A Space for Me?
Urban management and disabled people's access to the city in Braamfontein.

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A Research Report
Submitted to the Faculty of Engineering and the Built Environment
School of Architecture and Planning
University of the Witwatersrand

Master of Urban Studies in the field of Urban Management
(ARPL 7053A)

22nd August, 2022

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Abstract

The theme of the research revolves around how urban management impacts the physical urban environment particularly regarding accessibility by people with disabilities. Most urban spaces tend to exclude people with disabilities through disabling environments that fail to accommodate a broader range of abilities beyond the stereotypical able-bodied person. The research explores the relationship between urban management and ease of access to the city by the disabled. The study seeks to understand the processes and challenges involved in the production and management of accessible streetscapes. The main research findings indicate that the management of the different urban functions influences how well the space serves users' needs. Within Braamfontein, the focus area, there is a lack of coordination between different urban departments that influence the production of streets. This contributes to the inaccessibility of Braamfontein's streets to people with disabilities. Ultimately, the research advocates for a more integrated management of urban functions and processes as a key means to facilitate more accessible urban environments.

Chapter 1: Introduction

1.1 Background

Over the past century, rates of urbanisation have continued to rise. Globally, the total urban population exceeded the total rural population for the first time in 2009 (United Nations, 2010) and it is predicted that by 2050, the urban population will make up two thirds of the global population. It is clear that urban spaces have become and continue to be very significant part of the human existence. Compared to rural areas, urban spaces often provide better access to vital services such as health care, social services, employment opportunities, education and other amenities.

Urban areas typically attract diverse groups of people from different walks of life, all seeking to improve their circumstances in one way or another. Solanki (2021) makes the case that diversity increases the potential of urban spaces as places of opportunity. Diversity creates a wider pool of resources, experiences and knowledge which can inform more efficient and effective urban space for all users. Tammaru, Kindsiko, Holvandus, Leetmaa, Pastak and Väikov (2016) show how this diversity can also promote the formation of various social classes dividing people into the elite, ordinary and vulnerable. Navarro (2007) discusses how the neoliberalist paradigm of the 1980s sought to give ultimate power to the private market in

order to increase competition and promote societal progress. This ultimately promoted the privatisation of urban space and functions in many parts of the world. Being primarily concerned with making profits, the interests of private companies and corporations mainly target either the wealthy or the majority of ordinary citizens who fit stereotypical definitions of normal.

Over time, this has contributed to the creation of urban spaces that mostly cater to norms associated with what is regarded as typical and standard. As a result, many decision-makers and urban developers often overlook the existence and needs of many marginalised and vulnerable groups. These groups include those discriminated against due to factors such as race, gender, sexuality or culture, as well as the poor, the elderly and those experiencing ill health and disabilities. This social exclusion means that these marginalised groups often experience reduced rights, resources and access to opportunities and are unable to fully participate in urban life.

The social movements in the late 1960s struggled against discrimination and marginalisation, alienation in daily life, exclusion from urban life among other things (Schmidt, 2012). Schmidt (2012) discusses how Lefebvre noticed that the specific urban quality of access to the resources of the city for all members of the population was an issue that had been neglected in public debate and he sought to address this. Against this background, Lefebvre demanded the right to the city which entailed the right to enable full and unhindered access to the moments and places of urban space by all (Schmidt, 2012).

In recent years, the term 'right to the city' has resurfaced in urban discourse as a plea for the re-inclusion of marginalised groups into the moments and opportunities of urban life. Its popularity has been accompanied by misunderstanding and has often been reduced to a mere buzzword in policy debates and city planning documents (Huchzermeyer, 2014). This is to the detriment of the excluded groups of the population whose rights it seeks to demand.

In his explorations on the concept of production of space, Lefebvre (1991) brought to attention the fact that space is not a thing but rather, it is a product that is continually shaped and reshaped by the people existing in it at a given time based on their experiences, preferences and cultures. Furthermore, space itself has the capacity to in turn shape the society in which it exists. Essentially, he describes a cyclical process in which people contribute to the making of their spaces and then, these spaces shape those very societies. By this understanding, if space is to reflect a true representation of the people who inhabit it, then it is crucial that all people in that society play an active role in the production of that space. Urban spaces must necessarily aim for inclusivity in order to achieve highly functional and sustainable urban environments.

With the rapid urbanisation of cities around the world, several urban

policies have been formulated to promote resourceful and inclusive cities. This notion strives against cities that perpetuate the negative aspects such as exclusion and marginalisation that have come to be associated with urbanisation. Such policies seek to promote ideas of access to the city by all. One of these policies on the international stage is UN Habitat's New Urban Agenda (NUA) adopted in 2016 that outlines a shared vision for a future that is more sustainable (Caprotti *et al.*, 2017). This sustainable future means that all people have equal rights and access to the opportunities and vast benefits that cities offer. The NUA presents standards for the planning, construction, management and improvement of urban environments through national urban policies, legislation, regulations, planning and design, local economy and implementation.

Locally, we can refer to the South African Bill of Rights contained in Chapter Two of the Constitution of the Republic of South Africa (1996). The section on the right to Equality prohibits discrimination based on race, gender, sex, pregnancy, disability, religion, conscience, belief, culture, language and birth. In 2016, the South African government approved the Integrated Urban Development Framework (IUDF) to unite the government and society on the most effective way to manage urbanisation and achieve the goals of economic development, job creation and improved livelihoods (Everatt and Ebrahim, 2020). The IUDF has four overall strategic goals: to ensure access to social and economic services, opportunities and choices; to harness urban dynamism for inclusive, sustainable development; to promote state and citizen participation for social integration, and to encourage new urban spatial forms. Although none of the aims directly address the issue of access to the city by all, it is implied by their reference to integration and inclusivity.

All these policies emphasize that all people should be able to use space. Therefore, the agencies responsible for urban management need to ensure that access to the city is secures for all groups, and especially those who are marginalised and overlooked. This study focuses on the disabled as one of the marginalised groups who often face physical exclusion from urban environments.

1.2 Problem Statement

The United Nations recognises people with disabilities as the largest minority group globally (United Nations Development Programme, 2018) and Wagner, (2019) estimates that this group makes up over two billion people worldwide. According to the United Nations (2006) over 80% of people with disabilities are found in developing countries. In South Africa, statistics from the Census 2011 Disability Report shows that close to 7.5% of the population experiences some type of disability (Lehohla, 2014). People with disabilities tend to experience more incidences of poverty than other groups of society (Graham, Selipsky, Moodley and Maina, 2010). They are often faced with various environmental and social barriers embedded within space and in systems and institutions which prevent them from

accessing basic services and opportunities. This exclusion reduces the likelihood of them being able to break free from the cycle of poverty and marginalisation.

Graham *et al.* (2010) note that the definition and understanding of disability differs in different parts of the world and this affects how the condition is addressed in different contexts. Generally, the understanding of the concept of disability has evolved over time. For a long time, disability was understood through the individual and medical models which both view disability as a lack of ability. According to Graham *et al.* (2010), these models consider the disabled as less able to reach their full potential, have meaningful relationships and play an active role in society.

The individual model considers the condition of disability as bad luck on the part of the disabled person which they have to deal with on their own. This encourages other members of society to express negative attitudes towards the disabled and to disregard them. The medical model considers disability as a fault and focuses efforts on "fixing" and eliminating the condition as the only means for the disabled individual to regain status in society. These outdated views place the responsibility of overcoming disabling barriers on the disabled individual. These models have been critiqued strongly for their insensitive approaches especially considering that many people experience disabilities through no fault of their own.

More recent understandings on the concept of disability consider the individual not as having a disability but rather as being disabled by societal attitudes, and the physical barriers imposed on them by society. These factors create resistances within the environment that prevent people with impairments from reaching their full potential. This approach is referred to as the social model of understanding disability and it was developed and promoted by the disabled community and their allies. Graham *et al.* (2010) explain that the social model considers disability as a social construct which is produced by social barriers that can be removed. It aims at fighting discrimination against the disabled, removing barriers and empowering collective efforts towards finding solutions that integrate equality and human rights into the core functioning of society.

The systems approach is another model for understanding disability. This approach recognises how various systems can affect and therefore contribute to the lessening or worsening of the barriers to accessibility of different spaces and services by the disabled. This model focuses on how society can be planned and organised to promote accessibility, independence and opportunities in a way that enables people instead of disabling them.

With reference to Lefebvre's production of space, urban spaces should be examined to understand how they may contribute to producing and promoting. In many ways, poorly designed or managed urban spaces can actually make people disabled. Narrow

sidewalks with damaged paving and open inspection holes can be hazardous to pedestrians and could potentially cause accidents that can leave the victims injured or disabled. Some streets also lack defined motorised and pedestrianised zones. As most urban spaces cater primarily to motorised vehicles, this can create an unhealthy competition for streets which often leaves pedestrians vulnerable to accidents that could render them disabled. By not providing the necessary accommodations to facilitate the disabled in independent, safe and comfortable navigation, urban areas promote disability. When urban space is not designed to cater to people with impairments, they cannot navigate it independently and thus are disabled.

The key issue lies in whose responsibility it is to ensure that people with disabilities can have positive experiences in urban spaces. The nature of spaces and environments determines which people are able to use these spaces and which ones are not. In urban settings especially, these spaces are created by society to fulfil their needs. But if the needs of people with disabilities are not considered, then the resulting spaces created cannot accommodate them and this is what renders them disabled. As such, the systems model provides a useful perspective that places the responsibility of creating more integrated inclusive spaces onto the society rather than the person with the disability.

Thus, it is important to understand and clarify the involvement of the different role players concerned with shaping and managing the physical aspects of the streetscapes of urban environments. This clarity will help to clearly identify the specific roles and responsibilities of each party. The clarity will also serve to streamline processes of the demand, acquisition and accountability in the process towards achieving more inclusivity in urban spaces.

The research seeks to clearly identify the different actors involved in the production of urban streetscapes. It also seeks to interrogate the primary interests of these various actors and whether or not these interests influence the quality of urban streets and the extent to which these streets favour access by the disabled. This will be helpful in aligning the integration of the needs of people with disabilities within the broader urban production agenda keeping in mind the influences and capacities of the different actors.

1.3 Aim and objectives

Aim

The aim of the research is to identify the key actors and processes associated with the creation and management of Braamfontein's streetscape and determine how their activities affect accessibility to urban space by people with disabilities.

Objectives

- To find out how the streets of Braamfontein cater to the accessibility needs of people with disabilities.
- To determine the role of the different key actors in the planning, design and maintenance of Braamfontein's streets.
- To identify how the interests of these actors compare with the interests and in particular the accessibility needs of people with disabilities.
- To explore how the roles and relationships of the different key actors in the making and maintaining of Braamfontein's streets should be better configured in order to promote a more meaningful alignment of their activities with the accessibility needs of people with disabilities.

1.4 Research questions

Main research question

How does the planning, design and maintenance of Braamfontein's streetscape enable or prevent people with disabilities from accessing the city?

Research sub-questions

1. How is the concept of accessibility for people with disabilities understood globally and in South Africa?
2. How do streets cater to the needs of people with physical disabilities in Braamfontein?
3. How do the interests of these key actors involved in the management of the streets of Braamfontein align with the accessibility needs of people with disabilities?
4. How can the activities and roles of these key actors promote accessibility for people with disabilities in Braamfontein's streetscapes?

1.5 Rationale

Most research relevant to the topic of including people with disabilities into urban space falls into three main categories. These

categories include a focus on literature reviews and policy reviews, a focus on space and a focus on the experiences of the disabled obtained through interviews and workshops (Williams *et al.*, 2008). Most authors agree that the most important aspect to achieve meaningful progress is a focus on understanding the daily lived experiences of the disabled (Imrie *et al.*, 1998). Some of the more comprehensive work on the issue has been developed by authors such as Rob Imrie who have delved into all three aspects (Imrie, 2000; 2001; Imrie and Imrie, 1996; Imrie *et al.,* 1998; Imrie and Hall, 2003; Imrie and Thomas, 2008). However, the involvement and influence of the various actors in the making and managing of urban space does not receive much attention in the literature. This research places more emphasis on understanding the dynamics of these other key actors.

In addition, although research on assessing the accessibility of urban spaces by people with disabilities is growing globally (Hine and Mitchell, 2001; Useh *et al.*, 2001; Fange *et al.*, 2002) it mostly focuses on the global north contexts. Unsurprisingly, most of the literature on the topic of disability in the urban space is also rooted in the global north (Williams *et al.*, 2008). There is limited research in contexts of the global South. In the global south, most studies are conducted in India and Iraq. A lot more attention needs to be given to researching and understanding disabilities within various African contexts. This is another reason why this research is important especially in a country like South Africa. This research contributes to the conversation on recognising and addressing disability in urban space for the specific context of South Africa. This will advance the general knowledge regarding the unique sets of factors that cause such high levels of disability and the exclusion of the disabled in this context and so promote more appropriate and relevant ways to address this issue.

1.6 Outline of the research report

Chapter 1: Introduction

Chapter 1 sets out the background and problem to be researched, the specific questions a well as the rationale for the research. This section also provides an outline for the rest of the research report.

Chapter 2: Literature review

This chapter provides an overview of the concept of disability. It focuses on the evolution in understanding of the concept and how the urban space has catered to people with disabilities over time. The literature review includes a critical analysis and synthesis of the topic of people with disabilities and their access to urban space. The literature review also assists in preparing an appropriate methodology for the study and to identify the gaps in research. This helped to answer sub-question 1.

Chapter 3: Case study overview

This section presents the unique characteristics of Braamfontein as the case study in relation to urban management and accessibility for people with disabilities. This helped in answering sub-question 2.

Chapter 4: Findings

The results section presents the key findings from data collected through the various methods of investigation. It also sets out the research methods. The analysis helped to answer sub-question 4.

Chapter 5: Discussion and analysis of findings

The results section provides a discussion and analysis of the data collected and develops linkages across the various results. It explores the meanings, interpretations and implications of the results of the study. It includes a discussion of how the final results of the study compare to the expected findings. The analysis helped to answer sub-question 4.

Chapter 6: Conclusions and recommendations

The conclusion draws from the discussion to synthesise all the information from the study in order to answer the research sub questions and ultimately the overall research question. It provides recommendations and suggestions for further research. The analysis addresses sub question 4.

Chapter 2: Literature Review

Introduction

The literature review helps to address sub question 1: How is the concept of accessibility for people with disabilities understood globally and in South Africa? The chapter is structured around key themes that are prominent in literature on access to urban space by people with disabilities.

2.1 Key themes

2.1.1 Understanding disability

The concept of disability

Defining disability has been a long standing challenge and no standard definition or consensus exists (Altman, 2001). Nonetheless, some organisations have attempted to propose definitions. The International Classification of Functioning (ICF) model focuses on the body, the person and society and it defines disability to include impairments, activity of daily living limitations and participation restrictions (Altman, 2001). Mitra (2006), using the capability perspective, suggests that disability can be considered as the deprivation of capabilities for persons who have impairments adding that disability should not be taken as a permanent state because its state can change throughout life.

The literature shows a lack of appreciation for the extensive variety of ways people can experience disability. Disability can be impairment in physical functioning as with mobility or visual disabilities or in mental functioning as with cognitive and learning disabilities. It can also be temporary as with pregnant women or people using mobility aids as they recover from accidents and traumas, or it can be permanent as in cases where permanent loss of function occurs. However when matters of disability are given any attention, the focus seems to be on mobility impairments. More awareness on other types and conditions of disabilities needs to be developed in policy and also to the general public so that all types of disability are recognised and appropriately addressed. There is also the recognition that disability is essentially a social issue affecting various aspects of society.

Several authors illustrate that everyone will experience a disabled state at one point in their life when the physical environment becomes inaccessible to them. Young children, pregnant women, parents pushing baby strollers, the elderly, people transporting heavy loads and people experiencing some kinds of illnesses are some of the categories that Evcil (2009) gives as examples of ways we can experience temporary reduction or loss of abilities in navigating the physical environment. In addition, Evcil (2009) points out that due

to a variety of factors such as serious traumas, accidents and medical conditions, all people are capable of experiencing permanent disability. Kurawa (2010) adds that contrary to popular belief, the people who remain healthy and unaffected by disability throughout their lives are few.

With this understanding, much of the literature advocates for a broader understanding of the concept of disability. All members of society including professionals and officials involved in the management, planning, governance and design of cities need to be sensitive to the issues surrounding urban accessibility. Accessibility of physical environments must be regarded as an essential component of cities for the benefit of all rather than an add-on that only affects people who are disabled (UN, 2006). Therefore professionals from various fields including urban planners, urban managers, politicians, sociologists, engineers and architects must all work together towards overcoming the barriers that limit the full participation of people with disabilities in day-to-day life.

