

**CRIME PREVENTION THROUGH
SPATIAL PLANNING**
THE CASE OF HARARE, KHAYELITSHA

RYAN NICHOLAS FESTER

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Crime Prevention through Spatial Planning
The Case of Harare, Khayelitsha

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Dissertation presented as partial fulfilment of the degree of Masters of City and Regional
Planning

In the School of Architecture, Planning and Geomatics

University of Cape Town

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ABSTRACT

Defensible space aims to provide residents with the power to control their residential environment, so that they will defend it against any threat. While the literature on defensible space is prolific, and while its principles are still being adapted for different contexts across the world, critiques of defensible space indicate that its validity for different contexts is questionable and necessitates further exploration. This paper explores how the implementation of defensible space principles in the Violence Prevention through Urban Upgrading (VPUU) safe node area of Harare, Khayelitsha has reduced crime rates and anti-social behaviour. Furthermore, it also aims to provide planners with knowledge regarding VPUU's prescription to defensible space principles. The research was conducted primarily through the use of the case study method, and a critical discourse analysis of VPUU's urban design principles. Harare's crime statistics were analysed through the use of mixed methods, in order to gain an understanding of how crime has been affected in the area. Interviews with locals from Harare provided insight on how residents perceived safety in their area after VPUU's intervention. Observations were also made in order to understand how the intervention area functions and how people use it. Cognitive mapping was done with primary school children to ascertain their perceptions of safety in Harare. The research findings revealed that the implementation of defensible space principles in Harare has improved the quality of public space, but it has not reduced crime rates or anti-social behaviour. Moreover, the main finding revealed that crime was not solely a result of design flaws, but rather as a result of the social conditions in the neighbourhood. As a result, the main recommendation was that crime prevention strategies should not focus solely on design but should address the social conditions present. The researcher argues that the implementation of defensible space principles should be context-driven, because what works in one context will not necessarily work in another.

Table of Contents

List of Figures	viii		
List of Tables	ix		
List of Abbreviations/acronyms	x		
.....	xi		
Chapter 1: Introduction	1		
1.1. The purpose of this chapter	1		
1.2. The Background to the Study.....	1		
1.3. Identifying the Problem under Study	2		
.....	4		
1.3.1. <i>Justifications for undertaking this Research in Khayelitsha</i>	5		
1.4. Establishing the Aim of the Study.....	7		
1.5. Establishing the Main Research Question and the Research Methods	7		
1.5.1. <i>Assessment Criteria</i>	8		
1.6. The Structure of the Dissertation.....	10		
.....	15		
Chapter 2: Literature review	16		
2.1. Introduction.....	16		
2.2. Defensible Space	18		
2.2.1 The Problem	20		
2.2.2 The Solution.....	22		
2.2.3 Offensible Space.....	28		
2.2.4 Criticisms of Defensible Space.....	29		
2.2.5 Jane Jacobs - The Use of Sidewalks for Safety	32		
2.3 Crime Prevention through Environmental Design.....	39		
2.3.1 Background	39		
2.3.2 What is Crime Prevention through Environmental Design (CPTED)?.....	40		
2.3.3 The Principles of CPTED.....	42		
2.3.4. Crime Displacement	44		
2.3.4 CPTED for South Africa.....	45		
2.3.5 Approach.....	48		
2.4 Situational Crime Prevention.....	50		
2.4.1 The Twelve Techniques of Situational Crime Prevention	52		
2.4.2 Criticisms of Situational Crime Prevention	54		
2.5. Summary of Crime Prevention Theories.....	54		
2.6 Conclusion.....	56		
.....	58		
Chapter 3: Research Methods and Techniques	59		
3.1. Introduction.....	59		
3.2. Research Methods.....	59		
3.2.1 Case Study Method	59		
3.2.2 Mixed method research	63		
3.2.3 Critical Discourse Analysis	65		
3.3. Research techniques	67		
3.3.1 Interviewing	67		
3.3.2 Non-Participant Observation.....	69		

