

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

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Public open spaces can positively contribute to people's quality of life. With the world's growing urban population, especially in developing countries, quality public spaces are becoming increasingly important. Streets are considered important public spaces for people-environment interactions. Streets play an important social role in communities' lives and can contribute to a sense of community. Using people-environment interaction as theoretical framework, the study used a qualitative approach to explore social dynamics in a multi-modal street (Helen Joseph Street) in a South Africa metropolitan city (Pretoria). Aspects of ethnography was applied using observations and semi-structured interviews to generate data from 32 participants about social dynamics in the street. Themes that emerged from the content analysis of the data include: the multi-functional role of the street, serving an economic, cultural, social, political and functional role; the generation of vigorous social interaction with multi-levels of contact/interaction; the interrelated nature of the social and spatial/built environment; the role of the street space in facilitating social interaction and being supportive of the social environment. The findings illustrate the interrelatedness and complexity of people and their environment in Helen Joseph Street. It is suggested that streets have the potential to positively impact on people's social lives. Streets can act as platforms for social interaction by becoming self-reinforced social spaces that attract people and in return change urban spaces into vibrant public spaces.

Keywords: Streets, social spaces, qualitative research, people-environment interaction

Contextualisation of the research

Public open spaces have a positive influence on people's quality of life (Thompson, 2002:60). Public spaces play a multi-functional role in society namely an economic role (Florida, 2002; Jackson, 2003:191), ecological role (Thompson, 2002:60), social role (Lees, 1994:463) and political role (Stanley, Stark, Johnston and Smith, 2012:1090). Furthermore, public places are linked to the psychological and physical well-being of people (McConnachie and Shackleton, 2010: 248), especially in urbanised environments. With the world's growing urban population, especially in developing countries (United Nations, 2009), planning for quality public spaces are becoming increasingly important (Wu and Plantinga, 2003:288). Public spaces are considered vital for lively cities as they act as platforms for social interaction (Crowhurst, Lennard and Lennard, 1995:25 and Guerrero, 2007:7).

Streets cover the largest area of public open space in towns or cities (Barker, 2009:155; Jacobs, 1995:5) and can include numerous types of public spaces such as food production areas, parks and gardens, recreational spaces, plazas, streets, transport facilities, and incidental space (Stanley, Stark, Johnston and Smith, 2012:1089). However, streets are considered the most important public spaces where people-environment interactions occur (Appleyard, 1981; Carmona *et al.*, 2003; Chekki, 1994; Jacobs, 1961; Jacobs,

1995; Lofland, 1998; Mehta, 2007; Southworth and Ben-Joseph, 1996; Vernez-Moudon, 1991). Therefore, streets play an important social role in communities' lives (Jackson, 2003:191). Streets can assist in forming a sense of community and contribute to the health of the community (Jackson, 2003:191).

Numerous authors acknowledge that social interaction is a prerequisite for meaningful public places (Jacobs, 1961; Appleyard, 1980; Lynch, 1984; Gehl, 1987; Vernez-Moudon, 1991; Tibbalds, 1992 and Zukin, 1995). However, in many instances economic freedom and social fragmentation has turned public spaces such as streets into spaces that are excluded from social interaction (e.g. shopping malls). The disintegration of public spaces has prompted people to withdraw to private homes or indoor entertainment areas (Kushner, 2002:46). More research is needed with regard to streets and social related aspects (Banerjee, 2001:9; Benjamin, 2002:416–455; Barker, 2009:155).

Limited research has been done in the South African context with regard to streets as social places. The purpose of this study is to explore the street as a social space in a multi-modal street in a South African Central Business Area, located in the metropolitan City of Tshwane in Pretoria. The study is guided by the following primary research question: *How can a street contribute to the social dynamics between people?* Secondary questions include: (i) *What is the role of a particular street (Helen Joseph Street, Pretoria) in the*

social interaction between people using the street? ; (ii) How does the spatial and built environment of Helen Joseph Street contribute to the social dynamics in the street?

Literature review

People-environment interaction

People-environment interaction forms the theoretical point of departure for the study. People's interaction and relationship with their environment is described as a complex transactional process in which the person in the environment and the environment are both important (Levy-Leboyer & Bernard, 1987:6, Gifford, 1987:2; 1997; Moser and Uzzell, 2003:423). People are connected to the spaces that they live and dwell in and these places develop a personal meaning for the inhabitants (Kara, 2013:289; Ley and Samuels 1978, Pile 1993, Sack 1997:132, Sibley 1991, Tuan 1977). Durkheim (1995) stated that the connection between people and the environment does not only contribute to the feeling of community but also has an influence on the social and psychological well-being of people.

Gibson's (1979, 1986) Affordance Theory is important for this study as it incorporates the role of environmental affordance in the design of urban spaces. According to this theory the modification of the physical environment should create opportunities to form positive affordances. Affordance of an object or place refers to properties of an object or environment to generate social interaction (Stokols and Schumaker, 1987:99). However, it does not imply that the mere existence of an affordance will result in social activity or will prompt social behaviour (Gibson, 1979:129) as the affordance is not deterministic for behaviour. Also, it is not a static approach to the environment. 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 background or change in needs (Lang, 1987).