The models to understand disability

Graham *et al.* (2010) explains that for a long time, the concept of disability was widely understood through two main models - the individual model and the medical model. Consequently, this influenced how disability issues have been addressed in society. The individual view understands disability as an individual concern for the person with the condition. The medical view considers disability as a medical condition or a fault in the normal functioning of the human body and focuses on fixing the condition. The individual view blames the individual for their condition and makes it their responsibility to overcome any resulting challenges. The medical view believes in and focuses efforts on removing the disability so that the person can be able to function within society as able-bodied people do. Both these models encourage negative conceptions and attitudes towards people with disabilities. Kitchin (1998) explains how these models can allow society to ignore their responsibility to provide inclusive spaces that can accommodate all people across a diverse spectrum of abilities.

The social model is a more recent approach to understanding and addressing disability. With the understanding that many differences exist among people that may not be a consequence of their choice, the social model aligns with the human rights approach which states that all people should have equal rights to be included in economic and social activities. The social model takes disability as the result of a failure of society and the environment. Disability comes about when society and the environment fail to create the necessary conditions to enable unhindered access to people who function differently than the stereotypical norm - an able-bodied man. All of society in various capacities should take the responsibility of ensuring that environments do not restrict people with disabilities. This approach to understanding and addressing disability issues is slowly getting accepted globally although much less so in the developing than the developed contexts.

Disability as a social and cultural construct

Oliver (1990) argues that disability is a concept that is constructed and perpetuated by society and suggests that the social construction of the concept of disability has a capitalist agenda and that it is determined by the economy. This understanding classifies disability based on one's ability to work and contribute to the production of society. However, (Light, 2010) disagree about the forces that drive and shape the social views and attitudes towards the concept of disability. They argue that it is cultural practices rather than solely capitalist interests that determine how society frames disability. Social constructivists argue that it is cultural practices that promote the categorisation of people into groups that define the "main" and subsequently the "other" (Kitchin, 1998). These biases gradually become a regular part of everyday life and are encouraged whether knowingly or unknowingly by society.

2.1.2 Disability in urban space

The ability to navigate space is an essential component for survival and participation in urban space (Imrie, 2001; Kitchin and Law, 2001) and it is important for cities to be accessible to all (Beavor, 2018). Space provides a platform for exclusionary practices towards people with disabilities to play out and it can exclude people by either segregating or rejecting them (Gleeson, 1998; Kitchin, 1998; Imrie, 2014). The observation by Imrie (1996) is that built environments rather than natural ones are more likely to exhibit exclusionary tendencies. Poorly designed space has the ability to incapacitate people and prevent them from functioning as needed within given spaces (Maart *et al.*, 2007; Imrie, 2014; Terashima, 2021). In this regard, urban areas have been found to contain more environmental barriers to access than any other space. Research carried out in the Western Cape province of South Africa found that urban areas were far more likely to present barriers that limited accessibility by people living with disabilities than rural areas (Maart *et al.*, 2007).

Another general finding in literature is that the built environment does not cater adequately to people with disabilities. Imrie and Kumar (1998) explain that spaces become hostile when they perpetuate difference and inability for disabled people by restricting their access and mobility. In essence, the condition of disability only occurs when one is unable to negotiate a built space that does not accommodate them (Imrie and Kumar., 1998). Lefebvre's (1940:190) statement that, "To change life, we must change space" carries much weight in illustrating how vital the role of space is in influencing day-to-day life.

Ambiguous and vague urban development regulations that are rarely implemented, coupled with ignorant built environment officials and professionals who lack an appreciation of the complex challenges that people with disabilities face in everyday life, are challenges (Imrie and Kumar, 1998). Weak enforcement allows actors such as property developers and built environment practitioners to work around

regulations. Accommodations for people with disabilities often only aim to satisfy the bare minimum of the limited requirements stipulated by available regulations (Evcil, 2010). The actors involved in the production of urban space also tend to undervalue the usefulness of public consultations using the development process. The result is standardised environments that are not sensitive to the needs of people with different abilities than the stereotype around whom such standards are based. The consequence of this is usually thoughtless and haphazard interventions that do very little if anything to improve the lives of people living with disabilities. The result is the nurturing and reinforcement of the practices of exclusion which aim at normalising society rather than making it inclusive. Researchers suggest that the processes involved in the design and development of the urban environment can also be disabling when they fail to recognise and address the needs of people living with disabilities (Barnes, 1991; Hall and Imrie, 1999).

Streets are the most common element of urban space that affects accessibility by people living with disabilities (Aghaabbasi, 2019). Being the most basic way that people experience urban space, well designed streets that accommodate various types of abilities create an inviting atmosphere for all people to participate in and enjoy urban life. Poorly designed and maintained streets have the potential to increase the barriers to access and hence engage in urban life by people with disabilities (Asadi-Shekari, 2019). Studies identify challenges such as uneven pavements, slippery ground surfaces, the lack of seamless transitions between sidewalks and streets and obstacles such as banners and furniture blocking sidewalks as some of the common barriers encountered by people with disabilities. In addition, unexpected factors such as heavy traffic and excessive noise have sometimes been associated with the onset of some physical impairment (Clarke *et al.*, 2008). These factors can affect one's focus or cause diseases or accidents. Clarke (2008) proposes improving street quality has the potential to slow or reverse the disablement process.

These issues along with several others identified by researchers through focus groups with disabled people, cut across different contexts and are observed in both developing and developed countries. Therefore the transfer of solutions could be helpful as long as the initiatives remain contextually appropriate.

2.1.3 Previous research focus and methods

Previously, studies have mostly regarded people with disabilities as a homogeneous group (Palmer, 2011). There was a bias towards mobility disabilities, especially wheelchair users, focused towards evaluating the accessibility of public buildings (Imrie and Kumar, 1998; McClain, 2000; Useh *et al.*, 2001). Other types of disabilities such as cognitive, visual and auditory impairments were mostly unrecognised despite the fact that mobility disabilities contribute a smaller percentage of all disabilities. Some authors attribute this to the fact that mobility disabilities are evident in more visually recognisable ways on the human

physical form and as such they are much easier to notice by the general society. Recently however, there has been more awareness of the broader range and severity of disabilities and the numerous ways in which the physical environment contributes to and perpetuates their presence in society.

Various methods have been employed to investigate accessibility of physical built environments to people living with disabilities. The most common method has been through use of physical observations of the compliance of built environments to accessibility requirements (Fange *et al.*, 2002). Earlier research focused on quantitative aspects of accessibility rather than the qualitative dimensions which drew on people's own perspectives.

Questionnaires and interviews (Useh *et al.*, 2001) are also commonly used. Some interviews, however, have focused on investigating the views of professionals and organisations representing the interests of people with disabilities rather than disabled people themselves. Arguably, this has contributed to the slow pace of change regarding improving accessibility as a result of ineffective and inefficient measures which do not address the needs of people with disabilities adequately or appropriately. More recent studies are appreciating the value of gaining insights from people with disabilities on their experiences in navigating the built environment and how these experiences can be improved.

Some studies have looked at understanding the attitudes and perspectives of designers in the urban accessibility agenda (Hall and Imrie, 1999; Imrie and Hall, 2001; Evcil, 2010). Many of these studies have revealed that many professionals of the built environment are ignorant of, indifferent to or insensitive towards the accessibility needs of people living with disabilities (Imrie and Hall, 2001). The common finding is that the needs of disabled people do not usually exist in the considerations and practices of many built environment professionals. Kitchin (1998) shows how this indifference by built environment professionals can nurture exclusionary practices in the physical environment.

Mora *et al.* (2017) notes that identifying the accessibility deficiencies of urban areas is still a challenge. However, new methods of conducting research are also emerging. Information and Communication Technologies are advancing the possibilities for more accurate and real-time assessments of access for people with disabilities in the built environment (Mora *et al.*, 2017). Mora *et al.* (2017) give examples of technologies such as Geographic Positioning Systems (GPS) which are increasingly being proposed to be used to trace movement patterns of urban users. Their study carried out in Spain provides an additional layer of information to aid in assessing the equity and inclusiveness of urban spaces to all users. The study by Mora *et al.* (2017) study also proposed the use of an application for smart devices to allow people to report on barriers that they encounter that prevent them from easily accessing the urban space. This study aimed to promote smart ways of scheduling of urban planning actions. The study also focused on

removing accessibility barriers and monitoring both the short and long term effectiveness and efficiency of implemented solutions. They argue that such initiatives can go a long way in giving agency to citizens to play a more active and engaged role in advocating for more accessible urban environments for all.

2.1.4 Key actors in the production of urban space

Many actors who influence urban space can contribute to disablist built environments that restrict some people from fully participating in urban life. Other than designers, Haviland (1996) identifies owners, occupiers, financers, regulators and citizens as some of the participants in the production of urban space, and each has a key role in establishing design parameters and negotiating design concepts. Haviland (1996) suggests that the roles of these actors are relative and they influence how space accommodates the access needs of people with disabilities. Imrie (2000) agrees that the way access is defined and incorporated into space relies on the social interactions between the actors involved in the design and development process. Many outcomes regarding accessibility depend on the socio-institutional and legal specifics of the development process in a given context (Imrie, 2000). The fact that developers are given significantly more power than many other actors in society to influence the production of urban space is a cause for concern (Mouton *et al.*, 2020).

Producing urban space involves three key actors: the public sector, such as civil servants and government agencies; private actors, such as developers and investors; and the community sector, through advocacy groups such as the general public, Non-Government Organisations and Community Based Organisations. Often the private actors influence most of the physical urban environment and yet they tend to show the least interest in promoting accessible spaces for all (Mouton *et al.*, 2020). Actors in the private sector need to be involved in the efforts of community advocacy groups and the public sector in order to enhance the collective efforts of all sectors towards achieving accessible built environments.

2.1.5 Management of urban space

In South Africa, a City Improvement District (CID) is understood as "a geographic area within which property owners or tenants agree to pay for certain services supplementary to those supplied by the Local Authority and which will enhance the physical and social environment of the area" (Peyroux 2008). The concept of Business Improvement Districts (BIDs) started in Canada in the late 1960s. The idea spread to the USA in the mid 1979s (Ward 2007; Hoyt 2003) and thereafter spread to other countries including Australia, New Zealand, the UK, Germany and South Africa (Ward 2006; Peyroux 2006; Friesecke 2006).

The model varies in application between different regions and

countries (Mitchell 2001; Hoyt 2003). In some parts of the world, BIDs are known as City Improvement Districts as is the case in South Africa. BIDs have three main forms and can be voluntary, legislated or special projects. Unlike the voluntary and special types of BIDs, legislated BIDs are based on legally binding agreements between the participating actors. CIDs were originally legislated and all property owners within given CIDs were required to contribute specified levies towards the CID to enable it perform its functions. However, following a 2015 South Gauteng High Court ruling, all CIDs were no longer legislated but voluntary. It could be expected that with the lack of legal obligations, the impact of CIDs in urban areas might diminish.

Interestingly, the influence of CIDs had already gained a good reputation especially among private property owners who mostly sustained the models despite the voluntary membership. It is clear therefore that CIDs play a key role in influencing how urban public space is composed. By extension, the activities and attitudes of CIDs towards accessibility to urban space by people with disabilities have a great impact on determining whether urban environments are enabling or disabling.

In South Africa, CIDs were established after the democratic transition that occurred in 1994, for the maintenance and management of urban environments in order to enhance investments. The work of CIDs is mostly targeted towards attracting investments from private property owners. The CID model initially operated within a few blocks of Johannesburg's Central Business District (CBD) and focused on security, cleanliness and maintenance of the area and upgrading facilities for informal traders. The services covered by CIDs now take on a broader scope to include provision of security, the maintenance of public spaces, physical improvements, improvements in transportation and contributing to the social welfare of people in urban areas.

The work done by CIDs has had influences on urban design through initiatives such as pedestrianisation. CIDs supplement the services provided by local authorities and CIDs have over time received support from public bodies. However, actors from the private sector have played a significant role in promoting the rapid widespread use of the CID model beyond the Johannesburg CBD to other urban areas.

The role of urban management

Urban management has the potential to significantly influence more accessible urban environments that promote the integration of people with disabilities into urban participation (Terashima, 2001; Tahmasebi, 2021). Urban managers have the unique advantage of appreciating the urban space and the different forces that influence its production as a whole system (Tahmasebi, 2021). As such, they are best placed to coordinate the activities of the different actors involved in creating the built environment such as the public sector, private companies, and organisations and the communities

representing public interests. This coordination involves assessing the roles and contributions of these key actors, identifying gaps and proposing integrated solutions that enhance each actor's participation and promote the overall goal of accessibility and inclusivity for all in an efficient and effective way (Tahmasebi, 2021).

2.1.6 Barriers to accessibility

Urban accessibility challenges and concerns for people with disabilities

In many parts of the world, especially in developing countries, catering to the needs of people with disabilities is seen as a welfare or charity function (Venter *et al.*, 2002). Disabled people are often looked upon with pity and treated as second-class citizens. Accommodations for the disabled in the environment are often viewed as a favour or special provision rather than a basic human right. The individualist and medicalised models view disability as the issue to be resolved and so fail to contemplate the role that factors such as the environment and society play in causing or perpetuating disability. Consequently, this makes it difficult to establish impactful environmental and societal shifts towards more accessible and inclusive spaces if they are not recognised as a major contributing factor to the concept of disability.

The efforts of disability advocacy groups have advanced significant changes in legal systems to recognise and cater to the challenges faced by people with disabilities. However, these are rarely followed up with detailed regulatory frameworks and so on-ground implementation is still lacking (Imrie and Kumar, 1998). Property developers and planners lack an awareness of the broad issue of disability. Built environment professionals are not adequately trained and sensitised to the needs of people with disabilities (Imrie and Hall, 2001).

Some respondents in surveys undertaken by Imrie and Hall (2001) argue that any training regarding disability issues is often done or received at face value since barely any evidence of application can be traced in professionals' work and projects once they are out in the field. A common misconception in this regard is that disabled people are a minority and more attention should be accorded to majority groups. Furthermore, developers also believe that accessibility features for the disabled unnecessarily increase the cost of developments and yet are likely to receive minimal use. These misconceptions persist as a result of ignorance and lack of awareness about disability issues.

Often developers have too much influence and decision-making power in the production of urban space. If this power is not directed or tightly regulated to promote accessible and inclusive environments, such an initiative may fail to achieve any significant success. Some authors call for more elaborate regulations mandating all actors in the creation of urban space to ensure accessibility and

overall inclusivity. Regulations must be informed by consultations and involvement of people with disabilities. They must also be subjected to vigorous monitoring and serious repercussions for non-compliance (Venter *et al*., 2002).

The exclusion of people with disabilities

It is widely agreed in literature that people with disabilities are too often excluded from mainstream society (Kitchin, 1998; Trani and Loeb, 2012). Kitchin (1998) describes a vicious process by which society tends to ostracise people with disabilities through systematic cultural exclusion. These situations persist over time because they are supported and reinforced over and over by general society. Disabled people face various kinds of discrimination and are marginalised socially, economically and institutionally preventing them from participating equally in society (Trani and Loeb, 2012). The exclusionary barriers that disabled people face prevent them from being able to access services and resources such as education, employment and healthcare (Palmer, 1999; Venter *et al*., 2002; Trani and Loeb, 2012).

Kitchin (1998) Imrie and Kumar, (1998) and Prince (2016) agree that this exclusion is enforced by denying disabled people power. As a result, people with disabilities face difficulties in advocating for themselves and also in influencing decisions that affect them. These power relations are maintained through social and material processes that are systematically designed to exclude people with disabilities (Kitchin, 1998; Palmer, 2011). Freire (1970) describes how such systems teach disabled people to 'know their place', accept their exploitation and also to blame, shame and doubt themselves for their conditions (Wendell, 1989).

The needs of people with disabilities are often poorly articulated and represented in the design of the built environment (Imrie and Kumar, 1998; Imrie, 2000; Imrie, 2014). Fox *et al*. (2007) and Santiago *et al*. (2020) observe that disabled people are more likely than able-bodied people to be affected by emergencies and natural disasters such as the Covid 19 pandemic, hurricanes and floods because the urban environment and urban policy often do not recognise their needs in planning and design processes.

Some literature has even established strong links between disability and poverty (Beresford, 1996; Elwan, 1999; Venter *et al*., 2002; Welch, 2002; Yeo and Moore, 2003; Filmer, 2008; Trani and Loeb, 2012). Palmer (2011) argues that disability and poverty are both a consequence and cause for one another. People with disabilities have more basic needs and also special needs and so they are likely to spend more and save less, making them more prone to economic deprivation (Glendinning and Baldwin, 1988). In addition, Glendinning and Baldwin (1988) and Haveman and Wolfe (2000) state that disabled people are less likely to be employed than able-bodied people mostly due to unfounded societal biases and misconceptions about their capabilities. In South Africa, statistics

show that only 1% of all people employed are people with disabilities (Graham *et al.*, 2010). Although currently scant, there is a growing awareness of the need to investigate the relationship between disability and poverty in order to promote equity for people with disabilities in urban environments.

