity in Health. New York: Springer; 2013. p. 38.

Cilliers, E. J. 2010. Rethinking sustainable development: the economic value of green spaces. Dissertation, North West University, South Africa.

City of London. 2010. Illustrated Urban Design Principles.
<https://www.london.ca/business/Planning-Development/urban-design/Documents/Illustrated-Urban-Design-Principles.pdf> Date of access: 10 Aug. 2015.

City of Tshwane Metropolitan Municipality. 2005a. Policy on the Design of Hard Urban Spaces and Streetscape Elements in Tshwane. Pretoria.

City of Tshwane Metropolitan Municipality. 2005b. Tshwane Open Space Framework Volume 1. Pretoria.

City of Tshwane Metropolitan Municipality. 2007a. Tshwane Inner City Local Open Space Plan. Pretoria.

City of Tshwane Metropolitan Municipality. 2007b. Tshwane Inner City Integrated Development Framework. Pretoria.

City of Tshwane Metropolitan Municipality. 2012. City of Tshwane Metropolitan Spatial Development Framework. Pretoria.

City of Tshwane Metropolitan Municipality. 2013a. Regional Spatial Development Framework. Pretoria.

City of Tshwane Metropolitan Municipality. 2013b. Tshwane Vision 2055. Pretoria.

City of Tshwane Metropolitan Municipality. City Planning and Development Department. 2013c. Streetscape Guidelines for the City of Tshwane. Pretoria.

City of Tshwane Metropolitan Municipality. 2005c. Tshwane Open Space Framework Volume 3. Pretoria.

Cleary, M., Horsfall. J. & Hayter, M. 2014. Data collection and sampling in qualitative research: does size matter? Informing Practice and Policy Worldwide through Research and Scholarship. JAN: Editorial John Wiley & Sons Ltd.

Cohen, D. J. & Crabtree, B. F. 2008. Evaluative Criteria for Qualitative Research in Health Care: Controversies and Recommendations. Annals of Family Medicine, 6(4): 331 – 339.

- Congress for the New Urbanism. 2015. What is new urbanism?
<https://www.cnu.org/resources/what-new-urbanism> Date of access: 2 March 2015
- Congress of New Urbanism. 2002. Charter of the New Urbanism.
http://www.cnu.org/cnu_reports/Charter.pdf. Date of access: 21 May 2014
- Cooper Marcus, C., & Francis, M. 1998. People Places: Design guidelines for urban open space. 2nd ed. New York: Wiley.
- Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., Danigelis, N.I., Dickinson, J., Elliott, C., Farley, J., Elliott Gayer, D., MacDonald Glenn, L., Hudspeth, T., Mahoney, D., McCahill, L., McIntosh, B., Reed, B., Turab Rizvim, S. A., Rizzo, D. M., Simpatico, T. & Snapp, R. 2007. Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological Economics*, 61: 267 – 276.
- Craik, K. H. 1973. Environmental psychology. *Annual Review of Psychology*. 24:403–22
- Creswell, J. W. 2007. Qualitative Inquiry & Research Design Choosing Among Five Approaches. 2nd Edition Sage Publications. USA
- Creswell, J. W., & Miller, D. L. 2000. Determining validity in qualitative inquiry. *Theory into Practice*, 9: 124—130.
- Crowhurst-Lennard, S. & Lennard, H. 1987. *Livable Cities – People and Places: Social and Design Principals for the Future of the City*. New York: Center for Urban Well-being.
- Crowhurst-Lennard, S. & Lennard, H. 1995. *Livable Cities Observed*. IMCL Council. Carmel, CA: Gondolier Press.
- CSIR (Council for Scientific and Industrial Research). 2000. Guidelines for human settlement planning and design. Pretoria: CSIR Building and Construction Technology.
- Cuff, D. 1984. The Writings of Donald Appleyard. *Places*, 1(3): 75 – 81.
- Cuff, D. 1984. The Writings of Donald Appleyard. *Places*, 1(3): 75-81.
- Cullen, G. 1961. *The Concise Townscape*, New York, Reinhold
- Cummins, R. A., Eckersley, R., Pallant, J., Van Vlugt, J. & Misajon, R. 2003. Developing a national index of subjective wellbeing: the Australian Unity Wellbeing Index. *Social Indicators Research*, 64: 159–190.

Curl, A., Thompson, C.W. & Aspinall, P. 2015. The effectiveness of 'shared space' residential street interventions on self-reported activity levels and quality of life for older people. *Landscape and Urban Planning* 139: 117–125.

Dane, S. 1997. *Main Street success stories*. Washington, DC: National Main Street Center, National Trust for Historic Preservation.

Davenport, M. A. & Anderson, D. H. 2005. Getting From Sense of Place to Place-Based Management: An Interpretive Investigation of Place Meanings and Perceptions of Landscape Change. *Society & Natural Resources: An International Journal*, 18(7): 625-641

Day, K. 2003. New Urbanism and the Challenges of Designing for Diversity. *Journal of planning education and research*, 23: 83.

De Certeau, M. 1984. *The Practice of Everyday Life*. Berkeley: University. Calif. Press

De Vasconcellos, E.A. 2004. The Use of Streets: A Reassessment and Tribute to Donald Appleyard. *Journal of Urban Design*, 9(1):3-22

De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. 2014. *Research at grass roots. For the social sciences and human service professions*. 3rd ed. Pretoria: Van Schaik.

De Witt, L. & Ploeg, J. 2006. Critical appraisal of rigour in interpretive phenomenological nursing research. *Journal of Advanced Nursing*, 55: 215-229.

Dear, M. And Wolch, J. 1989. *The Power of Geography: How territory shapes social life*. Unwin Hyman, Boston.

Denzin, N. K., & Lincoln Y. S. 2005. The discipline and practice of qualitative research. (In Denzin, N. K. & Lincoln, T.S. ed. *The Sage Handbook of Qualitative Research*. 3rd ed. Thousand Oaks, CA : Sage. P. 1-32).

Denzin, N. K., & Lincoln, Y. S., eds. 2000. *Handbook of qualitative research*. 2nd ed. London, UK: Sage Publications, Inc.

Department of Economic Development **see** Gauteng. Department of Economic Development

Department of Roads and Transport **see** Gauteng. Department of Roads and Transport

Designhome.info. 2016. Top Ancient Mesopotamian City and Displaying Images for Mesopotamia Irrigation Drawing. <http://www.designhome.info/ancient-mesopotamian-city/top-ancient-mesopotamian-city-and-displaying-images-for-mesopotamia-irrigation-drawing/index.htm> Date of access: 1 Jun. 2015.

DeWalt, K. M., & DeWalt, B. R. 2002. Participant observation: A guide for fieldworkers. Walnut Creek, CA: AltaMira Press.

Dewey, John; and Bentley, Arthur F. 1973. Knowing and the Known. (*In* Handy, R. & Harwood, E. C. *ed.* Useful Procedures of Inquiry. Great Barrington, MA: American Institute for Economic Research, Behavioral Research Council. p. 97–209).

Draper, A. & Swift, J. A. 2010. Qualitative research in nutrition and dietetics: data collection issues. *Journal of Human Nutrition and Dietetics*, 24: 3 – 12.

Du Toit, L., Cerin, E., Leslie, E. & Owen, N. 2007. Does Walking in the Neighbourhood Enhance Local Sociability? *Urban Studies*; 44(9):1677-1695. SAGE.

Duany, A. & Plater-Zyberk, E. 1991. *Towns and townmaking principles*. New York: Rizzoli.

Durkheim, E. 1995 [1912]. *The elementary forms of religious life* (translated and with an introduction by K. E. Fields). New York: Free Press.

Easterby-Smith, M. Golden-Biddle, K. & Locke, K. 2008. Working with pluralism: Determining quality in qualitative research. *Organizational Research Methods*, 11: 419-429.

Ekins, P. & Max-Neef, M. eds. 1992. *Real- Life Economics: Understanding Wealth Creation*. London: Routledge

Elliott, R. Fischer, C. T. & Rennie, D. L. 1999. Evolving guidelines for publication of qualitative research studies in psychology and related fields. *The British Journal of Clinical Psychology*, 38: 215-229.

Encyclopædia Britannica, Inc. 23 Jan. 2009. Andrés Duany and Elizabeth PlaterZyberk." <http://academic.eb.com.nwulib.nwu.ac.za/levels/collegiate/article/471367>. Date of access: 1 Sep. 2016.