Barker's (1968) Behaviour Setting theory is another theory that considers the environment in terms of its social features. According to this theory people tend to behave similar in specific settings despite their individuality, illustrating the importance of the physical environment in people's social behaviour (Walsh, 1973:9 and Gifford, 2007:9). Wicker (1987) developed a more flexible (less deterministic) view of a behaviour setting. According to Wicker (1987) behaviour settings are not static entities but settings that are born, struggle, adapt, thrive and/or die (Gifford, 2007: 10). Carmona *et al.*, (2003:3-19) confirm that social relationships and behaviour of people can also depend on the various cultural, physical or psychological perceptions of the setting. Kaplan and Kaplan (2009:330) and Costanza *et al.* (2007:268) emphasise the importance of the behaviour setting in promoting positive behaviour. Creating an environment through the reinforcement of positive social relationships ultimately contribute to the level of satisfaction or dissatisfaction with their environment. The

planning and design of the environment (and of public spaces as in this case) can improve people's overall experience of their environment.

A third theoretical point of departure revolves around the non-linear, complex transactional relationship between people and their environment. According to the Complexity Theory complex systems (such as social systems) should not be reduced to its individual components but considered holistically (Sturmberg and Martin, 2013:15). In complex social systems individual interactions within a system shapes the behaviour of the overall system. There is limited control over the system and consequently a new system's behaviour is unpredictable while it is difficult to find the source of the change. It seems that the rules of cause and effect do not apply to complex systems (Wheatley, 1992; Beeson and Davis, 2000; Haigh, 2002).

From the aforementioned people-environment theories it is clear that people and their environment are intertwined and should not be viewed separately for each other (Gifford, 2014:544). The transactional and complex nature of people-environment interactions served as a background to include planning and design theories that integrate social dynamics in urban spaces such as streets.

Planning and Design Theories of Streets as Social Spaces

Various planning and design theories were developed in which streets are viewed as social spaces. These theories are discussed in this section.

Safe streets: In Jacobs' (1961) publication entitled "The Death and Life of Great American cities" Jacobs used Greenwich Village in New York City to observe the role and importance of diversity in streets as public spaces (Farnham, 2014:31). According to Jacobs (1961; 44) a well-used street is a safe street. This implies that the more opportunities are created for social encounters the safer a street will be. By "zoning for diversity" (Jacobs, 1961:252) and increasing the "mix of uses, functions, diversity of people, networks and density" streets can become safe spaces for social interaction. Jacobs formulated lessons for creating authentic urban neighbourhoods, demonstrating the importance of a place to have its own character in which people feel they belong (Farnham, 2014:16). According to Jacobs (1961:67, 93) a sense of ownership and responsibility are created when people feel they belong in the street.

Shared streets: Colin Buchanan developed the 'Shared streets' concept in 1963 to address urban transport issues in England (Buchanan, 1963). Buchanan's ideas were well received in the Netherlands, inspiring Niek de Boer to design the 'woonerf' concept in 1969 (De Boer, 1987) where pedestrian activity and car movement are accommodated in the same street (Carmona *et al.*, 2003:80). The integration of traffic and residential activity in a shared space has encouraged design configurations that promote pedestrian

activity and increase social interaction (Polus and Craus, 1990; Southworth and Ben-Joseph, 2003:117; Webster, Tilly, Wheeler, Nichols and Buttress, 2006). In shared streets various users are integrated in the same space. While the uses may be conflicting in nature, the type of design of these shared streets (e.g. motorists not having a right-of-way, driving speed is decreased and social uses are supported) create safety for its users (Curl, Thompson and Aspinall, 2015:118; Gehl, 2010:234; Southworth and Ben-Joseph, 2003:117; Watson, Plattus and Shibley, 2003:6.9-5).

Life between buildings: The concept of the importance of 'life between buildings' was developed by Gehl (1987). 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. Necessary 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 and can be influenced by architects and planners in creating opportunity for these activities through the design of the physical environment (Gehl, 1996:15).

Liveable streets: According to Appleyard, (1980:106) streets are the most important part of the urban environment, but needs to be reshaped to form the liveable communities that they once were. 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. Authors such as Carlson, Wormser and Ulberg (1995:15) agree that the dependence on and design for car-oriented streets reduce the opportunities for public life. However, Appleyard (1981:243) had a different approach than the traditional car-oriented approach and saw the street as a pedestrian territory by stating that "traffic is people" (Appleyard: 1981:32). Liveable streets are streets where people participate in numerous activities such as talking, sitting, playing and go for leisurely walks (Appleyard, 1981). These streets should be well-managed, clean, safe, walkable environments with vegetation, open space and well-scaled buildings that should not be polluted or overcrowded – liveable streets are places where people can engage in conversation and children can play (Appleyard, 1980:107). These are streets that accommodate communal life (Bohl, 2000:788).

