

The planning and development of child-friendly green spaces in urban South Africa

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PREFACE

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ABSTRACT

The impact that urban green spaces in urban environments have on the sustainability and quality of life of the residents is phenomenal (Atiqul & Shah, 2011:601; UrbSpace, 2010; Levent *et al*, 2004:1). The local reality in South Africa confirms that green spaces in urban environments are decreasing because of growing populations and increasing urbanization (Statistics South Africa, 2013:2). This study aims to investigate the planning of and provision for green spaces in the urban environment, along with the benefits that such spaces can provide to communities by focusing on the aspect of child-friendliness. The planning of child-friendly spaces is no new phenomena in the international context, but however, limited in local context. This research aims to investigate the concept of child-friendly spaces, along with theoretical aspects and international best practices, in order to be able to evaluate the current South African approach (and legislative support) of the planning of such spaces within urban green spaces.

This study evaluated the planning and implementation of child-friendly spaces in the urban environment of the city of Durban, Republic of South Africa. It is based on the theoretical background investigating concepts such as open spaces, green spaces and child-friendly spaces. The importance of planning for green spaces and as such, child-friendly green spaces were also elaborated on. Two international case studies were identified as best-practice cases and included in this research, namely Mullerpier child-friendly public playground in Rotterdam, the Netherlands, and Kadidjiny Park in Melville, Australia. The aim was to determine how these child-friendly spaces were planned and developed and to identify tools that were used to accomplish the goal of providing successful child-friendly green spaces. Planning approaches of the two international case studies illustrated the need and importance of planning for such spaces and how it should be implemented to ensure sustainability of the child-friendly space itself and the surrounding area. The policies and frameworks which influence the study area in Essenwood, Durban, were identified and analysed in order to establish whether or not the planning and development of child-friendly spaces is supported within the chosen area.

This research concluded that child-friendly green spaces have a positive impact on the urban environment, caters for children's needs and assist in their development and interaction with the natural environment. The need for these spaces is of utmost importance and the proposed implementation and improvement of child-friendly green spaces should be supported by way of specific policies and legislation, in order to ensure the success and sustainability of these spaces. Examples of international case studies were used to identify best practical examples, in order to formulate recommendations to improve the planning and development of child-friendly

spaces in South Africa. Local gaps were identified in the current approach to planning of these child-friendly green spaces in South Africa.

Keywords: Child-friendly spaces, Green spaces, Urban area, Built environment, Open spaces

UITTREKSEL

Die impak wat groen ruimtes in stedelike omgewings op die volhoubaarheid en die kwaliteit van lewe van die inwoners het, is fenomenaal. Die huidige realiteit in Suid Afrika bevestig die gebrek aan oop groen ruimtes, spesifiek kinder vriendelike groen ruimtes in die stedelike omgewing. Hierdie gebrek aan oop groen ruimtes is hoofsaaklik as gevolg van verstedeliking, wat tot gevolg het dat voorkeur daaraan gegee word dat oop ruimtes eerder gebruik word vir die ontwikkel van behuising vir 'n groeiende bevolking. Hierdie studie het ontstaan ten doel om die beplanning van en voorsiening vir groen ruimtes te ondersoek in die stedelike omgewing, tesame met die voordele wat sulke ruimtes kan verskaf aan gemeenskappe deur te fokus op die aspek van kinder vriendelikheid. Die beplanning van 'n kinder vriendelike ruimtes is geen nuwe verskynsel in die internasionale konteks nie, maar egter beperk in die plaaslike konteks. Hierdie studie beoog om die konsep van kinder vriendelike ruimtes te ondersoek, tesame met die teoretiese aspekte en internasionale voorbeelde, om in staat te wees om die huidige Suid-Afrikaanse benadering (en wetgewende ondersteuning) van die beplanning van sulke ruimtes in stedelike groen ruimtes te evalueer.

Hierdie studie evalueer die beplanning en implementering van kinder vriendelike ruimtes in die stedelike omgewing van die stad Durban, Republiek van Suid-Afrika. Dit is gebaseer op die teoretiese agtergrond, waar konsepte soos oop ruimtes, groen ruimtes en kinder vriendelike ruimtes ondersoek word. Die belangrikheid van beplanning vir groen ruimtes en spesifiek kinder vriendelike groen ruimtes word ook bespreek en uitgebrei. Twee internasionale gevallestudies is geïdentifiseer as voorbeelde en is ingesluit in die navorsing, naamlik MüllerPier kinder vriendelike openbare speelgrond in Rotterdam, Nederland, en Kadidjiny Park in Melville, Australië. Die doel was om vas te stel hoe hierdie kinder vriendelike ruimtes beplan en ontwikkel was en om verskillende metodes te identifiseer wat gebruik is om die doel van die voorsiening van suksesvolle kinder vriendelike groen ruimtes te bereik. Beplanning benaderings van die twee internasionale gevallestudies illustreer die behoefte en belangrikheid van beplanning vir sulke ruimtes en hoe dit geïmplementeer moet word om volhoubaarheid van die kinder vriendelike ruimte self en die omliggende gebied te verseker. Die beleid en raamwerke wat die studie area in Essenwood, Durban, beïnvloed is geïdentifiseer en ontleed ten einde vas te stel of die beplanning en ontwikkeling van kinder vriendelike ruimtes ondersteun word binne die genoemde gebied.

Hierdie navorsing het tot die gevolgtrekking gekom dat kinder vriendelike oop ruimtes wel 'n positiewe impak het op die stedelike omgewing, maak voorsiening vir die behoeftes van kinders en dra by tot hul ontwikkeling en interaksie met die natuurlike omgewing. Die behoefte aan hierdie ruimtes is van uiterste belang en die voorgestelde implementering en verbetering van

kinder vriendelike oop ruimtes moet geondersteun word deur middel van spesifieke beleid en wetgewing, ten einde die sukses en volhoubaarheid van hierdie ruimtes te verseker. Plaaslike gapings is in die huidige benadering tot die beplanning van hierdie kinder vriendelike groen ruimtes in Suid-Afrika geïdentifiseer. Voorbeelde van internasionale gevallestudies word gebruik om die beste praktiese voorbeelde te identifiseer, ten einde aanbevelings te formuleer om die beplanning en ontwikkeling van kinder vriendelike ruimtes in Suid-Afrika te verbeter.

ABBREVIATIONS

NSDP – National Spatial Development Perspective

NUDF – National Urban Development Framework

SDF – Spatial Development Framework

SPLUMA – Spatial Planning and Land Use Management Act

UNICEF – United Nations International Children’s Emergency Fund

IDP – Integrated Development Plan

DEFINITIONS

Definitions and concepts used within this research

CONCEPT	DEFINITION
Child/ Children	<ul style="list-style-type: none"> • A young human being below the age of puberty • A person under the age of 18
Child-friendly	<ul style="list-style-type: none"> • A place where children's opinions and needs are included • A place where opportunities for children's participation are extended in the community • Accessible to all, including those with learning disabilities • Safe and secure, free from violence and abuse, sale or trafficking • A place where children take responsibility for their learning • A place where healthy lifestyles and life skills are promoted • A place where children learn
Green Spaces	Artificially created city parks, botanical gardens and street trees that are isolated. (Cross reference to chapter 2 section 2.1)
Open Space	Undeveloped open piece of land, include green spaces, public plazas or vacant lots. (Cross reference to chapter 2 section 2.2)
Sustainable	Able to be maintained at a certain rate or level.
Urban Area	Characterized by higher population density and vast human features in comparison to the areas surrounding it, may be cities, towns or

	conurbations.
Urbanization	Increasing number of people that migrate from rural to urban areas (results in the physical growth of urban areas)
Sufficient	<ul style="list-style-type: none"> • Enough • Adequate for the purpose

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CHAPTER 1: INTRODUCTION

1.1 Research orientation

The current urban reality suggests of the lack of open green spaces, specifically child-friendly green spaces in the urban environment. Preference is given to provide housing for a growing population, due to the impacts of urbanization, and the development and enhancement of green spaces are often neglected in this regard. Although literature proofs the benefits and need for green spaces in urban areas (also in South Africa), the planning and development of these spaces do not realise in many instances, due to a lack of municipal priorities and funding, driven by the urgent need to provide housing, but also coupled with a lack of understanding of the benefits and importance of planning for green spaces or child-friendly green spaces in urban developments. The aim of the study is to evaluate the planning of child-friendly green spaces in South Africa, focussing on creating a safe environment where children can develop their skills and physical abilities.

1.2 Problem statement

According to Statistics South Africa (2013:2) 29, 2% of the population is aged younger than 15 years. A child's interaction with the world is directly affected by their natural environment (McAllister, 2008:47) and therefore the importance to plan and provide sufficient green spaces for children should be emphasized as part of current spatial planning approaches.

The core problem which emanated from this research is the lack of qualitative urban green spaces, and more specifically child-friendly spaces in the local South African urban environment. Qualitative urban green spaces in the context of this research implying usable, functional spaces located within the urban environment. Child-friendly spaces in context of this research imply public spaces that are planned and developed specifically for children and their needs. The local reality currently suggest of "green" and "public" spaces that are mostly uninviting and unsafe in general, resulting that children feel uncomfortable interacting with their natural environment or being outdoors (Nordstörn, 2010:514; Thomas, 2008:2).

The need for these qualitative urban green spaces are also emphasised by statistics that children are not active enough (Parker, 2014; van Heerden, 2011). Children appear to be spending their time watching endless hours of television or playing computer games (Brooker & Woodhead, 2013:34). One can reason that a less safe neighbourhood, with no child-friendly qualitative urban green spaces, contribute to the inactiveness of children. In South Africa overweight and obesity in children, living in urban areas is an increasing problem (van Heerden, 2011), which has a major effect on their mental and physical health, leading to the risk of

developing heart disease and diabetes. A further problem arise as there is no, or limited, policy and legislative frameworks initiating the planning and improvement of child-friendly spaces within local context.

1.3 Research questions

This study aims to address the following research questions:

- (1) What are the benefits of planning and providing green spaces and child-friendly spaces within the urban environment?
- (2) Why are the child-friendly spaces, described in the international case studies, successful and which best-practice examples can be identified and applied to the local context in South Africa?
- (3) Does planning in urban areas in the Republic of South Africa and more specifically in the area of this case study, support the development of child-friendly spaces?
- (4) Which urban design tools can be incorporated within urban green spaces, in order to improve the planning and development of child-friendly green spaces?

1.4 Research aims

The primary aim of this research is to evaluate the planning of child-friendly green spaces within local context, in order to create public spaces where children can feel safe and develop their physical abilities and skills, and enhance sustainability in urban areas.

Other identified outcomes of the research include: (Secondary aims)

- To determine for the (spatial) needs of children, specific with regards to urban green spaces, by means of literature investigations and best practices.
- To study green spaces within the urban area and establish whether it caters for the needs of children.
- To identify international case studies where child-friendly spaces in urban areas had been successfully provided and identified as best practices.
- To research and identify urban design tools to incorporate within urban green spaces in order to improve the planning and development of child-friendly spaces

- To formulate proposals to improve the urban green spaces for children, by incorporating child-friendly green spaces, built on examples of international best practices, adapted to local context.

1.5 Research methodology

The study starts by introducing the different theoretical concepts in section A, the literature investigation. Green space planning and child-friendly green spaces are discussed and defined. Also included in the literature investigation are different planning approaches focused on child-friendly green spaces and policies and legislation guiding the planning of child-friendly green spaces in South Africa.

Research methods on this specific study will range from theoretical investigations to empirical investigations that include qualitative and quantitative approaches. These approaches are included in section B, the empirical investigation. Knowledge and information will be collected by means of direct observation (surveys), where data will be collected through public participation (questionnaires/ opinion poll/ structured interviews). These public participation methods (questionnaires/ opinion poll/ structured interviews) that will be conducted, will give the researcher a clear indication of the implementation process and development of the local case study in South Africa, where a child-friendly space was the original concept, but why it failed or succeeded.

The specific policies, legislation and frameworks which influence these areas will be evaluated, in Chapter 5, which will give an indication of how these child-friendly spaces are supported and included within the policies, legislation and frameworks. This will form part of the qualitative side of the research, with the aim to “quantify the problem and understand how prevalent it is by searching for projectable results” (Mora, 2012).

Included in section B, the empirical investigation, is two international case studies analysis and one local identified case study analysis. The two international examples of child-friendly spaces will be evaluated, where the best practices will be identified to illustrate how it can be applied in South Africa. Different planning inspirations and proposals, that influenced these international case studies, will be described along with a SWOT analysis that will be developed of each case study to confirm the strength, weakness, opportunities and threats of the study areas. The study will also attempt to make constructive recommendations on how the urban area can be improved by incorporating child-friendly green spaces. Future planning initiatives will be discussed, and how current planning approaches can be transformed to plan for child-friendly green spaces.

1.6 Limitations of the study

This study is limited to the spatial planning approach linked to the planning and development of child-friendly green spaces within urban environments. Although other factors such as health, accessibility, provision of parking, security, facilities, cultural aspects and education also plays a part in the provision and success of child-friendly spaces, this study aims to illustrate the role and importance of urban planning approaches to enhance such spaces.

1.7 Chapter divisions

The research will consist of eight chapters. The remained of the chapters are structured as follows:

Chapter two, three and four comprises of the theoretical investigation. In these chapters the basic theories of green space planning and child-friendly green spaces are studied and includes a discussion of planning approaches focused on child-friendly green space development in Chapter four.

The focus will initially be on a discussion of green spaces and the importance of such spaces for urban environments in Chapter two. Chapter three then moves on to a discussion of child-friendly green spaces and the difference between child-friendly spaces and green spaces. The main aim in chapters two and three is to bring about an understanding of the theories underlying the difference between green spaces and child-friendly spaces and the aspects involved in making open spaces or green spaces child-friendly. The focus is placed on the need and benefits of child-friendly green spaces and how it contributes to the urban environment and the children in these urban areas.

Chapter four deals with planning approaches which focuses on child-friendly green spaces. This chapter will also focus on different planning approaches and aspects contributing to the development of a space to be child-friendly.

In Chapter five, policies and legislation guiding the planning of child-friendly green spaces in South Africa are discussed. This chapter also deals with the question whether specific policies support the development and/ or incorporation of child-friendly spaces in urban areas and if not, the importance of why it should be included in specific policies and legislation. The aim is to convince municipalities to support, develop and maintain child-friendly spaces.

Chapter six consists of the empirical research, including a layout of the methodology of this study. This chapter embodies a detailed discussion of two international case studies of child-friendly green spaces, one in Rotterdam, the Netherlands, and the other in Melville, Australia.

The discussion concerns child-friendly green spaces in these areas, how they developed and why they are successful. The main aim of the two international studies is to identify the best practical examples and to establish if and how they can be implemented in South Africa to improve the quality of life in urban areas. Also included in chapter six is a detailed discussion of the chosen study area situated in Durban, KZN, South Africa.

Chapter seven consists of a conclusion, including three tables illustrating international best practices identified for the creation of child-friendly green spaces, gaps analysis of local approach and policies and legislation that should be adapted.

Chapter eight deals with recommendations for improving the planning and provision of child-friendly green spaces within the chosen study area situated in Durban, South Africa. Visual illustrations of the study area are captured within this chapter, along with recommendations on how it can be improved. The best practical examples identified in the two international case studies are implemented in order to make these recommendations, keeping the theoretical background in mind. In this chapter theory and practice are however brought together.

"Where Do The Children Play"

*Well I think it's fine, building jumbo planes.
Or taking a ride on a cosmic train.
Switch on summer from a slot machine.
Get what you want to if you want, 'cause you can get anything.*

*I know we've come a long way,
We're changing day to day,
But tell me, where do the children play?*

*Well you roll on roads over fresh green grass.
For your lorry loads pumping petrol gas.
And you make them long, and you make them tough.
But they just go on and on, and it seems you can't get off.*

*Oh, I know we've come a long way,
We're changing day to day,
But tell me, where do the children play?*

*When you crack the sky, scrapers fill the air.
Will you keep on building higher
'til there's no more room up there?
Will you make us laugh, will you make us cry?
Will you tell us when to live, will you tell us when to die?*

*I know we've come a long way,
We're changing day to day,
But tell me, where do the children play?*

~ Cat Stevens ~

SECTION A: LITERATURE INVESTIGATION

CHAPTER 2: GREEN SPACE PLANNING

2.1 Introduction

This chapter aims to focus on the theoretical concepts of green space planning, including open spaces, green spaces and qualitative urban green spaces. Each concept will be discussed by focusing on aspects such as the importance thereof, the impacts of it and benefits it provides to the urban area, community and environment.