Ernst, A. & Wenzel, U. 2014. Bringing Environmental Psychology Into Action Four Steps From Science to Policy. *European Psychologist*; 19(2):118–126.

Etherington, K. 2007. Ethical research in reflexive relationships. *Qualitative Inquiry*. 13(5): 599-616.

- Etlin, R. A. 1997. Space, stone, and spirit: the meaning of place. In *The Eight Technologies of Otherness*, ed. S Golding, pp. 306-19. London: Routledge
- Evered, R. & Louis, R. 1981. Alternative Perspectives in the Organizational Sciences: 'Inquiry from the Inside' and 'Inquiry from the Outside'. *Academy of Management Review*, 6 (3): 385- 395
- Ewing, R. 1996. *Best Development Practices*. American Planning Association. Chicago, IL: Planners Press.
- Farnham, G.B. 2014. *Contemporary Perspective on Jane Jacobs: Reassessing the Impacts of an Urban Visionary*. Ashgate. ProQuest ebrary. Web access 17 August 2016.
- Ferreira, A. & Batey, P. 2007. Re-thinking accessibility planning A multi-layer conceptual framework and its policy implications. *Town Planning Review*, 78 (4): 429 – 459.
- Fetterman, D. M. 1998. *Ethnography: Step by step*. 2nd ed. Thousand Oaks, CA: Sage.
- Fielding, N., & Fielding, J. 1986. *Linking data*. London, England: SAGE.
- Fishman, R. 1996. The Mumford-Jacobs Debate. *Planning History Studies*, 10(12):3 – 11.
- Flickr. www.flickr.com Date accessed 12 July 2016.
- Florida, R. 2002. *The Rise of The Creative Class*. New York, NY: Basic Books, a member of the Perseus Books Group.
- Fossey, E., Harvey, C., McDermott, F., & Davidson, L. 2002. Understanding and evaluating qualitative research. *Australian and New Zealand Journal of Psychiatry*, 36: 717-732.
- Freedman, J.L., Sears, D.O. & Carlsmith, J.M. 1978. *Social psychology*. Prentice-Hall
- Freepik. 2016. www.freepik.com/free-icon/man-silhouette-standing-with-arms-up_704561.htm. Date accessed 15 September 2016.
- Fried, M. 2000. Continuities and discontinuities of place. *Journal of Environmental Psychology*, 20(3): 193–205.
- Friedmann, J. 2010. Place and Place-making in Cities: A Global Perspective. *Planning Theory & Practice*. 11(2):149-165.
- Gans, H. J. 2010. Public Ethnography; Ethnography as Public Sociology. *Qualitative Sociology*, 33: 97 – 104.

- Garde, A. M. 2004. New Urbanism as Sustainable Growth? : A Supply Side Story and its Implications for Public Policy. *Journal of Planning Education and Research*, 24:154.
- Gauteng. Department of Economic Development, 2010. The Gauteng Spatial Development Framework, 2010. Pretoria.
- Gauteng. Department of Economic Development. 2007. Gauteng Spatial Development Perspective. Pretoria.
- Gauteng. Department of Roads and Transport, 2012. Gauteng 25-year Integrated Transport Master Plan, 5-year Transport Implementation Plan. Pretoria.
- Gaver, W. W. 1991. Technology affordances. In *Proceedings of the SIGCHI conference on Human factors in computing systems Reaching through technology - CHI '91* (pp. 79–84). New York: ACM Press.
- Gehl, J. 1971. *Life between buildings*. Copenhagen: Danish Architectural Press.
- Gehl, J. 1987. *Life between buildings: Using public space*. Translated by Jo Koch. New York: Van Nostrand Reinhold.
- Gehl, J. 1989. A Changing Street Life in a Changing Society. *Places*, 6(1):8-17.
- Gehl, J. 1996. *Life Between Buildings: Using Public Space*, 3rd ed. Copenhagen: Arkitektens Forlag
- Gehl, J. 1996. *Life between buildings: using public space*. Copenhagen, Arkitektens Forlag.
- Gehl, J. 2010. *Cities for People*. Island Press, Washington, DC
- Gehl, J., & Gemzoe, L. 2000. *New City Spaces*. Copenhagen: Danish Architectural Press.
- Gehl, J., & Gemzøe, L. 1996. *Public spaces, public life*. Copenhagen: Danish Architectural Press.
- Gibberd, F. 1953. *Town Design*. London: Architectural Press.
- Gibson, J. J. 1986. *The ecological approach to visual perception* (3rd ed., p. 332). New Jersey: Lawrence Erlbaum Associates.
- Gibson, J. J. 1979. *The ecological approach to visual perception*. Boston: Houghton Mifflin.

- Gieryn, T. F. 2000. A Space for place in Sociology. *Annual Review of Sociology*, 26: 463-496.
- Gifford, R. 2014. Environmental Psychology Matters. *The Annual Review of Psychology*, 65:541–579
- Gifford, R. 1987. *Environmental Psychology: principles and practice*. 1st ed. Boston: Allyn and Bacon, Inc.
- Gifford, R. 1997. *Environmental Psychology: Principles and Practice*. Boston.
- Gilbert, N. 2008. *Researching social life*. 3rd ed. London: Sage Publications Ltd.
- Gill, T. 2006. Home zones in the UK: History, policy and impact on children and youth. *Children, Youth and Environments*, 16(1): 90–105.
- Gillette, H. 2010. *Civitas by design: Building better communities, from the garden city to the new urbanism*. Philadelphia: University of Pennsylvania Press.
- Gindroz, R. 2002. New Urbanism and Smart Growth: City life and New Urbanism. *Fordham urban law journal*, 29:1419, 1421-25.
- Giuliani, M.V. & Scopelliti, M. 2009. Empirical research in environmental psychology: Past, present, and future. *Journal of Environmental Psychology*, 29: 375-386.
- Glazer, N. 1999. The Man Who Loved Cities. *The Wilson Quarterly*, 23(2): 27-34.
- Gledhill, S., Abbey, J. & Schweitzer, R. 2008. Sampling methods: methodological issues involved in the recruitment of older people into a study of sexuality. *Australian Journal of Advanced Nursing*, 26(1): 84 – 94.
- Gold, J. 1980. *An Introduction to Behavioural Geography*. Oxford: Oxford University Press.
- Golledge, R. G. & Stimson, R.J. 1997. *Spatial Behavior: A Geographic Perspective*. New York: Guilford Press.
- Gordon, W. 2011. Behavioural economics and qualitative research – a marriage made in heaven? *International Journal of Market Research* 53(2):171 – 186.
- Grant, J. L. 2006. *Planning the good community: New urbanism in theory and practice*. London: Routledge.

- Greider, T., & Garkovich, L. 1994. Landscapes: The social construction of nature and the environment. *Rural Sociol.* 59(1):1–24.
- Gue, T. 2011. *The Social Life of Small Urban Spaces* Fabrica Brighton's Centre for Contemporary Art. <http://fabrica.org.uk/small-urban-spaces/#lightbox/0/> Date of access:4 Nov. 2016.
- Guerrero, S.N.L. 2007. Planning Policy and Landscape Architecture: Street Design in Theory and Practice. Austin: The University of Texas.
- Guest, G., Bunce, A., & Johnson, L. 2006. How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, (18): 59-82.
- Guillemin, M. & Gillam, L. 2004. Ethics, reflexivity, and “ethically important moments” in research. *Qualitative Inquiry*, 10(2): 261-280.
- Günther, H. 2009. The environmental psychology of research. *Journal of Environmental Psychology*, 29: 358 – 365.
- Haas, B. K. 1999. A multidisciplinary concept analysis of quality of life. *Western Journal of Nursing Research*, 21: 728–742.
- Habermas, J. 1962. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge, Massachusetts: The MIT Press.
- Hague, C. & Jenkins, P. ed. 2005. *Place Identity, Participation and Planning*. Oxfordshire: Routledge,.
- Haigh, C. 2002. Using chaos theory: the implications for nursing. *Journal of Advanced Nursing*, 37(5): 462-9.
- Hammersley, M. 2010. Ethnography. *Qualitative Research*: 386 – 391.
- Hammersley, M. 2010. Ethnography. *Qualitative Research*: 386-391
- Hammersley, M. & Atkinson, P. 2007. *Ethnography: Principles in Practice*. 3rd ed. London: Routledge.
- Harms, E. 2011. *Saigon's Edge: On the Margins of Ho Chi Minh City*. University of Minnesota Press.
- Hass-Klau, C. 1990. *The pedestrian and city traffic*. London: Belhaven Press.