The social life of small urban spaces: Whyte's (1980) study of 'The social life of small urban spaces' was concerned with the way people live and how details of the physical environment influenced the choices that people made. Whyte

analysed how people reacted to changes in the environment and what attracted or repelled people (Glazer, 1999:32), observing crowding in urban spaces. However presence the presence of space itself does not necessarily attract people on its own (LaFarge, 2000). Sociable spaces are best-used spaces with a high proportion of groups that indicate selectiveness (Watson, Plattus and Shibley, 2003:2.12-2).

A small space, such as a street corner can create a platform for social activity as it forms the best place to meet people (Whyte, 1980). 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 attraction to places are 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).

New Urbanism: Duany and Plater-Zyberk (1984) became known for the concept of New Urbanism, using 19th century town planning concepts to form compact, aesthetic streets and walkable neighbourhoods (Encyclopaedia Britannica, 2009). The essence of New Urbanism is the creation of a 'sense of community' and bringing social change through design (Sharifi, 2016:8). The principles of New Urbanism aims to restore a 'traditional sense of community' (Marcuse, 2000:4). New Urbanism advocates the creation of pedestrian friendly areas to reduce vehicular use and solve the problems of congestion and urban sprawl. Streets are viewed as a multi-functional spaces and are important public spaces (Guerrero, 2007:20). New Urbanism is an alternative to vehicular dominant planning and emphasised pedestrian- and cyclist-friendly streets in the attempt to recreate streets as social spaces (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; Steuterville 2004).

Great streets: According to Allan Jacobs (1995:3) the basic reason to have cities is to create spaces where people can meet. Streets form the most basic of spaces where these meetings transpire. Jacobs (1995) based his view of streets on observations conducted in numerous streets and boulevards in order to understand what makes great streets (Project for Public Spaces, 2009). Great Streets are more than conduits for engineering service lines and linear spaces that bring people from one end to the other (Jacobs, 1995:2). 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). Furthermore, streets have symbolic, social, political, and social roles and is not limited to merely providing access or serve as a movement network (Jacobs, 1995:4). Streets structure urban communities and create spaces where social and commercial interaction can occur (Jacobs, 1995:3).

According to Jacobs (1995) the criteria for great streets include safety, responsibility, comfort, 'publicness', participation, accessibility, liveability and bringing people together (Jacobs, 1995). 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, 2009). These factors were identified as the necessary factors for transforming streets to public realms (Project for Public Spaces, 2009). However, these qualities do not create a great street in itself. It is rather the integration of all of these elements in the overall design of the street that creates a great and memorable street (Jacobs, 1995).

Complete streets: McCann and Goldberg (2003) proposed the term 'Complete Streets'. The Complete Streets movement is a radical way of approaching transport infrastructure that aims to enhance the liveability, resilience and sustainability of cities (McCann and Rynne, 2010). The principles of complete streets entails a wide variety of street users (pedestrians, cyclists, shoppers etc.) in order to create a vibrant street. This policy provides the opportunity for a diverse number of people to be part of a street community (Moreland-Russell *et al.*, 2013).

To summarise, streets as social spaces are extensively supported in theory. The social life of a multi-modal street in a real life setting is the focus the empirical part of the study.

Research design

The study used a qualitative design as the focus was on social aspects (Leedy and Ormrod, 2010:133). Qualitative research aims to generate 'insight' into social related topics (Gordon, 2011:175 and Carlsen and Glenton, 2011). Qualitative research is focused on 'telling the story' from the participants' viewpoint (Trochim, 2004 and Denzin and Lincoln, 2000) providing rich descriptive data (Trochim, 2004) to understand the meaning of social phenomena (Keegan, 2009:11) such as how people experience their environment. 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).

With the above in mind a qualitative approach was considered more appropriate than a quantitative approach for the study.

Research context

The broader research context is Pretoria, the administrative capital city of South Africa, situated in the Gauteng Province (see Figure 1). It falls under the jurisdiction of the City of Tshwane Metropolitan Municipality, one of the largest municipalities in the country.

The micro research setting is situated in the Central Business area of Pretoria. The street space selected for the

study is a 650m long section of Helen Joseph Street (see figure 3 and 4), an area that contains a mix of traffic modes, a wide variety of functions and uses, vibrant social interaction and various users. Helen Joseph Street is one of the major access routes to the Central Business District of Pretoria with linkagew to the western and eastern parts of the city through the CBD (City of Tshwane, 2013:32).