2.2 Defining open space

In comparison with green spaces, open space on the other hand can be defined as an undeveloped open piece of land (EPA, 2013). It is however land set aside or to be set aside for the use by a community as a recreation area, irrespective of the ownership of such land. Open spaces are implemented to contribute to sustainability of neighbourhoods and enhance the beauty of the environment, but are usually left undeveloped and there are always a broad range of environmental issues concerning open spaces in an urban environment (EPA, 2013).

2.3 Defining green space

Thaiutsa *et al.* (2008:221) defines green space as areas that have continuous vegetated areas and space. Artificially created city parks, botanical gardens, street trees that are isolated and even private gardens are all examples that can be included in defining green spaces (UrbSpace, 2010). These urban green spaces all affect urban development in a positive way by contributing to sustainable development, by preventing heat build-ups in the urban area. Green spaces in the urban area furthermore contribute to economic, planning and ecological systems. Therefore green spaces improve the entire urban area as

well as the quality of life for the people living there (Levent *et al.*, 2004:1).

2.4 Defining qualitative urban green spaces

Helping to define and support the identity of towns and cities, qualitative green spaces seek to enhance a city's attractiveness for living in the urban areas, enhance social aspects and improve neighbourhood relations (Atiqul & Shah, 2011:603; Parker, 2014). Qualitative green spaces reveres to all open, green areas in an urban or rural environment, which has a function and contributes to the quality of the surrounding area. For purposes of this research it is accepted that qualitative green spaces are green spaces with a function connected thereto and

used by residents and communities for a certain activity. Providing spaces for different age groups is essential, including adults and children, to improve their quality of life and at the same time increase outdoor activity amongst the inhabitants of the city which will have a positive effect on their health and mental well-being (Parker, 2014; Prange, 2014).

2.5 Importance of planning for urban green spaces

Statistics South Africa estimated a mid-year population of 52,98 million people living in South Africa in 2013, considerably more than the estimated mid-year population of 50,59 million people in 2011. More people are moving from rural areas to urban areas resulting in an increase in urbanisation. Rapid urbanisation, which refers to the growing number of people in the urban area (Pacione, 2005:127) can place major pressure on the urban environment. It also poses challenges for government service provision, creates greater risks for environmental and health problems and fuels crime (Nevhutanda, 2007:457). The obvious problem is that there are more people and less space. As a result of rapid urbanization, the land set aside for the use of green spaces are rather being used to build and provide houses for the growing population resulting in the quality of life in the urban environment not being taken into consideration. But an even bigger challenge that the urban areas are facing, is the lack of quality child-friendly spaces, spaces provided specifically for children to interact with their natural environment in an urban setting.

The current reality reveals some green spaces in urban environments. It is however evident that these spaces are decreasing. The main problem with most of the current green spaces is the lack of facilities and maintenance by municipalities, which results in the space having an uninviting feeling (Parker, 2014).

In an urban area green spaces play an important role to improve sustainability and integration resulting in an improvement of the quality of life (Atiqul & Shah, 2011:602; Prange, 2014). Green spaces provide various benefits to urban areas such as pollution control, energy savings and increases property value (Atiqul & Shah, 2011:602). These benefits all contributes to sustainable development as disclaimed in the following section.

2.6 Benefits of green spaces

The provision of green spaces for the inhabitants of urban areas has a positive impact on their health and mental well-being. The development and improvement of green spaces also benefits the urban environment (Atiqul & Shah, 2011:602; UrbSpace, 2010). The palpable main benefit is the lowering in temperatures by reducing heat build-ups in urban areas. It has been shown that green spaces are more beneficial than paved open surfaces, for the obvious reason of heat

being trapped in surfaces such as for example concrete. These spaces also contribute to improving air quality, by removing pollutants from the air (Project EverGreen, 2013).

The main benefit of green spaces in urban environments is the significant positive impact it has on the sustainability of the city, contributing to the quality of life of all inhabitants in an urban environment. The benefits that green spaces show go far beyond the obvious (Atiquil & Shah, 2011:602). Table 2.1 illustrates the main benefits and impacts green spaces may have on urban environments.

Table 2.1: Benefits and impacts of green spaces in urban environments

Environmental Benefits	1. Ecological Benefits	1. Supply of ecosystem services. Mitigate the situation of heat island effect.
	2. Pollution Control	2. Air and noise pollution is in general a problem in urban areas. According to Atiquil & Shah (2011) 85% of air pollution can be filtered in a park and noise levels can be reduces by green spaces (parks).
	3. Biodiversity and Nature Conservation	3. Serve as protection for reproduction of different species and plants. Green spaces serve as a link between urban areas and nature, contributing to sustainability and maintenance of ecological aspects.

Economic and Aesthetic Benefits	1. Energy Savings	1. Increasing green spaces regulates the temperature in urban areas.
	2. Property Value	2. Increases property value by making areas more attractive for the residents.
	3. Aesthetic Value	3. Green spaces offer the value of substituting gray infrastructure in the urban areas. People can enjoy nature.
Social and Psychological Benefits	1. Recreation and wellbeing	1. Contributing to sustainable development, green spaces also provide opportunity for outdoor activity, resulting in mental well-being and a healthy lifestyle.
	2. Human health	2. Reduces stress levels of people who are exposed to green spaces. Increases the physical wellbeing of urban citizens.

Source: Own creation based on Atiqul & Shah (2011)

2.7 Local approach of planning for green spaces

While there is no doubt that a need exists for the creation of green spaces in urban areas within South African environment, the small pockets of green spaces that do occur in South African

towns are unfortunately usually distributed unevenly (McConnachie & Shackleton, 2010:235) and are insufficient. Facing the realities of urbanization, being the growing population which poses a threat to the urban environment, more and more public green spaces are needed to reduce the negative impact thereof on the surrounding environment and at the same time improve human well-being (Prange, 2014). Therefore it is necessary that policies and programmes should be adopted to reduce the negative effects of urbanization, by developing more green spaces in urban areas (Prange, 2014).

One of the main priorities of planning policies in South Africa should be the provision of green space planning (Parker, 2014). With all the obvious advantages that green spaces provide for urban areas and people living in these built environments, the provision and maintenance of green spaces in these areas are of utmost importance (Prange, 2014).

The biggest stumbling block in the provision of green space planning is the financial aspect of developing and maintaining these spaces. According to Parker (2014) there is an obvious need for these spaces, however the financial provision for such are usually not prioritized in budgets. This is more often than not by reason of the need for more housing to provide for a growing population. Therefore financial limitations prevent the development and maintenance of green space planning in urban environments, where it is most needed (City of Tshwane, 2005:57). When green spaces are indeed provided for and developed in South African cities and towns, the maintenance thereof is an on-going expense for the local government and typically receives only a small vote in the budget, often insufficient. The major benefits that these green spaces in urban areas provide, on more than one level, are overlooked (Prange 2014). Green spaces contribute to the quality of an urban area, by inter alia improving the quality of life for the residents of the area and by having a positive effect on the sustainability of the relevant urban area (Cilliers, 2009:24).

Unfortunately whilst the obvious need for green spaces in often over populated urban areas is on the increase, budgets for the planning, development and maintenance thereof is shrinking (City of Tshwane, 2005:78).

2.8 Conclusion with regards to green space planning

Green spaces within an urban area affect the environment in many positive ways (Atiqul & Shah, 2011:602). The main benefit of green space provision in urban areas is the impact it has on the sustainability of the environment and its surroundings. These green spaces have direct and indirect benefits, as discussed in Table 2.1: It controls urban pollution and at the same time increases property value, it reduces stress levels of people and protects biodiversity and nature conservation. As noted, green space planning is of utmost importance for the urban area as well

as the people living in these areas. Green spaces in urban areas should form an integral part of the planning process.

Chapter 3 will accordingly focus on the concept of child-friendly green spaces to be planned as part of, and within, urban green spaces. This chapter will include arguments in favour of the importance of child-friendly spaces, the benefits of these specific spaces for children and the different developing stages of children, with consideration of their wants and needs at different ages.

CHAPTER 3: CHILD-FRIENDLY GREEN SPACES

3.1 Introduction

According to McAllister (2008:47) a child's living environment has an extreme influence on almost all aspects of their lives. Therefore children need open space, in order to have a relationship with their natural environment to develop their skills and natural abilities to their full potential. A child's interaction with the world is directly affected by their natural environment (McAllister, 2008:47), especially at a young age and therefore the focus of urban planning should be to provide, among others, for green spaces designed for children's needs (Coetzee, 2014) .

"The concept of child-friendly environments has been inspired by the concept of child-friendly cities" (Nordstöm, 2010:515). The concept refers to developing better conditions for children in the urban environment by focusing on child-friendly green spaces in the urban area. A primary concern in improving the urban environment should thus be children's health and their direct relationship with the natural environment.

This chapter will focus on defining child-friendly spaces, the importance of these spaces and the different development stages of children.

3.2 Defining child-friendly spaces

In the build urban environment child-friendly spaces are defined as public green spaces, which are specifically designed in an urban area for children to enjoy the natural environment, and at the same time have a positive impact on their skill development (Howard, 2006:33; McDonald, 2012:42; Wapperom, 2010:2). Such spaces are designed for a purpose and should have a direct positive impact on the development stages of children, their wants and needs (Coetzee, 2014). Child-friendly spaces should be planned and developed with the aim to add quality to the life of children.

Contributing to child-friendly spaces in urban environments are spaces created for children as a "safe house" (SGBV, 2014:2). These spaces are usually created to serve children in need or children who find themselves in troubled situations. They do act as child-friendly spaces, but do not contribute to the environment in a positive way by ensuring the "green" element (Prange, 2014). For the purpose of this research, when referring to child-friendly spaces, it can be accepted that public green spaces, which are planned for and has a function, are referred to, as these spaces also contribute to the environment.

3.3 Importance of planning for child-friendly spaces

The urban environment can be intimidating and even terrifying for children, considering the disappearance of natural green spaces in the urban environment, restricted access to parks and an unsafe feeling in general (Nordstörn, 2010:514; Parker, 2014; Thomas, 2008:2).

Child-friendly green spaces per definition are mainly green areas, where children feel safe interacting with nature. Access to these parks should be easy, ideally within walking distance from the children's homes (Commissioner for Children and Young People, 2011:7; Nordstörn, 2010:515).

In Britain children have shied away from public spaces, mainly because of a lack of safety (Willett, 2008). Children in Western Australia are constantly experiencing the lack of safe child-friendly spaces. They are in need of enjoying their natural environment, while feeling both safe and secure while doing so (Commissioner for Children and Young People, 2011:4). With international examples like these, the same can be expected from children in South Africa. It is a proven fact that children require quality outdoor space within which they can move around with some independence. Freedom is important for children in order to develop to their full potential.

In South Africa, overweight and obesity in children living in urban areas is an increasing problem (van Heerden, 2011), which has a major adverse effect on their health, leading to an increasing risk of heart disease and diabetes. The problem exists when there is a lack of physical activity. With technology introduced to children at a young age, children are spending more time indoors watching endless hours of television or playing computer games (Brooker & Woodhead, 2013:34). This is often because they find themselves in a less safe neighbourhood, with a lack of green spaces which then result to children being segregated from their society. Children have different developing stages with a need to play outdoors in order to develop their skills and natural abilities.

It is of utmost importance for children to have space where they can play freely and safely in the urban environment. Child-friendly green space development should be incorporated in all influencing policy and legislation documents, supporting the development and improvement of child-friendly green spaces. The problem however in South African Policies and Legislation applicable to green space provision is keeping it sustainable. Implementation should take place and maintenance should then follow.

The main aim in developing successful child-friendly spaces is to provide a safe and healthy environment for children, where they can interact with the area and each other and at the same time be more active outdoors than indoors.

To improve the quality of children's relationship with their natural environment is important. For such children need space, more specifically green spaces in the urban areas where they can explore their natural abilities, keep physically active and develop social skills which will all have a positive effect on their health and well-being. Children have become unhappy and such can be the result of green spaces having become fewer and those green spaces that are indeed provided for children are not safe. Bullying, crime and traffic are a real threat and barrier for children, when finding themselves in green spaces (Nordstör, 2010:514). For children to enjoy structured and unstructured activities, they have a need for space to improve confidence, keep fit and healthy (Commissioner for Children and Young People, 2011:4). There is an obvious need for designing innovative and creative green spaces for children.

3.4 Development stages of children and their need to play

The urban area, also referred to as the build environment (Commissioner for Children and Young People, 2011:4), has a direct impact on children, as it is the space they move and live in. By giving children space in their natural environment, their abilities to think and react can be practically observed (Berthelsen, 2012).

For children the aspect of "play" is an important term. Taking into consideration the effect that play have on children's health, natural well-being and development stages, children around the world do not always understand their right to play (Brooker & Woodhead, 2013:2). Children have a natural instinct and urge to play and therefore sufficient spaces and opportunities should be made possible for them in a natural safe environment within which to play and explore their abilities. The government often neglects the right of children to play by its failure to invest in safe and healthy environments for children (Brooker & Woodhead, 2013:2). As mentioned earlier, through play, skills and capabilities of children are developed. According to Brooker & Woodhead (2013:4) the earlier children begin to play, the better, as they learn about the world they live in and the environment they find themselves in, even though they play for pleasure, it contributes to their development. Young children, who have the privilege of access to child-friendly spaces, develop physical and social skills by interacting with the natural environment and with other children (Howard, 2006:28; McDonald, 2012:46).

The developing stages of children differ from one age group to the other. Every child is also unique and develops at his/her own pace. Table 3.1 illustrates the different ages and stages of children and the development that takes place at each age.

Table 3.1: Child development ages and stages

AGE	STAGE	DEVELOPING DESCRIPTION
6 to 18 months	<i>Stage of 'doing'</i>	<p>Children between the ages of 6 to 18 months explore the world around them by touching, tasting, looking and listening.</p> <p>They have a need to feel safe, specifically in the environment they find themselves in. At this age the children become more curious and their language skills will start to develop. It is important to expose children to a variety of places and experiences at this age, for touching are the main technique of how they learn during this stage.</p>
18 months to 3 years	<i>Stage of 'thinking'</i>	<p>At this stage children start thinking more for themselves. Interaction with other children is important at this age in order to encourage and develop self-confidence. Independence at this age is also important as they start exploring the environment which they find themselves in. At this age simple choices should be given to children, with no complex decisions that should be made.</p>
3 to 6 years	<i>Stage of 'self-awareness and imagination'</i>	<p>Children between the ages of 3 to 6 years enjoy using their imagination. They are much more aware of themselves and their place in the world. They often create their own fantasy and play in this world. At this age children start to interact more with each other and begin to play co-operatively with others, when they develop an interest in games. Their social skills start to develop more. It is important to encourage children at this age to use their imagination and explore possibilities, but to distinguish between fantasy and reality is of utmost importance.</p>
6 to 12 years		<p>At this age children start to identify the difference between needs and wants. Children</p>

	<i>Stage for limits and structure</i>	start to learn about responsibilities. It is important to encourage them to do things their own way. By doing so, their responsibility skills as well as self-confidence will develop. Children start learning how to make their own decisions and they start experiencing consequences. These types of skills should be developed in a safe and protected environment. It is important for children to also develop their problem-solving skills at this age.
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Source: Own creation based on Jigsaw (2013)

It is essential for child kinetics and planning to collaborate when child-friendly green spaces for children in urban areas are planned for and developed. These spaces do not only focus on providing a “play” space for children, but influences their developing stages when they interact with the specific facilities and objects provided in the space. Specific facilities and equipment should thus be provided within the spaces in order to enhance these development stages and skills of children (Coetzee, 2014).

According to Coetzee (2014) children of different ages will use the same space provided for them to “play” in. It is therefore important to provide a variety of objects in the child-friendly green space for children of different ages. The fine motor activities provided are equally important as the gross motor activities (Coetzee, 2014). The incorporation of a jungle gym in a child-friendly green space is ideal, to provide to the needs of all children. A jungle gym provides different activities on different difficulty levels for children to develop their skills by participating in these fine and gross motor activities.