3.3.3 Cognitive Mapping	71	4.8. Criticisms of Crime Prevention through Built Environment	120
3.4. Ethical Concerns	73	4.8.1. Crime Displacement	120
3.5. Data Analysis	73	4.8.2. Social Conditions.....	120
3.6 Conclusion.....	74	4.8.3 Victimization	121
.....	75	4.8.4 The Discourse	122
Chapter 4: Research Findings and Analysis.....	76	4.8.5. Universalistic Assumptions	122
4.1. Introduction.....	76	4.8.6. Useful for Certain Crimes	122
4.2. VPUU	76	4.9. Conclusion	123
4.3. VPUU Spatial Interventions	78	127
4.3.1. Package of Plans Approach	78	Chapter 5: Recommendations and Conclusions	128
4.3.2. The Urban Design Concept Plan.....	79	5.1. INTRODUCTION	128
4.3.3. Precinct Plans	81	5.2. ANSWER TO THE MAIN RESEARCH QUESTION	128
4.3.4. Project Plans.....	83	5.3. RECOMMENDATIONS	130
4.3.5. Building Plans	85	5.3.1. Recommendations for Implementation	131
4.4. Crime Prevention through Spatial Planning and Design.....	85	5.3.2. Recommendations for Harare.....	135
4.4.1. Territoriality	86	5.4 LIMITATIONS TO THE STUDY.....	139
4.4.2. Surveillance and Visibility.....	94	5.5. REFLECTIONS.....	140
4.4.3. Image and Milieu.....	101	5.6. CONCLUSION.....	142
4.4.4. Target Hardening and Access Control.....	104	Appendix A	151
4.4.5. Defined Access and Safe Movement.....	105	References.....	154
4.4.6. Maintenance and Management.....	107	Image Reference List	158
4.5. Offensible Space	108		
4.6. Cognitive Mapping.....	108		
4.7. Analysis of crime statistics.....	116		

LIST OF FIGURES

Figure 1.1	Harare, Khayelitsha - the case study area	4	Figure 4.19	Long Pedestrian Route	106
Figure 4.1	Three-Tier Approach	77	Figure 4.20	Location of Luleka Primary School in Relation to Harare Square	110
Figure 4.2	Package of Plans Diagram	78	Figure 4.21	Cognitive Map indicating perceptions of safety in Harare, Part I	112
Figure 4.3	Harare SNA Concept Plan	80	Figure 4.22	Cognitive Map Indicating Perceptions of Safety in Harare, Part II	113
Figure 4.4	Recreational Precinct Plan	82	Figure 4.23	Student Map of Crime Hotspots in Harare	115
Figure 4.5	Conceptual Diagram of the Recreational Precinct	83	Figure 4.24	Murder Rate for Harare 2004-2014	116
Figure 4.6	Project Plan for Recreational Precinct	84	Figure 4.25	Sexual Crimes for Harare 2004-2014	116
Figure 4.7	Residents' Maps of Hotspots	88	Figure 4.26	Common Assault for Harare 2004-2014	117
Figure 4.8	Crime and Violence Routes 2008	88	Figure 4.27	Robbery with Aggravating Circumstances for Harare 2004-2014	117
Figure 4.9	Active Boxes in Harare Recreational Precinct	90	Figure 4.28	Common Robbery for Harare 2004-2014	118
Figure 4.10	No Demarcation between Public and Private Spaces in Harare Square	91	Figure 4.29	Burglary at Residential Premises for Harare 2004-2014	119
Figure 4.11	Clear Demarcation between Public and Private Space in Harare Square	92	Figure 4.30	Drug-Related Crime for Harare 2004-2014	119
Figure 4.12	Conceptual Relationship between Precincts	98			
Figure 4.13	Harare Recreational Precinct	98			
Figure 4.14	Site Layout of Harare Square Provides Natural Surveillance Opportunities	99			
Figure 4.15	Live/Work Units	100			
Figure 4.16	Recreational Precinct before VPUU Intervention	102			
Figure 4.17	Recreational Precinct after VPUU Intervention	102			
Figure 4.18	Decaying Residential Area Adjacent to VPUU Space	103			

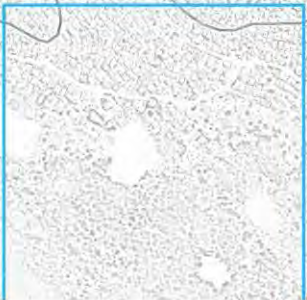
LIST OF TABLES

Table 1.1	Critically Exploring the Idea of Crime Prevention and Design	11
Table 2.1	A Summary of the Subsidiary Research Questions	57
Table 4.1	A summary of the Research Findings	124
Table 5.1	A summary of the Recommendations	143