Helen Joseph Street was chosen for this research study because of the following reasons:

- The importance of Helen Joseph Street in the municipal context with regard to the need for planning and design intervention of streets as identified in local policy documents such as the policy on the 'Design of Hard Urban Spaces and Streetscape Elements in Tshwane (City of Tshwane Metropolitan Municipality, 2005);
- The fact that the street is a vibrant multi-modal street with potential to generate rich data about social dynamics;



Figure 1. Location of Pretoria, Gauteng Province, South Africa (Source: compiled by researcher from PlanetGIS)



Figure 2. Helen Joseph Street location within Pretoria Source: compiled by researcher from PlanetGIS)

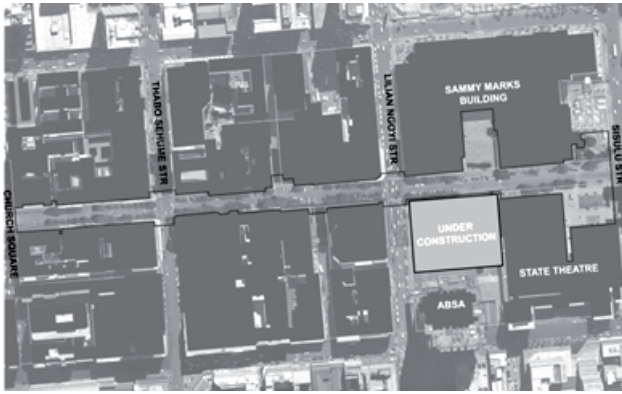


Figure 3. Helen Joseph Street – delineation of the research setting (Source: compiled by researcher from PlanetGIS)

- The increasing importance and acknowledgement of the role of streets in the social and economic life of cities in academic literature.

Research methodology: An Ethnographical framework

The research was informed by Ethnography as methodological framework. 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) in order to gain insight into the everyday life and practice of people (Hoey, 2014). However, the research is not purely ethnographic in nature as the researcher did not become a participant in the research setting or became part of the community. Therefore, ethnography was used as a framework for understanding and interpretation of the behaviours, values, knowledge, language, and beliefs of a specific social group (Hunter, 2013:49) – in this case a street community.

In ethnography, different methods are combined into a ‘trilogy’ of techniques (Wolcott, 1999). This type of research 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 an observation method as 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 the observed actions (Gans, 2010:97; Marcén, Gimeno, Gutiérrez, Sáenz and Sánchez, 2013:761) (for example follow-up interviews in this research). This type of research allows for developing a deeper understanding of the people (Gans, 2010:98) and the meanings that they ascribe to their everyday life and environment (Gilbert, 2008:282) that cannot necessarily be captured by surveys (Hunter, 2013:49).

Research methods

Two methods, namely observations and interviews, were chosen to generate data in this case.

Phase one: Observations

Observations have the potential to generate rich data about behaviour, roles, and actions and the understanding of these in a specific setting or context (Walshe, Ewing and Griffiths, 2011:1048). Observations contribute to in-depth understanding of social phenomena 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). Non-participant observations were conducted in this instance.

Observations were conducted in two different time periods. The first period included two weeks spent in the research setting to orientate the researcher in the setting, to gain a holistic image of the research setting, to experience the street, and to observe the scope and variety of activities/patterns that occurred. The second time period included a week spent in the research setting as a follow-up phase to confirm the observations conducted in the first phase. This ‘checking phase’ ensured data saturation.

Observations were conducted by moving through the research setting and stopping to sit and observe possible patterns. Comprehensive field notes were made about various social dynamics, i.e. people sitting, standing, walking, gathering, talking, socialising. Notes were also taken of how users responded to different settings and changes in the street. The notes were combined with spatial maps (drawn by the researcher) to provide a visual summary of patterns in the setting (see Figure 4). Photographs were used to support the observations and field notes; 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.

Because social activities are characteristics of good quality public spaces (Carmona *et al.*, 2003), the observations were categorised into different patterns of how the street



Figure 4. Extract of observation map (Source: Compiled by researcher)

was used according to the social activities as described by Gehl (see literature review). 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 the literature that informed the observation framework.

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 follow-up method in order to obtain insight with regard to the activities and behaviour observed.

Phase two: Interviews

Interviews enable researchers to gain insight into participants' experiences, feelings, opinions, attitudes and to gather information that is inaccessible otherwise (Borbasi *et al.*, 2004; Hewitt, 2007; Matthews and Ross, 2010).

Convenience sampling was chosen to recruit participants for the interviews conducted in the research setting. Convenience sampling is the process of selecting participants in a random selection process (Robinson, 2014:31). 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). Participants were chosen based on their convenient proximity and willingness to participate in the study. The selection of participants worked on a first come first served basis until the sample size was filled. Only participants that were found within the research setting (Helen Joseph Street) were included in this study. Participants included people from different age groups and gender, newcomers to the setting as well as people who had been using the street for more than 3 years.

The sample size consisted of 32 participants that voluntarily took part in the interviews. 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. According to Thompson (2002) smaller studies involved more contact time with participants while theoretical saturation mostly occur between 10 to 30 interviews.

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' 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 con-

cepts 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.

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 social phenomena (Gledhill, Abbey and Scheitzer, 2008:84). Face-to-face interviews allow researchers to explore an issue and determine individuals' opinions, perceptions and reactions. 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

Table 1. Interview schedule

Questions for interview: Role of streets in social interaction		
Primary Question	Example of follow up questions	Confirmation
<i>Why do you visit this street?</i> (Reasons)	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....
<i>How would you describe your experience of this street?</i> (general; physical/ built environment)	Follow-up question will be determined by issues that arise, e.g. dirt, ... / 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...?
<i>Are there any changes you would like to see in the street in the future?</i> (Future interventions)	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....
<i>How do you experience the people in the street?</i> (Social interaction/ 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?