Fine motor activities improve a child’s fine motor skill, and are the coordination of small muscle movements which occur in certain body parts such as the fingers and are usually in coordination with the eyes. By incorporating ball movement activities, the child’s concentrations levels and eye & hand coordination are challenged. Gross motor activities improve a child’s gross motor skills. These are usually bigger movements, including rolling over and sitting. These movements use the large muscles in the arms, legs, torso, and feet (Coetzee, 2014). Skipping ropes are examples of activities that could be provided in child-friendly green spaces to contribute to gross motor activities. The skipping ropes use larger muscle movements and at the same time improve coordination skills.

Gross motor activities, such as balancing poles, are just as important for children as fine motor activities and through play children should be developing their gross motor skills. The gross

motor activities prepare children for different demands such as concentration, following instructions, sport skills and at the same time, avoiding obesity that is caused by inactivity (Coetzee, 2014; Le Roux, 2009-2014).



Figure 3.1: Examples of fine and gross motor activities

Source: Authors own

Figure 3.1 illustrates examples of different fine and gross motor activities that could be incorporated in child-friendly spaces. These different objects all provides activities for children of different ages affecting all the abilities children should be developing when focusing on fine and gross motor activities. As discussed in Chapter 3, these fine and gross motor activities are essential for children and have a great impact on their developing stages. The fine motor activities are in connection with a child's hand and eye coordination, where the gross motor activities are usually larger movements and include the use of the larger muscles in the body.

3.5 Benefits of child-friendly spaces

Child-friendly spaces hold similar benefits that it provides to an urban area as green spaces. As discussed, these benefits include the positive effect it has on the sustainability of the urban environment in term of the reduction of air and noise pollution (Atiqul & Shah, 2011:602). However the development of child-friendly green spaces and the benefits that it provides goes far beyond the idea of improving the urban environment and impacting sustainability. These spaces have a direct positive impact on the children in the urban areas, providing for their needs and as discussed impacting positively on their development stages, health and mental well-being (Commissioner for Children and Young People, 2011:4).

According to McAllister (2008:48) it is important for children living in an urban environment, to have outdoor space to play and explore. The earlier children start to interact with other children the healthier it is for them, and the sooner their social skills and confidence improve. By incorporating these spaces, the quality of life of the children in the cities are improved, as they will have access to unpolluted environments and enjoy the outdoor natural environment in the area of their homes.

It is important for children to experience and identify their future abilities, attitudes and identities from an early age. Healthier lifestyles are developed for the children by having access to safe and fun interactive spaces. The activities that are provided, through these child-friendly green spaces, improves the child's social interactive skills and ultimately result in them being active outdoors and enjoying the natural environments (Commissioner for Children and Young People, 2011:6). Child-friendly spaces provide the opportunity for physical activity for children and young people.

For children and young people, being independently mobile is an important part of growing up. A safe, green, accessible, inclusive society is the healthiest and most beneficial option for children (Commissioner for Children and Young People, 2011:7).

To conclude, there is no doubt a need for child-friendly spaces in urban areas. These spaces should be designed for a purpose and should have a direct impact on the development stages of children and their wants and needs, and at the same time benefit the urban environment.

3.6 Conclusion with regards to child-friendly green spaces

The importance of green spaces for children has been proved. To summarise, child-friendly spaces should be designed specifically for children, focusing on improving their skill development and encouraging them to spend more time outdoors than indoors, which will have a positive influence on their health and mental well-being. Children have different needs at

different ages (see table 3.1) and such should be taken into consideration when designing green spaces for children.

In Chapter 4, three different planning approaches will be discussed:

- People oriented planning approach
- Urban design approach
- Place making approach

Finally, Chapter 4 will elaborate on the role of green spaces to support and provide child-friendly spaces.

CHAPTER 4: PLANNING APPROACHES FOCUSED ON CHILD-FRIENDLY GREEN SPACES

4.1 Introduction

This chapter captures different planning approaches, focused on child-friendly spaces. These approaches include 1) child oriented planning approaches, 2) urban design approaches and 3) place making approaches. Each approach will be observed and evaluated based on the impact it can have on creating a child-friendly urban green space. Finally the role of green spaces to provide child-friendly spaces will be discussed in short.

4.2 Child orientated planning approach

The child orientated planning approach lays great responsibility on development and planning to improve spaces, to become more child-friendly, incorporating a child orientated planning approach (Parker, 2014). By implementing a child orientated planning approach, benefits can range from promoting healthier lifestyles, improving the social interaction and at the same time improve sustainability of natural spaces in the long term (McAllister, 2008:49).

The key to planning for child-friendly green spaces, is incorporating child-friendly design procedures and participatory decision making (McAllister, 2008:52), where the children of the specific city, town or region combine their inputs with the development and planning of these space (Parker, 2014). By means of incorporating the children, their wants and needs will directly be satisfied.

Table 4.1 captures the important concepts in the planning of child-friendly green spaces.

Table 4.1: Important concepts in the planning of child-friendly green spaces

CONCEPT	DEFINITION	APPLICABILITY IN TERMS OF CHILD-FRIENDLY GREEN SPACES
Safety	Condition of being protected, feeling secure, with the freedom from the occurrence or risk of injury or anger.	Children have a right to a safe environment. Green space planned and developed for children should therefore enhance safety as a priority. Children should feel safe and comfortable in green spaces provided.
Green space	Open spaces, where grass, trees or	The open spaces should not only be child-friendly but should be “green”, contributing to

	vegetation can be identified. Has the “green” element.	sustainability. As opposed to hard open spaces, soft open spaces are more appealing to the eye and contribute to a healthy living environment.
Access	The opportunity to approach or enter a place.	The child-friendly spaces should be developed in such a manner to allow for children to have easy and safe access thereto, ideally within walking distance from their homes.
Integration	The means of combining or merging different objects or aspects.	These spaces should promote and improve the integration in the urban areas, with urban environments integrated and interdependent.

Source: Own creation based on Carmona et al (2003); Dewar & Uytendogaardt (1995); McAllister (2008); UNICEF (2010)

The child planning orientated approach is thus focused on integrating concept of 1) safety, 2) green space, 3) access and 4) integration in the design and development of child-friendly green spaces.

4.3 Urban design approach

The development or improvement of child-friendly spaces in the urban environment contributes to improving the quality of life for the children in the cities, by providing green spaces, which positively affects sustainable development. Urban Design is a planning approach that plays a major roll when providing spaces and places for the public to enjoy (Carmona *et al*, 2003:34). Lynch & Hach (1984:2) defines Urban Design as “the art of creating possibilities for the use, management, and form of settlements of their significant parts”. Urban design is for the people, adding quality to their life.

With the development of space, specifically child-friendly spaces in the urban environment, there are more examples of urban design tools that can contribute in designing and developing the ideal child-friendly spaces (Carmona *et al*, 2003:80).

Table 4.2: Important tools in the planning of child-friendly green spaces

TOOL	APPLICABILITY IN TERMS OF CHILD-FRIENDLY GREEN SPACES
Traffic calming element	The use of speed bumps, known as a traffic calming element is an efficient way of managing bypassing traffic,

	especially if the open space borders to the road. This will ensure traffic to slow down, providing a safer and calmer environment.
Separation	Separating the open space from the bypassing road or other areas is important to define the space. Elements such as trees, fencing or even structures can be used in doing so.
Different surfaces	The use of different surfaces contributes to enhance the attractiveness of the open space. It occurs also to be more pedestrian friendly, where people and especially children feel comfortable interacting with their natural environment.
Sufficient benches	Providing enough seats and benches to sit on makes the area more appealing, where guardians can have a seat while their children enjoy the space created for them.

Source: Own creation based on Carmona et al (2003)

Items, elements and physical structures that are provided in green spaces and the layout of it in the specific space, determines the attractiveness of the space for the children. This includes the purpose of why it is there and how it would contribute to a child's life and developing stages of the children when they are in these spaces, interacting and enjoying their natural environment, in the urban areas where they live (Prange, 2014). The urban design approach is thus a process concerned with the use of land and design of the urban environment, with its origins reclined in the movement for urban reform (Carmona et al, 2003:22). The urban planning approach can include urban renewal, by adapting urban planning methods and at the same time focus on the massive challenges associated with urban growth.

The urban design approach is thus focused on integrating tools such as 1) traffic calming elements, 2) separation, 3) different surfaces and 4) sufficient benches in the design and development of child-friendly green spaces.

4.4 Place making approach

To fully understand space, its physical, social and symbolic dimensions need to be taken into consideration (Madanipour, 1996:7). The biggest challenges in today's cities is to provide quality green spaces for the public, where the spaces have meaning and development has taken place to provide outdoor environments for the inhabitants of the cities. But too often green spaces exist in new developments and cities where ill-planning were the cause and according to Trancik (1986:1) it becomes "after-the-fact cosmetic treatment".

The place making approach is focussed on the importance of lively neighbourhoods and inviting public spaces. The approach is both an overarching idea and a hands-on tool for improving a neighbourhood, city or region, where public spaces should form the heart of every community, in every city. The approach thus inspires people to create and improve their public places, strengthening the connection between them and public spaces itself (Prange, 2014).

Thus, the importance of planning for green spaces with a certain meaning and goal cannot be emphasized more, for it positively affects the city and its inhabitants on different levels to achieve sustainability and improve the quality of life for each person in the city (Atiquil & Shah, 2011:601).

The place that is being developed should have a function and purpose and not only be a space with no reason, except for weak development causing the existence of these green spaces in the urban areas (Parker, 2014). The process of place making has a certain criteria that should be followed to ensure a well-developed and designed space providing places and spaces with meaning. The idea of place making is to develop sustainable and liveable areas where people want to go, visit and enjoy.

Place making is an idea, tool and concept for improving a neighbourhood, city or region. By incorporating the place making concept and using it as a tool in the developing process of cities or town, the attractiveness is enhanced and sustainability is improved. According to the Metropolitan Planning Council (2008:1) place making is how public spaces are collectively shaped, to maximize shared value. Place making involves the planning, management, design and programming of public spaces. Therefore place making is how humanity's future is shaped. Project for Public Spaces (PPS) explains place making as both a process and a philosophy. Place making has grown into an international movement, where green spaces must serve the people of the community as a vital place where function is put ahead of form (Metropolitan Planning Council, 2008:5).

Place making is:

- Flexible
- Inclusive
- Adaptable
- Ever changing
- Community-driven
- Inspiring
- Sociable
- Transformative

- Focused on creating destinations

For the consideration of any public place or space, PPS has developed The Place Diagram as a tool to decide whether it is a successful public place (Metropolitan Planning Council, 2008:16).

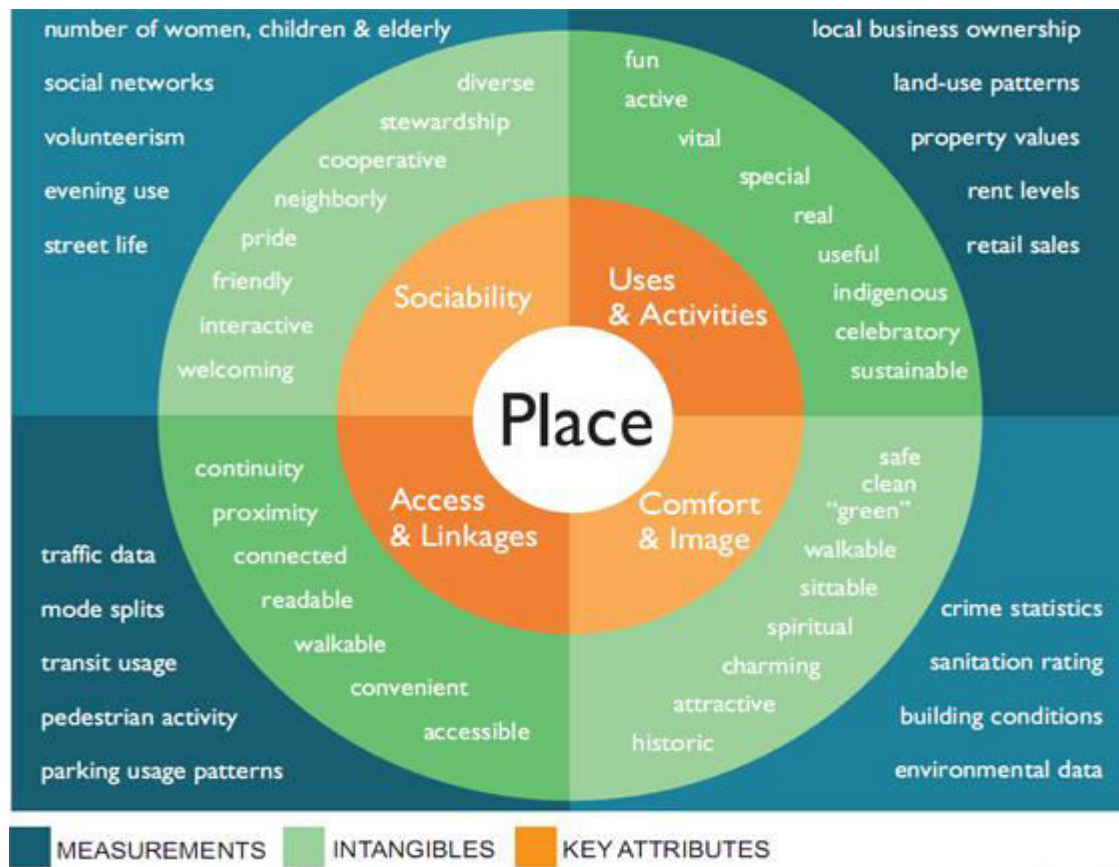


Figure 4.1: PPS Judgement of any place

Source: Metropolitan Planning Council (2008)

Figure 4.1 captures the four different attributes of place making as identified by PPS, namely sociability, uses & activities, access & linkages and comfort & image.

The following table illustrates the four key concepts, as identified by PPS for improving or developing public spaces. These concepts should be developed in harmony with one another, for the space to reach its maximum potential, contribute to sustainable development and provide for the needs of children and the community.

Table 4.3: Concepts of a successful place

CONCEPTS	APPLICABILITY IN TERMS OF CHILD-FRIENDLY GREEN SPACES
Access and linkages	Visually and physically a place and its surroundings should be connected well. A public space should be convenient and visual, easy to get to.
Comfort and images	The comfort of a public space defines how often it would be used. Safety, cleanliness and the feeling one has when you find yourself in the specific space all play a role in the comfort of the public space. The character of the space is important in terms of its image.
Uses and activities	The activities provided in the public spaces and places should be the reason for people to go there in the first place and to always return.
Sociability	Sociability is a huge quality for place making, as people feel more comfortable in the space they find themselves when interacting with friends or strangers. This leads to people feeling a stronger sense of place or attraction to these public spaces provided in urban environments.

Source: Own creation based on Metropolitan Planning Council (2008)

The place making approach is thus focused on integrating concepts such as 1) access & linkages 2) comfort & images 3) uses & activities and 4) sociability in the design and development of child-friendly green spaces.

4.5 The role of green spaces to provide for and support child-friendly spaces

Qualitative green spaces can provide for and support the planning and development of child-friendly spaces, by focussing on the specific user needs and providing a healthy and safe environment, enabling children to interact with the urban environment and enhance the physical and developmental skills.

Qualitative green spaces that are found in and around cities can be utilized to improve these spaces for a specific goal. A majority of the spaces are usually to cater for everyone's needs and in general it can be identified as parks. These spaces can be developed in a more specific way to only provide to the needs of the cities children's, by developing it to be more child-friendly and incorporating child-friendly urban design tools in these spaces (Parker, 2014; Prange, 2014).

A good international example of qualitative green spaces, being developed as places with a purpose for enjoyment, is water parks (Birnbaum, Farrell & Katz. 2012). Water parks are areas that provide activities and enjoyment to different age groups, attracting the inhabitants of a city (adults and children) to enjoy the outdoor space and place provided for them to their full potential (Birnbaum, Farrell & Katz. 2012). In and around New York City a variety of water parks can be identified, some indoors and some outdoors, all within driving distance for a fun day in the natural environment of the urban areas. All these parks are child-friendly with areas specifically designed for children, with a wide variety of excitement for children of different age groups (Birnbaum, Farrell & Katz. 2012). This is a good example of the role that green spaces can play in providing and planning child-friendly spaces in the urban environment.