LIST OF ABBREVIATIONS/ACRONYMS

		n.d	No Date
CBD	Central Business District	No.	Number
CCTV	Closed Circuit Television	NGO	Non-Government Organisation
CoCT	City of Cape Town	SNA	Safe Node Area
CPTED	Crime prevention through Environmental Design	SAPS	South African Police Service
CSIR	Council for Scientific and Industrial Research	SDF	Spatial Development Framework
FIFA	Fédération Internationale de Football Association	UN	United Nations
		U.S.A	United States of America
IDP	Integrated Development Plan	VPUU	Violence Prevention through Urban Upgrading
KfW	Kreditanstalt für Wiederaufbau		
M & E	Monitoring and Evaluation		

CHAPTER 1: INTRODUCTION



CHAPTER 1: INTRODUCTION

1.1. The purpose of this chapter

The purpose of this chapter is to introduce the problem under investigation, as well as the main research question of the study. Before doing so, the problem under investigation needs to be contextualised. This contextualisation takes place in section 1.2, which, in turn, sets-up the overarching aim of my research. Thereafter, the main research question is presented, and assessment criteria used to undertake this study are briefly discussed. Assessment criteria are derived from an in-depth and critical review of the relevant literature. Assessment criteria are also problematized for their context-specific validity, as the research findings presented in Chapter 4 demonstrate. Before turning to a review of the literature in Chapter 2, the last section of this chapter outlines the contents of the remaining chapters of the dissertation.

1.2. The Background to the Study

During the late 1960s, crime reduction measures became a major concern for housing authorities in the United States of America (USA) as a result of significant increases in urban crime rates in cities across the USA (Newman, 1972). At the time, urban research suggested that physical environments contributed to urban pathology, social-ills and anti-social behaviour, and the Safe Streets Act of 1968 was promulgated to reduce crime (Newman, 1972). Research on how environmental design affected behaviour and influenced crime rates was birthed out of the Safe Streets Act of 1968, and this led to the concept of 'defensible space.' In essence, 'defensible space' is about giving residents control over their residential environment in the hopes that they will defend it against any threat (Cozens, Hiller & Prescott, 2001). While the literature on defensible space is prolific, and while its principles are still being adapted for different contexts across the world, critiques of defensible space (which are examined in Chapter 2) indicate that its validity for different contexts is questionable and necessitates further exploration. One of the main critiques is that defensible

space places a strong focus on physical factors influencing crime, but it is weak on the diverse social and economic factors at play in different parts of the world (Cozens, Hillier & Prescott, 2001). In addition, Cozens, Hillier & Prescott (2001) cite Merry (1981) study on crime in the USA which demonstrates that half of all robberies occurred in neighbourhoods where Newman's defensible space principles were explicitly implemented. Critiques such as these set-up the central problem under investigation in this study.

1.3. Identifying the Problem under Study

Through the works of Newman (1972), Schneider & Kitchen (2002), Landman & Liebermann (2005; 1999) and others, there is a longstanding, but possibly a problematic, argument that the physical design of the built environment influences criminal activity and how residents behave in specific contexts. Defensible space, a term devised by Oscar Newman (1972), is a "living residential environment" which is employed by residents for the "enhancement of their lives" while providing security for their neighbours and families (Newman, 1972:3). The concept of

defensible space is imported, adapted and promoted for the South African context by scholars like Karina Landman and others (Landman & Liebermann, 2005; 1999). Its main goal is the prevention of crime and anti-social behaviour whereby residents adopt "extremely potent territorial attitudes and policing measures" in their living space which acts as "strong deterrents" to potential criminal activity (Newman, 1972:4). However, much of this work is grounded in environmental psychology and environmental-behaviour studies (Moore, 1979), which, in turn, tend to be influenced by structuralist understandings of 'the world'. As such, much of this work tends to be deterministic in its analysis of, and response to, the built environment. It is this structural determinism that necessitates a more critical, deeper and nuanced assessment for the purpose of challenging *ideas* of spatial determinism.

Yet, and as we already know, the police force in South Africa is having difficulty in the fight against crime, and the works of Landman & Liebermann (2005) and the Council for Scientific and Industrial Research (CSIR) (2000) suggest that in order to win the

battle over crime and anti-social behaviour, defensible space interventions are needed. The Violence Prevention through Urban Upgrading (VPUU) is an example of a local, Cape Town-based, non-government organisation (NGO) that aims to improve the quality of life through spatial planning and design, while also aiming to reduce the rate of crime and anti-social behaviour in the public domain. VPUU's design and spatial intervention principles resonate with those of defensible space, which include: surveillance and visibility; territoriality; image and aesthetics; defined access and movement; physical barriers; and maintenance and management (www.capetown.gov.za, 2015). While VPUU has been successful in implementing urban regeneration initiatives, and in instilling some sense of pride into the local community of Khayelitsha, many

activists and scholars remain sceptical of VPUU's spatial deterministic approach to crime prevention. This has brought about the need to investigate VPUU's crime prevention approach—as well as the spatial outcomes of this approach—via a critical assessment of an implemented project, namely Harare, Khayelitsha (see figure 1.1).