There is limited consultation and participation of people with disabilities in matters that affect them. Imrie and Kumar (1998) argue that research on disability issues in the past has tended to focus on discussions around the formulation and interpretation of disability policy and also on understanding the opinions of professionals that have an influence on matters that affect disability issues. Little attention has been given to engaging people with disabilities themselves. They also found that as a consequence, plenty of resources are wasted on implementing solutions that do not improve accessibility conditions for disabled people in urban spaces (Imrie and Kumar, 1998). Often, consultations with disabled people, if any, are conducted after poorly implemented initiatives have failed.

Many disabled people through focus groups agree that necessary changes to improve accessibility are simple solutions. Sometimes ideas proposed by people with disabilities to promote inclusivity are rejected by officials for fear that they will ruin the aesthetic appeal of space. Contrary to this, it has been shown that well-considered integration of inclusive elements can dramatically enhance the look and functionality of space, even for able-bodied people. As such, involving people with disabilities in the planning and design of urban space is essential for integration of effective and efficient solutions to urban accessibility issues.

2.1.7 Solutions to inaccessibility

The literature also demonstrates that disability can be reduced or even removed by making changes to the built environment (Imrie, 2000; Mitra, 2006). The process of creating enabling physical spaces involves removing barriers that impede access and also by making provisions to accommodate people across all levels of physical and mental abilities. This process greatly depends on all members in society achieving a better understanding and appreciation of the broader concept of disabilities and the experiences of people living with disabilities.

Much of the progress to improve issues concerning the removal of disability barriers to access of urban space has been advanced by the vigorous advocacy of disability groups (Venter *et al.*, 2002). Venter *et al.* (2002) further suggest that there is a need to invest in the strengthening of such advocacy groups especially in developing countries to realise more impactful and meaningful actions towards more inclusive urban spaces.

Imrie and Kumar's research (1998) reveals that integration is the

ultimate goal of inclusive built environments. Often initiatives provide separate services and features to be exclusively used by people with disabilities. Several research studies have found that rather than promote inclusivity for people with disabilities, such measures serve to enhance the notions of separation and otherness (Imrie, 2014). Segregation has been shown to promote categorisations within society by emphasizing differences between the main (normal) and the other (abnormal) (Imrie, 2014).

Imrie and Kumar(1998) give examples of back door treatments such as providing separate toilets for people with disabilities, and creating longer and more complicated routes for access by people with disabilities. This strips disabled people of their dignity and can leave some humiliated. Some people with disabilities insist that they are not interested in standing out within space due to requiring special provisions. Rather they would prefer that accommodations to cater for them seamlessly blend into environments so that they can enjoy space and participate in public life just like everyone else (Edwards and Imrie, 2008).

In many instances, improving accessibility of built environments by people living with disabilities requires minimal effort. Simple initiatives such as incorporating colour contrasts can significantly improve the experiences of people with vision impairments. Similarly, paying attention to material choices to improve tactility and texture of surfaces can make a great difference for some people with mobility and visual impairments.

Suggestions are also made towards the strengthening of regulation, control and monitoring systems to ensure that issues of removing accessibility barriers to urban environments by people with disabilities are regarded as priorities. Systems need to be in place to regulate the activities of developers, amplify the voices of people living with disabilities and the groups that advocate for their needs. Such systems need to guide the development of appropriate accessibility guidelines and regulations by local and central governments. These efforts only influence impactful change when they permeate the activities of all the different groups that have a stake in the production of urban space. The education of practitioners needs to be improved by incorporating ideas of inclusion and accessibility as an integral part of their understanding of well-functioning space and the built environment.

Smart solutions

There have been proposals based on digital technologies to improve how people with disabilities navigate urban spaces (Sobek *et al.,* 2006, Macagnano, 2008; Williams *et al.*, 2008; Araujo *et al.*, 2016; Mora *et al.*, 2017). Many ideas have been explored from Geographic Information Systems (GIS) mapping systems (Matthews *et al.*, 2003) to digital navigation tools to guide people with disabilities in finding the easiest and most comfortable routes for them within urban space. These solutions are closely associated with the notion of smart cities as they take advantage of advancing technology to establish new layers to understanding the urban fabric which can increase the accessibility for people with disabilities in the urban space.

Raja (2016) acknowledges and addresses some issues with these e-solutions especially in the context of developing countries. First, many people with disabilities may not have the literacy or means to access such technology due to historical biases embedded in systems and institutions that disadvantage people with disabilities. These biases have meant that many people with disabilities tend to have low literacy levels and experience more poverty. This will have to be addressed first before e-solutions that rely on sometimes complicated technology can have a positive effect. Secondly, most cities in developing countries have yet to develop the capacity in terms of finances, skills and governance to adequately incorporate smart technologies into their urban environments. On a different note, this idea risks focusing on certain routes and spaces as usable by the disabled while neglecting others. These solutions need to be considered cautiously to avoid detracting from the main agenda of ensuring that urban spaces are not selective and that all people can be able to access all areas of the city.

2.2 Conceptual framework

The management of urban space and systems influences the quality of urban space and so determines how accessible it is to people with disabilities. Urban management is influenced by processes involved in urban planning, the standards and guidelines that guide urban works and most importantly, the awareness and active engagement of the whole of society. Accessibility needs to be at the root of all the policies and systems that drive inclusive urban development. The effective implementation of such policies requires well-formulated standards of practice to guide designers and officials on the appropriate measures to take in order to ensure that urban environments are accessible. What informs the formulation of effective policies and practice standards is the involvement of the broader society and more so people with disabilities.

When able-bodied or disabled people are aware of broader issues on disability, more positive action and advocacy for accessibility is likely to result. Becoming aware of the fact that we are all vulnerable to disability at any point in our lives, and also understanding that the spaces we create can either help or disable those dealing with disability can make people more attune to demanding and caring for space to encourage accessibility for everyone. Therefore, good urban management can result in better accessibility of urban streets by people with disabilities. Poor management of urban space can promote inaccessibility of urban streets by people with disabilities.

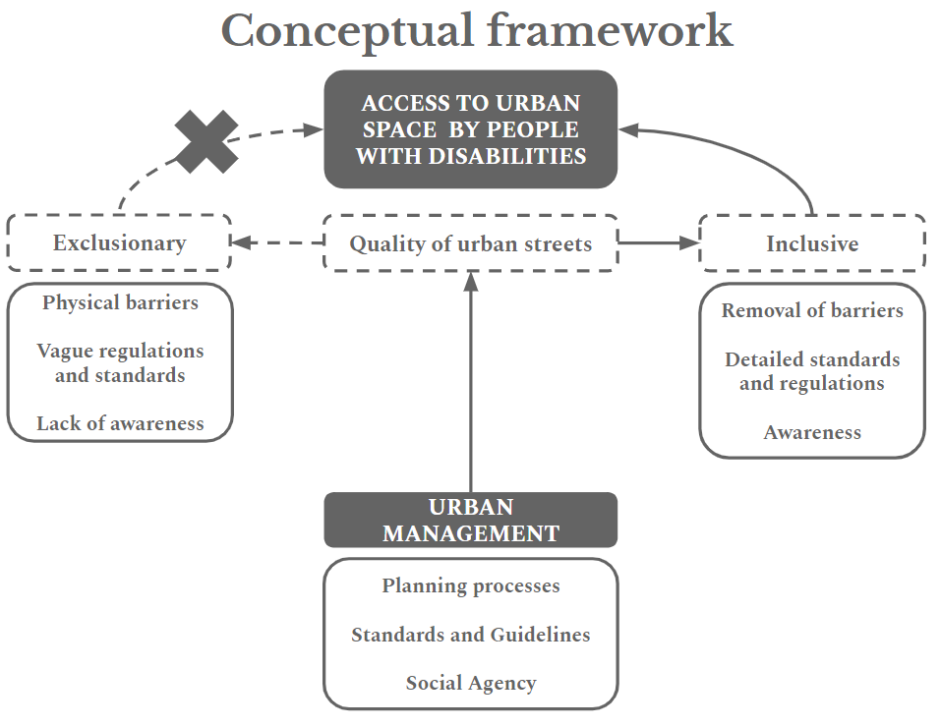

Fig1: Diagrammatic representation of the conceptual framework

Chapter 3: Context

The purpose of this chapter is to introduce the suburb of Braamfontein which is the case study for the research. The chapter focuses on describing the key aspects of the environment of Braamfontein related to accessibility that show it as a typical city suburb in Johannesburg. It also reveals the unique features of Braamfontein that make it an interesting case study within the city of Johannesburg for understanding the dynamics between urban management and accessibility.

3.1. Why Braamfontein?

Braamfontein presents an interesting case study for this research for a number of reasons. First, Braamfontein is one of the suburbs in Johannesburg that has received a lot of investment in urban redevelopment projects therefore is expected to have improved design and functioning. Also, the suburb has a variety of urban functions including civic, business, residential and educational uses among others. Accessibility is a key component to facilitate these different functions. Braamfontein also concentrates a number of actors typically involved in urban management. There is a mix of involvement from municipal agencies such as the Johannesburg Development Agency (JDA) and the Johannesburg Roads Agency (JRA), from several property owners mostly under the umbrella of private urban management entities including the Braamfontein Improvement District and from built environment professionals like architects and urban designers. This wide diversity of function, users and actors makes Braamfontein an interesting case study for understanding the intersection between the management of urban space and the accessibility of urban space to people with disabilities.

3.2. Demographics and location

Braamfontein is a small suburb which covers an estimated area of 3.28km^2 with a population of about 7000 people (Corbane *et al.*, 2018). Braamfontein is a centrally located commercial and residential node located near the heart of the city of Johannesburg. It is located close to the Johannesburg city centre and is linked to the Newtown suburb via the Nelson Mandela Bridge. It covers the area from the Braamfontein cemetery in the west to the civic centre in the east and from Hoofd street in the north and Wolmarans street in the south.

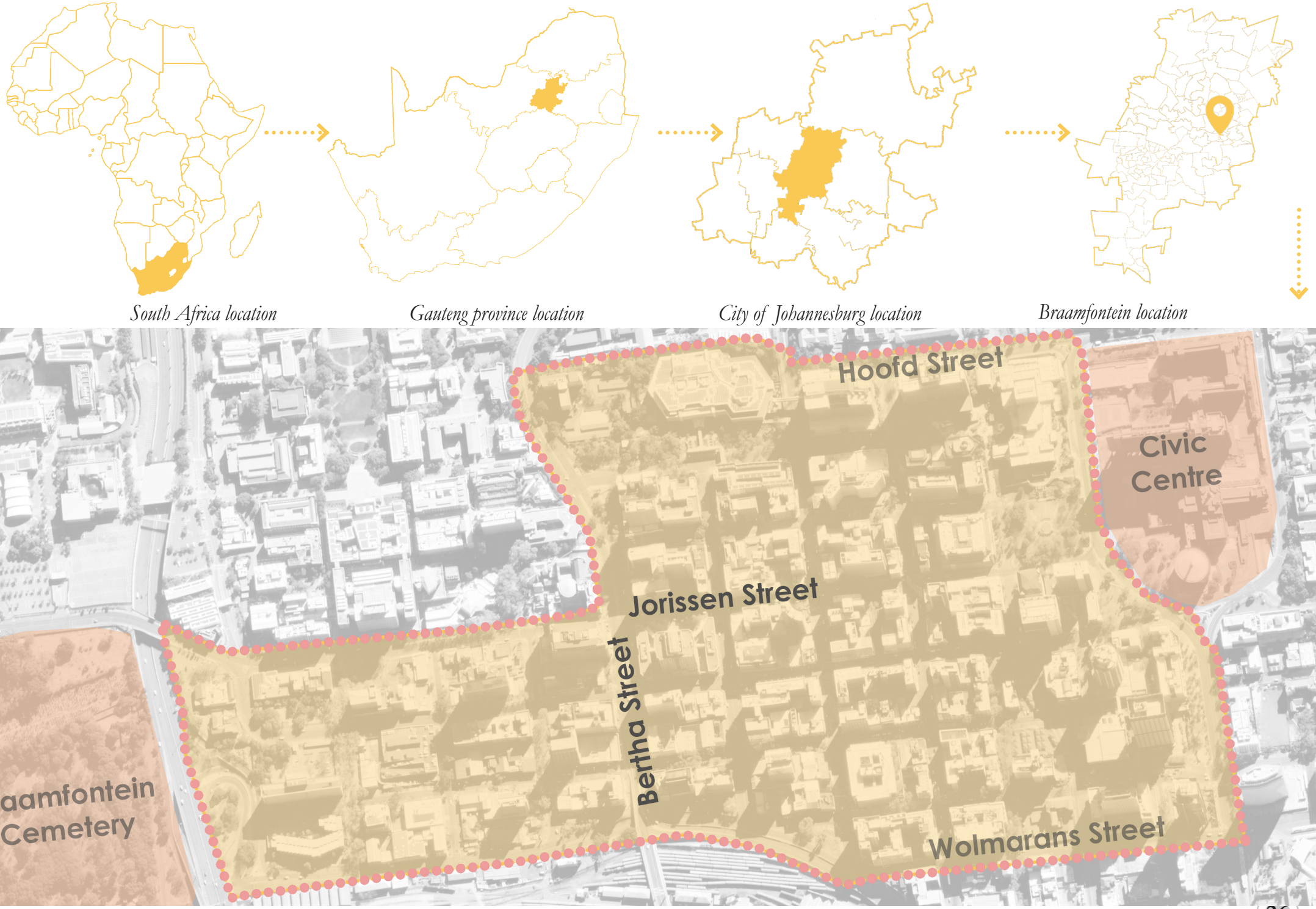

Fig 2: Map showing the location of Braamfontein.
Source: Base map sourced from Google Earth imagery, overlaid information compiled by author.

3.3. Brief history

The formation and decline

Braamfontein (Afrikaans for Bramble Fountain which translates to Blackberry fountain in English) was one of the farms on which Johannesburg was built. The suburb has been a part of Johannesburg since 1886 when the city was formed. The area gradually developed into a key commercial and economic node of Johannesburg with businesses, local government functions, educational institutions and corporate businesses.

The suburb took on more high-rise features as an extension of the growing CBD of Johannesburg resulting from post war booms in the city's economy and population in the 1950s (Beavon, 2004). Braamfontein was the first major node outside of Johannesburg's CBD and it continued to densify until the mid-1980s. 1n the 1990s, many businesses migrated out of the CBD into the northern suburbs of Johannesburg and although Braamfontein was affected, it retained sufficient major private and public institutions to maintain its commercial status. However, much of it gradually deteriorated and was left mostly vacant.

The regeneration

Since the mid-2000s, Braamfontein has seen major investment following several urban regeneration interventions. The urban renewal programme by the Johannesburg Development Agency (JDA) and the formation of the Braamfontein Improvement District (BID) sometimes referred to as the Braamfontein Management District (BMD) are some of the main initiatives that have revived the area.

3.4. Activities in Braamfontein

Braamfontein is one of the key loci within Johannesburg for rich political, social and economic activity. Braamfontein hosts a diverse mix of uses and functions. This is not typical of most suburbs. However, it could be said that Braamfontein acquires its unique character owing to its close proximity to Johannesburg's CBD and also to its extensive history as one of Johannesburg's oldest suburbs. These activities are described in further detail below.

Civic function

Braamfontein is home to several public buildings and government structures, including the Johannesburg Civic Centre, the Johannesburg Council Chamber, Department of Public Works, the Labour Court, Johannesburg, the Department of Labour, Gauteng Provincial Office, Jorissen Place which is home to the

Johannesburg City Council, City of Johannesburg Environmental and Infrastructure Department and Thuso House which houses some city government offices.

Educational institutions

Braamfontein is also a key student hub because of the numerous tertiary educational institutions within the area welcoming students from diverse backgrounds within South Africa and Africa at large. These institutions include the University of the Witwatersrand, Rosebank College, Damelin College and Richfield College. Harber (2018) refers to students as excellent urbanists since the proximity of the various services they rely on and the rhythm of their typical days allows them to frequently and casually experience their surroundings as pedestrians. This speaks further to the high volume of pedestrian activity that occurs in Braamfontein.

Residential function

There has also been a lot of private interest in Braamfontein and many private investors and developers continue to be involved in the rapid development of student housing which complements the educational functions of the suburb. Student housing facilities within Braamfontein include a number of South Point student housing buildings, Campus Africa, Student Digz, J One Accommodation, Born Free Student Accommodation and 18 Jorissen Street Student accommodation. Besides students, Braamfontein also provides residence for young people in the workforce and other people who use the suburb. These include Braamfontein Gate, Broadway, Braam Lofts, College House, Bridgeport and Auckland House. There are also a number of hotels in Braamfontein to accommodate occasional visitors such as tourists and delegates. These include The Bannister Hotel, The Orient Hotel, The Parktonian Hotel and Protea Hotel.