- Hay, R. 1998. Sense of place in developmental context. *Journal of Environmental Psychology*, 18: 5–29.
- Hayden, D. 1995. *The power of place*. Cambridge, MA: The MIT Press.
- Hazzan, O. & Nutov, L. 2014. Teaching and Learning Qualitative Research Conducting Qualitative Research. *The Qualitative Report*, Teaching & Learning Article 1, 19:1 – 29.
- Heimlich, J. E. & Ardoin, N. M. 2008. Understanding behaviour to understand behaviour change: a literature review, *Environmental Education Research*, 14:3, 215-237
- Hellbrück, J. & Fischer, M. 1999. *Umweltpsychologie – Ein Lehrbuch* (Environmental psychology – a textbook). Göttingen: Hogrefe.
- Henning, E. 2005: *Finding your Way in Qualitative Research*. Van Schaik, Pretoria.
- Hess, P.M. 2008. Fronts and Backs The Use of Streets, Yards, and Alleys in Toronto-Area New Urbanist Neighborhoods. *Journal of Planning Education and Research*, 28(2):196-212.
- Hester, R. 1993. Sacred structures and everyday life: A return to Manteo, North Carolina. (In Seamon, D. ed. *Dwelling seeing and designing: Toward a phenomenological ecology*. NY: State University of New York Press. P. 217 – 298)
- Hewitt, J. 2007. Ethical components of researcher-researched relationships in qualitative interviewing. *Qualitative Health Research*. 17(8):1149-1159.
- Hill, D. R. 1988. Jane Jacobs' Ideas on Big, Diverse Cities: A Review and Commentary. *Journal of the American Planning Association*, 54 (3): 302-314.
- Hill, L. H. 2007. Qualities of qualitative researchers. *Qualitative Research Journal*, 7(1): 26-31.
- Hillier, B. 1996. *Space is the Machine*. Cambridge: Cambridge University Press.
- Hineline, P.N. 1992. A self-interpretive behavior analysis. *American Psychologist* 47(11):1274–1286.
- Hoey, B.A. 2014. A Simple Introduction to the Practice of Ethnography and Guide to Ethnographic Fieldnotes. *Marshall University Digital Scholar*.
- Hospers, G.J. 2006. Jane Jacobs: her life and her work. *European Planning Studies*. 14(6):723-732.

- Hubbard, P., Kitchin, R. & Valentine, G. 2004. *Key thinkers on space and place*. London: SAGE Publications.
- Hudelson, P.M. 1994. Qualitative research for health programmes. World Health Organization. Division of Mental Health and Prevention of Substance Abuse.
- Hummon, D. M. 1992. Community attachment: Local sentiment and sense of place. (*In* Altman, I. & Low, S. *ed.* Human behavior and environments: Advances in theory and research. Volume 12: Place attachment New York: Plenum Press. p. 253–278).
- Hunt, M. R. 2009. Strengths and Challenges in the Use of Interpretive Description: Reflections Arising from a Study of the Moral Experience of Health Professionals in Humanitarian Work. *Qualitative Health Research*, 19(9): 1284 – 1292.
- Hunter, J. E. 2013. Towards a Cultural Analysis: The Need for Ethnography in Interpretation Research. *Journal of interpretation research*, 17(2): 47 – 58.
- Ittelson, W. H., Proshansky, H., Rivlin, L., & Winkel, G. 1974. *An Introduction to Environmental Psychology*. New York: Holt, Rinehart and Winston. Translated into German and Japanese.
- Jackson, L. E. 2003. The relationship of urban design to human health and condition *Landscape and Urban Planning* 64:191–200
- Jacobs, A. & Appleyard, D. 1987. Toward and Urban Design Manifesto. *Journal of the American Planning Association* 53(1):112-120.
- Jacobs, A. B. 1993. *Great Streets*. Cambridge, MA: MIT Press.
- Jacobs, A. B. 1995. *Great Streets*. Cambridge, MA, USA: MIT Press.
- Jacobs, J. 1958. Downtown is for People. *The exploding metropolis*, 168.
- Jacobs, J. 1961. *The death and life of great American cities*. Harmondsworth, Middlesex: Penguin.
- Jensen, R. 2006. Behaviorism, latent learning, and cognitive maps: Needed revisions in introductory psychology textbooks. *Behavior Analyst* 29(2): 187–209.
- Jick T.D. 1979. Mixing qualitative and quantitative methods: Triangulation in action. *Qualitative Methodology* 24(4): 602 – 611.

- Jonqui re, P. 1987. Woonerf: An Environment for Man and Transport Together – The Present Aspects, Second International Symposium on Man and Transport – The Future Aspects. Tokyo, Japan.
- Kaltenborn, B.P. & Williams, D.R. 2002. The meaning of place: attachments to Femundsmarka National Park, Norway, among tourists and locals. *Norwegian Journal of Geography*, 56:189-198.
- Kaplan, S. & Kaplan, R. 1978. *Humanscape: Environments for people*. Belmont, CA: Duxbury.
- Kaplan, S., & Kaplan, R. 2009. Creating a larger role for environmental psychology: The reasonable person model as an integrative framework. *Journal of Environmental Psychology*, 29(3): 329–339.
- Kara, B. 2013. Landscape Design and Cognitive Psychology. *Procedia - Social and Behavioral Sciences* 82: 288 – 291. Elsevier Ltd.
- Katz, P., Scully, V.J. & Bressi, T.W., 1994. *The new urbanism: Toward an architecture of community*. New York: McGraw-Hill.
- Keegan, S. 2009. *Qualitative Research: Good Decision Making Through Understanding People, Cultures and Markets*. London: Kogan Page.
- Khalil, E.L. 2003. A transactional view of entrepreneurship: a Deweyan approach. *Journal of Economic Methodology* 10(2): 161–179.
- Kirby, K. M. 1996. *Indifferent Boundaries: Spatial Concepts of Human Subjectivity*. New York: The Guilford Press.
- Kline, W.B. 2008. Developing and submitting credible qualitative manuscripts. *Counselor Education and Supervision*, 47: 210-217.
- Knox, L. & Marston, S.A. 2000. Places and Regions in Global Context. *Human Geography*, 3:387-421
- Koffka, K. 1935. *Principles of gestalt psychology*. New York: Hartcourt Brace.
- Kornblittours.com. 2016. Kornblit Tours » Greenwich Village.
<http://www.kornblittours.com/package/greenwich-tour/> Date of access:4 Sept. 2016.

- Krier, L. 1992. *Leon Krier: architecture and urban design, 1967-1992*. New York: St. Martins Press.
- Kruse, L. 1974. *Räumliche Umwelt (Spatial environment)*. Berlin: de Gruyter.
- Kudler, A. 2012. Figueroa Street Overhaul Back on the (Separated Cycle) Track Curbed Los Angeles. <http://la.curbed.com/2012/4/23/10377320/big-figueroa-street-overhaul-back-on-the-separated-cycle-track> Date of access: 15 Jun. 2015.
- Kushner, L. 2002. *Marking Time: Rethinking the presentation of history in urban places*. Berkeley: University of California.
- Kusumo, C. 2011. Cradle To Cradle In Urban Planning: Putting eco-effectiveness into urban planning practice. *Journal of Architecture and Built Environment*, 38(1):31-34
- LA.streetsblog.org. 2013. Livable Streets Candidates Forum Tonight! – Streetsblog Los Angeles. <http://la.streetsblog.org/2013/01/22/cd-11-livable-streets-candidates-forum-tonight/> Date of access: 6 Sept. 2016
- LaFarge, A. 2000. *The Essential William H. Whyte*. Fordham University Press, New York.
- Lambert V, Glacken M, McCarron M (2011) Employing an ethnographic approach: key characteristics. *Nurse Researcher*, 19(1): 17-23.
- Lang, J. 1987. *Creating architectural theory: The role of the behavioral sciences in environmental design*. New York: Van Nostrand Reinhold.
- Laugharne, C. 1995. Ethnography: research method or philosophy? *Nurse Researcher*. 3(2): 45-54.
- Leedy, P.D. & Ormrod, J.E. 2010. *Practical research: Planning and design*. 8th ed. Upper Saddle River, NJ: Prentice Hall Inc.
- Lees, L. H. 1994. Urban public space and imagined communities in the 1980s and 1990s. *Journal of Urban History*, (20):443–465.
- Levy-Leboyer, C. & Bernard, Y. 1987. La psychologie de l'environnement en France. *Psychologie Francaise*, 32(1/2): 6–21.
- Lewis. J. 2009. Redefining qualitative methods: Believability in the fifth moment. *International Journal of Qualitative Methods*, 8(2): 1-14.