(Source: Own construction)

(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 and Kvale, 2009) as seen in Table 1.

The analysis of data was divided into three stages (Creswell, 2007:67): (i) Provisional data analyses – done during the interviewing process to confirm that the data relates to the aim of the study; (ii) reflection - done after each interview to check the point of data saturation and (iii) content analysis – divided into two phases. Firstly, each transcription was carefully studied and summarised 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). During this stage, breadth is more important than precision, to make sure that themes or subcategories are not lost (Thorne, Reimer Kirkham and O’Flynn-Magee, 2004:5). Secondly, open coding was used to identify categories and linkages in the interview data. Within each category, properties or subcategories were developed. 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 and O’Flynn-Magee, 2004:7). 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.

As this study is qualitative, themes were not counted, as the depth and meaning were more important than the frequency of a specific theme. Once the data were coded and categorized, interpretation of the data could be done. The main goal of the data interpretation was to structure the data into coherent understandable themes and sub-themes that provided insight into the understanding the street from the participant’s perspective.

Ethical aspects

Informed consent forms were completed by all participants in order to obtain the necessary permission to conduct the interviews. Consent was based on voluntary participation, without remuneration given for participating in the research, to ensure anonymity of participants and a statement that participants could withdraw from the research at any time. Permission was also obtained to use the primary data in secondary research.

Findings

The findings are presented in two sections, patterns that emerged from the observations and themes that emerged from the interviews.

Phase one: Observations

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 created a link between the setting or location and the activities that took place.

The observations can be summarised into four main themes, as seen in Figure 5, and discussed in the following section.

Pattern 1: The Street as Multi-Functional Space

Helen Joseph Street is a multi-functional space (see Figure 5 quadrant 1) 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).

The street is characterised by the economic freedom by providing a space where informal and formal traders can make a living (see Figure 6).

Supporting the *economic role of the street*, the street is lively and filled with people. Gehl (2010:22) states, where

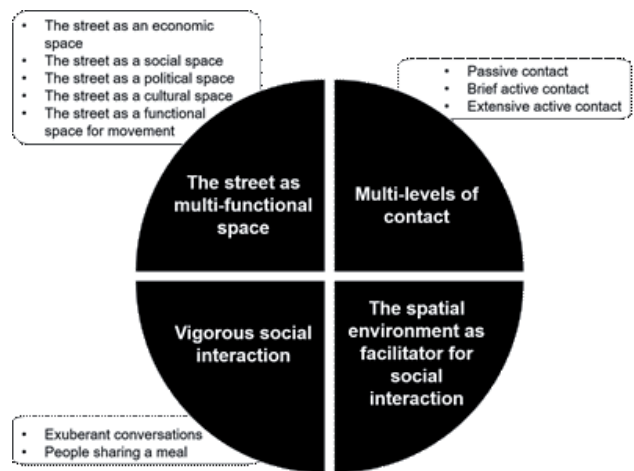


Figure 5. Patterns and sub-patterns identified in the observation process (Source: Compiled by researcher)



Figure 6. Economic space – formal (a and b) and informal businesses (c and d) (Source: Photograph taken by researcher, 2014)

there is activity and life, there is *social interaction* (see Figure 7). From the observations, the social interactions seemed unpredictable, unplanned and occur spontaneously between individuals and groups of people using the street. Social interaction in the street is a self-reinforcing process as people come to places where other people are (Gehl, 2010:65). People gather in the street to engage in conversation, sit on benches or steps or stand and interact.

The *street as a political space* is created by allowing for free and open political discussions and celebrations of 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.

In this particular street, a political space is formed by numerous planned activities such as campaigns. The public space creates a space of expression where ideas and opinions can be exchanged and people can express themselves. Political expressions are mostly concentrated in the public space of Sammy Marks Square, because of the openness of the space, and the continuous movement of people through the square. Political activities do not occur regularly but rather at random times/days of the week.



Figure 7. Social space (Source: Photograph taken by researcher)



Figure 8. 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)

The *street functions as a Cultural Space* as activities such as markets, street performers, street parties, and cultural gatherings occur spontaneously (see Figure 8). The South African State Theatre also acts as a strong cultural attraction and upcoming shows/performances are advertised in the area. The Sammy Marks square is used for a cultural gathering space where speakers are set up and performers sing and dance. The social activity seemed to be based on people's curiosity and willingness to participate, in for example demonstrations, celebrations and other social gatherings in the street.

The street also serves the role of a *space for functional movement*. The streets that intersect with Helen Joseph Street carry high volumes of traffic and public transit forms. These create very busy intersections with vehicular traffic travelling north - south and pedestrians travelling east-west, and north-south, regulated by traffic lights.

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 seemed to be 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.