Child-friendly spaces should specifically be planned for (Prange, 2014). The benefits that green spaces provide to the urban areas have a direct impact on children and the child-friendly spaces provided for them specifically. However urban green spaces (cross reference to Chapter 2) are not necessarily child-friendly spaces (cross reference to Chapter 3). The benefits that both of these spaces provide in terms of the urban environments are similar (Atiquil & Shah, 2011:601), but child-friendly green spaces do not only provide benefits to the urban environment, but also impact the residents, specifically children of the area. The benefits that green spaces provide, do however impact child-friendly green spaces, for example pollution control being one of the benefits that green spaces provide to the urban area (cross reference to Chapter 2), impact the quality of environment where the children play, impacting their physical health. Recreation and well-being, that are also created by these green spaces in the urban environment (cross reference to Chapter 2), provide opportunity for outdoor activity for children, resulting in them being more active outdoors than indoors. With that said, green spaces and child-friendly spaces should specifically be planned for and any public open space cannot be defined as an urban green space or child-friendly green space.

4.6 Conclusion with regards to planning approaches for child-friendly green spaces

There are limited approaches to green space planning and almost none approaches that focus specifically on child-friendly spaces. There is a definite need for more green spaces which are specifically designed and developed for children in these urban areas and the different planning

approaches, as discussed in chapter 4, should be followed to ensure that these green spaces will be useable, inviting, safe and developed to its maximum potential to ensure sustainability to the environment and at the same time cater for the needs of the children.

Table 4.4 summarizes the different concepts described and identified in Chapter 4. This table will be used to evaluate the international and local case studies.

Table 4.4: Concepts to be used with the evaluation of green spaces

CONCEPT/ TOOL DERIVED FROM LITERATURE INVESTIGATION	APPLICABILITY IN TERMS OF CHILD-FRIENDLY GREEN SPACES
Safety	Children have a right to a safe environment. Green space planned and developed for children should therefore enhance safety as a priority. Children should feel safe and comfortable in green spaces provided.
Green space	The open spaces should not only be child-friendly but should be “green”, contributing to sustainability. As opposed to hard open spaces, soft open spaces are more appealing to the eye and contribute to a healthy living environment.
Access	The child-friendly spaces should be developed in such a manner to allow for children to have easy and safe access thereto, ideally within walking distance from their homes.
Integration	These spaces should promote and improve the integration in the urban areas, with urban environments integrated and interdependent.
Traffic calming elements	The use of speed bumps, known as a traffic calming element is an efficient way of managing bypassing traffic, especially if the open space borders to the road. This will ensure traffic to slow down, providing a safer and calmer environment.
Separation	Separating the open space from the bypassing road or other areas is important to define the space. Elements such as trees, fencing or even structures can be used in doing so.

Different surfaces	The use of different surfaces contributes to enhance the attractiveness of the open space. It occurs also to be more pedestrian friendly, where people and especially children feel comfortable interacting with their natural environment.
Sufficient benches in space	Providing enough seats and benches to sit on makes the area more appealing, where guardians can have a seat while their children enjoy the space created for them.
Access and linkages	Visually and physically a place and its surroundings should be connected well. A public space should be convenient and visual, easy to get to.
Comfort and image	The comfort of a public space defines how often it would be used. Safety, cleanliness and the feeling one has when you find yourself in the specific space all play a role in the comfort of the public space. The character of the space is important in terms of its image.
Uses and activities	The activities provided in the public spaces and places should be the reason for people to go there in the first place and to always return.
Sociability	Sociability is a huge quality for place making, as people feel more comfortable in the space they find themselves when interacting with friends or strangers.

Source: Own creation based on Carmona et al (2003); Dewar & Uytendogaardt (1995); Metropolitan Planning Council (2008); McAllister (2008); UNICEF (2010)

Chapter 5 will capture the different policies and legislation guiding the planning of child-friendly green spaces in South Africa.

CHAPTER 5: POLICIES AND LEGISLATION GUIDING THE PLANNING OF CHILD-FRIENDLY GREEN SPACES IN SOUTH AFRICA

5.1 Introduction

Thirteen policies and legislations guiding the spatial development in South Africa have been selected as part of the scope of this research and summarized accordingly, stating the role of these policies in supporting and promoting child-friendly green space planning in South Africa, specifically Durban.

The following policies and legislations were included:

1. United Nations Convention on the rights of persons with disabilities (2008)
2. United Nations Convention on the rights of the child (2008)
3. Constitution of the Republic of South Africa 108 of 1996
4. National Spatial Development Perspective: NSDP (2006)
5. National Urban Development Framework: NUDF (2009)
6. National Sport and Recreation Act 110 of 1998
7. Spatial Planning and Land Use Managing Act: SPLUMA (2012)
8. UNICEF (Unite for children): South Africa Annual Report (2012)
9. Children's Act 38 of 2005
10. White Paper on Spatial Planning and Land Use Management (2001)
11. Durban Local Agenda 21 (2002)
12. Spatial Development Framework (SDF) eThekweni Municipality (2013)
13. Integrated Development Plan (IDP) eThekweni Municipality (2013/2014)

5.2 United Nations Convention on the rights of persons with disabilities (2008)

The United Nations Convention on the rights of persons with disabilities (2008) is a paradigm shift in approaches to disability and an international treaty, articulating the rights of persons with disabilities. This Convention seeks to achieve the promotion, protection and full and equal enjoyment of all human rights by persons with disabilities and respect for their inherent dignity. The rights of persons with disabilities should be involved in all aspects of development or decision making as the Convention requires: States parties must, inter alia, review and revise legislation, promote universally designed goods, services and facilities, and develop policies and programmes to implement the Convention and consult with persons with disabilities in doing so. Equality and non-discrimination should be prohibited, as persons with disabilities are entitled to equal protection and equal benefit of the law.

Article 7

States parties are required to act in accordance with the principle of the best interests of the child concerning children with disabilities. The rights of children with disabilities should also be ensured on an equal basis.

Article 30

Persons with disabilities have the right to equal access to play, relaxation, amusement and physical pastimes (Participation in cultural life, recreation, leisure and sport).

5.3 United Nations Convention on the rights of the child (2008)

The United Nations Convention on the rights of the child recognizes children's needs and rights. The focus is set on children to be able to develop to their full potential. Awareness is also raised in terms of the problems children are facing on a daily basis. UNICEF promotes child participation and supports child-friendly activities in a safe learning environment where children can improve their well-being and skill development. In the United Nations Convention on the rights of the Child (2008), all rights apply to all children without exception. A child's best interest is taken into consideration, where the child has the right to express his or her opinion freely and to have that opinion taken into account in any matter or procedure affecting the child.

Article 6

(Life, survival and development) - Every child has the right to life. The State has an obligation to ensure a child's survival and development.

Article 17

The State shall ensure the accessibility to children of information and material from a diversity of sources, and it shall encourage the mass media to disseminate information that is of social and cultural benefit to the child, and take steps to protect him or her from harmful materials.

Article 27

(Standard of living) - Every child has the right to a standard of living adequate for his or her physical, mental, spiritual, moral and social development.

Article 31

(Leisure, recreation and cultural activities) - The child has the right to leisure, play and participation in cultural and artistic activities.

5.4 Constitution of the Republic of South Africa 108 of 1996

The rights of children are entrenched in the Bill of Rights in the Constitution of the Republic of South Africa. In the Constitution of the Republic of South Africa 108 of 1996 “child” can be defined as a person under the age of 18. The constitution lays emphasis on the importance of the rights of children and that a child’s best interests are number one priority in every matter concerning the child.

The democratic values of human dignity, equality and freedom is established in the Constitution of the Republic of South Africa 108 of 1996, where the state must respect, protect, promote and fulfil the rights in the Bill of Rights.

Everyone has the right to an environment that is not harmful to their health or well-being, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation, secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

5.5 National Spatial Development Perspective: NSDP (2006)

The NSDP provides a framework for future development always focusing on sustainable development. The framework is however a far more focused intervention by the state in equitable and economic growth is a main concern. According to the NSDP (2006) a sustainable development paradigm requires that economic growth and social development are in balance with environmental priorities.

Furthermore the NSDP has strong views on protected areas in South Africa. There is however no provision made for the improvement or development of public green spaces and little regard given to creating child-friendly green spaces in the urban areas of South Africa.

5.6 National Urban Development Framework: NUDF (2009)

The NUDF addresses the different challenges and opportunities that the South African towns, cities and city-regions are facing. The framework is focused on environmental sustainability, where the development of greener buildings and renewable energy sources are encouraged. Secondly the framework also focuses on social equity, ensuring that urban and rural areas are not divided, but rather form part of a continues region.

The framework also illustrates the problem that South African cities face in terms of urbanization. According to the NUDF (2009) cities are not up to the task of managing urbanization, and are poorly equipped to deal with such urban growth.

There is no focus on the importance of green spaces for these urban cities. Urbanization is a reality and cannot be stopped, but the environment can be improved by providing better, greener and more sustainable environments for the children and residents of the over populated cities. The main focus should be on providing such spaces.

5.7 National Sport and Recreation Act 110 of 1998

The National Sport and Recreation Act 110 of 1998 provide opportunity to promote and develop sport and recreation and the co-ordination of the relationship between them. The Act requires that funds should be provided annually for the creation and upgrading of basic multipurpose sport and recreational facilities.

The National Federations must take full responsibility for the safety issues within their sport and recreational disciplines. Accessibility of such facilities should be taken into consideration and maintenance should be ensured by the beneficiary of the provision of such facilities. Sport and Recreation South Africa must organise and promote programmes aimed to mobilizing the nation to play, but all sport and recreational activities must be conducted in such a way that the environment is not harmfully affected.

5.8 Spatial Planning and Land Use Managing Act: SPLUMA (2012)

The Spatial Planning and Land Use Managing Act are set to provide a framework for spatial planning and land use management in the Republic of South Africa. The framework does include the provision of green or public spaces within the municipal boundaries.

The objects of this Act are to:

- (a) Provide for a uniform, effective and comprehensive system of spatial planning and land use management for the Republic;
- (b) Ensure that the system of spatial planning and land use management promotes social and economic inclusion;
- (c) Provide for development principles and norms and standards;
- (d) Provide for the sustainable and efficient use of land;
- (e) Provide for cooperative government and intergovernmental relations amongst the national, provincial and local spheres of government; and
- (f) Redress the imbalances of the past and to ensure that there is equity in the application of spatial development planning and land use management systems.

Open space - land set aside or to be set aside for the use by a community as a recreation area, irrespective of the ownership of such land.

Public space – open/enclosed place, park, street, road or other similar area of land shown on a general plan or diagram which is for use by the general public and is owned by or vests in the ownership of a Municipal Council. It should include a public open space and servitude for any similar purpose in favour of the general public. The focus of the SPLUMA is on providing open or public space in the urban areas, but the element of child-friendly public spaces is absent.

5.9 UNICEF (Unite for children): South Africa Annual Report (2012)

According to UNICEF (2012) only 29% of children have access to safe play areas. Children have basic rights, which include basic education, protection, health services and safe outdoor space. Laws alone are not enough to ensure a child's rights, therefore UNICEF supports the children by fighting for their rights.

Layer upon layer the right of children should be established and the rights of children should be protected, but the lack of access to basic services and the rising unemployment statistics are affecting young lives. For UNICEF prioritizing the rights of children in high level discussions on policy, law and budgetary allocations is of utmost importance.

5.10 Children's Act 38 of 2005

The primary purpose of the Children's Act 38 of 2005 is to define and protect the rights of children. Such rights should be respected, protected and promoted by the state.

Amongst the rights of children is the right to basic education. Provision for early childhood development programs should be made and implemented. Therefore the child's need for development and to engage in play appropriate to such child's age should be recognized. This includes appropriate recreational activities, since such activities play an important role in the child's developing stages.

The Children's Act 38 of 2005 also deals with the child's right to health and safety. Children have the right to be protected and such can be achieved by providing a safe and healthy environment for the child, which is conducive to the child's growth and development.

5.11 White Paper on Spatial Planning and Land Use Management (2001)

The White Paper on Spatial Planning and Land Use Management states the importance of the usage of land. Land is an asset, scarce and is fragile. When the development of land takes place, high level planning processes that is inherently integrative and strategic, is needed.

The White Paper is set out with a ultimate goal to formulate policies, plans and strategies for land-use and land development that address, confront and resolve the spatial, economic, social and environmental problems of the country.

The spatial planning, land use management and land development norms are:

- Land may only be used or developed in accordance with law;
- The primary interest in making decisions affecting land development and land use is that of national, provincial or local interest as recorded in approved policy;
- Land development and planning processes must integrate disaster prevention, management or mitigation measures;
- Land use planning and development should protect existing natural, environmental and cultural resources;
- Land which is currently in agricultural use shall only be reallocated to other uses where real need exists and prime agricultural land should remain in production.

5.12 Durban Local Agenda 21 (2002)

Durban Local Agenda 21 is aimed on improving sustainability in the urban area. To improve sustainability, the “green” element of the city should be improved. Durban Metropolitan Open Space System (D'MOSS) is focused on the design of an open space plan, where the management of the city’s natural resource base can be protected and guided.

Although the Local Agenda does not make provision for child-friendly green spaces, the program does include the provision of open spaces for the community. By providing these open spaces in high-density residential areas, quality of life would be improved and jobs could be created. Unfortunately key problems facing the provision of open spaces to the communities is the lack of maintenance funds, poor project management and vandalism.

5.13 Spatial Development Framework (SDF) Ethekewini Municipality (2013)

The SDF of eThekwini Municipality is mainly focused on developing the city to become more sustainable. The city is focused on introducing the “green” aspect to the city and improving “green” development on different levels. The Greening Durban Program 2010, is a initiative aiming to ensure that a positive environment is achieved. By focusing on “green” development, sustainability will be improved.

The SDF makes provision for providing open/ public spaces, focusing on developing these spaces to be more “green”. These spaces provide visual attractiveness, improve quality of life and provide space for recreational purposes. Certain areas are set aside according to the SDF, to be protected. These areas include urban open spaces. With the current open spaces or usually open space that was not planned for, fragmentation is a concern. Therefore open spaces should be conserved and linked.

The SDF seeks to guide a more efficient use of the limited infrastructure, urban space and natural resources. The main goal is to create a city that is more efficient, sustainable and safe. The city should provide high quality public space for the residents, recreational opportunities should be provided and equal access to goods is eThekweni Municipality’s SDF main goal and focus. More focus should be set aside for developing the public spaces to become more child-friendly.

5.14 Integrated Development Plan (IDP) eThekweni Municipality (2013/2014)

The main goal set by the IDP of eThekweni Municipality, for the residents, is that all those who live, work, play and invest in eThekweni feel and are safe in private and public spaces. It is important for the eThekweni Municipality to provide a clean and green environment, capable of delivering a range of ecosystem goods and services, leading to homely neighbourhoods.

Contributing to these safe and homely neighbourhoods are economically and environmentally sustainable public spaces, which is an essential components of a green and prosperous City. An increase in the use and appropriate design and maintenance of public open spaces also contributes to enhancing neighbourhoods and reducing risks. This exists because of people who want to take positive action to make public spaces safer.

The IDP of eThekweni Municipality supports the development of public green spaces, contributing to the environment and the residents of Durban. It addresses spatial segregation through actions such as a comprehensive rehabilitation of neighbourhoods, creating high quality public spaces and facilities in areas that were previously underserved.

5.15 Conclusion with regards to policy and legislative framework for child-friendly urban green spaces

Current reality reveals a lack of adequate policies and legislation to assist in the provision and maintenance of green spaces. Green spaces should not only appear because of poor layout and development. Green spaces and specifically child-friendly green spaces should be planned for, because of all the positive effects it has on the urban environment. These spaces should be

protected and maintained by the local municipalities in term of future developments and maintaining it in an adequate way (Parker, 2014).

The following table summarizes the thirteen policies and legislations discussed in Chapter 5.