- Ley, D. & Samuels, M. S. 1978. *Humanistic geography: Prospects and problems*. Chicago: Maaroufa Press.
- Lincoln, Y.S. 1995. Emerging criteria for quality in qualitative and interpretive research. *Qualitative Inquiry*, 1: 275-289.
- Litman, T. A. 2002. The Costs of Automobile Dependency and the Benefits of Balanced Transportation. Victoria Transport Policy Institute. Canada
- Lofland, J. & Lofland, L. H. 1995. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Belmont, CA: Wadsworth Publishing Company.
- Lofland, L. 1998. *The Public Realm: Exploring the City's Quintessential Social Territory*. New York: Aldine De Gruyter.
- Long, A. F. & Godfrey, M. 2004. An evaluation tool to assess the quality of qualitative research studies. *International Journal of Social Research Methodology*, 7: 181-196.
- Low, S. M. 2000. *On the Plaza: The politics of public space and culture*. Austin, TX: University of Texas Press.
- Low, S.M. & Altman, I. 1992. Place attachment. *Place attachment*:1-12.
- Luborsky, M.R. & Rubinstein, R.L. 1995. Sampling in qualitative research rationale, issues, and methods. *Research on aging*, 17(1):89-113.
- Lynch, K. 1984. *Good City Form*. Cambridge, MA: MIT Press.
- Lynch, K. & Hack, G. 1994. *Site Planning*. USA: The MIT Press.
- Mackenzie, A.E. 1994. Evaluating ethnography: considerations for analysis. *Journal of Advanced Nursing*, 19(4):774-781.
- Madanipour, A. 1998. *Design of Urban Space: An inquiry into a socio-spatial process*. London: Wiley.
- Madanipour, A. 2003. *Public and Private Spaces of the City*. London: Routledge.
- Magnusson, D. 2015. *Individual Development from an Interactional Perspective (Psychology Revivals): A Longitudinal Study*. Psychology Press.

- Malinowski, B. 1922. *Argonauts of the Western Pacific: an account of native enterprise and adventure in the Archipelagoes of Melanesian New Guinea*. London: George Routledge & Sons.
- Manson, S. M. 2001. Simplifying complexity: a review of complexity theory. *Geoforum*, 32: 405-414. Worchester, USA.
- Marcén, C., Gimeno, F., Gutiérrez, H., Sáenz, A, & Sánchez, M.E. 2013. Ethnography as a Linking Method Between Psychology and Sociology: Research Design. *Procedia - Social and Behavioral Sciences* 82: 760 – 763.
- Marcuse, P. 2000. The New Urbanism: The Dangers so Far. *DISP* 40:4-6
- Maree, K. 2007. *Research*. Pretoria: Van Schaik Publishers.
- Marshall, B., Cardon, P., Poddar, A. & Fontenot, R. 2013. Does Sample Size Matter In Qualitative Research?: A Review Of Qualitative Interviews In Is Research. *Journal of Computer Information Systems*: 11 – 23.
- Marshall, M. N. 1996. Sampling for qualitative research. *Family practice*, 13(6): 522-526.
- Mason, J. 2002. *Qualitative researching*. Sage.
- Mason, M. J. 2010. Attributing activity space as risky and safe: The social dimension to the meaning of place for urban adolescents. *Health & place*, 16(5): 926-933.
- Massey, D. 1991 The political place of locality studies, *Environment and Planning A*, 23: 267–281.
- Massey, D. 1998. The spatial construction of youth cultures. (*In* Skelton, T & Valentine, G. ed. *Cool places: Geographies of Youth Culture*. London & New York: Routledge. P.120-129).
- Matthews, B. & Ross, L. 2010. *Research Methods: A Practical Guide for the Social Sciences*. Pearson Longman.
- McCann, Barbara. 2013. *Completing Our Streets: The Transition to Safe and Inclusive Transportation Networks*. Washington, DC: Island Press.
- McConnachie, M. M. & Shackleton, C. M. 2010. Public green space inequality in small towns in South Africa. *Habitat International*, 34: 244-248. Elsevier

- McDermid, F., Peters, K., Jackson, D. & Daly J. 2014. Conducting qualitative research in the context of pre-existing peer and collegial relationships. *Nurse Researcher*. 21(5): 28-33.
- Mead, M. 1995. Visual anthropology in a discipline of words. (*In Hockings, P. ed. Principles of Visual Anthropology*. Berlin: Mouton de Gruyter. p. 3–10).
- Mead, M. 1995. Visual anthropology in a discipline of words. (*In Hockings, P. ed. Principles of Visual Anthropology* Berlin: Mouton de Gruyter. p. 3–10).
- Mehta, V. 2007. Lively streets: Determining environmental characteristics to support social behavior. *Journal of Planning Education and Research*, 27: 165-187.
- Mehta, V. & Bosson, J.K. 2009. Third Places and the Social Life of Streets. *Environment and Behavior*, 42(6): 779–805.
- Moore, R. L., & Graefe, A. R. 1994. Attachments to recreation settings: the case rail-trail users. *Leisure Sciences*, 16: 17–31.
- Morrow, S.L. 2005. Quality and trustworthiness in qualitative research in counselling psychology. *Journal of Counseling Psychology*, 52: 250-260.
- Morse, J. M. 2002. Myth #53: Qualitative research is cheap. *Qualitative Health Research*, 12(10): 1307-1308.
- Moser, G. 2006. Introduction: psychologie environnementale et territoires urbans (Introduction: environmental psychology and urban territories). In K. Weiss, & D. Marchand (Eds.), *Psychologie sociale de l'environnement [Social psychology of the environment]* (pp. 19–22). Rennes: Presses Universitaires de Rennes.
- Moser, G., & Uzzell, D. 2003. Environmental psychology. (*In Weiner, I.B. series ed. Th. Millon, T.H. & M.J. Lerner, M.J. vol. ed. Handbook of psychology: Vol 5 Personality and social psychology*. New York: Wiley. p. 419–445).
- Moudon, A.V. 1987. *Public Streets for public use*. Columbia University Press. New York.
- Mumford, L. 1989. *The city in History*. London: Harcourt Inc.
- Murdoch, J. 2006. *Post-structuralist. Geography*. London: SAGE.
- Nagar, D. 2006. *Environmental Psychology*. Concept Publishing Company.
- Nanzer, B. 2004. Measuring sense of place: a scale for Michigan. *Administrative Theory & Praxis*, 26(3): 362-382.

Nasar, J. L. 2003. Does neotraditional development build community? *Journal of Planning Education and Research*, 23(1): 58–68.

National Department of Public Works **see** South Africa.

National Planning Commission **see** South Africa

Newman, O. 1972. *Defensible Space*. New York: Macmillan.

Norberg-Schulz, C. 1980. *Genius Loci: Towards a phenomenology of architecture*. New York, Rizzoli.

Norquist, J. 1998. *The wealth of cities*. Reading, MA: Addison-Wesley.

Ohm, B.W. & Sitkowski, R.J. 2003. Recent Developments in Land Use, Planning and Zoning. The Influence of New Urbanism on Local Ordinances: The Twilight of Zoning? *Urban Law*, 35:783.

Oktay, D. 2012. Liveable Public Urban Spaces as Essentials of Human Sustainable Urbanism. Paper presented at the AESOP Congress, Ankara, Turkey.

Ospina, S. & Wagner, R.F. 2004. *Qualitative Research*. Encyclopedia of Leadership. Edited by G. Goethals, G., Sorenson, G. & MacGregor, J. London, Thousand Oaks CA, New Delhi: SAGE Publications

Owen, G. T. 2014. Qualitative Methods in Higher Education Policy Analysis: Using Interviews and Document Analysis. *The Qualitative Report*, 19: 1-19

Page, M. & Mennel, T. 2011. Jane Jacobs Planner's Best Frenemy. In Page, M. & Mennel, T. eds. *Reconsidering Jane Jacobs*. Chicago: American Planning Association Planners Press

Patton, M. 1990. *Qualitative evaluation and research methods*. London, UK: Sage Publications, Inc.

Pervin, L. A. 1968. Performance and satisfaction as a function of individual-environment fit. *Psychological Bulletin*, 69: 56-68.

Pile, S. 1993. Human agency and human geography revisited: A critique of 'new models' of the self. *Transactions, Institute of British Geographers*, 18: 122-139.