Arts and Culture

Due to the high youth population in the suburb, Braamfontein has become a place of expression in the arts and culture sector. These activities are more prevalent within the southern area of the suburb. The expression can be in the form of street sculptures as in those found on Juta Street. The Neighbourgoods Market also provides a platform for exhibiting food, performance arts, ornaments and other cultural elements. This occasional space attracts many people into Braamfontein usually over the weekends to experience culture and heritage. This activity is strengthened and complemented by Braamfontein's proximity to the Newtown precinct which has a lot of heritage and historical value including Museum Africa and the Market Theatre. Other arts and culture destinations include the Wits Origin Centre, the Wits Art Museum, Pro Helvetia Johannesburg and the Johannesburg Art Gallery.

Business and employment

Due to all the activity described in the sections above, Braamfontein is a lucrative space for business owners, private developers and investors. Businesses within both the private and public sectors provide support and complementary services to the residents and occasional users of Braamfontein. There are several retail spaces, restaurants and other businesses. These include Pick n Pay, PEP, McDonalds, KFC, several spaza shops, stationery and printing shops. There are also corporate offices, one of the most notable being the Liberty group which carry out their activities in Braamfontein. All these represent employment opportunities for many people.

Entertainment

Braamfontein has some of the popular entertainment venues in Johannesburg. These entertainment venues serve the bustling student life in the suburb. People often flock to the suburb especially over weekends to partake in its vibrant nightlife. Some of the popular venues include Kitchener's Carvery Bar, The Great Dane, The Immigrant Bar, the Neighbourgoods Market and the Bannister Hotel. Other than the night-time social scene, Braamfontein also has the Joburg Theater, the Joburg Theatre Garden and Stories By Johannesburg, Creative Nest Entertainment and the Randlords, all of which are leisure and entertainment centres.

Religious/community-orientated activities – church, NGOs, etc.

Braamfontein also hosts a number of religious and community oriented activities. It has many places of worship for various denominations including Holy Trinity Catholic Church, Braamfontein Methodist Church, Hillsong Church Johannesburg and God First Braamfontein. These religious institutions also play a big role in providing charity to marginalised groups within Braamfontein including the homeless people and immigrants. This is important to consider because such marginalised groups tend to be vulnerable to experiencing disability in one form or another. As such, the organisations that reach out to offer assistance to these groups can be instrumental when trying to understand the experiences of the disabled and in gathering information about how to better address the challenges that they face when interacting with the streets.

This begins to highlight some of the key actors in the development of Braamfontein and what their primary interests are.

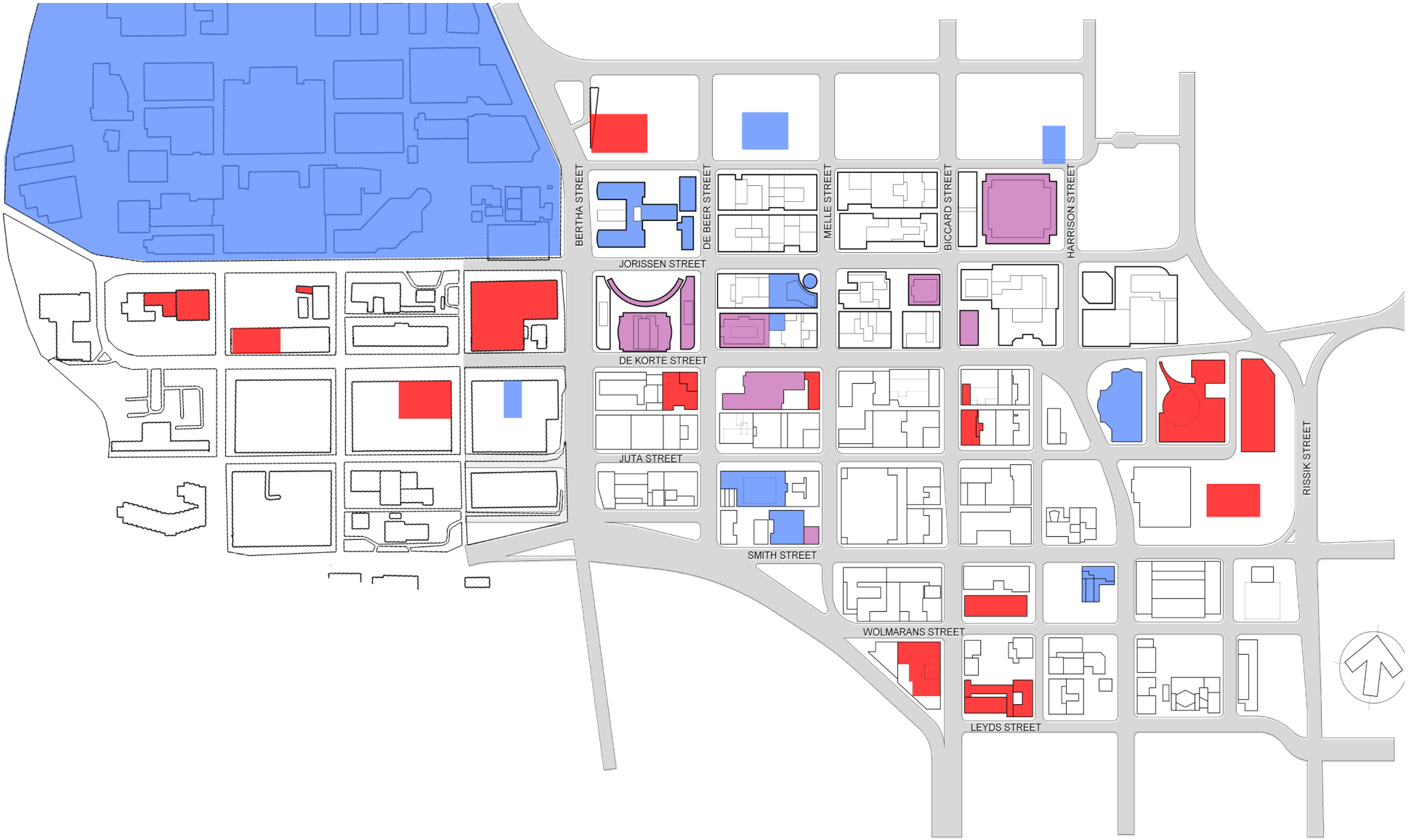

Fig 3: Map showing some key land use activities in Braamfontein.
Source: Map compiled by author.

3.5. Users of Braamfontein

As clearly illustrated in the activities within Braamfontein, there is a wide variety of people that use the suburb. These include students, business owners, employees, private developers and investors, tourists, arts and culture enthusiasts and those seeking entertainment. Braamfontein is a relatively small city suburb covering an estimated area of 3.28 km² (Corbane *et al.*, 2018). This means that all the activities described in the previous sections are compacted within the suburb with relatively short distances between activities. As such, many of the people who use Braamfontein experience it by moving along its streets from one point to another. Students usually walk to and from educational institutions and people walk to retail outlets, entertainment venues, food outlets because most places are within walking distance of one another.

The quality of Braamfontein's streets is therefore key in determining the quality of user experiences. It is important that these streets are inclusive and can be easily navigated by all pedestrians, including those with disabilities. In a place like Braamfontein, streets that can accommodate social and public functions can, as Mehta (2007) proposes, boost not only the local economy of the area but also physical health and social cohesion of the users.

3.6. The role of streets in Braamfontein

A street in a city suburb such as Braamfontein will likely perform several functions including facilitating pedestrian movement, carrying traffic and being a conduit for urban services such as electricity and water. All these functions compete for space on Braamfontein's streets, often at the greatest expense of the pedestrian. Commonly, as in the case in Braamfontein, streets are designed primarily for use by vehicles and urban services. The place of the pedestrian is often secondary to the needs of motorist and urban services. Even the standards that guide road design and works in road reserves emphasize the technical aspects related to vehicular movement and the installation and maintenance of urban services but focus little on how streets accommodate pedestrians.

Streets are getting embraced as public spaces for the primary enjoyment of pedestrians. Examples include cities like Barcelona, London and Guangzhou where some streets are increasingly being given back to the pedestrian through the creation of pedestrian-only streets with features and elements intended for the sole comfort of pedestrians. In theory, Johannesburg has shown interest towards this trend of reclaiming streets and public spaces for pedestrians. This can be seen in the growing number of project proposals for urban projects which highlight the place of the pedestrian in wide

sidewalks and pedestrian-only streets. However, the evidence of these initiatives is missing when one observes the current physical streetscapes. For the most part the streets of Braamfontein, as in most of Johannesburg, still cater primarily to the needs of vehicle users rather than pedestrians.

3.7. Accessibility of streets to people with disabilities

Harber (2018) acknowledges that although the spatial form of Braamfontein, like much of Johannesburg, is generally not very conducive to pedestrian activity, there have been attempts to reduce this hostility through urban design. Harber (2018) notices on the streets of Braamfontein, a situation described by Bayat (2000) as quiet encroachment of the ordinary, where the ordinary citizens silently and pervasively advance on and contest the institutions established by the powerful, such as property owners, designers and the state, in order to survive.

If the ordinary pedestrian is likely to experience challenges while using urban streets that are not designed purposely to suit their needs, pedestrians with disabilities are at an even greater disadvantage. People with disabilities often require more accommodations in order to be able to accomplish ordinary tasks. The same remains true for navigating streets. Currently the streets of Braamfontein appear to address accessibility but mostly through superficial elements, such as ramps, many of which are not usable by the intended pedestrian.

Harber (2018) also observes the lack of consolidated efforts from the key actors in the production of Braamfontein to recognise and adequately respond to the protests of the underserved and marginalised people, such as people with disabilities. The built environment of Braamfontein appears to resist the inclusion of the marginalised as the vision of planning authorities, investors and design professionals is elevated above the concerns and actions of neglected groups. This situation is enforced by the actions of the state in keeping with formality which favours the opinions of governing authorities over those of people affected the most by lack of accessibility..

Since the streets of Braamfontein cater for different functions including traffic flow, services and pedestrian movement, the manner in which these services are managed determines how successfully the street operates. Understanding who the key actors are in shaping the streets of Braamfontein can help to explain how the dynamics between the three key functions of streets interact.

3.8. Key actors in Braamfontein's streets

Several role players are active in shaping the landscape of Braamfontein. These include municipal authorities, property owners and built environment consultants as described below.

Local/Municipal Government Authorities

There is collaboration between the public and private sector involvement in the development of Braamfontein as is the case in other areas of Johannesburg's inner city. In Johannesburg however, the delivery of basic urban services and the building and maintenance of roads is the prime responsibility of the local government. This work is carried out through specific government agencies, most notably the Johannesburg Property Company (JPC) which deals mostly with buildings and the Johannesburg Development Agency (JDA) and the Johannesburg Roads Agency (JRA) that deal with urban roads.

• Johannesburg Development Agency (JDA)

The Johannesburg Development Agency (JDA) was set up by the City of Johannesburg in 2001. It is one of the initiatives established to support the vision for Joburg 2030 which is Johannesburg's economic empowerment development strategy for a 30 year period between 2000 and 2030. The JDA was envisioned as a means to facilitate area-based developments as part of Joburg 2030. The JDA is concerned with the re-imagining of Johannesburg's built environment and urban communities through programmes geared towards place making and area based management. The role of the JDA is to coordinate and manage capital investment and other programmes which involve actors from both public and private sectors. Over the past 20 years, the JDA has spent over R12 billion on more than 1000 such projects within Johannesburg. Among other interventions, the JDA paid attention to promoting pedestrian friendly streets by emphasising playfulness, safety and security and identity (Peyroux, 2008).

The work of the JDA is guided by several municipal, regional, provincial and national frameworks. These include the South African National Development Plan, the Gauteng 2055 vision, the City of Johannesburg's 2040 Growth and Development Strategy and its Spatial Development Framework. A respondent from the JDA stated that the agency carries out its functions through coproduction of solutions which are developed in collaboration with local communities and other actors. The respondent identified this as a crucial component for achieving successful interventions regarding development in cities as it draws on users' and other actors' experiences and inputs.

In the first five years following its establishment, the rejuvenation of Braamfontein was one of the major focuses of the JDA. The JDA identified Braamfontein as a vital location to the local economy of Johannesburg and undertook to redevelop the area, aiming to renew it as the center of business, entertainment and education for the city. This was done through the Braamfontein Precinct Regeneration Programme which links the Newtown and Constitution Hill projects that both neighbour Braamfontein. Some of the projects included in this initiative are refurbishment of company headquarters, building of parking garages, a public park, public piazza and the upgrading of the corporate precinct and the public environment of Braamfontein. Streets Alive is one of the eight proposals approved by the JDA. The project was aimed at improving the areas in the Exchange and those surrounding the Exchange development. The first of the three phases of the project involves promoting pedestrianisation by upgrading pavements, installing lighting for pedestrians, installing signage, street furniture and planting greenery.

• Johannesburg Roads Agency (JRA)

The Johannesburg Roads Agency is an agency owned by the City of Johannesburg. The agency is responsible for the design, maintenance, repair and development of the road networks, storm water infrastructure, bridges, culverts, traffic lights and signage in Johannesburg. The JRA oversees a sizable portion of the roads and stormwater infrastructure.

Private property owners

Private property owners mostly exert their influence on the urban environment as a collective through City Improvement Districts (CIDs). CIDs can supplement the urban management work done by local government in given constituencies. Currently, the private sector appears to enjoy too much liberty in influencing Braamfontein's development in order to promote reinvestment in the suburb. Often lacking oversight from government entities, mostly due to lack of capacity or inadequate systems, this excessive power in the private sector encourages the creation of exclusive spaces that cater to a small portion of the people who use urban space. Accommodating vulnerable people within marginalised groups tends to be overlooked and they end up feeling left out of urban environments.

Braamfontein Improvement District (BRAAM)

Braamfontein is one of the suburbs with an active CID still in place. When CIDs were still mandatory, all property owners within a specified region of Braamfontein were required to pay levies as a contribution towards basic urban management services and general improvements. However, being a part of a CID changed from a mandatory requirement to a voluntary basis following a ruling by the South Gauteng High Court in 2015. In Johannesburg, most CIDs focus on security and cleanliness.

The CID that manages Braamfontein is called the Braamfontein Improvement District (BID) and it operates under the trade name BRAAM. BRAAM focuses on the aspects of security and cleanliness for the areas under its jurisdiction. Some of the main property owners currently involved with BRAAM include South Point properties, Sappi, Liberty group and the University of the Witwatersrand.

BRAAM generally does not deal with urban infrastructure implementation, maintenance and management as these functions demand more capacity in terms of finances and management than most CIDs have. In Braamfontein, the areas under the influence of BRAAM are generally safer and cleaner than those outside of the Braamfontein Management District (BMD) area.

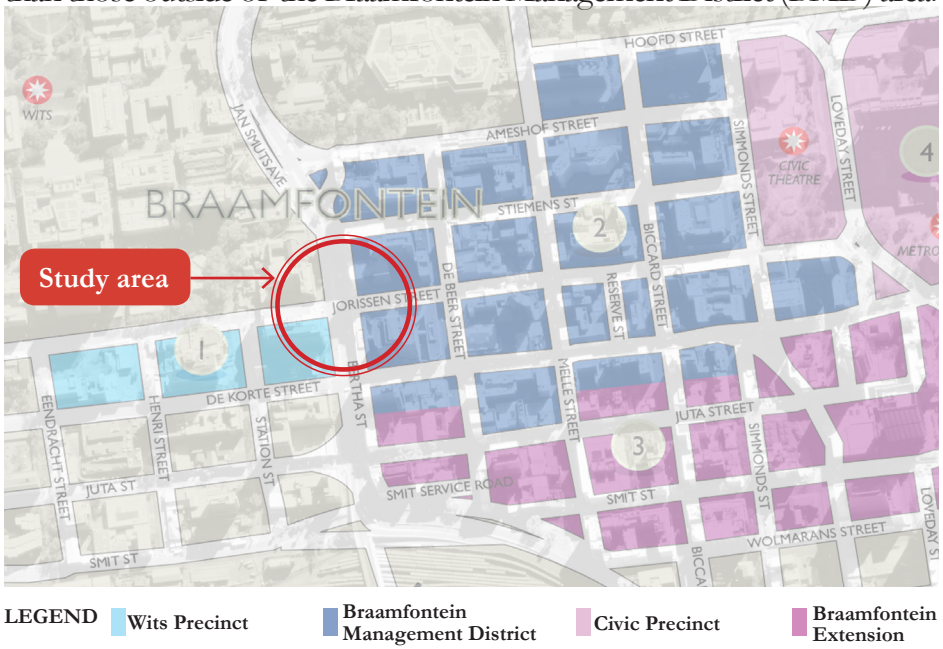

Fig 4: Map of showing the extent of the BMD area

Source: Adapted from Joburg Inner City Final brochure map. Available at https://www.gpma.co.za. Modifications by author.