Table 5.1: Policies and legislation influencing the development of child-friendly green spaces

POLICY/ LEGESLATION	PUBLIC/ OPEN SPACE	SUPPORT GEEN ELEMENT	CHILD - FRIENDLY SPACES	RIGHTS OF CHILDREN	SUSTAINABLE DEVELOPMENT	ASPECT INDICATING SUPPORT	INTERNATIONAL/ NATIONAL/ LOCAL POLICY/ LEGISLATION
IDENTIFICATION	YES/ NO	YES/ NO	YES/ NO	YES/ NO	YES/ NO		
United Nations Convention on the rights of persons with disabilities (2008)	NO	NO	NO	YES	NO	Rights of children	International
United Nations Convention on the rights of the child (2008)	NO	NO	YES	YES	NO	Rights of children	International
Constitution of the Republic of South Africa 108 of 1996	NO	NO	YES	YES	NO	Child-friendly spaces	National
National Spatial Development Perspective: NSDP (2006)	NO	YES	NO	NO	YES	Future development & economic growth	National
National Urban Development Framework: NUDF (2009)	NO	YES	NO	NO	YES	Environment al sustainability & social equity	National

National Sport and Recreation Act 110 of 1998	YES	NO	NO	NO	YES	Recreational opportunities	National
Spatial Planning and Land Use Managing Bill: SPLUMA (2012)	YES	YES	NO	NO	YES	Open/ public space	National
UNICEF (Unite for children): South Africa Annual Report (2012)	NO	YES	YES	YES	NO	Rights of children & child-friendly play spaces	National
Children's Act 38 of 2005	NO	NO	YES	YES	NO	Rights of children	National
White Paper on Spatial Planning and Land Use Management (2001)	YES	YES	NO	NO	YES	Sustainable development	National
Durban Local Agenda 21 (2002)	YES	YES	NO	NO	YES	Sustainable development "Green"	Local
Spatial Development Framework (SDF) eThekweni Municipality (2013)	YES	YES	NO	NO	YES	Sustainable development	Local
Integrated Development Framework (IDP) eThekweni Municipality (2013/2014)	YES	YES	NO	NO	YES	Sustainable development "Green" Public Spaces	Local

Source: Own creation based on Department of Cooperative Governance and Traditional Affairs and the Presidency and in partnership with the South African Cities Network (2009); Diederichs & Roberts (2002); Ed, Young & U.S. fund for UNICEF Education Department (2008); eThekweni. City Council (2013); eThekweni Municipality (2013); Ministry of Agriculture and Land Affairs: Republic of South Africa (2001); Minister of Rural Development and Land Reform: Republic of South Africa (2012); South Africa (1996); South Africa (1998); South Africa (2005); The Presidency Republic of South Africa (2006); UNICEF (2012); United Nations (2008)

SECTION B: EMPIRICAL INVESTIGATION

CHAPTER 6: EMPIRICAL RESEARCH

The empirical section of this study consists of an explanation of the methodology that was used for the collecting and analysing of data. Two international case study evaluations of child-friendly spaces in urban areas were studied, namely Kadidjiny Park in Melville, Australia and Mullerpier public playground incorporated in the City of Rotterdam, the Netherlands. These two case studies were identified and considered as best practices of how planning and development of child-friendly green spaces in urban areas contributes toward the well-being of an urbanized population. These international case studies was examined to identify best practical examples of incorporating or improving existing child-friendly green spaces in urban areas. A SWOT analysis of each international case study was conducted and illustrated. Following is an introduction and explanation of local evaluation of child-friendly spaces in an urban area of a South African city. Detailed background on the study area was presented to ensure understanding of the located area. Followed by the discussion of the study area are the public inputs that were done, of how and why the space is used by the residents and a short discussion of the expert views in terms of planning child-friendly green spaces. A SWOT analysis to identify the possible strengths, weaknesses, opportunities and threats of the identified study area were then completed.

6.1 Methodology

Different research methods were used, including qualitative and quantitative approaches (cross reference to Chapter 1). A case study analysis was conducted to evaluate international examples of child-friendly spaces, where the best practices were identified and illustrated in terms of applicability in South Africa. These international case studies include Kadidjiny Park in Melville, Australia and Mullerpier public playground incorporated in Rotterdam, the Netherlands.

Data and information were collected by means of direct observation (surveys), and through public participation (questionnaires/ opinion poll/ structured interviews) (cross reference to Chapter 1). This contributed to the evaluation of how the relevant green space, in its current state, is utilized by residents, and determining the reasons why it may not be fully utilized. By analysing the data from public participation of the inhabitants of the specific residential area, needs and challenges could be determined.

International case studies were identified and evaluated to determine the success of these spaces, along with adequate planning tools for implementation. A local case study in South

Africa was conducted to evaluate the approach and opportunities of planning for child-friendly spaces in local context. Followed by the case study identification and explanations, structured interviews were conducted with experts on the research subject. This contributed to understanding the importance of child-friendly green spaces in urban areas and how it affects sustainability and the inhabitants of the city.

6.2 International case studies of child-friendly urban green spaces

6.2.1 Melville, Australia

Melville situated in Western Australia believes that an age-friendly environment benefits the entire community for current and future generations (Government of South Australia: Department of Education and Children's Services, 2012:2). Melville strives to become an attractive city, with safety being their prime vision. Sustainability plays an important role for the city of Melville, where the consequences of their actions for future generations are taken into account (Government of South Australia: Department of Education and Children's Services, 2012:2).

The city of Melville strives to become more and more child-friendly, believing that when children have sufficient outdoor space for free play in a natural environment, there are overwhelming benefits, including a child's overall physical health and emotional well-being (Government of South Australia: Department of Education and Children's Services, 2012:3).

Melville attempts to provide more and more outdoor green child-friendly spaces for their young citizens. When the children "play" and explore in these spaces provided for them, it is only then when they learn how to cope with life, experience risk taking, face challenges, begin to understand the world around them and develop a sense of belonging (Government of South Australia: Department of Education and Children's Services, 2012:3). Therefore the City of Melville is considering making positive changes towards providing more natural environments for the children.

Melville guidelines for developing child-friendly green spaces (Government of South Australia: Department of Education and Children's Services, 2012:7):

- Talk to children and involve them in planning
- Ask children what they like to do when they play rather than what they would like in a playground
- Invite community involvement and participation

Design principles considered when creating a natural play environment for children (Government of South Australia: Department of Education and Children’s Services, 2012:7) includes:

- Connect different areas and spaces with bridges, paths, tunnels, stepping stones
- Allow enough time each day for children to play uninterrupted
- Use bright colours in small amounts
- Create hideaway spaces for children
- Create beautiful and aesthetic areas that are pleasing to look at and inviting
- Allow for discovery and exploration
- Allow for imaginative play using sticks, fabrics, leaves, pods, water
- Create both active and quiet spaces for social and solitary play
- Allow children to manipulate and influence the outdoor spaces
- Plan to stimulate all the senses
- Consider the calming effect of nature’s colours and materials

Table 6.1: Western Australia’s priority factors in designing child-friendly spaces

PRIORITY FACTORS	DESCRIPTION
ENABLING ACTIVE AND HEALTHY LIFESTYLES	Being physically active reduces the risk of poor health outcomes as well as improving general wellbeing.
DESIGNING GREEN AND FRIENDLY PUBLIC SPACES	Public green spaces create and provide opportunities for children and young people to play and explore. High quality public spaces should be an integral feature of the built environment.
DESIGNING SAFE PLACES	<ul style="list-style-type: none"> - Improving natural surveillance in streets, parks and open spaces. - Removing and deterring vandalism - Encouraging community ownership of parks and public spaces.
DESIGNING FOR MULTI-USE AND	Children and young people want to be part of the community. The designing for multi-use and accessibility creates places which all can use with

ACCESSIBILITY	ease and dignity and where everyone has a sense of belonging.
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Source: Own creation based on Commissioner for Children and Young People (2011)

Melville was chosen as an international case study because of its strong believes in planning and developing for the children of the city. A firm foundation has been laid, stating the importance of providing public space and specifically green spaces for children. The city of Melville believes the children should form part of the future developing and their wants and needs should be first priority. Kadidjiny Park was identified and chosen as an international example of an excellent, sustainable child-friendly park, catering for the needs of children of different ages. The park is successfully implemented and developed in Melville and maintenance is of high quality, where the space is improved and upgraded constantly. The space is well connected with its surroundings and the “green” element can be observed, contributing to the sustainability of the environment. The Kadidjiny Park offers great and sufficient examples of a successful child-friendly green space incorporated in urban environments (cross reference to Chapter 6, section 6.2.1 & 6.2.1.1).

6.2.1.1 Case study: Kadidjiny Park Melville, Australia

The Kadidjiny Park in Melville was specifically planned and designed for children, in order to interact with the natural environment, and increase their abilities to think, learn and listen (Commissioner for Children and Young People, 2011:15). The park can accommodate residence and specifically children of all ages, and provides a unique multi-use landscape which has a positive effect on all residents of Melville as illustrated in Figure 6.1. The park was opened in November 2010 (A Coffee in the Park, 2013) and promotes imaginative and active play outdoors. The open space is much focused on the green aspects, such as the conservation and expansion of natural habitat, and improving the sustainability of the town where over 40 000 indigenous plants and trees have been planted to improve the “green” aspect of the park and the sustainability of the town in general (Commissioner for Children and Young People, 2011:15).

The park situated in the suburb of Melville, also known as the Dr Seuss playground because of the red and white poles (see Figure 6.1) that can be identified on the open space (Lauren, 2013), refer to Figure 6.1, making the space more attractive, was developed on the former Melville Primary School site, but when the school was relocated The City of Melville purchased it from the Education Department in 2006 and decided to develop it into a constructive space, bringing meaning and function to the area and contributing to the spatial needs of children of the area in a positive way. Many of the schools children were involved in the designing and

planning of the park, resulting in comprehensive public participation processes where the children were included in the developing process, and articulating their ideas of how a child-friendly park should look or feel like (Commissioner for Children and Young People, 2011:19). The execution of the proposed plan of the child-friendly park was successful, because of the participatory planning process and the principle of not planning for children, but with children.

The children of Melville have had a purpose in the development of the park, by being included in the planning process of this specific green space. Through this process, the children have witnessed the change it has brought and the positive influence it has on the town in terms of providing open green space for children and adults. But the main goal of providing a space that is appealing and where children can explore the environment with a feeling of safety and improve their natural abilities and the way they think and interact with people, has been achieved in this case. (A Coffee in the Park, 2013; Commissioner for Children and Young People, 2011:15).

In terms of specific design guidelines, the Kadidjiny Park is fenced which improves the safety element for all children, distancing the children from the roads and other objects that can be a threat. The park is almost four hectares in size, which is quite large but the size contributes to the fact that it caters for all age groups to enjoy the outdoor space in Melville, with sufficient benches provided in the open space. The space promoted the idea of children to be creative in the space (see Figure 3), where the name Kadidjiny comes from the Aboriginal Noongar word meaning “learning, thinking, listening” (Commissioner for Children and Young People, 2011:15).



Figure 6.1: Kadidjiny Park in Melville, Australia

Source: Anecdotal anna- Anecdotal accounts of life (2011)

According to Anecdotal (anna - Anecdotal accounts of life, 2011) there are plenty of open space for kids (see Figure 6.1), big and small, to be kids, in an outdoor setting, while interacting with their natural environment and other children.

Table 6.2 evaluates the Kadidjiny Park situated in Melville based on the different identified urban design concepts derived from the theoretical investigation.

Table 6.2: Evaluation of Kadidjiny Park in terms of concepts contributing to child-friendly urban green spaces

CONCEPT	CONTRIBUTION TO CHILD-FRIENDLY GREEN SPACES
Safety	The park is fenced. (Cross reference to section 6.2.1)
Green space	The green element can be identified, where over 40 000 indigenous plants and trees have been planted in the park. (Cross reference to section 6.2.1)

Access	Easy access, within walking distance from surrounding area. Parking is also provided.
Integration	Excellent integration with surrounding area.
Traffic calming elements	Park is situated in a residential area, with traffic calming elements.
Separation	Area is separated well from the road and bypassing traffic. (Fence and trees) (Cross reference to section 6.2.1 paragraph four and two)
Different surfaces	Different surfaces are used in the park, resulting to make it more attractive. (Cross reference to figure 2 in section 6.2.1)
Sufficient benches in space	Yes (Cross reference to section 6.2.1 paragraph four)
Access and linkages	Easy access and well connected with its surroundings.
Comfort and image	The park is clean and comfortable, with an attractive image. (Cross reference to figure 2 in section 6.2.1)
Uses and activity	The activities in the park provided for the children and their families are what most attract them. (Cross reference to section 6.2.1 paragraph two)
Sociability	The park provides opportunity for interaction and sociability with friends and strangers. (Cross reference to section 6.2.1 paragraph three and five)

Source: Own creation based on Carmona et al (2003); Commissioner for Children and Young People (2011); Dewar & Uytendogaardt (1995); McAllister (2008); Metropolitan Planning Council (2008); UNICEF (2010)

Based on the evaluation of the concept (cross reference to Chapter 4) that enhanced child-friendly green spaces, the case study was found to be successful in terms of all the different concepts (cross reference to Chapter 4) identified that contribute to child-friendly urban green spaces.

Accordingly an analysis was conducted to evaluate the park in terms of spatial strengths, weaknesses, opportunities and threats, and to be used as a best-practice analysis for similar cases in the local South African context.

Table 6.3: SWOT Analysis of Kadidjiny Park in Melville, Australia

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> • Accommodates children of all ages. • Park is fenced off from surrounding area, improving safety aspect. • Situated in a residential area, within walking distance for surrounding houses. • Traffic calming elements. • Parking is provided. 	<ul style="list-style-type: none"> • Several of the activities provided in the space are not suitable for toddlers.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Focused on the green aspect of the town, improving sustainability. • Allows children to explore and be creative in an outdoor environment. • Good integration with surrounding area. 	<ul style="list-style-type: none"> • Park is large in size.

Source: Own creation based on (Commissioner for Children and Young People, 2011)

It is evident from the SWOT analysis that the Kadidjiny Park in Melville is successful, with several strengths and opportunities, linked to the planning and provision of child-friendly green spaces.

Accordingly the second international case study (Rotterdam in the Netherlands) will be described.

6.2.2 Rotterdam, Netherlands

Rotterdam situated in the Dutch province of South Holland, the Netherland, forms part of the Randstad capital, making it the second largest city in the Netherlands. The Port of Rotterdam is however one of the world's largest and busiest harbours (van Boxtel & Korenman, 2013). With many immigrants, Rotterdam strives to be a clean, safe and healthy living environment for their residence living and working there (van Boxtel & Korenman, 2013).

Rotterdam has strived to become more child-friendly for the young citizens of this city (van den Berg, 2013; Wapperom, 2010:7). It is believed that children form an intrinsic part of the city and

therefore they should feel like they belong and fit in with the city. The child-friendly Rotterdam program started in 2007 with the goal of improving or incorporating child-friendly open spaces within the city for children to be able to enjoy the spaces developed for them. The program was developed to strengthen the economy of the city and improve the quality of life for the children of Rotterdam (Wapperom, 2010:9).

A method of “Building Blocks for a child-friendly Rotterdam” was developed (Wapperom, 2010:11) to identify areas where there is room for improvement in certain neighbourhoods in Rotterdam. This method was used to improve the sustainability of the city, focusing on children and for them to be able to grow and learn how to interact with the environment and people, impacting their development skills. For the inhabitants of Rotterdam it became an important goal to improve child-friendliness in the city and make a difference in children’s lives with the main focus on improving outdoor open spaces for them (Wapperom, 2010:12).

These urban development tools of incorporating building blocks to improve child-friendliness in the Rotterdam city have succeeded to draw families back to the neighbourhoods of the city (Wapperom, 2010:6). Many families tended to leave the city and move out of the neighbourhoods after the post-war era. This trend needed to be reversed, because a neighbourhood that is not attractive for people, to live and work there, is destined to struggle (van den Berg, 2013) and the city of Rotterdam tried to achieve this through the development of the building blocks and was successful in doing so.

By attracting these families back to the neighbourhoods of Rotterdam, the method of “Building Blocks for a child-friendly Rotterdam” promoted the idea of combining smaller apartments together to develop larger apartments with the end result of families having more living space and this idea is more striking to families to relocate themselves back in the neighbourhoods of Rotterdam (van den Berg, 2013; Wapperom, 2010:13).