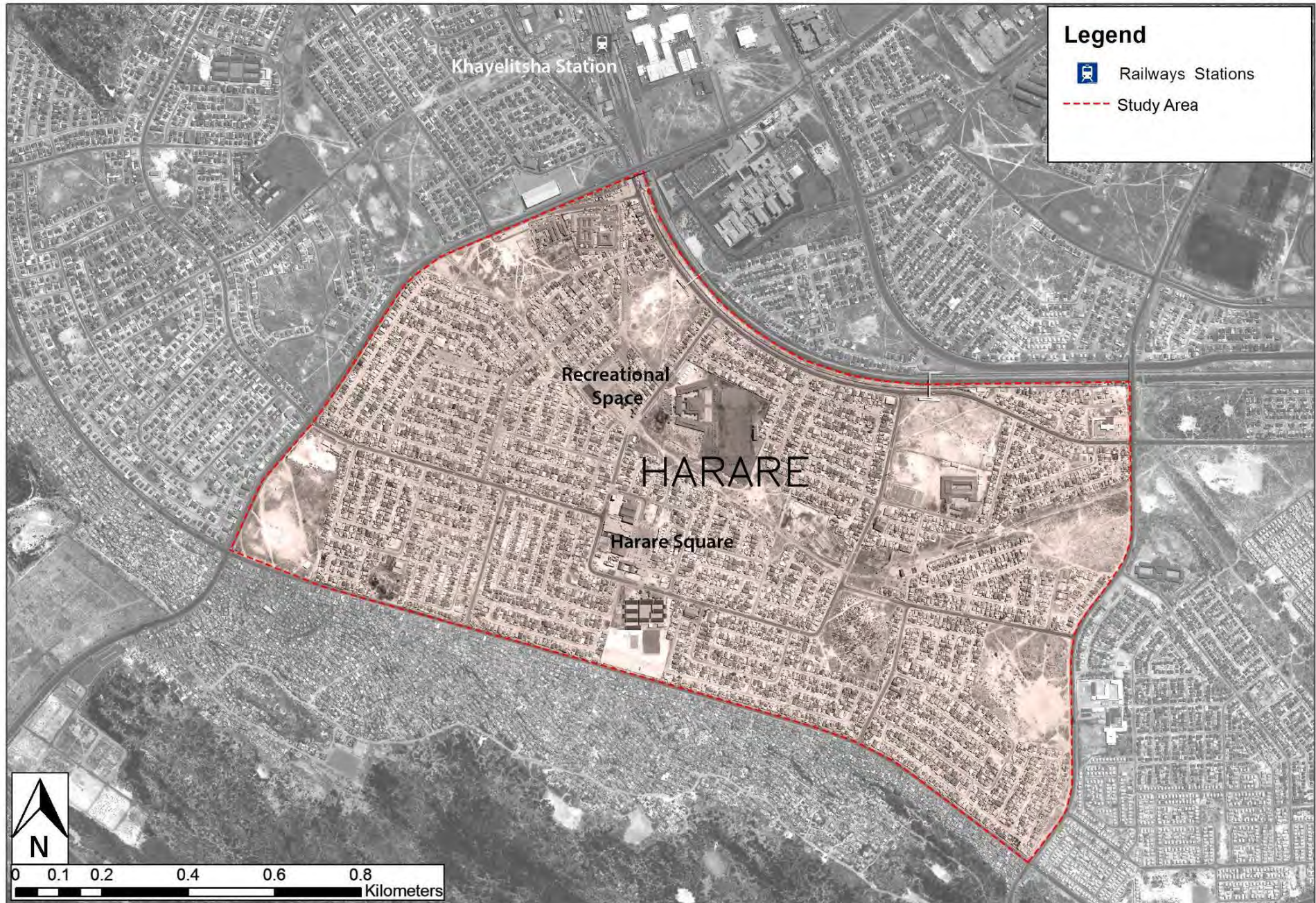


Figure 1.1: Harare, Khayelitsha - the case study area (Data Source: Author's own work, 2015)