Built environment consultants

Most interventions in the urban space, whether under the arm of local government, CIDs or community interest groups need to be incorporated into the urban fabric by the work of design practitioners such as architects and urban designers. These urban practitioners are expected to draw on their expertise in order to advise on the most appropriate way in which to integrate the projects proposed by government bodies and the private sector into the urban environment. In this way, built environment practitioners occupy an important role as the quality of resultant spaces they design rely heavily on their ability to balance the requirements of their clients with the needs of the public who are the end users of these projects.

Several architecture and urban design firms have been appointed by different government agencies, the Braamfontein Management District and other key actors to design street-level regeneration projects within Braamfontein. These firms include Local Studio, Albonico Sack Metacity Architects and Urban Designers (ASM) and Mpheti Mojorole Architects (MMA).

3.9. The management of Braamfontein

Braamfontein has occupied its current extent since 1909 and its street plan has also not changed much since then (De Beer, 2012). The streets in Braamfontein are under the custody of the municipality of the city of Johannesburg. The municipality carries out its work through different companies under it. The Johannesburg Roads Agency (JRA) oversees the design, and maintenance of road infrastructure in Braamfontein whereas the Johannesburg Development Agency (JDA) is tasked with implementing road infrastructure projects.

The current streets of Braamfontein therefore have varying characters with different levels of accessibility. These differences can be linked to socio-economic factors. The area managed by BRAAM mostly accommodates major institutional employers and landlords of Braamfontein while less affluent residents and workers can be found in the areas outside BRAAM. Harber (2018) observes that the streets within the BMD significantly differ from the streets within the south eastern region of Braamfontein which are visibly less managed. The members within the BMD dedicate resources to ensure cleanliness and security of the area in order to protect their investments. Although this influence may not directly influence the provision of accessibility-oriented infrastructure, it can at least make a difference in protecting and maintaining the existing infrastructure. In this way, the space is able to perform the intended functions for longer than if it was neglected and thus making it more conducive for pedestrians.

Conclusion

Due to the compact nature of Braamfontein and its diversity of activities and users, much of the movement in the suburb takes place on the sidewalks by pedestrians. The suburb is currently undergoing rejuvenation and as such is experiencing a lot of investment from both the public and private sector. The attention of these regeneration projects has since mostly been on the physical street environments through interventions such as refurbishing infrastructure and giving the area a new lease on life. Less attention has been towards creating enjoyable streets for people and especially those with disabilities. An environment that caters to the needs of people with disabilities will automatically accommodate a wide range of people with other mobility challenges. These include pregnant women, trolley pushers, those carrying heavy loads and those pushing strollers.

Chapter 4: Findings

The study set out with two main intentions. The first intention was to find out how the streets of Braamfontein cater to the accessibility needs of people with disabilities. The second was to understand the main processes as well as the key actors in the production and management of Braamfontein's streets and what their roles and key interests are. This chapter deals with the presentation, discussion and analysis of the findings from the fieldwork research. First, the research methods are explained. Secondly, the state of the sidewalks and streets as regards accessibility within the focus area of the streets at the time of the research are described with the aid of images. Next, the results from the assessment of the streets' accessibility using the tool described in the methods chapter are presented.

4.1 Research design

4.1.1 Scope of the study

The research focused on streetscapes and in particular sidewalks because these are primarily the spaces within the urban physical form through which pedestrians interact with the city. The study took place within the suburb of Braamfontein. Braamfontein was chosen because over the past two decades, it is one of the key suburbs within the municipality of the City of Johannesburg that have been the focus of major urban regeneration projects. As such, this case study helped to determine how these contemporary urban renewal projects have responded to critical urban issues particularly inclusivity through access for people with disabilities in urban space. The study was limited to the Jorissen – Bertha Street intersection as it is one of the busiest movement nodes in the suburb.

The research focused on aspects of disabilities that can be affected by the physical infrastructure within the street environment. This specifically related to the absence, presence and state of elements within the physical street scape that could promote or prevent people with disabilities from navigating urban space freely.

The study recognised the contributions of people with disabilities as a very significant component to addressing accessibility issues. Many studies have focused on this aspect and achieved similar results. They emphasize the role of people with disabilities to share their experiences in order to promote effective solutions to inaccessibility. This research focused more on the role and contributions of other less researched key actors whose activities greatly influence the production and management of urban space.

4.1.2 Method

The study adopted a qualitative approach to research. This helped in developing a more in-depth understanding of the relationship between urban management and access for people with disabilities in the specific physical context of the study. Information on how the streets currently accommodate access for people with disabilities was gathered in order to help answer the research question. Also, the research sought to understand who the key actors were in informing how streets are made and managed. Information on how the key actors interact with the streets and with one another was also investigated. Most of the information was based on observations and the experience, expertise and perceptions of the participants.

Study area

The study focused on the intersection of Jorissen and Bertha Streets. The study spanned an area covering one block in all directions from the Jorissen-Bertha Street intersection. These are two of the busiest streets in Braamfontein and in a way they divide Braamfontein into four segments. Although the surrounding area all seems to be under the management of the Braamfontein Improvement District, four different property owners are responsible for the four blocks that meet at this intersection.

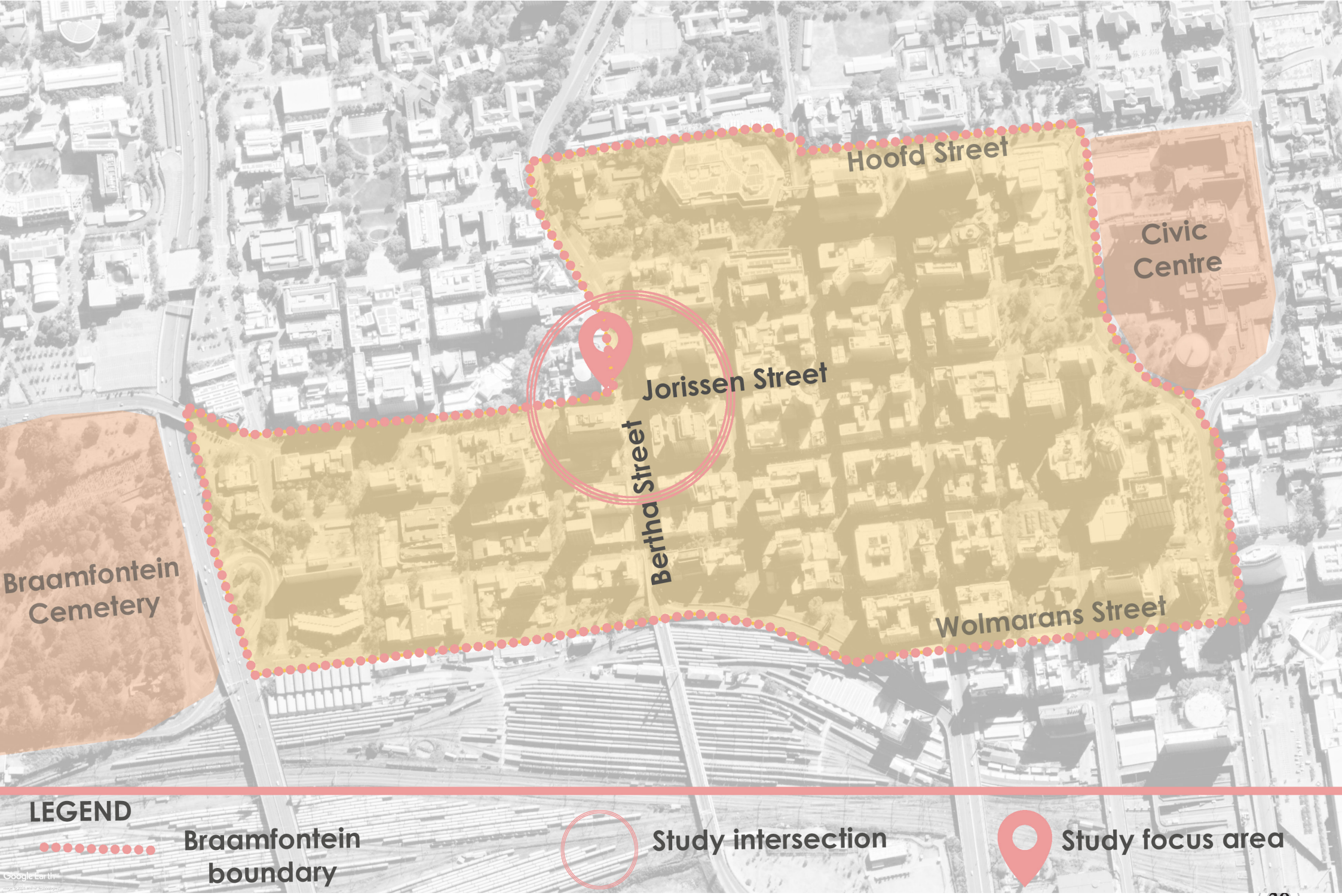

Fig 5: The study area

Source: Base map sourced from google earth imagery, overlaid information compiled by author

This research was conducted through observations of how the street environment of the study area specifically caters to the needs of the disabled. The interviews focused on the actors responsible for the formation and management of urban space. The aim was to understand how the interests of these various agents relate with the interests of people with disabilities in order to identify gaps and understand how the gaps can be bridged effectively. As explained below, each of these three approaches to data collection helped to answer specific aspects of the research inquiry

4.1.3 Data collection

4.1.3.1 Desktop study

A desktop study was carried out to review grey literature on the topic of disability and access to urban space within Johannesburg and in particular, Braamfontein. This desktop study of statutory, policy and project documentation helped to identify the different actors in the making and management of streets in Braamfontein and what their responsibilities are as well as what their involvement entails. The information gathered from each of the methods was compared to detect similarities and differences in results. This triangulation informed stronger arguments and ideas and suggested directions for further research. This helped to answer sub-question 1.

4.1.3.2 Observation

Observations were carried out at the identified intersection in Braamfontein. During the observations, notes were taken and photographs captured to identify different aspects of the streets of Braamfontein and analyse how either promote or prevent accessibility by people with disabilities. The aim of these observations was to help in understanding how the urban space of Braamfontein caters to the needs of people with disabilities. This helped in answering sub-question 2.

4.1.3.3 Interviews

The study involved interviews with representatives from each of the groups identified as being actors in the making and management of Braamfontein. These groups included municipal officials from the Johannesburg Roads Agency (JRA) as representation from the public sector, the private sector through the Braamfontein Improvement District representatives and the urban designers and accessibility experts. Due to the Covid 19 pandemic, the potential participants were contacted via email to request their participation in the study. Interviews were conducted via Zoom and Microsoft Teams in order to adhere to the guidelines in place to prevent the spread of the virus.

The interviews were semi-structured and focused on understanding the interests of these different actors and how their interests compare with the accessibility needs of people with disabilities. The interviews also probed perspectives on how accessibility can be more inclusive

within the streets of Braamfontein. These helped in answering sub-questions 1,3 and 4.

Interview categories

Interviews were carried out with people in five categories identified as having a hand in influencing the processes of production and management of the streets of Braamfontein. These categories are public agencies, private actors, community advocacy groups, built environment practitioners and experts in implementing universal design in urban environments. Most of the respondents were at one point involved in projects in Braamfontein.

- **Public agencies**

From public agencies, the aim of the interviews was to determine the mandatory extent of their responsibilities towards the making and management of streets in Braamfontein. The interviews also sought to find out whether these mandates are fulfilled in the current streetscape of Braamfontein. In addition, the interviews evaluated how the mandated activities of local government in the management of Brammfontein's streets measure up to ideal expectations. This drew from examples in contexts where successes in street accessibility by people with disabilities can be attributed to concerted government efforts. Lastly, the interviews probed the contributions that public agencies and local government authorities can make towards promoting accessibility of streets in Braamfontein.

- **Private actors**

Private actors have a significant influence in determining the physical landscape of urban environments in Johannesburg especially in key commercial nodes such as Braamfontein. As such, interviewing some property owners helped to provide insights into the key interests of developers in the production and management of their investments within urban environments. The interviews assessed whether issues of accessibility by people with disabilities are considered as priorities for private developers.

- **Community advocacy groups**

In the absence of government interventions and private investors' interest, advocacy groups sometimes have to step in to draw attention to key issues that affect marginalised groups whose needs are often forgotten within urban space. The interviews in this category aimed at understand issues of street accessibility by people with disabilities from the perspective of people with disabilities and the groups that represent their interests. The interviews sought to understand the views and experiences of these groups and get their suggestions on how such issues could be addressed.

- **Built environment practitioners**

As the category that deals with the design and integration of projects within the urban landscape practitioners in the built environment ,such as architects and urban designers, have a key responsibility to propose design solutions that address various key urban issues. The interviews with this category sought to understand how built

environment practitioners apply their expertise in interpreting and translating their client's key interests into well-rounded projects that interact positively and sustainably with the rest of the urban space. The emphasis was placed on how urban practitioners respond to issues of access of urban space by people with disabilities generally.

- **Universal design specialists**

The interviews in this category investigated the opinions of people with an expertise in universal design. Universal design focuses on creating environments that cater to all people instead of some groups in the general population. The inquiries focused on obtaining evaluations from these experts on how urban street environments cater to people with disabilities. They also probed common misconceptions about designing for accessibilities and the key (most importantly and simplest) ways in which accessibility of urban streets to people with disabilities can be enhanced.

The data from the interviews was transcribed immediately following the interviews so that the information was captured and interpreted as accurately as possible. Key themes were identified and compared with those arising from the literature review. The information coming from the interviews was reviewed against the information resulting from the site walk and photographs. Similarities and differences were noted and analysed accordingly.

List of respondents

1.Respondent 1: An architect and urban designer who is occasionally involved in projects within Braamfontein.

2.Respondent 2: A universal design specialist who has been involved in accessibility and universal design projects in South Africa and internationally.

3. Respondent 3: A municipal official working with the JDA The respondent's role was a universal access specialist tasked with assessing and advising on accessibility concerns for public works projects handled by the JRA.

4. Respondent 4: Respondent 4 was the operations manager of the Braamfontein Improvement District (formally known as BRAAM).

Analysis of study area

I walked along Jorissen Street and Bertha Street documenting the state of the sidewalks on both sides of the street. The documentation was done by means of observing, taking photographs and taking notes to study the physical landscape of the streets for elements that

1. Make it easier (enablers)
2. Make it more difficult (barriers)

For people with disabilities to

1. navigate the sidewalks and
2. cross the streets

Assessment tool

An assessment tool was developed which comprised of key elements of streets well-suited to accommodate people with disabilities. Each of the elements was rated for the different sidewalks and streets according to how well they presented and functioned.

Assessment criteria

The following criteria were used to assess the selected sidewalks and streets for accessibility to pedestrians with disabilities.

These were devised from key points arising from the literature review and from the interviews. As such it made for an appropriate tool to conduct this particular research.

1. Level surfaces: Are the sidewalk surfaces level and flat?
2. Obstacles/Protrusions: Are there any objects protruding horizontally or vertically into the sidewalk that can obstruct the free path of travel?
3. Sidewalk corridor: How wide is the unobstructed free path of travel within the sidewalk?
4. Transitions across driveways: Are the transitions across driveways gentle and well-connected?
5. Connection to the street surface: Are links to the street gentle and well-connected?
6. Colour contrasts: Are the sidewalk surfaces clearly contrasted to indicate transitions to pedestrians with low vision?
7. Surface materials: Are the surface materials appropriate for ease of use of mobility aids such as wheelchairs, canes and crutches?
8. Surface texture: Are the surfaces textured appropriately to prevent slipping and ease of navigation using mobility devices?
9. Detectable warning surfaces: Do sidewalk surfaces include detectable warnings for pedestrians with low vision?
10. Gaps and grates: Are openings within sidewalk paths appropriately sized to avoid interrupting the movement of pedestrians using mobility aids.
11. Accessible Pedestrian Signals: Are there Accessible Pedestrian Signals installed to aid pedestrians with disabilities in crossing streets?
12. Crossing positioning: Are crossing zones well-positioned for safe use by people with disabilities?
13. Colour-contrasted crossing: Are crossing zones sharply colour contrasted to assist pedestrians with low vision?
14. Texture-contrasted crossing: Are there contrasts in textures within crossing zones for easy detectability for pedestrians with low vision?

Ranking and scoring

The tool used a ranking that assigned a score across a scale of 3 levels (0, 1 and 2). A score of 0 meant that the aspect is overall negatively represented in the space. A score of 1 meant that the aspect has some positive elements and some negative ones. A ranking of 2 meant that the aspect is overall positively represented. A positive representation means that the aspect functions in a manner that promotes accessibility while a negative representation means that the aspect in question is a barrier to accessibility. Based on the total score, a percentage was calculated for each sidewalk or street. Assigning a value of (-) means that that element cannot be assessed for that particular sidewalk as it does not exist. In the end, any (-) marks will reduce the total possible points that can be achieved by that particular street hence not all streets will have the same value of total possible points. If a street scored over 75%, it was considered adequately responsive to accessibility issues. A score of 50-75% indicated moderate provisions for universal access. However, if the conformity is found to be under 50%, the street's accessibility to people with disabilities was considered as inadequate.