Rotterdam has made child-friendliness a key strategic goal. There are purposes and focus points on what has to be done or can be done to improve child-friendly spaces, because the City of Rotterdam believes a successful city for children is a successful city for all people (Wapperom, 2010:7). This statement stresses the importance once again on how important it really is to have child-friendly open spaces in an urban setting that are welcoming for children to interact with the environment, feel safe and develop themselves.

For Rotterdam it was important to develop a city for children and adults that are lively and sustainable for one main reason, to keep families in the city. The urban planning tool of “child-friendliness” that Rotterdam has developed, by focused on children and building a healthier city for them will lead to sustainability of the city and strengthen the economy. Different policies take

children’s needs and wants in consideration and these spaces are not only about developing playgrounds or providing an open space for children to run around in, it is rather a holistic way of thinking about urban planning, making the city more sustainable and attractive and specifically designed open green spaces for children to think, interact and learn on different levels with the end result of having a positive effect on their development and the way they react in different situations.

The city of Rotterdam believes that children form an intrinsic part of the city. By improving the city to become more child-friendly, resulting in children to become an asset to the city, there are physical and socio-economic requirements that Rotterdam should meet in order to cater for the needs of the children (Wapperom, 2010:9). Rotterdam strives to ensure a child-friendly city, by incorporating the needs of children in their development frameworks.

Rotterdam developed an urban planning method, Building Blocks (cross reference to section 6.2.2) for a child-friendly Rotterdam (Wapperom, 2010:11). This method consists of four building blocks, summarized in Table 6.4, where the building blocks not only identify problems, but also opportunity for improvements.

Table 6.4: Rotterdam Building Blocks for a child-friendly Rotterdam

BUILDING BLOCKS	DESCRIPTION
CHILD-FRIENDLY HOUSING	Single-family houses with a garden.
PUBLIC SPACE	Gear public space to the specific needs of children. Play areas, outdoor space, use of space between front door and street level (luminal space).
FACILITIES	Providing opportunities for socializing.
SAFE TRAFFIC ROUTES	Routes are made more child-friendly to encourage children to explore the city (sidewalks and no-through traffic zones).

Source: Own creation based on Wapperom (2010)

The aims of the building blocks include, but are not limited to the following: (Wapperom, 2010:12)

- To observe individual neighbourhoods and shows where there is room for improvement.
- Formulate neighbourhoods truly to be child-friendly.
- Making the city more sustainable.
- Provide a city where children literally and figuratively have room to grow.

There are certain inspirations that Rotterdam follows to be or become more child-friendly as discussed in table 6.5.

Table 6.5: Rotterdam inspirations

INSPIRATION	EXPLANATION
MENTAL MAPS	Children are asked to make drawings of their surroundings, including the current situations, inconveniences that they experience or problems that they encounter. The way they would like it to be is also often asked to be illustrated. These mental maps often reveal simple solutions.
GREEN AREAS	Edible and educational plants are incorporated in “semi-wild” play areas to make these areas more interesting for the children. So called “play-wildernesses” are created in Rotterdam for children to engage in climbing and playing freely and safely.
PLAYING ON THE STREETS	“Play-streets” were developed in Rotterdam. This is streets with extra playing facilities for children and different playing tools (roller skates and skipping ropes) which children can borrow.

Source: Own creation based on Wapperom (2010)

Rotterdam truly seeks to develop a child-friendly city, including the children of the city when development takes place. Their needs and want are first priority with the child-friendly monitor developed by Rotterdam, to measure the results of efforts to make urban neighbourhoods more child-friendly (Wapperom, 2010:19).

The second international case study, Mullerpier Public playground, was chosen as Rotterdam is a city where the children have inputs in developing child-friendly spaces. Rotterdam believes that the children of the city are the future and their needs should be met for the children and residents to have lively neighbourhoods. The development of children is of utmost importance for the city of Rotterdam and sufficient space should be provided for them, where nature is a priority. Rotterdam strives to become a “green” city, contributing to the build environment. The public playground, Mullerpier, was developed for children as a public “play” space. Here children interact with each other, improve their skill development and learn to explore their environment. The playground is excellently designed, colourful and provides different equipment for children to develop their skills. Mullerpier sets out different examples of the layout of a child-friendly park

and design concepts that can be implemented in designing child-friendly spaces. These tools can be incorporated all over South Africa (cross reference to Chapter 6, section 6.2.2 & 6.2.2.1).

6.2.2.1 Case study: Mullerpier Public playground in Rotterdam, Netherlands

A public playground, situated on the Mullerpier in Rotterdam, was developed by Bekkering Adams Architects in 2007 (ArchiTravel. 2013). This interesting square (see Figure 6.2) was developed to serve as a playground for the nearby primary school, but currently also meets the needs of the children in the surrounding area by serving as a public playground for each one. The square challenges children to play in different ways, interacting with one another and exploring their natural environment (ArchiTravel. 2013). Adding to the “green” element of the town, the space is surrounded by trees (see Figure 6.2), making the impact that the space has on improving sustainability visible. With sufficient activities provided in the space, as seen in Figure 6.2, opportunities are provided for children to interact with strangers and improve their skills.



Figure 6.2: Mullerpier Public playground in Rotterdam, Netherlands
Source: ArchiTravel (2013)

Table 6.6 evaluates the child-friendly public playground situated in Rotterdam, based on the different concepts of child-friendly urban spaces as derived from the theoretical investigations.

Table 6.6: Evaluation of Mullerpier public playground in term of concepts contributing to child-friendly urban green spaces

CONCEPT	CONTRIBUTION TO CHILD-FRIENDLY GREEN SPACES
Safety	Excellent, separated from surrounding area, with fencing around the space. (Cross reference to Figure 3 in section 6.2.2)
Green space	Good, sufficient trees can be identified, contributing to the green element. (Cross reference to section 6.2.2)
Access	Easy access, with sufficient parking spaces provided.
Integration	Good integration, contributing to the green element of the city. (Cross reference to section 6.2.2)
Traffic calming elements	Not applicable, there is minimal bypassing traffic.
Separation	Area is well separated from its surroundings.
Different surfaces	Excellent, different surfaces are used in the open space. (Cross reference to figure 3 in section 6.2.2)
Sufficient benches in space	Yes.
Access and linkages	The space is linked well with its surroundings and provides easy access for the public. (Cross reference to section 6.2.2)
Comfort and image	The public space has an appealing image, with a comfortable feeling. (Cross reference to figure 3 in section 6.2.2)
Uses and activities	Sufficient activities are provided for children of all ages, resulting that the space is used to its full potential. (Cross reference to section 6.2.2)
Sociability	Opportunities for interacting are provided on more than one level. (Cross reference to section 6.2.2)

Source: own creation based on Carmona et al (2003); Dewar & Uytendogaardt (1995); McAllister (2008); Metropolitan Planning Council (2008); UNICEF (2010); Van den Berg (2013); Wapperom (2010)

Based on the evaluation of the concept that enhanced child-friendly green spaces, the case study was found to be successful in terms of all the different concepts identified that contribute to child-friendly urban green spaces.

Accordingly an analysis was conducted to evaluate the park in terms of spatial strengths, weaknesses, opportunities and threats, and to be used as a best-practice analysis for similar cases in the local South African context.

Table 6.7: SWOT Analysis of Mullerpier child-friendly public playground in Rotterdam, Netherlands

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> • Separated from the inner city. • Caters for children of all ages. • Sufficient benches provided. • Parking is provided. • Fenced around the space to improve safety aspect. 	<ul style="list-style-type: none"> • Different surfaces in the square are not provided (grass, sand). Only solid surface.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Focused on the green aspect of the town, improving sustainability. • Allows children to explore and be creative in an outdoor environment. • There is opportunity for expanding the square. 	<ul style="list-style-type: none"> • The square is situated close to water, but is fenced off.

Source: Own creation based on observation

From the SWOT analysis it is evident that Mullerpier public playground is successful in terms of its strengths and opportunities, linked to the planning and provision of child-friendly green spaces.

6.3 Local evaluation of child-friendly urban green spaces: Durban case study area

6.3.1 Durban, South Africa

Durban (refer to Figure 6.3) is a large city situated in the province of KwaZulu-Natal (KZN), on the east coast of South Africa. The city is governed by The eThekweni Municipality (refer to Figure 6), with a number of surrounding municipalities in KZN (eThekweni City Council, 2013). The Spatial Development Framework (SDF) of eThekweni Municipality (Durban) strives to be Africa's most caring and liveable city, by growing the economy and meeting people's needs, which will contribute to a high quality of life for the citizens, where each person lives in harmony (eThekweni City Council, 2013). To achieve this goal by 2030, the eThekweni Municipality will focus on becoming a greener municipality, that meets the basic needs of citizens and ensure a safe environment in all parts of the municipal area (eThekweni City Council, 2013).



Figure 6.3: Durban, South Africa

Source: Google Earth 7.1.1. 2013

The eThekweni Municipality of Durban has launched its very own Green Map, an interactive tool, displaying sustainable features in communities and is used all over the world (eThekweni City Council, 2013; Prange, 2014). Green Map provides opportunity for sustainable development within the city and different communities. Working with Durban's informal workers from the city's public spaces, Asiye eTafuleni (AeT) an NGO promotes inclusive urban planning and design (eThekweni City Council, 2013).

The Durban Metropolitan Open Space System (D'MOSS) is also an important system included in the Spatial Development Framework (SDF) of the eThekweni Municipality. D'MOSS was previously known as the eThekweni Environmental Services Management Plan (EESMP) and is a system of open spaces (eThekweni City Council, 2013). This includes high biodiversity open spaces, linked together in a viable network. D'MOSS covers a great deal of land, including nature reserves, large rural landscapes, coastal corridors and some privately owned land. Apart from contributing to the attainment of these areas, D'MOSS also provides recreational opportunities for the residents of Durban (eThekweni City Council, 2013).

Durban's project objectives in developing child-friendly/ open green spaces in the urban area (Galvin & Payne, 2010:2):

- Create an identity for the public park
- Create a high quality sustainable public space
- Create a catalyst
- Implementation strategy
- Management strategy

The city of Durban aims to implement specific planning elements such as footpaths, benches, bins and park lights to improve the current open spaces to become safe, inviting and child-friendly (Galvin & Payne, 2010:2; Parker, 2014).

The following major components were identified when developing green spaces/ child-friendly spaces (Galvin & Payne, 2010:2):

- Heart of the park – a multi-functional space to provide the focus for park activities.
- Upgraded play ground areas – creative new play equipment, to generate a child and parent destination, focussing on the different developing stages of children.
- Create an attractive pedestrian movement system – in the park, restored focus on pedestrians, stitching together independent park zones.
- Eco park – green design

6.3.1.1 Case study: Essenwood, Durban, South Africa

The identified study area chosen for this study (refer to Figure 6.5) is situated in the municipal area of eThekweni, in the Essenwood residential area. Essenwood is a suburb of Durban, a few blocks to the Northwest of the city centre, located central, within reach of some of the main attractions in Durban. The famous Durban Botanical Gardens can be identified to the South end of the residential area.



Figure 6.5: Identified study area

Source: Google Earth 7.1.1. 2013

The majority of the residents in the Essenwood area live in apartment block, having no backyard space or access to open green space. Certain residents who do however live in houses have undersized backyards (Prange, 2014). The open space situated in Essenwood was ideal for the purpose of this research as there is no other available open space, aiming to provide opportunities for children, like the identified space. There are however green spaces in the surrounding region of Essenwood, for example the Botanical Gardens of Durban or Bulwer Park, but is not situated close enough for the residents of Essenwood (Parker, 2014). The space also serves as a play area for the children of parents visiting the small businesses surrounding the chosen space. The park is currently in use, with a good location, but is not maintained and therefore it is ideal to investigate and research how it can be transformed. Experts and planners from this region were well-known associates, therefore information regarding the chosen space in Essenwood and its surrounding area was easily accessible and available for use of the researcher.

The identified open space (see Figure 6.5) is located on the corner of Clarence Road and Tenth Avenue, Essenwood, Durban. The green space is located on erf 1154 and 1153 and is zoned as Public Open Space. The surrounding area of the open space comprises mostly of residential flats and residential houses with small yards. Therefore the open space is ideally located to plan and develop a child-friendly green space, specifically equipped for the needs of children and to feel safe within the space, enhancing outdoor activities, play and movement (see Figure 6.6).



Figure 6.6: Surrounding area
Source: Authors own

Currently the space is being used as a “play area” for children (refer to Figure 6.7 & 6.8). Elements such as slides and swings can be identified within the space, but the space is neglected, with an uninviting and unsafe feeling as the space is located adjacent to 3 roads.



Figure 6.7: Current use of identified space
Source: Authors own



Figure 6.8: Current use of identified space
Source: Authors own

6.3.1.1.1 Public participation and stakeholder analysis

Data was collected to determine whether the specific case study space is being used by the residents of the surrounding area, and to what extent. Questioners were sent out to identify residents and conduct a stakeholder analysis. Personal interviews were held with the head mistress of the pre-primary school situated next to the case study space. The questioners dealt with inter alia questions such as

- How often is the space made use of and by whom?
- For how long (period of time) is the space made use of on a daily basis?
- Do the children of the surrounding area make use of the space?

The questioners and personal interview were conducted on a Wednesday (20 August 2014) and participating parties were asked to determine how often do they make use of the space and how long the time period is, making use of the space. Data was also collected through observation on a Thursday (21 August 2014), which was conducted on three different time levels, because of the different age groups of children making use of the space during different times of the day.

Time levels: Morning 8:30 – 10:30am; afternoon 12:30 – 2:30pm; late afternoon 4 – 6pm.

In general the feedback received in terms of the current usage of the space was negative. The open space is currently in a dreadful state, leaving it unappealing and unsafe for the use of children. The space has been taken over by vagrants, using the space as night shelter.

Table 6.8 illustrates the different participating parties and stakeholders that were interviewed, including their comments concerning the case study space in its current state and functions.

Table 6.8: Stakeholder analysis and views

PARTICIPATING PARTY	MAKE USE OF SPACE	COMMENT
Pre Primary School	No	The headmistress of the pre-primary school situated opposite the current open space was interviewed to obtain her opinion of the open space. It was established that the school would like to make use of the space as it is ideally situated (within walking distance). Unfortunately the children of the pre-primary school cannot make use of it, because of the lack of safety

		measures. Litter and broken glass bottles on the premises makes the area dangerous and unsafe for the use by children. The open space also does not provide any educational activities and is not fenced in and as a result is not used.
Local residents	No	Questioners were sent out to local residents in the surrounding area. The results showed that most of the residents who do have children would like to make use of the space, as they live in apartments with small, or no yards at all. Once again the reason for not making use of the space is mainly because of the safety aspect and lack of facilities such as toilets, benches and sufficient playground equipment. There is also no boundary fence to shield the open area from the street.
Working individuals in the area	No	Working individuals in the surrounding area were asked if they allow/ would allow their children to make use of the open space. The answer was an overwhelming no. The space is too unsafe and uninviting for children.
Bypassing individuals	No	Bypassing individuals were the final participating party to the research. The aim of including these individuals was to determine how they observe the open space and the general feeling in the space. The general feeling amongst these individuals was that the space create an uninviting feeling with a need for safety. The space is neither appealing, clean or safe.

Source: Own creation based on observation

6.3.1.1.2 Case study analysis

Table 6.9 evaluates the study area identified in Essenwood, Durban. The evaluation will be done in terms the concepts for child-friendly urban spaces as derived from the theoretical investigations.

Table 6.9: Evaluation of Essenwood public playground in term of concepts contributing to child-friendly urban green spaces

CONCEPT	CONTRIBUTION TO CHILD-FRIENDLY GREEN SPACES
Safety	There is a lack of safety, with the space not being separated from bypassing roads. (Cross reference to figure 8 & 9 in section 6.3)
Green space	The green element can be identified, but is unsatisfying and could be improved.
Access	Access to the space should be made smaller to improve the safety element.
Integration	The green space integrates well with its surrounding area, with potential to improve.
Traffic calming elements	The space is situated in a residential area with traffic calming elements.
Separation	No physical separation from the bypassing traffic. (Cross reference to figure 8 & 9 in section 6.3)
Different surfaces	No, the space is covered with grass. (Cross reference to figure 9 in section 6.3)
Sufficient benches in space	No.
Access and linkages	The space provides easy access for residents in the surrounding area, within walking distance.
Comfort and image	The space has an unsafe feeling with an unappealing image. (Cross reference to figure 9 in section 6.3)
Uses and activity	Activities provided in the space are weak, and are not used to its full potential. (Cross reference to figure 10 in section 6.3)
Sociability	No opportunity to interact with different people.