Although the study is focused on streets as social spaces, the observations confirmed that the street has multiple roles that extends beyond its social role.

Pattern 2: The street as a space for multi-levels of contact

There are different levels of contact present in Helen Joseph Street (see Figure 5 quadrant 2), which consist of Passive contact (Sub-Pattern 1), Brief active contact (Sub-Pattern 2), and Extensive active contact (Sub-Pattern 3).

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 and is also the activity that can be influenced by the planning and design of the environment. Environmental design is therefore important as it forms the background for other activity patterns.

Passive contact in the research setting is observed through those participants who do not actively take part in social interaction but observe other participants in the space (see Figure 9). 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



Figure 9. Passive contact – (a), (c) and (d) people sit on public seating and (d) steps (Source: Photographs taken by researcher)

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.

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, 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 other people are 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, e.g. the informal traders. 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.

Brief active contact implies brief interaction such as greetings to passing people or enquiries and short conversations that entails more the exchange of information than having a social purpose. This form of contact is unplanned and can occur at any given time or place. Brief active contact 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. 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.

It was also observed that participants made brief contact with fellow participants at market booths, benches or where people waited. These participants engaged in conversations that sometimes grew into contact that was more extensive. This form of contact is normally spontaneous and unpredictable.

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.

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.

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.

The role of extensive contact in terms of social interaction is that the space creates an opportunity for people to form more permanent relationships such as friendships. The opportunity for extensive active contact can be supported by the design of the physical environment that can ultimately increase or decrease the social vitality of the street.

Pattern 3: Vigorous Social Interaction

Helen Joseph Street is a space in which vigorous social interaction (see Figure 5 quadrant 4) takes place that consists of continuous conversations throughout the street (Sub-Pattern 1) and a space to enjoy a meal together (Sub-Pattern 2).

According to Gehl (1996) 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. People gather in groups that vary in size, standing in circles talking informally, laughing



Figure 10. 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)

(see Figure 10). The people seem comfortable in the space and with each other.

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. 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.

Pattern 4: The spatial environment as facilitator for social interaction

The spatial environment of Helen Joseph Street acts as a facilitator for social interaction (see Figure 5 quadrant 3). 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.

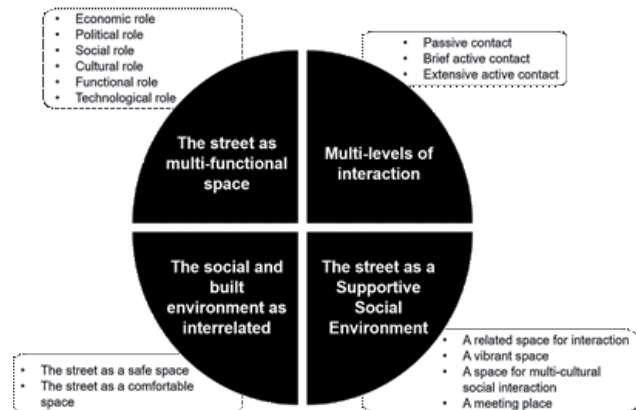


Figure 11. Themes and sub-themes identified during the interview process (Source: Compiled by researcher)

Phase two: 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 (see Figure 11) discussed in the following section.

Theme 1: The Street has a Multi-Functional role

The street plays a multi-functional role (see Figure 11 quadrant 1) 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) a Functional role (Sub-theme 5) and a Technological Role (Sub-theme 6).

The interviews support the observation of *the street as an economic space*. While some visit the street for economic activities such as shopping, 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. 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. 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.

The street forms a space where people feel free to express themselves in terms of *political* aspects. Participants confirmed that they have observed political activities, such as protests, strikes against service delivery and for salary increases. Participants 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.

The street functions as a *platform for social interaction* (see Figure 12). Participants experience the street as a friendly social space in which they meet with friends. Par-



Figure 12. Social role (Source: compiled by researcher from transcribed interviews and PlanetGIS)

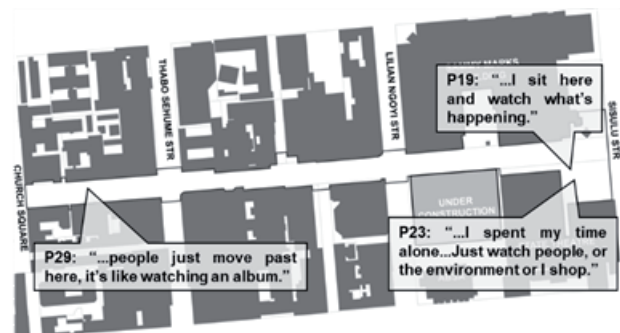


Figure 13. Passive Contact (Source: compiled by researcher from transcribed interviews and PlanetGIS)

Participants come to the street to see and meet other people. People interact with each other, engaging in conversation, responding to advertisement campaigns, awareness campaigns and chatting throughout the street. 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.

The *street functions as a cultural space* as there are some forms of cultural expression in a street filled with historical connections and buildings. Participants 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. 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. There is thus need for more cultural experiences in the street and artistic expression.