4.1.4 Data analysis

The data collected by each method was analysed independently and then compared to identify alignments and disagreements which might prompt further research and explanations. The analysis helped to answer sub-question 4.

4.1.5 Ethics considerations

All potential participants received a participant information sheet that outlined the purpose and objectives of the study. Those who agreed to the interviews were provided a Consent Form via email to sign to indicate their willingness to participate in the study. The willing participants also received a copy of the interview questionnaire ahead of time in order to give them time to consider the questions and so they could provide more substantial responses. The study adhered to the national guidelines and regulations for the prevention of the spread of Covid 19. As such, interviews were strictly conducted via online video platforms including Zoom and Microsoft Teams. Participants were interviewed individually to ensure confidentiality of data. The participant information forms indicated that participants' identities would not be disclosed and that their contributions in the final research report would be represented using pseudonyms for anonymity. No actual names are included in the data although names of the institutions are. Data was stored in a password-protected computer file. Any notes written down were stored in a locked compartment.

4.2 The state of accessibility of Braamfontein's physical street scape.

The sidewalks in the focus area were assigned labels i.e 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b as shown below.

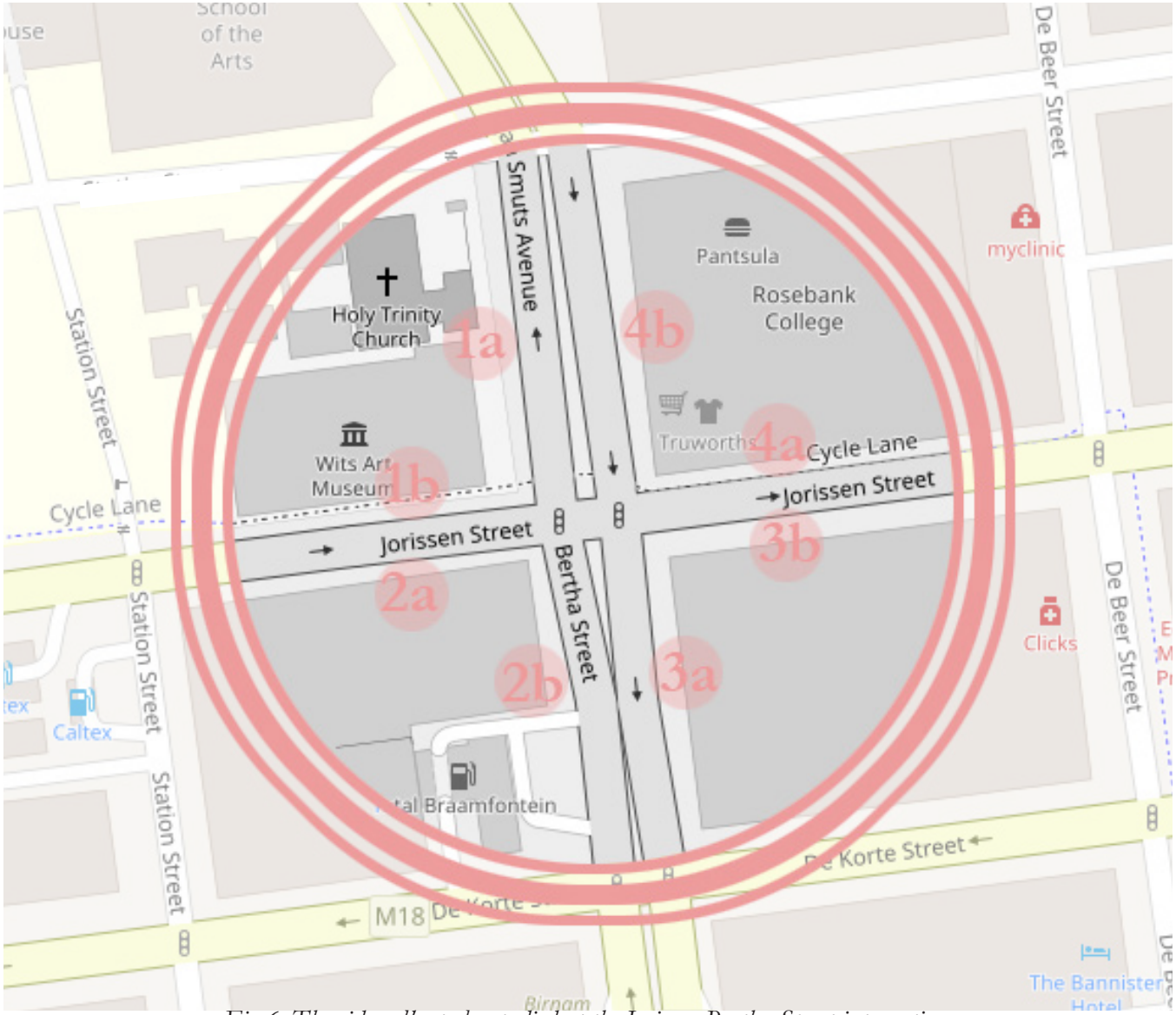

Fig 6: The sidewalks to be studied at the Jorissen-Bertha Street intersection.
Source: Base map sourced from Google Maps imagery, overlaid information compiled by author.

Sidewalks 1a and 1b

Sidewalks 1a and 1b run alongside the Wits Art Museum. The sidewalks are not well-suited to accommodate the movement of people with disabilities. On sidewalk 1a, there is a wide staircase (shown on the right side of the image 1a) and a space for vehicular parking immediately to the right. There is no space for people with mobility aids who cannot use stairs to navigate the sidewalk. Along 1b is a steep gradient across a driveway and some protrusions within the sidewalk corridor. All this makes for a treacherous journey for pedestrians with disabilities. The corner at the intersection of the two sidewalks is just as poorly conceived for accessibility by people with disabilities. It has a number of obstacles scattered over the corner, including service boxes, posts, a bin and inspection covers protruding into the path of travel. It is also almost impossible to access the ramp which haphazardly connects to the street from a dangerous single corner point. This street connection can lead pedestrians with vision impairments right into oncoming traffic, putting them in harm's way as they attempt to cross the street.

Fig 7: Sidewalk 1a

Fig 8: Sidewalk 1b

Sidewalks 2a and 2b

Sidewalks 2a and 2b run along the recently constructed South Point student residence building. They generally present sidewalks that people with disabilities will very likely find quite comfortable and pleasant to use. The wide sidewalk corridors, with relatively level smooth surfaces that have visible colour contrasts, the gentle transitions across entry ways and inspection covers that are flush with the surface level are all good accessibility attributes. These sidewalks stand in stark contrast to all the other sidewalks in the study area in terms of usability for people with disabilities. These positive accessibility features may be owed to the fact that the building was only recently constructed and so better materials and design guidelines may have been used. One of the negative accessibility features on these sidewalks however is the ramp connecting the sidewalks to the street. This ramp shares most of the negative issues as the ramp at the corner of 1a and 1b.

Fig 9: Sidewalk 2a

Fig 10: Sidewalk 2b

Sidewalks 3a and 3b

The sidewalks 3a and 3b are along Jorissen Place, a building which is home to the Johannesburg City Council. The sidewalks have some qualities that could make it difficult for people with disabilities to get around. Sidewalk 3a has some missing pavers and some protruding elements which could both be tripping hazards for anyone moving along the street. The sidewalk surface is not very level and may lead to a rather bumpy journey for someone using a wheelchair. Other than that, both sidewalks have adequate corridors making movement by all pedestrians more comfortable.

Fig 11: Sidewalk 3a

Fig 12: Sidewalk 3b

Sidewalks 4a and 4b

Sidewalks 4a and 4b meet at the corner of a building that is privately owned. The building has an educational institution (Rosebank College), a supermarket (Pick n Pay) as well as other businesses. These sidewalks are on the whole not very well suited for use by pedestrians with disabilities. Sidewalk 4a has a surface that is barely wide enough and that is not level either. This will make it difficult for someone using a wheelchair to comfortably use the street. Towards the ramp at the street corner, there is also a metal grate in which wheelchair wheels can easily get caught. Sidewalk 4b has a much wider corridor. However, the large pavers with wide grouting can create a bumpy journey for a wheelchair user. Sidewalk 4b also has bollards that obstruct the free path of travel for pedestrians.

Fig 13: Sidewalk 4a

Fig 14: Sidewalk 4b

There are varying levels of accommodations on different streets to facilitate navigation by people with disabilities. Whereas some streets generally have an environment that is more conducive for use by people with disabilities, others fall short in several regards. Worth noting though is the fact that overwhelmingly, the focus for addressing accessibility for people with disabilities in the study area is on features and elements aimed at wheelchair users and not so much on addressing other kinds of disability. Also, in some cases, accessibility features exist but are ineffective for use by disabled pedestrians because of how they have been installed or because they have deteriorated over time. An assessment of the sidewalks and streets above was carried out. The results of the assessment are presented in the following section.

4.3 Results from the assessment of accessibility within the study area.

The following section presents the findings from the field work carried out in the study area to assess the accessibility of the streets and sidewalks for people with disabilities.

Assessment criteria

The criteria used were outlined in an earlier section of the chapter The focus for compiling the criteria was elements that are part of the physical infrastructure of the street and whose effectiveness can be measured.

Results

The results are presented in the tables below

SIDEWALKS								
CRITERIA	1a	1b	2a	2b	3a	3b	4a	4b
Level surfaces	1	0	2	2	0	1	1	1
Obstacles	0	0	2	2	2	0	2	1
Corridor	0	1	2	2	2	1	1	2
Transition across driveway	1	0	2	-	-	2	-	1
Connection to street	0	0	0	0	1	1	1	1
Colour contrasts	1	1	2	2	1	1	1	1
Surface materials	1	1	2	2	1	1	1	1
Surface texture	1	1	1	1	1	1	1	1
Detectable warning surfaces	2	2	2	2	2	2	2	2
Gaps and grates	0	-	-	-	0	1	1	-
Accessible Pedestrian Signals	0	0	0	0	0	0	0	0
TOTAL SCORE	7/22	6/20	15/20	13/18	10/20	11/22	11/20	11/20
PERCENTAGE SCORE	36%	30%	75%	72%	50%	50%	55%	55%

Table 1: Condition of sidewalks

One sidewalk (2a) scores in the range of good accessibility

Five sidewalks (2b, 3a, 3b, 4a, and 4b) score in the range of moderate accessibility

Two sidewalks (1a and 1b) score in the range of poor accessibility

STREETS				
CRITERIA	1a-4b	4a-3b	3a-2b	2a-1b
Crossing positioning	0	2	0	0
Crossing colour contrast	1	1	1	1
Crossing texture contrast	1	1	1	1
TOTAL SCORE	3/6	4/6	2/6	2/6
PERCENTAGE SCORE	50%	67%	33%	33%

Table 2: Condition of streets

None of the streets score in the range of good accessibility

Two of the streets (1a-b and 4a-3b) score moderately.

Two streets (3a-2b and 2a-1b) score poorly for accessibility.

The general conclusion is that the streets and sidewalks of Braamfontein are not very well suited to accommodate people with disabilities. The accessibility of Braamfontein's streets requires improvement to ensure inclusivity.

4.4 General observations

A more in-depth descriptive look at the key observations made within the study area is presented below.

Sidewalk corridors

Most streets provide adequate widths of corridors within sidewalks.

Fig 15: Barely usable sidewalk corridor along sidewalk 1a

Fig 16: Spacious sidewalk corridor along side walk 2a

Sidewalk texture

Most sidewalks are treated with cobblestone pavers. Some have contrasting textures at critical areas.

Fig 17: Surface texture of sidewalk 4a

Fig 18: Surface texture of sidewalk 2b

Figs 17and18: Difference in surface texture along sidewalk 4a and 2b

Levelness

Some sidewalk surfaces have smooth, level paths that are easy to use by people with wheelchairs. Others however have uneven surfaces with missing, broken or protruding pavers.

Fig 19: Missing pavers along sidewalk 4b

Fig 20: Uneven paving along sidewalk 4b

Sidewalk colour contrasts

Most sidewalks are treated with differently coloured paving materials but the contrast is too subtle to make any real difference especially for pedestrians with low vision. Street crossings also do not use zebra crossings. This also promotes difficulty in navigation for those with low vision.

Fig 21: Colour contrast of paving along sidewalk 2a is sharp.

Fig 22: Colour contrast of paving along sidewalk 1b is not very sharp

Fig 21and22: Colour contrasts in paving.

Obstacles

These tend to be found along the more recently constructed streets ,such as the sidewalks along the recently finished South Point accommodation building on the corner of Jorissen and Bertha Streets. Some streets have no obstacles On the sidewalk corridor. The ramps and gradients on these streets are also more gentle and smooth. There are no protrusions within the sidewalk corridor. Inspection covers are level with the surface of the sidewalk and other features are positioned in such a way that they do not to obstruct the main path of the sidewalk corridor.

In some areas, the pedestrian path has obstacles. These include elements like poorly positioned poles, bins, seats, service boxes, sign posts and street light poles, protruding inspection covers, and other loose debris. These obstacles block the path of travel and make it difficult for people with disabilities to move along sidewalks.

Fig 23: Protrusions along sidewalk 4b

Fig 24: Numerous protrusions at the corner of sidewalks 1a and 1b

Transitions/ Ramps

Ramps can be found at every street corner and also at driveways to aid in street crossing and transitioning along sidewalks where level changes occur. The ramps are treated with tactile surfaces which help pedestrians with low vision to detect transitions more easily. Some of the ramps are in good condition and connect seamlessly between the sidewalk and the street level.

However, some of the ramps do not allow for smooth transitions across areas with level differences. The images shown below show ramps in poor condition that drop suddenly onto the street level making for a dangerous transition especially for people who rely on wheelchairs.

Fig 25 shows a ramp across a driveway which is so steep that it cannot be used safely by people with mobility or vision challenges. It also shows an uneven surface and a brick within the path that makes for an even more dangerous situation for people with disabilities, especially the categories highlighted above.

Fig 25: Steep ramp across driveway along sidewalk 1b

Fig 26: Gently sloped ramp across driveway on sidewalk 2a

Accessible Pedestrian Signals

There is a lack of Accessible Pedestrian Signals (APS) and other facilities to communicate information to people with various forms of disabilities, especially those with low or no vision, the deaf and those with cognitive impairments.

Fig 27: No sign of Accessible Pedestrian Signals at crossings

4.5 Procedures followed in the production of streets.

The processes involved in the production of street features vary between streets located within public spaces and those streets within private property. The most significant form of control of developments or works carried out within public space of road reserves is the wayleave, whereas private developments are controlled through municipal building approvals.

Public space

One of the key ways to control developments or works affecting streets in Johannesburg is by using wayleaves. A wayleave is a document that grants someone permission to use the property of another without possessing it. All road reserves within the City of Johannesburg are under the custodianship of the JRA. However since roads and road reserves are also the site for many urban services, they are used by different utility companies and service agencies, such as City Power, ESKOM, Rand Water and telecommunication companies to carry out installations, maintenance and repairs of services. In accordance with the bylaws of the City of Johannesburg, the JRA is mandated to manage all activities affecting road reserves within the jurisdiction of the city.

The JRA uses the mechanism of wayleaves to coordinate the activities of various departments that carry out work in road reserves. This serves to minimise the effects of works done for the benefit of all parties involved including rate payers, road users, service companies and the JRA itself. The wayleave application process is intended to protect roads and vehicles from damage resulting from such works. Another key objective of the wayleave is to protect road users, including vehicle users and pedestrians from harm or injury that may result during the process of carrying out work on public roads. The duty of obtaining wayleaves is typically the responsibility of civil engineers.

Wayleaves dictate how utility companies and service departments must treat the roads on which they do their work to standards that protect the road infrastructure against damage and prevent harm to vehicles and road users. These standards are guided by the Code of Practice. The wayleave puts the onus of ensuring that their work does not unreasonably affect other road users and road infrastructure. It demands that once works are completed, the roads must be left in the same state or better than they were prior to the works. Some roads are protected from any disturbance. Roads that have been newly constructed, overlaid or resurfaced will be protected for a period of seven years.

The wayleave procedure provides significant details on how road infrastructure must be treated during works within the road reserve. Several standards are articulated in this regard within the Code of Practice. However, although it is also made clear that road users must be protected during works, the references given relate mainly to the provision of adequate traffic signs and barricades. No specific mention is made for the need to make accommodations to allow people with disabilities to comfortably and safely access and navigate the streets during the execution of works. No guidelines are in place to ensure accessibility remains possible for people with disabilities. This leaves people with disabilities vulnerable and more likely to suffer injury during such procedures. Projects within public space have more oversight from municipal departments, especially regarding accessibility than private projects.