Pinterest. 2016. *Yarnbombs, Yeah!* <https://za.pinterest.com/pin/153966880985623062/>
Date of access: 1 Oct. 2016.

- Pitney, W. A. 2004. Strategies for establishing trustworthiness in qualitative research. *Athletic Therapy Today*, 9: 26-28.
- Polus, A. & Craus, J. 1990. Evaluation of Characteristics and Recommended Guidelines for Shared Streets, Research Report no90-150. Technicon0-Isreal Institute of Technology.
- PPS (Project for Public Spaces). 2009. What makes a successful place? <http://www.pps.org/reference/grplacefeat/> Date of access: 7 May 2013
- Proshansky, H. M., Ittelson, W. H. & Rivlin, L. G., eds. 1970. *Environmental Psychology: man and his physical setting*. 1st ed. New York: Holt, Rinehart and Winston, Inc.
- Puren, K. & Meiring, G. H. 2015. An explororation of social systems as informative for urban regeneration in Potchefstroom Central Business District. *SSB/TRP/MDM Research Articles* 67:27 – 41.
- Reber, A. S., & Reber, E. 2001. *The Penguin dictionary of psychology*. London: Penguin.
- Redfern S.J. & Norman I.J. 1994. Validity through triangulation. *Nurse Researcher* 2(2), 41–56.
- Reed-Danahay, D. 2001. Autobiography, intimacy and ethnography. (In Atkinson, P., Delamont, S., Coffey, A., Lofland, J., & Lofland, L. H. ed. *Handbook of Ethnography*. London: Sage. p 407–425.
- Relph, E. 1976. *Place and placelessness*. London: Pion.
- Republic of South Africa, 2011. Local Government Budgets and Expenditure Review
- Robinson, O.C. 2008 Development crisis and the self in early adulthood: a composite qualitative analysis. Doctoral dissertation, London: Birkbeck College.
- Robinson, O.C. 2014. Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide *Qualitative Research in Psychology*, 11(1): 25-41.
- Robson, C. 2002. *Real World Research: A Resource for Social Scientists and Practitioner Researchers*. 2nd ed. Oxford:Blackwell Publishing.
- Rodríguez, D.A., Khattak, A.J. & Evenson, K.R. 2006. Can New Urbanism encourage physical activity? Comparing a New Urbanist neighborhood with conventional suburbs, *Journal of the American Planning Association*, 72(1):43-54.

- Rohe, W. M. 2009. From local to global: One hundred years of neighborhood planning. *Journal of the American Planning Association*, 75(2): 209-230.
- Roland, G., Jansen, L.F., Wiertz, E.S., Meyer, L.P. & Noldus, J. 2003. Reliability analysis of observational data: Problems, solutions, and software implementation. *Behaviour Research Methods, Instruments, & Computers*, 35(3):391-399.
- Rudofsky, B. 1969. *Streets for People*. New York: Doubleday.
- Rybczynski, W. 1993. The New Downtowns. *Atlantic Monthly*, 271 (5): 98-106.
- Ryden, K. C. 1993. *Mapping the Invisible Landscape: Folklore, Writing, and the Sense of Place*. IA: University of Iowa Press.
- Sack, R. D. 1997. *Homo geographicus: A framework for action, awareness, and moral concern*. Baltimore, MD: Johns Hopkins University Press.
- Sandelowski, M. 1995. Sample size in qualitative research. *Research in Nursing & Health* 18(2): 179–183.
- Sandercock, L. 1998. *Towards Cosmopolis: Planning for Multicultural Cities*. Chichester: John Wiley.
- Savall, H., Zardet, V. Bonnet, M., & Peron, M. 2008. The emergence of implicit criteria actually used by reviewers of qualitative research articles: Case of a European journal. *Organizational Research Methods, II*: 510-540.
- Sayre, S. 2001. *Qualitative Methods for Marketplace Research*. London: Sage.
- Schembri, S. & Boyle, M.V. 2013. Visual ethnography: Achieving rigorous and authentic interpretations. *Journal of Business Research*, 66: 1251 – 1254.
- Schwarz, N. & Strack, F. 1999. Reports of subjective well-being: judgmental processes and their methodological implications. (In: Kahneman, D., Diener, E. & Schwarz, N. ed. *Well-Being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation. p. 61–84).
- Seamon, D. 2004. Grasping the Dynamism of Urban Place: Contributions from the Work of Christopher Alexander, Bill Hillier, and Daniel Kemmis. (In Mels, T. ed. *Reanimating Places*. Burlington, Vt: Ashgate. p. 123-45).
- Sennett, R. 1971. *The Uses of Disorder*. New York, NY: Vintage.

- Sennett, R. 1994. *Flesh and stone: The body and the city in western civilization*. New York: W. W. Norton and Company.
- Sharifi, A. 2016. From Garden City to Eco-urbanism: The quest for sustainable neighborhood development. *Sustainable Cities and Society*, 20: 1- 16.
- Sherman, J.S., Preisser, J., Gesler, W., Arcury, T., 2005. A suite of methods for representing activity space in a healthcare accessibility study. *International Journal of Health Geographics*, 4(1):1.
- Shields, R. 1989. Social spatialisation and the built environment: the West Edmonton Mall. *Environment and Planning D: Society and Space*, 7: 147–164.
- Shields, R. 1991. *Places on the margin: Alternative geographies of modernity*. London: Routledge.
- Shields, R. 1992. Spaces for the subject of consumption. (In Shields, R. ed. *Lifestyle Shopping*. London: Routledge).
- Shields, R. 1997. Spatial stress and resistance: social meanings of spatialisation. (In Benko, G. & Strohmayer, U. ed. *Space and Social Theory*. Oxford, Blackwell).
- Shumaker, S. A., & Taylor, R. B. 1983. Toward a clarification of people-place relationships: A model of attachment to place. (In Feimer, N. R. & Geller, E.S. ed. *Environmental Psychology. Directions and perspectives*, New York: Praeger).
- Sibley, D. 1991. The boundaries of self. (In Philo, C. *New words, new worlds: Reconceptualising social and cultural geography*. Department of Geography, St. David's University College: Lampeter. p. 33-35).
- Sibley, D. 1995. *Geographies of exclusion: Society and Difference in the West*. London: Routledge.
- Silver, C., 2006. New Urbanism and Planning History: Back to the Future. *Culture, urbanism and planning*, pp.179-193.
- Sime, J.D. 1999. What is environmental psychology? Texts, content and context. *Journal of Environmental Psychology* 19: 191 – 206.
- Smart and Resilient Cities. 2016. "*Complete Streets*" strategy stories to watch. www.smartresilient.com/7-complete-streets-strategy-stories-watch Date of access: 4 Nov. 2016

- Smith, J.A., Flowers, P. & Larkin, M. 2009. Interpretative phenomenological analysis: Theory, method and research. Los Angeles: SAGE Publications.
- Sobal, J. 2001. Sample Extensiveness in Qualitative Nutrition Education Research. *Journal of Nutrition Education* 33(4): 184–192.
- Soini, K., Vaarala, H. & Pouta, E. 2012. Residents' sense of place and landscape perceptions at the rural–urban interface. *Landscape and Urban Planning*, 104:124– 134.
- Solar-kit. 2016 *Exclusivité Solar Kit - Panneau solaire totalement flexible et autocollant 145Wc 24Vdc*. <http://www.solar-kit.com/epages/62035995.mobile/?ObjectPath=/Shops/62035995/Products/PVL144-Panneau-solaire-flexible-autocollant-140Wc&ClassicView=1> Date of access: 13 Oct 2016.
- South Africa. 2013. Spatial Planning and Land Use Management Act 2013 (act no. 16 of 2013). (Proclamation no. 559). Government Gazette, 36730:2, 5 August.
- South Africa. National Department of Public Works, 2005. Re Kgabisa Tshwane Programme. Pretoria.
- South Africa. National Planning Commission, 2011. National Development Plan, 2030. Pretoria.
- South Africa. The Presidency, 2007. National Spatial Development Perspective, 2006. Pretoria.
- Southworth, M. & Ben-Joseph, E. 1996. *Streets and the Shaping of Towns and Cities*. New York: McGraw-Hill.
- Southworth, M. and Ben-Joseph, E. 1997. *Streets and the Shaping of Towns and Cities*. New York, NY: McGraw-Hill.
- Southworth, M. And Ben-Joseph, E. 2003. 2nd Edition. *Streets and the Shaping of Towns and Cities*. Island Press.
- Spencer, L., Ritchie, J., Lewis, J. & Dillon, L. 2003. Quality in Qualitative Evaluation: A framework for assessing research evidence. Government Chief Social Researcher's Office, London: Cabinet Office.
- Spindler, G. eds. 2000. Fifty Years of Anthropology and Education 1950–2000: A Spindler Anthology. Mahwah NJ: Erlbaum.