Source: own creation based on Carmona et al (2003); Dewar & Uytendogaardt (1995); McAllister (2008); Metropolitan Planning Council (2008); Prange (2014); UNICEF (2010); Wapperom (2010)

Based on the evaluation of the concept that enhanced child-friendly green spaces, the case study was found to be successful in terms of integration, traffic calming elements and access and linkages.

Gaps were identified in terms of safety, green space, access, separation, different surfaces, sufficient benches in space, comfort and image, uses and activities and sociability.

Accordingly an analysis was conducted to evaluate the park in terms of spatial strengths, weaknesses, opportunities and threats, as presented in the following table.

A SWOT analysis has been developed to confirm the strength, weaknesses, opportunities and threats of the open space, in its current condition.

Table 6.10: SWOT Analysis of identified study area: Essenwood, Durban.

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> • The site is large enough in size, ideally to accommodate children from different age groups. • The site is surrounded by a number of residential apartment blocks, with no backyards. 	<ul style="list-style-type: none"> • The site itself and objects found on it is neglected. • Uninviting feeling because of its appearance. • Unsafe feeling in general, where many people pass through the open area. • Insufficient benches. • Sociability aspect is weak.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • More child-friendly elements can be development on the site as it is large in size and suitable ideally for this specific purpose. • The site has the opportunity to attract a large number of children, when developed correctly, from the Essenwood residential areas as all the residents in the surrounding area of the park lives in flats or houses with small yards. • The open space for children can attract residents from a larger radius and not only within the boundaries. 	<ul style="list-style-type: none"> • The site is situated next to a main road with major traffic activity. • The space has been taken over by vagrants, using the space as night shelter.

Source: Own creation based on observation

From the SWOT analysis it is evident that the Essenwood case study in Durban is unsuccessful in terms of the weaknesses and threats, but has potential by examining its strengths and opportunities.

6.4 Conclusion

In comparison to international cases, it can be concluded that there is minimal provision made for green space planning in South Africa, and even less for the provision of child-friendly spaces in urban areas. International approaches and examples could guide and influence the local approach to planning in South Africa and aim to provide guidelines for the development and implementation of green spaces, more specifically child-friendly spaces. As identified in the international case studies, the key to success is to include public participation methods, ensuring that the public's needs are met. Neighbourhoods should be developed to become more child-friendly, traffic calming elements, safety, open green spaces, and such can only be achieved by observing individual neighbourhoods and identifying where there is room for improvement of development of child-friendly green spaces.

Chapter 7 aims to provide a conclusion to the study by identifying best practical examples of international case studies and the gaps identified in the local case study. Included in Chapter 7 are the answers to the research questions identified in Chapter 1.

CHAPTER 7: CONCLUSION

7.1 Introduction

The following Chapter aims to answer the research questions identified in Chapter 1, based on the theoretical and empirical investigation conducted in this research. Accordingly the 4 research questions will be answered individually.

1. What are the benefits of planning and providing green spaces and child-friendly spaces within the urban environment?

The provision of green spaces in urban areas has a positive impact on the inhabitants of the area, as well as the surrounding urban environment (cross reference to Chapter 2). The main benefit affecting the urban area is the lowering in temperatures by reducing heat build-ups in urban areas. The improvement of air quality, by removing pollutants from the air is also a main benefit for providing green spaces in the urban environment (cross reference to Chapter 2).

The benefits that green spaces show go far beyond the observable (cross reference to Chapter 2).

Child-friendly spaces hold similar benefits that it provides to an urban area as green spaces. But the development of child-friendly green spaces and the benefits that it provides goes far beyond the idea of improving the urban environment (cross reference to Chapter 3). These spaces have a direct positive impact on the children in the urban areas, providing for their needs (cross reference to Chapter 3). By incorporating these spaces, the quality of life of the children in the cities are improved, as they will have access to unpolluted environments and enjoy the outdoor natural environment in the area of their homes.

Healthier lifestyles are developed for the children by having access to safe and fun interactive spaces. The activities provided, through these child-friendly green spaces, improve children's social interactive skills and ultimately result in them being active outdoors and enjoying the natural environments (cross reference to Chapter 3).

2. Why are the child-friendly spaces, described in the international case studies, successful and which best-practice examples can be identified and applied to the local context in South Africa?

There is minimal provision made for green space planning in South Africa, and even less for the provision of child-friendly spaces in urban areas. Neighbourhoods should be developed to become more child-friendly, traffic calming elements, safety, open green spaces, and such can

only be achieved by observing individual neighbourhoods and identifying where there is room for improvement of development of child-friendly green spaces (cross reference to Chapter 6).

Table 7.1 illustrates the theoretical concepts identified for the creation of child-friendly green spaces, along with the identified gaps of the case study area situated in Essenwood, Durban. Best practice approaches derived from the international cases were identified to address the local gaps and contribute to the approach to improve the current study area in terms of child-friendliness.

Table 7.1: Gaps analysis of local approach

THEORETICAL CONCEPTS IDENTIFIED FOR CREATION OF CHILD-FRIENDLY GREEN SPACES	GAP	BEST PRACTICE APPROACHES TO CONTRIBUTE TO LOCAL APPROACH
Safety	Yes	Fencing or a separation element like trees (Mullerpier public playground) should be incorporated around the open space.
Green space	Yes	The green element can be identified, but should be improved. Development of qualitative spaces should take place, contributing to the “green” aspect of the city, improving sustainability as seen in both international case studies.
Access	Yes	Access to the space should be limited as observed in both international case studies.
Integration	No	
Separation	Yes	The space should be separated from its surroundings, but at the same time be integrated and not fragmented from the neighboring area. Kadidjiny park is well integrated, but separation is visible, by the fence that is provided around the park. It should be a visible play space.
Different surfaces	Yes	The public playground identified in Rotterdam shows a great example of the usage of different surfaces and colors in a child-friendly

		space, making it more attractive.
Sufficient benches in space	Yes	Kadidjiny park shows how sufficient benches in a child-friendly park can make the space feel more welcoming, for children and adults.
Access and linkages	Yes	The space should provide easy access, but not be open entirely. Mullerpier playground and Kadidjiny park both provide easy access, but have a fence around the area to improve safety.
Comfort and image	Yes	Sufficient benches should be provided in the space as seen in the Mullerpier public playground. Different surfaces should be incorporated, as observed in the Kadidjiny park, resulting in improving the image of the park.
Uses and activities	Yes	Activities in the space should attract the children to make use of the spaces, therefore a variety of activities should be provided for them, as seen in Rotterdam and Melville. The activities are diverse and stimulated the developing of children of all ages.
Sociability	Yes	Opportunity for interacting with different children should be provided. Mullerpier public playground provides these opportunities, as it serves as an open green space for the public, similar to the identified space in Essenwood, where children of all ages have access to the park and interact with one another.

Source: own creation based on Carmona et al (2003); Commissioner for Children and Young People (2011); Dewar & Uytendogaardt (1995); McAllister (2008); Metropolitan Planning Council (2008); Prange (2014); UNICEF (2010); Van den Berg (2013); Wapperom (2010)

The majority of the different policies and legislations identified in Chapter 5, illustrates results of not supporting the development of child-friendly green spaces in South Africa or specifically in the area of the case study (cross reference to Chapter 5). The location characteristics and policy and legislative frameworks do however provide opportunities for the planning and development of such spaces.

3. Does planning in urban areas in the Republic of South Africa and more specifically in the area of this case study, support the development of child-friendly spaces?

The two identified international case studies both have excellent developing strategies for planning for child-friendly green spaces (cross reference to Chapter 6).

Best-practice examples were identified and can be applied to the local context in South Africa (cross reference to Chapter 7).

Table 7.2 illustrates a summary of the theoretical concepts identified for the creation of child-friendly green spaces, along with the best practices identified from the two international case studies.

Table 7.2: International best practices identified for the creation of child-friendly green spaces

THEORETICAL CONCEPTS IDENTIFIED FOR CREATION OF CHILD-FRIENDLY GREEN SPACES	KADIDJINY PARK IN MELVILLE, AUSTRALIA	PUBLIC PLAYGROUND IN ROTTERDAM, NETHERLANDS
Safety	Fencing	Location and fencing
Green space	Planting of trees	Surrounded by trees
Access	Location (central)	Central location for school and surrounding residents
Integration	Integrates with its surroundings	Developed separate from its surrounding, integrates well with school
Traffic calming elements	Sufficient (speed bumps)	Sufficient (speed bumps)
Separation	Positioning	Location
Different surfaces	Textures	Colour and texture
Sufficient benches in space	Sufficient	Sufficient
	Good location, links to the	Visually connected well with its

Access and linkages	surrounding area	surroundings
Comfort and image	Colourful with picnic spots	Colourful, sufficient activities for children
Uses and activity	Diverse, needs of all ages are met	Variety of activities
Sociability	Activities provided	Numerous children

Source: own creation based on Carmona et al (2003); Commissioner for Children and Young People (2011); Dewar & Uytendogaardt (1995); McAllister (2008); Metropolitan Planning Council (2008); UNICEF (2010); Van den Berg (2013); Wapperom (2010)

Based on Table 7.2 it can be concluded, that the two identified international case studies do meet the requirements, according to theory, discussed in Chapter 4.

4. Which urban design tools can be incorporated within urban green spaces, in order to improve the planning and development of child-friendly green spaces?

Different urban design tools and concepts were identified and described in Chapter 4. These different tools and concepts can be incorporated in urban green spaces to improve the child-friendly element in the open green space (cross reference to Chapter 4).

Urban design tool and concepts identified: (cross reference to Chapter 4)

- Safety
- Green space
- Access
- Integration
- Sociability
- Separation
- Different surfaces
- Sufficient benches in space
- Access and linkages
- Comfort and image
- Uses and activity
- Traffic calming elements

7.2 Conclusion

Planning in urban areas in South Africa does address the provision and development of green spaces. Unfortunately there are not enough provision made for the development of child-friendly

green spaces in urban areas, which contribute to their skill development and natural abilities. Policies and legislations should be amended to support open green spaces that are specifically designed for children.

Chapter 8 aims to conclude this research by providing recommendations to improve green spaces and child-friendly spaces in South Africa. The recommendations are made by using international best examples and adopting it to the local context and reality.

CHAPTER 8: RECOMMENDATIONS AND SPATIAL PLANNING PROPOSALS

8.1 Introduction

Chapter 8 aims to provide recommendations for national approach to planning for child-friendly green spaces, based on the local case study.

8.2 Macro environmental recommendations for the local case study

On a macro scale recommendations were made to improve the safety around the identified space within the local case study. These safety elements will contribute to improve the child-friendly component in and around the space identified in the local case study.

Figure 8.1 illustrates the current bypassing traffic routes (black lines). Two additional stop streets (red dots) and four additional speed bumps (white dots), traffic calming elements (cross reference to Chapter 4, section 4.2), will be developed around the space as illustrated. This will ensure optimal safety (cross reference to Chapter 4, section 4.1) for children moving in and around the child-friendly green space developed for them to make use of.

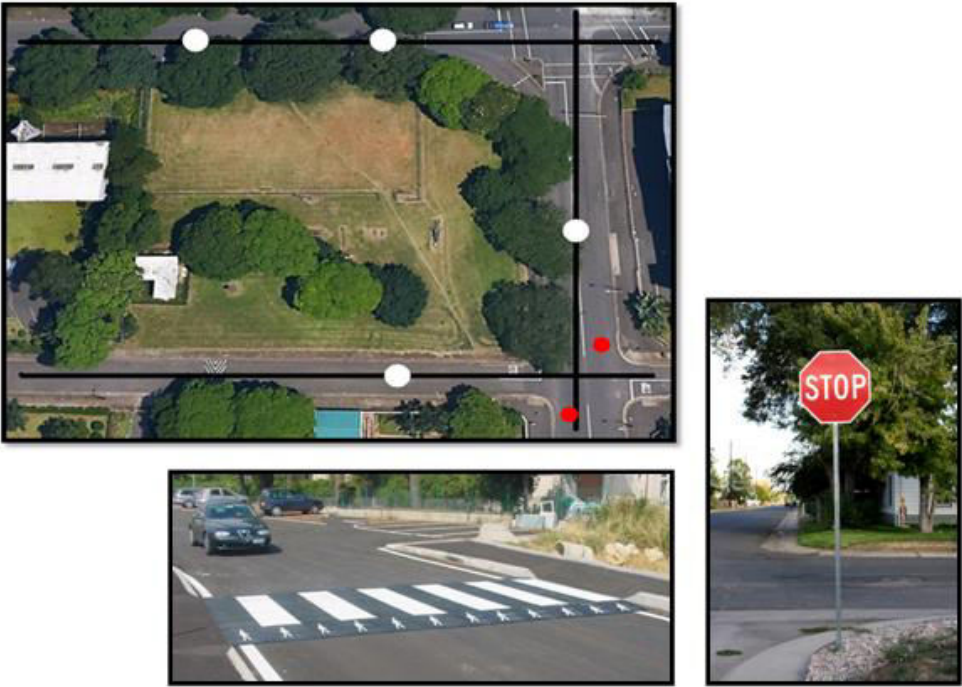


Figure 8.1: Planning of traffic calming elements around the current identified case study space

Source: Own creation based on (Google Earth 7.1.1. 2013)

Figure 8.2 illustrates the inclusion of a separation element (cross reference to Chapter 4, section 4.2), in terms of fencing should be incorporated. This will ensure that the child-friendly space will be separated from its surrounding area and bypassing traffic, improving the safety element (cross reference to Chapter 4, section 4.1) around the green space. A fence will be incorporated to enhance safety. A hedge will be included on the inside of the park to enhance and contribute to the green element of the park. Trees around the space can be identified, as seen in Figure 8.2, but is however not adequate enough to separate the space from its surroundings.

The green element (cross reference to Chapter 4, section 4.1) of the space can be identified in Figure 8.1 and 8.2.



Figure 8.2: Incorporation of separation elements in the current identified open space
Source: Authors own

8.3 Micro environmental recommendations for the local case study

The micro environment recommendations are made in terms of the different functions that will be provided in the open space identified in the local case study. It is important that the space has an inviting feeling, provides different activities for children of different ages and where interaction can take place, improving sociability.

In Figure 8.3 the current identified space is illustrated with the bypassing traffic routes. The proposed layout of how this space can be developed to ensure a child-friendly environment for the children of the surrounding area is visually illustrated in Figure 8.3. All the current child activity structures on the identified space will be removed. In Figure 8.3 the different activities that will be incorporated on the space can be identified by the different numbers as illustrated.