Private space

Private projects are not required to undergo similar processes even though their scope usually reaches into the public space of sidewalks. Projects within private space are controlled by the South African National Standards (SANS) 10400. The standards for accessibility are provided in Part S of the document. Normally, all building projects can only be approved for construction once they satisfy the requirements according to the building standards. However, Respondent 1 and Respondent 2 agreed that this control process is not very rigorous and it is not uncommon to find projects that have been approved which do not fully comply with all the required standards.

Conclusion

Generally, the findings reflect that sidewalks and streets in the study area do not cater well to people with disabilities. Although the findings focus on a specific area within Braamfontein, they are representative of the situation within the broader context of Braamfontein. The next chapter is a discussion and analysis of these findings.

Chapter 5: Discussion of findings

Introduction

This chapter discusses the findings presented in the previous chapter and carries out an analysis of the data gathered from the observation and the interviews conducted. It integrates the information from the literature review and the context to help in the understanding and interpretation of the findings from the fieldwork. The information provided by the respondents was incorporated to aid with the analysis and interpretation of the findings. Four respondents were interviewed and represented in the chapter as follows in the order that the interviews were conducted.

Respondent 1- Urban designer
Respondent 2- Universal access specialist
Respondent 3- Official from the JRA
Respondent 4- Official from BRAAM.

5.1. Why is accessibility for people with disabilities a challenge in Braamfontein's streets?

5.1.1. Accessibility is not regarded as a priority

Accessibility as a key function of urban space is not yet regarded as a priority in practice. This was supported by both Respondent 2 and Respondent 3 during the interview process. Respondent 2 was concerned about how existing urban services are based around the movement of vehicles, not people. Pedestrian needs are not a priority and instead, the key focus for urban services is on how best the roads work for cars.

Respondent 3 who works with the JRA stated that there is currently no formal system or structure within the JRA to assess universal design for streets. This function, he added, is currently being undertaken by him but notably more as a personal initiative rather than a municipal one. Respondent 3 gave an example that utility companies seem to prioritise corporations and ratepayers as customers during installation and maintenance of services in road reserves within Braamfontein. The respondent added that other urban users such as people with disabilities are not considered as a priority. As such, safety, especially for people with disabilities is not always given the necessary attention. Barricading of construction

zones for works taking place within road reserves does not always factor in users with various kinds of disabilities. In addition, these utility companies do not usually ensure that care is taken to ensure that people with disabilities are still able to navigate sidewalks regardless of constructions taking place. Furthermore, it is common for sidewalks to be left with uneven paving and broken pavers after such works which presents a hazard for people with limited mobility and visual awareness.

Respondent 3 further illustrated how accessibility is not treated as a priority. He said that even though there are initiatives such as the 2030 Universal design goals which are aimed at promoting universal design within urban spaces, the systems, commitment and short term goals, to lead up to this change are not in place or not sufficient. Lack of implementation is a serious challenge. Respondent 3 said that often, when budgets of projects get cut, smaller technical aspects geared towards universal design initiatives are the first to be removed from the programme. And yet as regards universal access, very small, usually cheaper changes have a very high positive impact, especially from the users' perspective, and the aesthetic and sensory experience of the environment. The priority is given to civil infrastructure concerned with curbs and roads which may not have as much of an impact on pedestrian experience but rather on how vehicles use the roads.

5.1.2. Pedestrian interventions are biased towards the able-bodied.

As evidenced from the current physical environment of Braamfontein, most of the regeneration programmes that attempt to improve the pedestrian experience of the streets do not always cater to the specific requirements of pedestrians with disabilities. There is often an emphasis within policy, planning and design on 'walkability' when promoting access for urban users not using motorised transport. This may encourage a bias against people whose locomotive abilities require a different set of skills than the typical 'walker'.

Despite the significant pedestrian activity in the area, most of Braamfontein's roads are wide and the traffic lights primarily serve the purpose of efficient car travel. This compromises the safety of pedestrians crossing roads, especially those with disabilities who may require more time to move across streets. In addition, poorly maintained street surfaces, obstacles along sidewalks and poor transitions between sidewalks and streets can be found in many parts of Braamfontein's streets. This promotes a hostile environment for the disabled pedestrian.

5.1.3. The focus on physical disabilities

The observation of the focus area found that the majority of features present to accommodate the accessibility needs for people with disabilities focused mainly on physical disabilities. There are ramps at every street corner, each with tactile surfaces as detectable warnings. This correlates with what literature identifies as an area to be addressed regarding how society understands and responds to the issues related to disability. The argument is that society is more likely to recognise people as disabled when their disabilities result in a physical impairment to the body that can be seen. This includes mostly wheelchair users and the visually impaired. This means that society's attitudes tend to reduce disability mostly to these types of conditions. As such, the attempts made to accommodate people with disabilities in the physical environment focus on addressing wheelchair users and the visually impaired through the use of ramps and tactile surfaces, thereby neglecting people with other types of disabilities especially those that do not necessarily affect one's physical appearance.

Respondent 3 agreed that this was the case in most urban environments but provided a rationale for this. The rationale is that using a wheelchair and other mobility aids and also being visually impaired are some of the most extreme disability conditions. These conditions require major modifications in infrastructure in order to accommodate use by afflicted people. Therefore from an infrastructure perspective, catering for these extreme conditions would yield the best benefit that includes a much broader range of disabilities. Respondent 3 noted that it is very challenging to fully cater for all disabilities, but catering for wheelchair users and users with visual impairements covers the greatest percentage for more inclusivity.

5.1.4 Limited capacity

Within key departments of urban systems that govern how the physical urban space is created, there is a critical lack of capacity for ensuring accessible environments. Respondent 3 mentioned that there are only about 5 or 6 qualified universal design specialists in South Africa. The respondent explained that this greatly affects the overall progress of promoting accessibility. Within the JRA, efforts are being made towards integrating accessibility into the design of streets. Respondent 3 cautiously added that this process is being carried out outside the standard operating procedures of the JRA. The positive efforts towards promoting accessible streets are therefore being challenged and frustrated by the lack of capacity and the insufficient systems within the official municipal body responsible for works within public road reserves.

Respondent 3 said that different sectors including disability organisations, universal design specialists and political agencies all agree that it would not take much to make the urban environment more inclusive. However, he added that despite this, little progress is achieved due to the lack of capacity and systems that favour accessibility.

5.1.5. Poor attitudes from key actors

Many officials in positions of influence regarding accessibility of urban space do not express adequate concern or conviction of the importance of urban accessibility. Respondent 2 spoke about the poor attitudes of officials within municipal government when it comes to the topic of addressing accessibility challenges. He mentioned for example that the JRA has not appointed a universal design consultant due to concerns of high costs. Such agents would help to guide and advise on how to achieve sustainable accessible urban environments. Respondent 1 also noted that the wayleave process which is the main form of control for checking accessibility of projects within public space is the responsibility of civil engineers who are generally not very concerned about social issues surrounding accessibility. With such attitudes, accessibility will continue to manifest as an afterthought in space, preventing real transformations of the way in which pedestrians, especially those with disabilities, experience urban space.

The factors mentioned above explain why the pace of change towards integrating accessibility in urban space has been very slow despite the efforts from the concerned parties. For years, disability groups and accessible design specialists have pushed for more inclusive environments but very few effective interventions have been implemented.

5.1.6 Poor management and lack of monitoring

Another observation is that although a considerable level of care is accorded during the implementation of road infrastructure projects in Braamfontein, the maintenance of these projects remains a challenge. The quality of newly implemented road infrastructure projects in Braamfontein is generally good. However, the common trend is for this infrastructure to gradually become derelict due to lack of maintenance and also disruption from other urban services.

The management and maintenance of infrastructure within public space is a serious challenge. Respondent 1's observation was that the major issues with urban accessibility do not occur at the design, approval or initial construction stage. He believed the problems arise during the maintenance and management of these interventions. Most of the management work in Braamfontein is done by BRAAM and it mostly focuses on security and cleaning, rather than on physical infrastructure. Respondent 1 speculated that the levies collected from constituents may not always be enough to effect any significant change regarding physical infrastructure. Besides, the work of providing and maintaining urban infrastructure and services is the responsibility of the local government. However, local municipalities often face challenges in maintaining infrastructure. As a result, implemented projects eventually fall to disrepair and can no longer perform their intended functions effectively. Evidence of this within Braamfontein's streetscape can be seen in features such as the broken pavers and inspection covers in sidewalks and in ramps that no longer connect sidewalks and streets.

5.1.7. Problematic power dynamics

As highlighted by Respondent 2, some disability organisations receive funding from the government to carry out their welfare activities. This can create a confusing relationship between disability groups and government entities, especially when advocating for their rights. Disability groups may face a dilemma when demanding action from government due to their dependence on them for their funding. Respondent 2 and Respondent 3 both stated that efforts to involve people with disabilities in attempts to pressurise government entities into prioritising urban accessibility were often met with resistance or lack of enthusiasm. In some cases, disability groups may opt to prioritise the welfare function of the state which can seem to be more important for the short term survival of their dependents. They may focus less on demanding the service delivery function of the state towards long term goal of advocating for better accessibility. Government bodies sometimes take advantage of this power imbalance and escape being held accountable for providing the essential accommodations. These accommodations would facilitate the independent action of people with disabilities and empower them to thrive on their own within the built environment. Respondent 3 noted that this situation shows how unbalanced power relations can promote disablist ideas and stifle efforts aimed at change.

5.1.8. Lack of coordination between different actors

There is barely any coordination between various departments that have an influence in the sidewalk space of Braamfontein's streets. The respondents expressed the same concern. The respondents spoke about how different departments do not coordinate their services but rather operate individually which results in clutter and clashes in the functionality and use of the limited available space. Services that can easily be integrated are spread out, each functioning independently with little regard for how its function relates to other services.

The lack of coordination also means that sometimes the operations of one service provider is neglectful of the functioning of other services. A common example given by the respondents was that of utility companies digging up previously well-designed and built sidewalks to install or repair their respective services. Afterwards, the sidewalks are often not returned to the state they were initially found in. Instead, they are left with defects such as bumpy or depressed surfaces and broken pavers which impact negatively on how the sidewalks are used, especially by people with disabilities. This situation actually played out in the study area during the fieldwork period that will be described later.

There is a poor relationship between the processes that control private developments and those that control works within public spaces. This can result in a lack of continuity in accessibility transitions between private developments and public space.

There is also a lack of systematic organisation to identify the key priorities within urban space and manage how the different departments carry out their functions in a manner that recognises this hierarchy of priorities. Respondent 3 mentioned that the activities of utility companies in the urban environment intersect with accessibility requirements. And yet these companies are notorious for operating with little regard for how their activities affect the rest of the urban system. He observed that electricity, fibre and water companies appear to have monopoly over operations within urban space and do not seem interested in integrated functioning. The respondent's observation was that these companies seem to determine instead of the municipality being the managing agent guiding other service providers' works to ensure a coordinated and integrated overall urban environment.

It should be identified that some aspects such as accessibility are of high priority in terms of urban functionality. All service departments and utility companies should be mandated to recognise these aspects in their activities. This would mean for example that a fibre company that is installing or repairing cables along sidewalks or streets, should ensure that their work does not interfere with the accessibility of that space by people with disabilities. The company must be required to provide an appropriate alternative route and safety measure during their works and leave the sidewalk in either the same condition or better than they found it.

Wayleave applications are the responsibility of civil engineers who tend to focus more on the design of roads and road systems for cars and less on designing streets for pedestrians. It is not apparent what the systems are for coordinating and integrating the intersections in the development of private projects and public works to allow for continuity.

5.1.8.1. An illustration of the lack of coordination

The following section describes an example of how the lack of coordination among urban departments can impact on the access needs of people with disabilities. Respondent 1, described a situation in which large holes were dug to repair water services in one of the sidewalks in Braamfontein with no regard for proper repaving or safety of pedestrians. A similar incident occurred in the study area during the fieldwork period and it is described below.

This particular site was selected as a study area because it embodied a lot of the characteristics that typically exist in urban space that promote inaccessibility for people with disabilities.

The findings have revealed that the site has several obstacles in the path of travel, including sign posts, service boxes, inspection covers and disconnected level changes which obstruct the free path of movement. Movement around this area is a challenging task even for able-bodied pedestrians, but the impacts are magnified for pedestrians with disabilities. When*Fig 28* was shown to Respondent 3, he described it as exemplifying most of the problems that the municipality is faced within terms of the intersection between management of urban space and accessibility. The respondent speculated that such issues could have stemmed from the fragmentation of urban services to be controlled by separate entities. The result, as the image shows, is a disintegration in the management of urban space that promotes a inefficiency in the use of the limited available space. In this case as with many others, this is done at the expense of accessibility for people with disabilities.

Fig 28: Study focus area at the beginning of the study

During the fieldwork period, some works were carried that involved digging up the sidewalk. This could have been an opportunity to make some changes and upgrades to the street for the benefit of better accessibility. However, during the works, no major safety protocol, other than flimsy barricade netting were put in place to protect pedestrians and provide them with a safe alternative route of travel. Instead, pedestrians could be seen walking on the streets alongside vehicles. Pedestrians with disabilities would experience greater difficulties trying to navigate this area of Braamfontein.

At the end of the works, the area as predicted was left in a worse state than before with loose pavers and large cracks on the sidewalk surface causing danger to pedestrians. This is despite the detailed guidelines stipulated in the wayleave procedure which describes in great detail how road reserves must be treated during and after works are carried out.

Fig 29 was taken a short while after *Fig 28*. It shows that the damaged surface on the street corner has now been repaired. However, loose rubble remains causing an obstacle for some people with disabilities attempting to navigate the area. A wheelchair user could get stuck in the rubble. A visually impaired person who relies on the tactility of ground surfaces may not be able to tell textural differences in the surface below their feet due to all the loose gravel. The gravel can also be a tripping hazard for anyone experiencing mobility challenges.

Fig 29: Study focus area after construction works

The following images show some more examples of installation, maintenance or repair work done in areas within the Jorissen-Bertha Street intersection during the time of the study. All the examples show a lack of concern for the safety and comfort of pedestrians. This affects people with disabilities to a much greater extent.

Fig 30: Sidewalk 4a during construction works

Fig 31: Sidewalk 4b during construction works

These images present good examples of the lack of coordination between departments concerning the treatment of urban space in an integrated way. They highlight that accessibility is not treated as a priority regarding urban functionality. In addition, it is clear that even the existing guidelines and controls have very limited effectiveness because of inadequate systems of monitoring to ensure compliance during and after works are carried out. As pointed out by Respondent 3, there are easy solutions to integrate the functions of streets as conduits for services as well as allowing the comfortable movement of people, but this would require strong collaboration between the various departments engaging with street scapes.

5.1.9. Gaps in actor participation

There is a lack of participation from disability groups in the decisions that control developments within urban space. In addition accessibility consultants are not adequately involved in urban projects. The consequence is that accessibility can get overlooked in the urban agenda, effectively excluding people with disabilities from participating equally in urban space.

Built environment practitioners are not adequately equipped to address accessibility issues in urban space. Respondent 2's observations in working as a universal design consultant over time have been that often, built environment professionals do not know much about accessibility. He said that worse still, they are rarely able to admit their ignorance and ask for help so they just continue to design as they always have which is detrimental to access initiatives. Capacity building and building awareness is key. It is important to be aware of accessibility issues and what is necessary for more accessible environments.

5.1.10. Inadequate standards and controls

Current road design guidelines focus on the movement of vehicles, especially cars. There are some standards and guidelines for designing streets that are pedestrian-friendly but far fewer for designing streets that are accessible to people with different kinds of disabilities. Even then, these standards mostly focus on wheelchair access. Some of the design standards and guidelines that are used by officials in different municipalities in South Africa to guide work that affects public space include;

1.SANS (South African National Standards) 10400 Part S. Respondent 2 mentioned that these were written in 1985, rewritten in 2011 and have not been updated since. They were predominantly written to cater for people with physical disabilities.

2.1nternational Standards for Accessible Built Environments-1SA 21542

3.The Tshwane GIBB guideline: was one of the first universal design guidelines developed for the City of Tshwane to use as a reference for incorporating accessibility in road designs.

4.Non-Motorised Transport (NMT) guidelines

Both Respondent 2 and Respondent 3 agreed that the existing standards are inadequate to meaningfully address the accessibility challenges that people with disabilities encounter while using urban streets. They expressed that the minimum standards are currently so vague and have so many gaps that leave too much room for individual interpretation. This creates loopholes that designers can and often do exploit to do the bare minimum or even nothing at all and get away with it.