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. Public transport routes come together in the CBD, 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.

The availability of free WiFi in the street has an influence on the number of people, especially young people living in the area, to make use of this free service. People connect to the free WiFi to be able to socialise in cyberspace. 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.

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

There are multi-levels of interaction (see Figure 11 quadrant 2) 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).

Some participants were recorded to visit the street alone. They come to the street to make social contact as they come to watch people. They use the street to spend some time alone, 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 (see Figure 13).

Participants meet each other by chance, engaging in *brief active contact*, stopping for a brief moment to interact. Participants stop to enquire about products from the Informal traders or to ask directions or general information. 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.

Extensive active contact occurs in the street as groups of people visit the street and spend time in the street, some sitting in the area, socialising. People meet their friends in the street and shop together. 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 as colleagues whom they can socialise with.

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 (see Figure 11 quadrant 4). The vibrancy of the street has a positive impact on people. The environment is experienced as a safe space (Sub-theme 1) that is comfortable (Sub-Theme 2) for the participants.

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

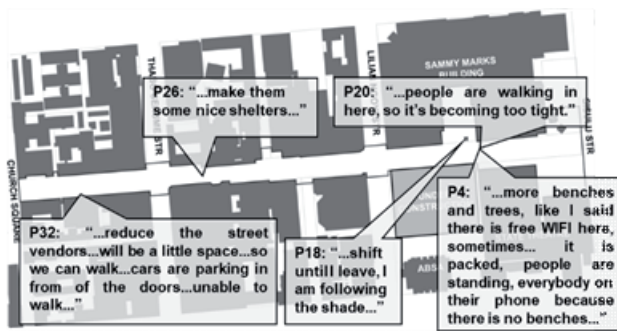


Figure 14. Comfort (Source: compiled by researcher from transcribed interviews and PlanetGIS)

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. 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. This makes people uncomfortable and frightened of people around them. There is also a concern for safety with the increase in demonstrations 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. 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.

People are not supported by the built environment in all instances (see Figure 14). In very busy time periods, people gather in their numbers in the street and then sufficient seating is lacking. The number of people creates 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.

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. 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, 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.

Theme 4: The Street as a Supportive Social Environment

The street supports different social activities. The Supportive Social Environment (see Figure 11 quadrant 3) 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).

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. 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. 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.

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, creating a *vibrant space*.

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.

Participants had positive sensory experiences of the street space and described it as vibrant atmosphere created by the spatial/built environment and the presence of the people.

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, supporting *multi-cultural social interaction*. The people are con-

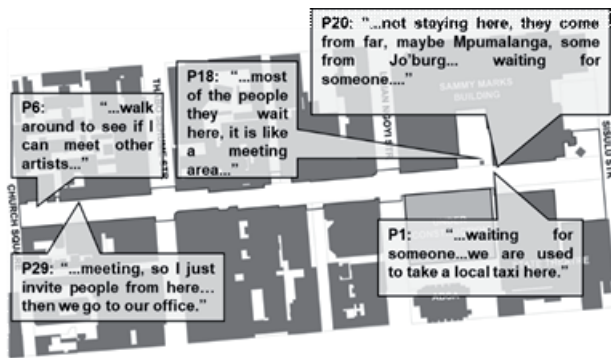


Figure 15. A meeting place (Source: compiled by researcher from transcribed interviews and PlanetGIS)

cerned for other people's safety and their well-being. Informal traders become friends and build a relationship with each other. 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.

The street is used and functions as a *meeting place* (see Figure 15). 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 waited for clients or colleagues and travelled from the street to their offices or work places or they spent time in the street, waiting to meet friends or acquaintances. People also come from as far as Mpumalanga or Johannesburg to meet people in the street. People sit on steps, benches, pillars or other available surfaces that are shaded, waiting to meet people. Participants also met like-minded people in the street as there is always new faces and people that are approachable and friendly.

The street consists of a diverse community with a variety of people. 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 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.

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 feel as well as the relationship with the street and the ownership taken of the street space.

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.

Discussion

In the case of Helen Joseph Street (a main activity spine in one of the metropolitan cities in South Africa) it is illustrated that streets can serve a magnitude of purposes for its users, other than that of mere movement networks. This nature of the street shapes it as a multi-dimensional space in which economic, political, social, cultural, functional and technological needs can be accommodated. The street provides an urban place where different types of expressions are used to sustain public life. This complex interactive network of roles and functions allows for various types of social interaction to take place between people including passive and active interaction – both important for creating vibrant public places. Passive interaction and active interaction are woven together in this street to create an inviting and accessible atmosphere for social interaction. In this way, the street becomes a space for vigorous social interaction in which people-environment interactions are reciprocal. Positive social behavioural patterns in which people can meet new acquaintances, develop friendships and good collegial relationships occur.