- Spradley, J. P. 1980. *Participant observation*. New York, NY: Holt, Rinehart and Winston.
- Stanley, B. W., Stark, B. L., Johnston, K. L., & Smith, M. E. 2012. Urban Open Spaces in Historical Perspective: A Transdisciplinary Typology and Analysis, *Urban Geography*, 33(8):1089-1117
- Statistics South Africa. 2016. Statistical release: Community Survey: 2016. Pretoria: Statistics South Africa.
- Stedman, R. C. 2000. Toward social psychology of place. Predicting behavior from place-based cognitions, attitude, and identity. *Environment and Behavior*, 34: 561–581.
- Steele, F. 1981. *The sense of place*. Boston: CBI Publishing.
- Steuteville, R. 2004. The new urbanism: an alternative to modern automobile-orientated planning and development. Available: New urban news. Date of access: 14 September 2013.
- Steward, J. 1955. *Theory of Culture Change: The Methodology of Multilinear Evolution*. Urbana: University of Illinois Press.
- Stige, B., Malterud, K. & Midtgarden, T. 2009. Toward an agenda for evaluation of qualitative research. *Qualitative Health Research*, 19: 1504-1516.
- Stokols, D. 1978. Environmental psychology. *Annual Review of Psychology* (29):253 - 295.
- Stokols, D. & Altman, I. eds. 1987. *Handbook of Environmental Psychology*. New York: John Wiley & Sons.
- Stokols, D. & Schumaker, S. 1981. People in Place: a Transactional View of Settings. In Harvey, J. eds. *Cognition, Social Behaviour, and the Environment*, Hillsdale, NJ: Lawrence Erlbaum.
- Stokols, D. 1995. The paradox of environmental psychology. *American Psychologist*, 50: 821-837.
- Stone, L. & Campbell, J.G. 1984 The use and misuse of surveys in international development: an experiment from Nepal. *Human Organ*. 43, 27–37.
- Sturmberg, J. P. & Martin, C. M. 2013. Complexity in health: an introduction. (In Sturmberg, J.P. & Martin, C.M ed. *Handbook of Systems and Complexity in Health*. New York: Springer;. p. 1–17).

Talen, E. 1999. Sense of community and neighbourhood form: an assessment of the social doctrine of new urbanism. *Urban Studies*, **36**: 1361–1379.

Taylor, N. 1998. *Urban planning theory since 1945*. London: Sage.

Temple, B. 1998. A fair trial? Judging quality in qualitative research. *International Journal of Social Research Methodology*, **1**: 205-215.

The History Files. 2016. Anglo-Saxon Kingdoms Angles of Central England.

<http://www.historyfiles.co.uk/KingListsBritain/EnglandEastAnglia.htm> Date of access: 22 Jan. 2016.

The Nature Conservancy. 2016. North Carolina Protecting the Natural Wonders of the Old North State.

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/northcarolina/> Date of access: 18 Jan. 2016.

The Presidency **see** South Africa

Thompson, C. W. 2002. Urban open space in the 21st century. *Landscape and Urban Planning*, **60** (2002):59-72. Elsevier.

Thompson, D. S., Fazio, X., Kustra, E., Patrick, L. & Stanley, D. 2016. Scoping review of complexity theory in health services research. *BMC Health Services Research*, **16**(87): 1-16.

Thomson, S. B. 2002. "Grounded theory — sample size and validity," Retrieved January 29, 2010, at <http://www.buseco.monash.edu.au/research/studentdocs/mgt.pdf>, 2002.

Thorne, S., Reimer Kirkham, S. & O'Flynn-Magee, K. 2004. The analytic challenge in interpretive description. *International Journal of Qualitative Methods*, **3**(1). Article 1.

Tibbalds, F. 1992. *Making people-friendly towns: improving the public environment in towns and cities*. Harlow, Essex: Longman Group.

Tobin, G.A., & Begley, C.M. 2004. Methodological rigour within a qualitative framework. *Journal of Advanced Nursing*, **48**: 388-396.

Tomprowski, P. D. 2003. *The psychology of skill: A life-span approach*. Westport, CT: Praeger.

Tonnies, F. 1963 [1887]. *Gemeinschaft und gesellschaft (Community and Society)*, translated and edited by C.P. Loomis. New York: Harper and Row.

- Tracy, S.J. 2010. Qualitative quality: Eight "Big-Tent" criteria for excellent qualitative research. *Qualitative Inquiry*, 16: 837-851
- Trancik, R. 1986. Finding lost space: Theories of urban design. New York: Van Nostrand Reinhold.
- Trochim, W. M. *The Research Methods Knowledge Base*, 2nd Edition.
<http://trochim.human.cornell.edu/kb/index.htm>> Date of acces: 5 August 2016.
- Trost, J.E. 1986. Statistically nonrepresentative stratified sampling: A sampling technique for qualitative studies. *Qualitative Sociology*, 9(1): 54–57.
- Trudeau, D. & Malloy, P. 2011. Suburbs in disguise? Examining the geographies of the new urbanism. *Urban Geography*, 32(3): 424–447.
- Tuan, Y.-F. 1974. *Topophilia: A study of environmental perception, attitudes, and values*. United States: Englewood Cliffs, N.J., Prentice-Hall.
- Tuan, Y.F. 1977. *Space and Place: The Perspective of Experience*. Minneapolis, MN, University of Minnesota Press.
- Tumlin, J. 2012. *Sustainable transportation planning: Tools for creating vibrant, healthy, and resilient communities*. United Kingdom: Wiley, John & Sons.
- U.S. 1 Newspaper. 2016. The Story of Complete Streets. <http://www.njbwc.org/wp-content/uploads/2016/03/US1-The-Story-of-Complete-Streets.pdf> Date of access: 18 March 2016.
- United Nations. 1996. *Human Settlement Program: The Habitat Agenda*. United Nations Publications.
- United Nations. 2000. *United Nations Millennium Development Goals*. United Nations Publications.
- United Nations. 2003. *Human Settlement Country Profile South Africa*.
http://www.un.org/esa/agenda21/natlinfo/countr/safrica/human_settlements.pdf Date of access: 18 Oct. 2015.
- United Nations. Department of Economic and United Nations. Department of Public Information. 2009. *The millennium development goals report 2009*. United Nations Publications.

- Uzzell, D. 2000. The psycho-spatial dimension to global environmental problems. *Journal of Environmental Psychology*, 20(4):307–318.
- Uzzell, D. & Rätzsch, N. 2009. Transforming environmental psychology. *Journal of Environmental Psychology*, 29(3): 340–350.
- Valverde, M. 2012. *Everyday Law on the Street: City Governance in an Age of Diversity*. University of Chicago Press.
- Van Rensburg, R. J. & Da Costa, M. 2008. Space as ritual: rethinking spatial strategies in the African city. *South African Journal of Art History*, 23(3): 43 – 55.
- Varna, G. & Tiesdell, S. 2010. Assessing the Publicness of Public Space: The Star Model of Publicness. *Journal of Urban Design*, 15(4):575–598. Routledge Taylor & Francis Group
- Veitch, R. & Arkkelin, D. 1995. *Environmental psychology: An interdisciplinary perspective*. Pearson College Division.
- Vernez-Moudon, A. 1991. *Public streets for public use*. New York: Columbia University Press.
- Vlek, C. 2000. Essential psychology for environmental policy making. *International Journal of Psychology*, 35(2): 153–167.
- Walsh, D., & Downe, S. 2006. Appraising the quality of qualitative research. *Midwifery*, 22(2): 108-119.
- Walsh, W.B. 1973. *Theories of Person – Environment Interaction: Implications for the College Student*. United States of America: The American College Testing Program.
- Walshe, C. Ewing, G. & Griffiths, J. 2011. Using observation as a data collection method to help understand patient and professional roles and actions in palliative care settings. *Palliative Medicine* 26(8): 1048 – 1054. SAGE.
- Warner, M. 2002. Publics and Counterpublics. *Public Culture* 14(1):49–90.
- Watson, D. Plattus, A. & Shibley, R.G. 2003. *Time-Saver Standards for Urban Design*. New York: McGraw-Hill Companies.
- Webster, D., Tilly, A., Wheeler, A., Nicholls, D., & Buttress, S. 2006. Pilot home zone schemes: Summary of the schemes. Prepared for Traffic Management Division, Department for Transport. Traffic. TRL Report TRL654.