Respondent 3 said that over the years, there have been collaborative efforts between disability organisations, such as the South African

National Council for the Blind and the South African Bureau of Standards (SABS). SABS is responsible for developing guidelines including the South African National Standards (SANS 10400) Part S that focuses on designing for accessibility. Respondent 3 added that the current standards are largely inadequate and have not been updated in a long time to reflect the current needs of people with disabilities. Also, they focus mostly on wheelchair accessibility and not on accommodations for other kinds of disabilities.

Respondent 3, however, also expressed hope for major improvements to be realised soon. He mentioned that the SANS 10400 Part S standards are currently being updated to include more rigorous standards from the global community. The standards will now incorporate accessibility guidelines from international standards such as the International Standards Organisation (ISO 21542). Standards dealing with tactile pedestrian crossings are also being incorporated into the update. The British Standards (BS) 8300 is also being considered as a reference to inform the process of updating the SANS 10400 Part S.

5.1.11. Lack of accountability for non-inclusive environments

Respondent 2 emphasised that very good legislation exists in favour of accessibility. The laws, policies and the equality court system are well geared towards assisting people with disabilities. However, there are no consequences for urban designers, municipal officials or utility companies when their operations in public road reserves lead them to exclude the interests of people with disabilities. It is a legal right within the South African Bill of Rights that no one shall be discriminated against based on disability. Despite this, the activities of such entities continue to encourage and perpetuate spaces that exclude people with disabilities. Respondent 2 mentioned that there are gaps in the legal system which favour or do not punish perpetrators of inaccessible environments. Respondent 2 added that one of the reasons there is no accountability for inaccessible environments is because people with disabilities are tired and sometimes just give in to hostile environments. As such, no precedents are set to improve on current legislation around accessibility.

Conclusion

The issues highlighted in this chapter shed some light on the fact that during the course of the research in June to October of 2021, regardless of the intensity of pedestrian activity in Braamfontein, I came across only one disabled person on Braamfontein's streets. It suggests that people with disabilities choose to stay away from using the streets due obstacles related to inaccessibility. These conflicts in accessibility mostly point to a misalignment between the key interests of actors that influence the urban streets and the accessibility needs of people with disabilities. Recommendations for how this condition could be managed for better accessibility are provided in the following chapter.

Chapter 6: Conclusion and recommendations.

Introduction

This final chapter makes provides the conclusions to the research and then makes recommendations for how the relationship between urban management and accessibility for people with disabilities can be improved for more inclusive urban environments. The recommendations are mainly based on the interviews that were conducted and also from the information gathered in the literature review. The main recommendation requires a re-evaluation of the urban management systems that govern the city. Specifically, they need to be re-oriented towards prioritising pedestrians, especially those with disabilities in the planning, ordering and management of urban functions.

6.1 Conclusion

The outstanding findings from the study show that accessibility of urban space for people with disabilities is not yet a priority. Although there have been major improvements over the past decades, there is still much room for improvement. Part of the reason that accessibility is still a challenge is that there is minimal participation in urban planning and design processes from people with disabilities. Most decisions and interventions are taken from the perspective of able-bodied people who take up the majority of the positions of influence as municipal officials, urban designers, developers and other key technical departments that deal with urban space. The result is that the making and managing of urban space as it relates to pedestrians continues to prioritise able-bodied pedestrians and neglect those whose abilities do not have the typical characteristics of the able-bodied.

In this way, the urban environment creates and perpetuates the exclusion of people with disabilities from active and meaningful participation in urban life. This lack of access keeps disabled people out of urban space and contributes to limiting their opportunities. This cycle promotes poverty and vulnerability among disabled persons, keeping them at the margins of society.

Positive changes in this regard will involve major shifts in societal attitudes. Currently, it is less recognising that the barriers created

within environments are what render people disabled. Instead society views disability as the problem of the person with the disability and therefore expects them to take the necessary steps to fit their lifestyle into an environment that has been created for the able-bodied person. Disabilities are for the most part viewed as an anomaly. Society expects disabilities to be fixed to conform to mainstream living or for the person with the disabilities to make their own provisions in order to fit into the environment.

These attitudes are widespread in society from ordinary citizens to people occupying high-profile positions within government and other sectors that influence how urban space is created and for whom. People with disabilities should be more involved in all sectors of society. There must be a move towards creating more positions for them to influence design and management of urban streets. Accessibility specialists should also be made an essential element of every urban planning and design. Training of experts for the local South African context should also be promoted so as to encourage context specific thinking and solutions.

Built environment practitioners should be mandated to make sure they are up to date with the latest accessibility requirements and standards and to incorporate them into design. These standards should be reformulated and updated regularly in order to adequately address current issues. Standards must also be accompanied by detailed guidelines to increase their effectiveness and reduce ambiguities and misinterpretation.

Non-compliant designers and officials must be held accountable without the necessary involvement or struggle by people with disabilities. Systems to prioritise accessibility must be woven into all departments and an entity should be created to oversee issues related to accessibility and to also ensure that there are integrated and coordinated efforts among all urban departments that have an effect on the accessibility of urban space for people with disabilities.

When urban space only caters to able-bodied people, many categories of users besides people with disabilities are disadvantaged in their interaction with urban space. This includes children, people carrying heavy loads, people pushing strollers and trolleys, pregnant women, and sick people. These are states that most people will flow in and out of at different stages of their lives. This means that at any given time, urban space that only caters to able-bodied people only serves a portion of society while leaving many out of positive urban experience.

As such, it is very important to prioritise accessibility for people with disabilities. An urban department must be introduced that focuses on ensuring that accessibility for people with disabilities is provided for. This will be very helpful in managing the coordination of the activities of other urban functions to integrate accessibility. In designing a diverse urban space that accommodates people with various types of different abilities, urban space can be made more friendly to all urban users.

The research set out to answer the following research question and sub-questions.

Main research question

How does the planning, design and maintenance of Braamfontein's streetscape enable or prevent people with disabilities from accessing the city?

Research sub-questions

1. How is the concept of accessibility for people with disabilities understood globally and in South Africa?
2. How do streets cater to the needs of people with physical disabilities in Braamfontein?
3. How do the interests of these key actors involved in the management of the streets of Braamfontein align with the accessibility needs of people with disabilities?
4. How can the activities and roles of these key actors promote accessibility for people with disabilities in Braamfontein's

As regards sub-question 1, the findings from the research studies including the literature review, the interviews and field work all show that accessibility is yet to be treated as an integral part of the production of urban space. Although more progress is being realised in the global north than in the global South, major improvements are required in all contexts.

The field work conducted in Braamfontein revealed that the streets are not well-suited to accommodate access for pedestrians and especially for people with disabilities. There are many obstructions and lack of accommodations on the streets an of Braamfontein that hinder easy accessibility for people with disabilities. This answers sub-question 2.

The answer for sub-question 3 developed mostly out of the interviews and was evidenced in the fieldwork. The respondents agreed that the streets of Braamfontein do not adequately facilitate access for people with disabilities. They also agreed that a key reason why this happens is because people with disabilities are not usually consulted or properly represented in the processes that inform the production of urban space. As such, their needs and interests are often excluded and do not inform the interests of the key actors. The resulting urban space therefore does not represent the interests of people with disabilities but mostly those of the key actors

Research sub-question 4 is mainly elaborated in the recommendations section of this chapter. The key factor to take into account revolves around the inclusion of people with disabilities in the decision-making processes informing the production of streets.

6.2 Recommendations

6.2.1. Prioritise pedestrians

In the City of Johannesburg, streets are still heavily car-oriented. The comfort and safety of pedestrians and especially people with disabilities are not recognised as a key priority in the functioning of streets. This is a systemic issue which needs to be addressed. Engineering design guidelines have been criticised for being car oriented and for not sufficiently including people with disabilities. Nonetheless, they have persisted over time despite demands for change to prioritise pedestrians first, then cyclists, then cars. If the standards do not get revised, they continue to inform poor design and hence implementation of projects. The municipality needs to prioritise pedestrians as key users of urban spaces rather than cars.

6.2.2. Strengthen collaboration and promote integration

The lack of coordination among key actors has been outlined as one of the key factors that contribute to inaccessible streets and sidewalks. Collaborative efforts can help to improve on the existing management structures by recognising the strengths of each role player and empowering them to work towards providing more accessible streets. Many different departments and entities have to operate within the urban space. To ensure the overall success of the space, it cannot be downplayed how important it is for these entities to collaborate and unify their efforts towards integrated change.

It could be useful to establish an urban department at municipal level that is dedicated to non-motorised transport and accessibility for people with disabilities. This department would be tasked with coordinating other urban departments on matters concerning accessibility. This kind of department would be responsible for promoting accessibility through education, upskilling of officials, updating of policies, regulating standards and guidelines, auditing of proposed and existing projects in relation to accessibility and monitoring and managing the implementation and subsequent utilisation of projects. This could help to highlight the importance of accessibility as a key priority within the functioning of urban space.

It can be very difficult to retrofit poorly planned urban space partly due to the high costs involved. As such, new builds could benefit from a more organised, coordinated and integrated urban management system. System failures in urban services could prompt improvements while repairs and redesigns are being done.

6.2.3 Detail design and operation standards

The initial design stage is critical to inform better design and this is guided by good standards. Standards can only give minimum

requirements but the standards do not define best practice. However, more detail in the standards could help set less ambiguous standards that leave less room for poor interpretation. Control standards are also necessary to assess designs and sign them off for compliance with access requirements which is a basic constitutional right for all citizens.

These detailed standards must also be accompanied by supporting detailed guidelines that help practitioners towards more successful implementation of the standards.

6.2.4. Promote research for the local context

There is sometimes a tendency to transfer ideas regarding standards and practices directly from developed countries with little regard for differences in contexts. Each context has specificities that define it. South Africa has its unique characteristics. The ways in which people interact with urban space are different. For example, there are differences in the distances people typically walk and even in driver behaviour within the same urban environment. The experience of one who drives between work and home can be different to that of an e-hailing driver who drives as a source of income. Also, the experience of a corporate worker may be different from that of a street hawker, even though they may both be pedestrians. Therefore, more research is necessary in order to understand the distinct character of South African urban dynamics. This will promote the development of relevant, effective and long-lasting solutions to urban issues such as accessibility for people with disabilities.

6.2.5 Build capacity among officials and built environment practitioners.

The strong influence that built environment practitioners have on determining the design of the built environment and ultimately proposing its final outlook must be taken seriously. The attitudes and awareness of officials and practitioners to issues affecting accessibility by people with disabilities to urban space become a key determinant of whether accessibility issues are addressed in the design of urban areas.

6.2.6 Inaccessibility must be punished

There needs to be a more serious enforcement of the legal system as it pertains to regulating the access of public space. Officials and practitioners need to be held accountable for the work that they undertake in public space. Currently the burden of demanding justice regarding the right to use and access public space is mostly carried by people with disabilities. This aligns with the medical model of understanding disability which emphasises disability and an anomaly and the burden of the sufferer to deal with and find their own ways to fit within environments that are designed to exclude them. Rather, in line with the social model, all members of society

should play a part in ensuring that the environment is accessible to all. The activities of officials, agents of utility companies and built environment practitioners whose activities the accessibility of streets and sidewalks very directly. There must be legal expectations for these entities to ensure accessibility for people with disabilities. There must also be legal consequences for neglecting accessibility concerns.

6.2.7 Empower society

Enforcing these legal requirements and prosecuting non-compliance could be a role of the specialised accessibility department suggested earlier. Nevertheless, all members of society can be empowered to recognise inaccessibility and report it to this department to assist it in carrying out its enforcement role. In this way, the responsibility is shared with society. This will heighten social awareness of accessibility issues and promote compliance by officials and practitioners who generally ignore accessibility issues and expect no repercussions.

6.2.8 Bridge the gaps in actor engagement

The involvement of people with disabilities, the organisations that represent their interests and universal design experts, especially during the early stages of conceptualising such designs can make a great difference in setting appropriate design solutions that adequately address the needs of people with disabilities while achieving efficiency and effectiveness. The knowledge framed by the experiences of people living with disabilities and the expertise of specialised disability access consultants can have a significant impact on the way urban streets are produced for accessibility.

Universal design consultants also need to be actively engaged in the systems that influence the production and management of urban space. Currently, there are hardly any opportunities allowing such specialists to participate in the production and management of urban streets. Improvements are needed in this area. The government can contribute to this initiative by supporting and funding educational programmes aimed at making urban space inclusive to people with disabilities.

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Images

All photographs were taken by the author

Appendices

1.Ethics clearance certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG | SCHOOL of ARCHITECTURE PLANNING

04 February 2022

Faculty of Engineering and the Built Environment:

Ethics clearance letter:

Dear Namutebi, Sheila Sarah

Student number: (1735328), this letter confirms that your ethics application has been cleared. Your clearance/protocol number is SOAP136/06/2021

Yours sincerely

Lerato Nkosi

School of Architecture and Planning, Faculty of Engineering and the Built Environment, John Moffat Building, Wits, 2050, South Africa
Tel: +27 11 717- 7692| Email: lerato.nkosi@wits.ac.za | **www.wits.ac.za**

2. Plagiarism declaration form

Faculty of Engineering and the Built Environment

Private Bag 3, Wits 2050, South Africa * Telephone (011) 717 – 7007 * Fax: (011) 717 7009 * Email: febe.pg@wits.ac.za

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY: APPENDIX ONE

I Sheila Sarah Namutebi (Student number: 1735328) am a student registered for the degree of Master of Urban Studies in the academic year 2022.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this in not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature: _____ Date: 17h February, 2022

Interview questionnaire

Municipal agent

1. What role does Johannesburg Roads Agency play in the making and managing of urban streets and what are the primary interests of JRA in executing this role?
2. What specific role do you play in the process of creating accessible urban streets?
3. What are the key processes and guidelines involved in executing this role as regards urban management and accessibility of urban space by people with disabilities?
4. Who are the key stakeholders involved in the creation of accessible urban streets in South Africa?
5. What relationships exist among different urban service providers to ensure integrated and optimal development of urban streets?
6. Are the current processes and guidelines sufficient to achieve accessibility of urban streets b people with disabilities?
7. What measures of accountability exist to ensure that the existing urban accessibility guidelines are adhered to?
8. How well would you say the streetscapes of South Africa cater to the mobility needs of people with disabilities?
9. What are the major challenges that contribute to poor accessibility of urban streets by people with disabilities?
10. What role can urban management play to promote the accessibility of urban streets to people with disabilities?

INTERVIEW QUESTIONS

Inclusive design consultant

1. How well are urban streets in South Africa adapted for universal access especially for people with disabilities?
2. What are some of the successes in achieving accessible urban streets for people with disabilities in South Africa?
3. What are some of the main challenges/hindrances to achieving accessible streets for people with disabilities in South Africa?
4. Who are the key stakeholders in influencing issues regarding accessibility of urban space by people with disabilities?
5. In what ways do existing urban management practices promote or impede urban accessibility by people with disabilities?
6. What are the existing processes and procedures involved in ensuring that urban spaces (streets) adequately address issues of accessibility by people with disabilities?
7. Are existing local authority or design guidelines and requirements for urban accessibility adequate to ensure that urban streets can properly accommodate people with disabilities?
8. What are some of the key necessary interventions required to enhance the accessibility of urban streets to people with disabilities?
9. What role can urban management play in promoting better accessibility of urban streets by people with disabilities?

Interview questionnaire

Braamfontein Improvement District official

1. What role does the BID play in the making and managing of the streets of Braamfontein?
2. What is the process involved in executing this role?
3. What are the primary interests of the BID in executing this role?
4. Do the activities of the BID prioritise accessibility of streets by people with disabilities?

   4a) If No why not?

   4b) If Yes, in what ways?
5. What other stakeholders are involved in the management of the streets of Braamfontein?
6. What relationships exist between the different stakeholders?
7. How well would you say the streetscape of Braamfontein caters to the mobility needs of people with disabilities?
8. What are the challenges encountered by the BID in executing its duties that affect the accessibility of the streets to people with disabilities?
9. How could the work of the BID be enhanced especially as regards accessibility of streets?

INTERVIEW QUESTIONS

Built environment practitioner

1. What key street level projects have you been involved in within Braamfontein?
2. What were the primary interests of the project client(s) in these projects?
3. What urban issues were your design proposals centered around for each project?
4. Was universal access considered a major concern in these projects?
5. If yes, in what ways was this issue specifically addressed?
6. If not, why was it not a key issue?
7. Are there any mandatory requirements for urban designs to prioritise universal accessibility of urban streets?
8. How well would you say the streetscape of Braamfontein caters to people with disabilities?
9. What are some of the key processes involved in the design and implementation of urban projects which may have major impacts on the creation and management of streets that adequately accommodate people with disabilities?
10. What are some of the hindrances to promoting accessible streets that built environment practitioners may face?
11. What role can built environment practitioners play in enhancing the accessibility of urban streets to people with disabilities?