The behaviour setting in this instance plays an important role as it supports and facilitates social interaction in the street. Relaxation, vibrancy, multi-cultural interaction and the street as social meeting place are some of the most

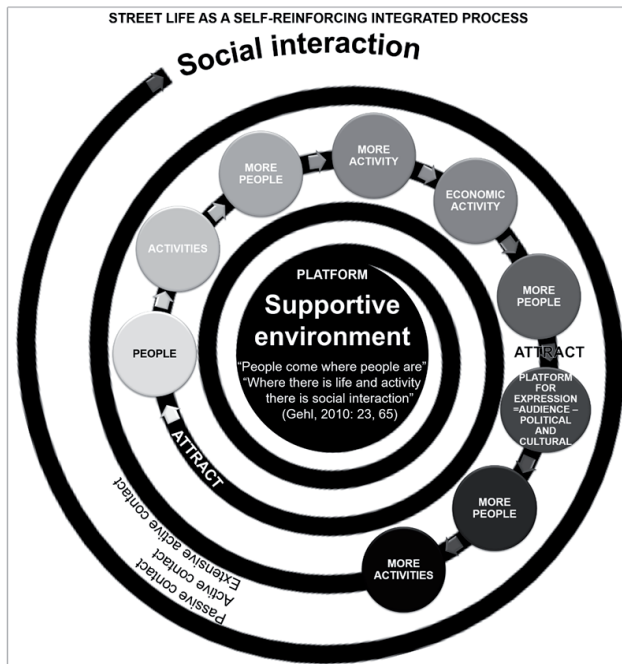


Figure 16. Street life as a Self-Reinforcing Integrated Process (Source: Compiled by the researcher)

important social functions that are supported by the physical environment in this study.

The overall supportive role of the environment as conducive for the street as a social space and the positive social relationships that are formed is portrayed in the experience of the street as a positive space in people's lives in which they feel safe and comfortable.

The findings confirm the interrelatedness and complexity of people and their environment in a public space such as Helen Joseph Street. It illustrates that streets have potential to have a positive impact on people's social lives. It has the potential to create a strong platform for social interaction.

In such as complex public space the city and street show potential to become a positive self-reinforcing process as suggested by Gehl (2010:65). This process entails that once such a process has started, it becomes a positive spiralling effect of growth and social interaction (see Figure 16).

People are attracted to good-quality, well designed public spaces that support life in the city (Gehl, 2010:65,88). A supportive urban environment, that creates opportunity therefore start a process that is self-reinforcing as 'something happens because something happens' (Gehl, 2010: 65) and "people come where people are" (Gehl, 2010:65). The presence of people and activities thus attract more people, and a variety of activities, varying in intensity, that strengthen the process.

The creation of potential for city life to create a platform for a positive self-reinforcing process, that breathes life into a space, emphasises the need for good urban planning and design of streets.

Concluding remarks and lessons for planners and designers

The main purpose of this study was to develop an understanding of the role of streets as social spaces in cities by an in-depth study of a multi-functional street in a metropolitan city (Pretoria) in South Africa. While each street is a unique social context comprising different types of social interaction, behaviour patterns and extent to which the physical environment supports the social dynamics, some general conclusions and lessons learned from the study may be valuable for urban planners and designers with regard to streets as social spaces. These conclusions also answer the research questions that guided the study.

While the various roles of streets may differ from one context to another, streets seem to be much more than fulfilling a functional role. Streets play a multi-dimensional role in people's lives and in the urban environment. This multi-functional role is important to take cognisance of as planners/designers need to create environments that acknowledge streets as social, cultural, economic and political spaces. Streets should accommodate a variety of users and uses in which people can feel free to express themselves in various ways;

- While the various dimensions and roles of streets are unique, streets (as illustrated in the case of a multi-modal street) have the potential to generate an intricate, complex system in which social dynamics can flourish;
- The social role of streets (the focus of this study) is important in creating an inviting and vibrant atmosphere conducive for positive social behaviour;
- The multi-dimensionality of streets and their potential to create a platform for social interaction should be acknowledged in the policies and legislative context that guides the development and design of street spaces. It is especially necessary on local level to understand the role of streets and how the physical environment can support and facilitate social interaction. Guidelines for streets (or at least some important streets) should be developed based on the uniqueness of each context;
- Streets are utilised for various forms of social interaction including active and passive forms of interaction (brief or extensive social interaction). The various forms of social interaction support each other and form a cyclical network that create social dynamics in the urban environment;
- The study illustrated that people and their environment are integrated in a reciprocal relationship. This entails that streets as social spaces cannot be planned/designed without understanding the social dimension of the urban environment e.g. social interaction. However, more research in other contexts are needed in terms of streets as social spaces.
- This study is a step towards understanding public spaces such as streets in terms of social dynamics in a South

African context as informative for urban planning and design. The planning and design of streets can play an integral role in supporting, facilitating and sustaining social dynamics in the urban environment. The physical environment has the potential to act as platform for social interaction. For this reason, it is important that streets such as Helen Joseph Street that form primary activity spines in the urban environment should be planned/designed to fulfil various roles while accommodating a variety of users. Planning for streets as social spaces imply considering social dynamics in order to create vibrant sustainable public places.

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