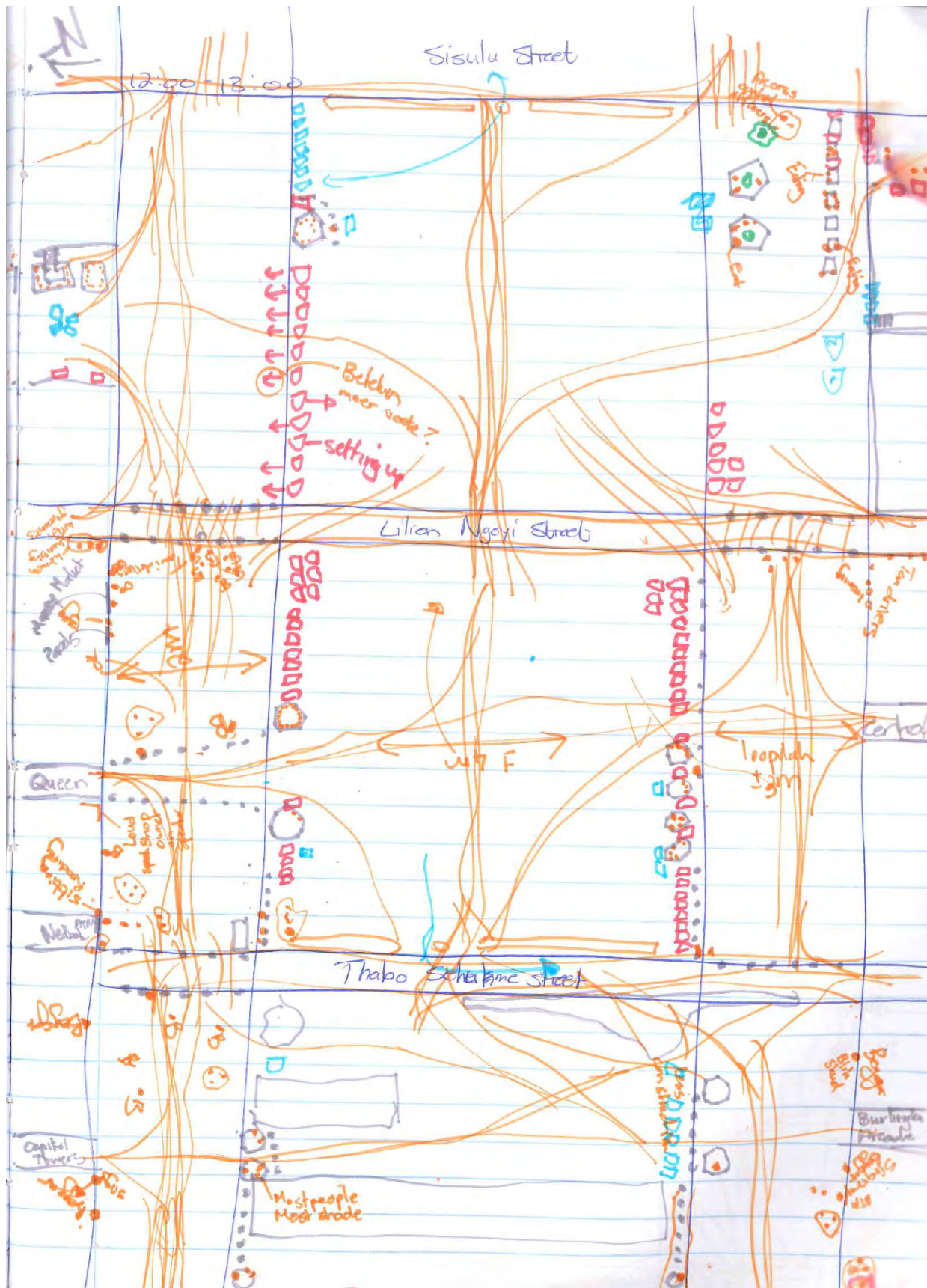
- Welch, A., Welch, A., McManus, D. and Solkoff, J. 2009. *Paperhouse, London, Newspaper Kiosks*. <http://www.e-architect.co.uk/london/paperhouse> Date of access: 1 Oct. 2016.
- Wheatley, M.J. 1992. *Leadership and the New Science: Learning about Organization from an Orderly Universe*. Berrett-Koehler, San Francisco, CA.
- White and Burke real estate investment advisors, 2016. *Consensus Building for Better Walkable Communities*. <http://whiteandburke.com/consensus-building-better-walkable-communities/> Date of access: 28 Oct. 2016.
- Whittemore R., Chase S. K. & Mandle C. L. 2001. Validity in qualitative research. *Qualitative Health Research* 11(4): 522– 537.
- Whyte, W. H. 1988. *City: Rediscovering the Center*. New York: Doubleday.
- Whyte, W. H. 1980. *The social life of small urban spaces*. Washington, DC: The Conservation Foundation.
- Whyte, W. F. 1981. *Street corner society: The social structure of an Italian slum*. 3rd ed. Chicago, IL: The University of Chicago Press.
- Williams, D. R. & Stewart, S. I. 1998. Sense of place: An elusive concept that is finding a home in ecosystem management. *Journal of Forestry*, 96(5): 18-23.
- Wilson, R. A. & Keil, F.C. eds. 1999. *The MIT encyclopedia of the cognitive sciences*. London: MIT Press.
- Wolcott, H. F. 1999. *Ethnography: A Way of Seeing*. Walnut Creek, CA: Altamira.
- Wolcott, H. F. 2009. *Writing up Qualitative Research*. 3rd ed. Thousand Oaks, CA: Sage.
- Woolley, H. 2003. *Excluded from streets and spaces? Urban Open Spaces*, Spon Press, London.
- Wu, J., Plantinga, A. J. 2003. The influence of public open space on urban spatial structure. *Journal of Environmental Economics and Management* 46(2003):288-309.
- Yardley, L. 2000. Dilemmas in qualitative health research. *Psychology & Health*, 15:215-228.
- Yeang, L.D. 2000. *Urban design compendium*. *English Partnerships/Housing Corporation, London*.

Zitomer, M.R. & Goodwin, D. 2014. Gauging the Quality of Qualitative Research in Adapted Physical Activity. *Adapted Physical Activity Quarterly*, 31: 193-218.

Zukin, S. 1995. *The cultures of cities*. Cambridge, MA: Blackwell.

Annexure A – Observation maps





Annexure B – Detail transcribed interview

Black male in his 40s

Informal street trader

Interviewer: How often do you use the street?

Participant: This Street?

Interviewer: Yes.

Participant: I think it is my bread here. When I am here I am so relieved, [because] I know my kids will eat, yeah. I'm coming here as it is my work place.

Interviewer: So [you come here] every, every, every day.

Participant: I come here Monday to Fri... Monday to Saturday.

Interviewer: Monday to Saturday?

Participant: Yeah

Interviewer: So you come here to work?

Participant: To sell my stuff.

Interviewer: Okay... and do you come here to do anything else than selling? Do you [sometimes] leave your shop to go shopping or...?

Participant: Ya, when I leave here I can ge-... I can go to Shoprite to buy the grocer[ies] or I can go to the mark to buy some stuff; Electrical stuff, Appliances [etc.] Then I can go there... there is two town spots I can go and buy something to wear and food. And... this street is so busy, busy, busy... that is why everybody are using this street. It is the centre, it is the CBD of... so I don't know what... what do you want more...?

Interviewer: No, that's good. I want to know what you do here, so you've told me know. And how do you experience the busyness and all of these shops... what do you think about it? How does it influence you?

Participant: Eeh, the-... the one thing I know [is] I'm benefitting. I'm benefitting on this street. The economy-... the economy is growing. If people are coming here and buying from us... they are helping us to go to the bank and save our little money we have.

Interviewer: Okay, and how do you experience the people that is here?

Participant: No, I experience people-... a lot of peoples, I experience all colours [of people] are moving around here, foreigners are also using this street... the reason is people are moving around here and [they] are asking for information... and a lot of people they come here to get information, maybe they want a computer in Church Square... You see I can help them, direct them, or give them directions... or, or someone [would] ask me... "Hey, my friend where is The Department of Education?" you see... ya.

Interviewer: You even providing an extra service!