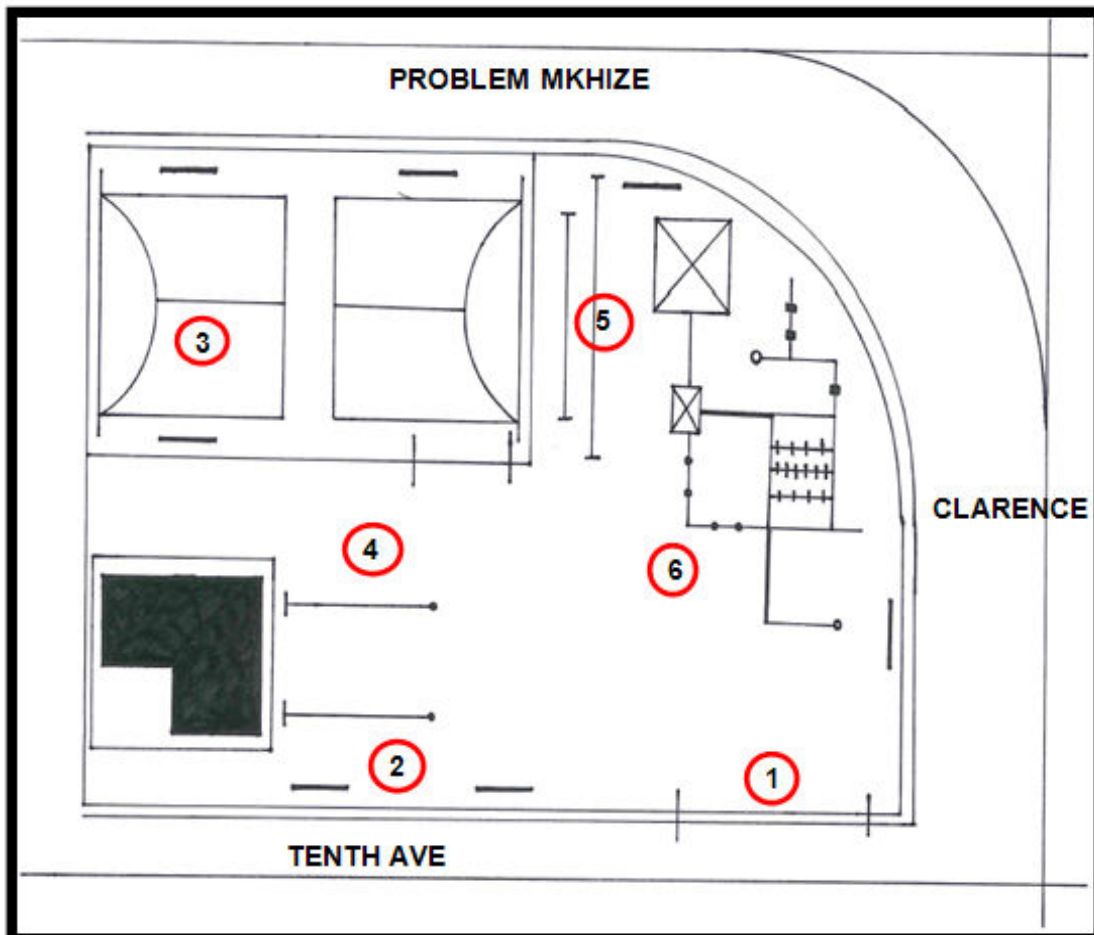


Figure 8.3: Activities to be developed on the identified space

Source: Authors own

1. Entrance to the child-friendly public park
2. Incorporation of benches
3. Introducing playing courts
4. Providing skipping ropes
5. Introducing a balancing pole
6. Providing a jungle gym

1. Entrance to the child-friendly public park

A fence can be developed around the park, providing only one entrance to the public space. Safety is the primary concern, where the safety aspect of children using this space should be of the highest quality. A gate will be developed at the only entrance leading to this child-friendly public park, with an additional turning gate. With only one entrance leading to the park, access (cross reference to Chapter 4, section 4.1) is limited, once again contributing to the safety element of the public green space.

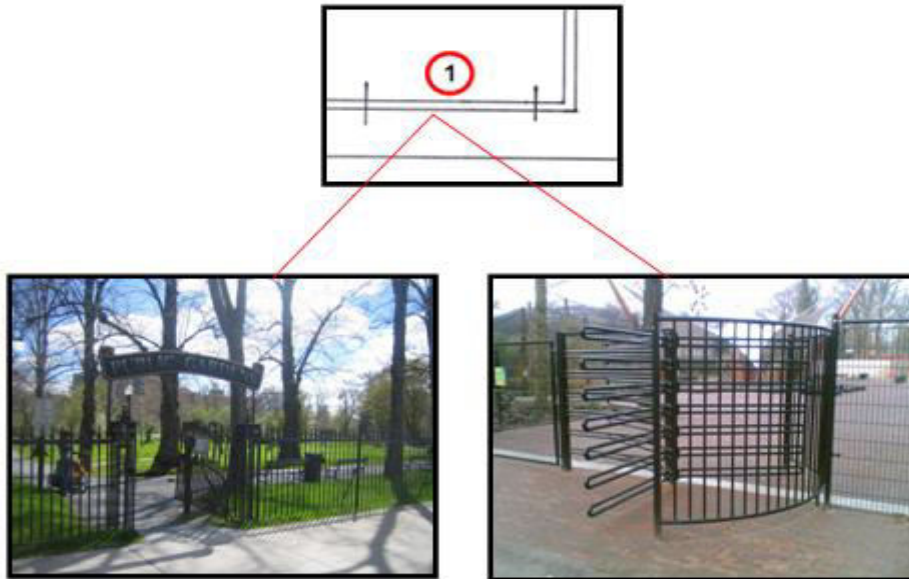


Figure 8.4: Entrance to the child-friendly park

Source: Authors own

2. Incorporation of benches

Seven benches will be incorporated in different positions over the entire space. It is important for the public space to supply sufficient benches (cross reference to Chapter 4, section 4.2), providing opportunities for social interaction (cross reference to Chapter 4, section 4.3). With benches provided in the space the comfort and image (cross reference to Chapter 4, section 4.3) of the child-friendly park improves. For the park to be successful it is of utmost importance to have an inviting image and ensure safety.

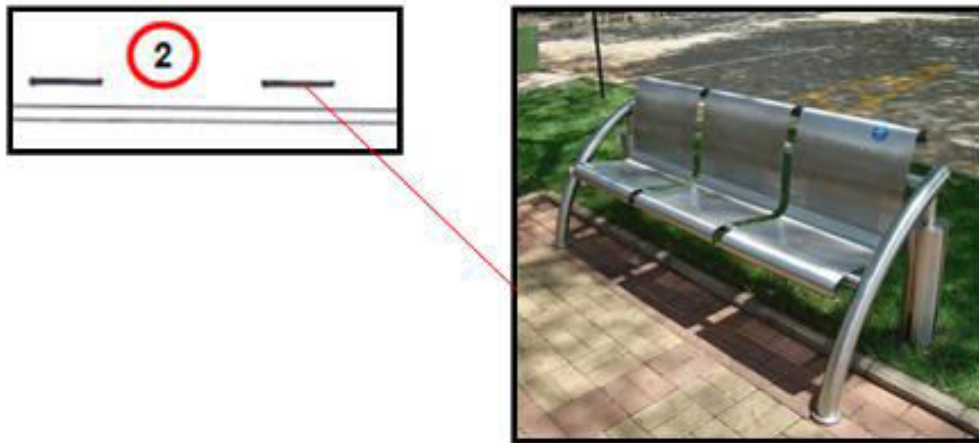


Figure 8.5: Benches
Source: Authors own

3. Introducing playing courts

Two courts will be developed in the child-friendly space as illustrated (number 3). The courts provide variety to the park, ensuring different activities (cross reference to chapter 4, section 4.3) for children of different ages. The courts are covered with different coloured surfaces (cross reference to Chapter 4, section 4.2), enhancing the child-friendly space to be more appealing to the eye.

Different activities are provided for the children on these courts. Nets to throw balls through are incorporated for children to improve their eye hand coordination, fine motor activities, (cross reference to Chapter 3, section 3.3). These fine motor activities improve children's skill development impacting skilled activities such as completing a puzzle or making use of scissors.

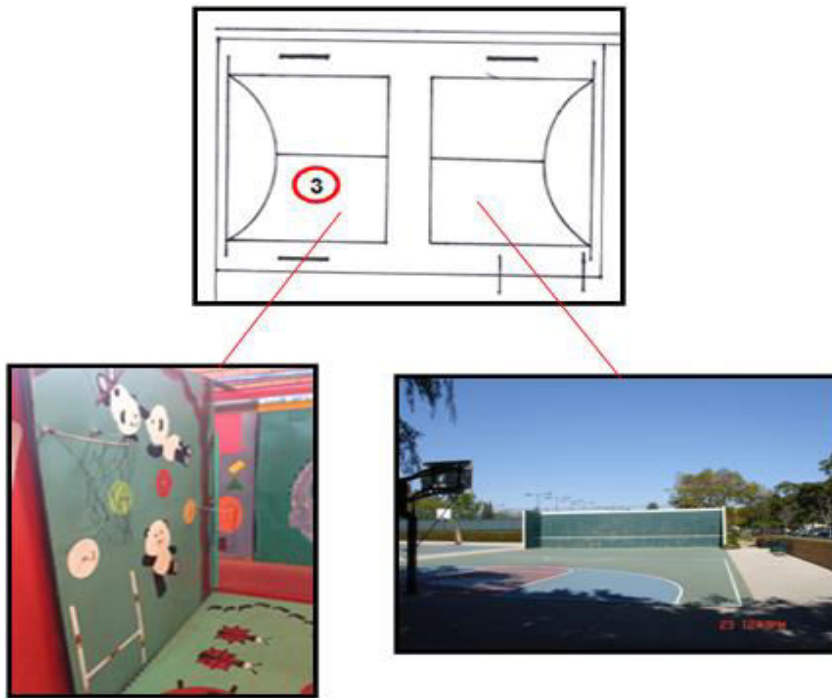


Figure 8.6: Playing courts
Source: Authors own

4. Providing skipping ropes

Two large skipping ropes tied to a pole on the one end will be provided in the park. This activity ensures sociability (cross reference to Chapter 4, section 4.3) and impacts their concentration and coordination skills (cross reference to Chapter 3, section 3.3).

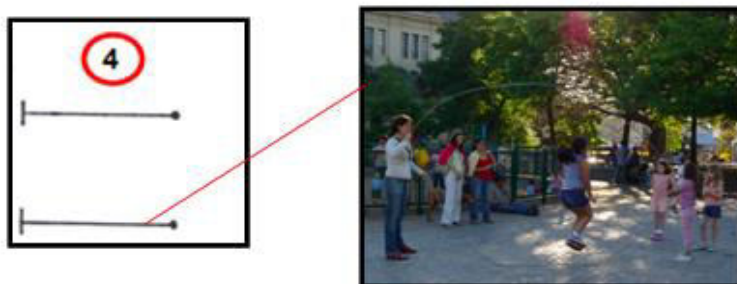


Figure 8.7: Skipping ropes
Source: Authors own

5. Introducing a balancing pole

Adding to the variety of activities provided in the park is balancing poles. One large and one small balancing pole will be developed. These gross motor activities are equally important as the fine motor activities (cross reference to Chapter 3, section 3.3) provided in the child-friendly green space. The gross motor activities challenge children in their concentration ability and improve their skills to follow instructions.



Figure 8.8: Balancing pole

Source: Authors own

6. Providing a jungle gym

A large colourful jungle gym will be developed in the park. The jungle gym provides a variety of activities for children of different ages, enhancing children's ability to socialize. The jungle gym offers a combination of fine and gross motor activities, catering for the different needs of all the different groups. The jungle gym aims to challenge the children in improving their concentration, coordination and hand & eye movements.



Figure 8.9: Jungle gym
Source: Authors own

8.4 Policies and legislation that can be adapted for specific child-friendly spaces

Different policies and legislations could be adapted to support child-friendly green spaces in urban areas. The majority of the policies and legislations do support open/ public green spaces and strive to improve sustainability by improving the green element in urban areas. Unfortunately child-friendly green space development is not supported as much as it is necessary in these specific policies and legislations.

Table 8.1: Policies and legislation to support local approach to planning of child-friendly spaces

POLICY/ LEGESLATION	SUPPORT CHILD-FRIENDLY SPACES	BE ADDAPTED TO SUPPORT CHILD-FRIENDLY SPACES
IDENTIFICATION	✓ / x	✓ / x
National Spatial Development Perspective: NSDP (2006)	x	✓ Amend to focussing on providing green spaces/ child-friendly green spaces in the urban area, which would contribute to sustainable development
National Urban Development Framework: NUDF (2009)	x	✓ Amend to focus on providing urban green spaces, ensuring they are safe and all residents have equal access
Integrated Development Framework (IDP) eThekweni Municipality (2013/2014)	x	✓ Amend to support the provision of more open and child-friendly spaces to improve the quality of life for all residents
Spatial Planning and Land Use Managing Act: SPLUMA (2012)	x	✓ Amend to include the provision of urban green spaces for children, contributing to the green element of the region
Durban Local Agenda 21 (2002)	x	✓ Amend to provide child-friendly spaces to have easy access, contributing to the comfort and image of the surrounding area
UNICEF (Unite for children): South Africa Annual Report (2012)	✓	x
Children's Act 38 of 2005	✓	x
National Sport and Recreation Act 110 of 1998	x	✓ Amend to support child-friendly

		spaces for all children, supporting sociability, activeness and integration
Constitution of the Republic of South Africa 108 of 1996	✓	x
Spatial Development Framework (SDF) Ethekewini Municipality (2013)	x	✓ Amend to support the provision of more open and child-friendly spaces to improve the quality of life for all residents
White Paper on Spatial Planning and Land Use Management (2001)	x	✓ Amend to include the provision of urban green spaces for children, contributing to the green element of the region
United Nations Convention on the rights of the child (2008)	✓	x
United Nations Convention on the rights of persons with disabilities (2008)	x	✓ Amend to support child-friendly spaces for all children, supporting sociability and integration

Source: Own creation based on Department of Cooperative Governance and Traditional Affairs and The Presidency and in partnership with the South African Cities Network (2009); Diederichs & Roberts (2002); Ed, Young & U.S. fund for UNICEF Education Department (2008); eThekwini. City Council (2013); eThekwini Municipality (2013); Ministry of Agriculture and Land Affairs: Republic of South Africa (2001); Minister of Rural Development and Land Reform: Republic of South Africa (2012); South Africa (1996); South Africa (1998); South Africa (2005); The Presidency Republic of South Africa (2006); UNICEF (2012); United Nations (2008)

8.5 Concluding remarks

The recommendations made on a macro and micro environment scale in Chapter 8 are to improve the current open space and to enhance the planning and development of a child-friendly urban green space. These recommendations can be used for planning similar public spaces in all regions of South Africa. The main priority is to improve the safety element of the open space and secondly to improve the child-friendly element. The recommendations are set to provide an inviting, green and safe child-friendly public park for the community to enjoy, but specifically for the children to improve their physical and skill development as they enjoy and use the space.

Table 8.2 illustrates all the concepts (cross reference to Chapter 4) that should be visible in a successful child-friendly space and at the same time contribute to the sustainability of the environment. These important concepts are formulated to serve as a checklist and guideline for future planning and development of child-friendly urban green spaces and at the same time support planning approaches in South Africa.

Table 8.2: Checklist for the planning of child-friendly urban green spaces

CONCEPTS DERIVED FROM THEORETICAL INVESTIGATION	EXAMPLE AND BEST PRACTICE	✓ / ✗
SAFETY	Fencing and location	
GREEN SPACE	Planting of trees	
ACCESS	Location (central for schools and residents)	
INTEGRATION	Integrates with its surroundings	
TRAFFIC CALMING ELEMENTS	Sufficient (speed bumps)	
SEPERATION	Positioning, location	
DIFFERENT SURFACES	Textures and colour	
SUFFICIENT BENCHES	Sufficient	
ACCESS AND LINKAGES	Good location, visually links to the surrounding area	
COMFORT AND IMAGE	Colourful with picnic spots	
USES & ACTIVITY	Diverse, needs of all ages are met with a variety of activities	
SOCIABILITY	Activities provided	

Source: Own creation base on Carmona et al (2003); Dewar & Uytendogaardt (1995); McAllister (2008); Metropolitan Planning Council (2008); UNICEF (2010)

The concepts should form an integral part of spatial planning approaches in order to ensure the successful planning and development of child-friendly urban green spaces for the local South African environment.

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ANNEXURE 1

Regularity usage of open space (Erf 1153/1154)

NO:

1. Do u make use of the public open space situated on the corner of Clarence Road and Tenth Avenue (Essenwood)?

YES

NO

2. How often do u make use of it?

Monthly

Weekly

Daily

3. For how long?

<1 hours

1-2 hours

>2 hours

4. For what purpose do u make use of it? _____

5. Do your children make use of this space? How old are they? _____

YES

NO

ANNEXURE 2

Public participation of the chosen case study situated in Essenwood, Durban.

Date: Thursday 21 August 2014

Time: 8:30 – 10:30am

DESCRIPTION	QUANTITY
Age range of children	
How many make use of the activities provided in the space	
Total number of children making use of the space during this time frame	

Time: 12:30 – 2:30pm

DESCRIPTION	QUANTITY
Age range of children	
How many make use of the activities provided in the space	
Total number of children making use of the space during this time frame	

Time: 4 – 6pm

DESCRIPTION	QUANTITY
Age range of children	
How many make use of the activities provided in the space	
Total number of children making use of the space during this time frame	