Participant: Ya... when you are a person- a human... [you must] be a good person. Don't be like a mean person. Like when someone asks a question "Please can you show me where is..." or "Please can you give me directions to..." If you don't know, you don't know, but if you know you must give them the right direction. It can't take anything from you... you see.

Interviewer: So you are a helpful person.

Participant: Ya, even me I don't everything about this place. But out of a 100% I know 95%... you see.

Interviewer: Do you [also] know everyone around you here?

Participant: Ya, around me I know everyone.

Interviewer: Do you become friends?

Participant: We just speak, we are not friends. I am calling them colleagues, we are working together. And there is no one who can steal these things... they are my eyes if I'm focusing on something else and if I'm looking at [someone] stealing [from someone else] and I'm keeping quiet I'm not a good person. I will tell them "Hey, what are you doing?" You don't steal.

Interviewer: So you protect each other.

Participant: We must do that. If someone wants to fight with your friend, you won't just sit back with your arms folded. You can't leave them alone. You must help them if you are a good person. And that is how I experience the people in this street. I have created a lot of friends. It is easy to build a friendship with this people. I don't find it difficult making friends here. Like, you know, it is the first time you saw me, but you could see that you can approach me to ask me if I will look after your things while you continue with your shopping. When you come back it is still there and you say thank you or leave me a tip or buy me a cold drink. Even if they don't have

something for me, it is not a fight [it is fine], next time they will give me. It is the way I experience it.

Interviewer: So you experience a lot of people that is friendly and that trusts you.

Participant: Ya, but also some people they don't want to talk with you because maybe they don't like you and you don't know why. Maybe it is because of a previous mistake you made and now he hates you.

Interviewer: What would make your experience of this space better?

Participant: In order to make the street better for us, and now I'm also talking on behalf of my colleagues. We, as the vendors, on Church Street from Prinsloo Street to Andries Street is our working place. It would be nice if the government can provide us with toilets and taps for water.

Interviewer: Where is water here? Not close?

Participant: No, we don't have. We would like one here. One there. One there. So we could drink water, wash our hands and go to the toilet.

Interviewer: So you wouldn't want a formal structure where you can sell your stuff?

Participant: Ya, but it will be difficult. It will only work if it is affordable for us. You see the people use [buy from] us because it is cheaper and so it must stay that way. Some people they come to Shoprite, Hungry Lion or Edgars, but we are close to those shops and then sometimes they also need stuff that they can buy from us. And then they support us and our business is growing and the economy is growing.

Interviewer: Is there anything else you would like to improve?

Participant: When the sun is coming and it is getting very hot, eish. Or even when the rain it is coming or the wind we have the problem. Yes, we would like shelter, but the shelter will cost us. It is not for mahala [free]. But if shelter can be organised at a reasonable price we can understand... you see.

Annexure C – Detail transcribed interview coding

Interviewer: Monday to Saturday?

Participant: Yeah

Interviewer: So you come here to work?

Participant: To sell my stuff.

Interviewer: Okay... and do you come here to do anything else than selling? Do you [sometimes] leave your shop to go shopping or...?

Participant: Ya, when I leave here I can go... I can go to Shoprite to buy the groceries or I can go to the market to buy some stuff, Electrical stuff, Appliances [etc.] Then I can go there... there is two town spots I can go and buy something to wear and food. And... this street is so busy, busy, busy... that is why everybody are using this street. It is the centre, it is the CBD of... so I don't know what... what do you want more...?

Interviewer: No, that's good. I want to know what you do here, so you've told me know. And how do you experience the busyness and all of these shops... what do you think about it? How does it influence you?

Participant: Eeh, the... the one thing I know [is] I'm benefitting. I'm benefitting on this street. The economy... the economy is growing. If people are coming here and buying from us... they are helping us to go to the bank and save our little money we have.

Interviewer: Okay, and how do you experience the people that is here?

Participant: No, I experience people... a lot of peoples, I experience all colours [of people] are moving around here, foreigners are also using this street... the reason is people are moving around here and [they] are asking for information... and a lot of people they come here to get information, maybe they want a computer in Church Square... You see I can help them, direct them, or give them directions... or, or someone [would] ask me... "Hey, my friend where is The Department of Education?" you see... ya.

Interviewer: You even providing an extra service!

Participant: Ya... when you are a person- a human... [you must] be a good person. Don't be like a mean person. Like when someone asks a question "Please can you show me where is..." or "Please can you give me directions to..." If you don't know, you don't know, but if you know you must give them the right direction. It can't take anything from you... you see.

Multi-functional
role of street

provide in needs

Multi-functional

Crowding
Busy CBD
City life

Economic

Variety of
people
Movement
space
Reasons
Helpful

Sense of
Community

Diversity - people

Interviewer: So you are a helpful person.

Participant: Ya, even me I don't everything about this place. But out of a 100% I know 95%... you see.

Interviewer: Do you [also] know everyone around you here?

Participant: Ya, around me I know everyone.

Interviewer: Do you become friends?

Participant: We just speak, we are not friends. I am calling them colleagues, we are working together. And there is no one who can steal these things... they are my eyes if I'm focusing on something else and if I'm looking at [someone] stealing [from someone else] and I'm keeping quiet I'm not a good person. I will tell them "Hey, what are you doing?" You don't steal.

Interviewer: So you protect each other.

Participant: We must do that. If someone wants to fight with your friend, you won't just sit back with your arms folded. You can't leave them alone. You must help them if you are a good person. And that is how I experience the people in this street. I have created a lot of friends. It is easy to build a friendship with this people. I don't find it difficult making friends here. Like, you know, it is the first time you saw me, but you could see that you can approach me to ask me if I will look after your things while you continue with your shopping. When you come back it is still there and you say thank you or leave me a tip or buy me a cold drink. Even if they don't have something for me, it is not a fight [it is fine], next time they will give me. It is the way I experience it.

Interviewer: So you experience a lot of people that is friendly and that trusts you.

Participant: Ya, but also some people they don't want to talk with you because maybe they don't like you and you don't know why. Maybe it is because of a previous mistake you made and now he hates you.

Interviewer: What would make your experience of this space better?

Participant: In order to make the street better for us, and now I'm also talking on behalf of my colleagues. We, as the vendors, on Church Street from Prinsloo Street to Andries Street is our working place. It would be nice if the government can provide us with toilets and taps for water.

Sense of community

economic

Social
relationship
↓
Social
support
Trust
Friends

Built
environment

Economic

Facilities
to provide
in comfort/
needs

Annexure D – Informed Consent Forms



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October 2016

Dear participant

INFORMED CONSENT

RESEARCH ON THE PLANNING AND DESIGN OF STREETS: HELEN JOSEPH STREET, PRETORIA

I am currently a Master's degree student in the subject group Urban and Regional planning at the North-West University (Potchefstroom) under supervision of Ms Karen Puren (Senior Lecturer: Urban and Regional Planning). The aim of my research is to explore Helen Joseph Street in the Central Business Area of Tshwane in order to make planning and design recommendations for streets. In order to conduct this research, I need to observe the study area for a certain period of time and conduct interviews with participants (users) in the study area. I kindly invite you to participate in this research by taking part in a short (approximately 30 minutes) semi-structured interview about your experience and use of the street. In order to adhere to all ethical aspects with regard to the research it is compulsory for participants to give their written permission to take part in the research. If you agree to take part, please read the following statements and give your permission in written form by signing the informed consent.

(i) I have been informed that the purpose of the research is to explore how people experience and use Helen Joseph Street. My participation will involve a semi-structured interview of approximately 30 minutes in which questions will be asked by the researcher.

(ii) I understand that there are no foreseeable risks or discomforts if I agree to participate in the study. I understand that the results of the study may be published but that my name or identity will not be revealed. I also understand that the results of the study may be used for secondary studies connected to this project, but that my name or identity will not be revealed. The researcher will maintain confidentiality of all records, materials and voice recorders.

(iii) I have been informed that I will not be compensated for my participation. I have been informed that any questions I have concerning this research study or my participation in it before or after my consent, will be answered by the investigators of this study. I understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefit to myself. In signing this consent form, I am not waiving any legal claims, rights, or remedies.

I, the undersigned Josephine Mogae (full names), have read the above information and by signing this form indicate that I will participate in the research voluntarily.

Josephine Mogae
Participant

6/10/2016
Date

Susan Weyers
Researcher

6/10/2016
Date

Thank you for participating in my research.

Kind regards

Susan Weyers (Master's student)
Karen Puren (Supervisor)