1.3.1. Justifications for undertaking this Research in Khayelitsha

Khayelitsha was officially established in the early 1980s under the apartheid regime with the aim of fulfilling “segregated urban planning objectives” (Uğer, 2014: 116). Apartheid planners thus imagined a maximum capacity of 250,000 people living in this racially segregated, decentralised and dormitory settlement (ibid.). Today, Khayelitsha has grown into one of South Africa’s most populated townships, with an estimated population of over 1 million residents (ibid.). The evidence of apartheid-based planning can still be seen in the township as it is located on the periphery of the city, roughly 26km from the Cape Town CBD. After the apartheid influx control policies were relaxed in the early 1990s, Khayelitsha grew rapidly as a result of migration from rural areas within and beyond South Africa's borders. More than 80% of Khayelitsha’s residents live in backyard shacks (ibid.). Khayelitsha has become a “sprawling, largely informal urban area” (Uğer, 2014: 118) plagued with a lack of basic services and infrastructure that is unable to support the over-populated township. 25% of Cape Town’s population reside in Khayelitsha, with 30% of the city’s

young people living in Khayelitsha (Uğer, 2014). 97% of the population are black, and 95% are first-language Xhosa speakers.

Furthermore, approximately 50% of Khayelitsha’s population are unemployed (ibid.). As Khayelitsha is located far from economic opportunities, many who do work often have to travel long distances. Uğer (2014: 119) described the “fear of crime and victimisation” as being a major hindrance for “local economic participation and the establishment of entrepreneurial micro-enterprises” in Khayelitsha. Premature mortality in Khayelitsha is also the highest in the CoCT (ibid.). This has been attributed to “poverty-related conditions” (Uğer, 2014: 119). Substance abuse is also becoming increasingly prevalent in Khayelitsha which results in anti-social behaviour (Uğer, 2014).

Of further concern, Khayelitsha is considered to be the “rape capital of the Western Cape” (Uğer, 2014 cite Slamdien, 2010). The township is thus considered to be 'under siege' by violent crime (Uğer, 2014). Rape, assault and murder are above the national

average, and many residents face victimisation (ibid). Like many other townships in South Africa, Khayelitsha has a history of violence stemming from political struggles during apartheid (Ibid). Violence is also considered to be the result of weak governance and an unstable urban situation (ibid). However, as Uğer (2014: 121) states, “violence in Khayelitsha cannot be pinpointed to one particular cause” but rather to a host of complex underlying issues which are both “visible and invisible in their manifestations.” The current expression of violence in Khayelitsha is due to “indirect structural and cultural forms of violence” suggests Uğer (2014: 122). Structural causes are a result of socio-economic policy structures that fail to address and satisfy residents’ needs (Uğer, 2014). Structural forms of violence also allow for crime to manifest by placing “people in harm’s way” (Uğer, 2014: 122). Uğer (2014) makes an important point that individual agency in a community such as Khayelitsha is constrained because of current socio-economic processes. However, Uğer (2014) argues that these socio-economic processes have in fact entrenched the legacy of apartheid instead of addressing it. Cultural violence supports structural violence. Segregation no longer occurs along the lines of

race but rather on income and social class (Uğer, 2014). Low income populations such as those living in Khayelitsha have to live in areas which are “growing, poorly designed, [and] under-resourced” and which are characterised by high-unemployment which leads to substance abuse and violence in order to make ends meet (Uğer, 2014: 122). Uğer (2014: 122) notes that “substance abuse...coalesces into violent expressions fuelled by marginalisation-driven frustration.” In Uğer’s (2014) interview with a senior official of safety and security for the City of Cape Town (CoCT), the official described Khayelitsha as:

[A] prime example [that has] developed largely due to an inability of the City to cope, resulting in problematic urban design where slum conditions, poor sewerage and services are fairly dehumanising spaces...producing the kinds of living conditions that do not lend themselves to creating a safe environment.

(Interview, cited in Uğer, 2014: 122)

The consequence is that residents have to live in an environment in which violence, victimisation and crime are deemed to be 'normal' (Uğer, 2014). The status and reputation Khayelitsha has today as being one of the most dangerous communities in South Africa is as a result of undesirable living conditions, rampant unemployment and little to no opportunities for its bulging youth population (Uğer, 2014). VPUU's approach to addressing these kinds of problems is a “targeted situational, social and institutional programme” which has the objective of reducing crime and uplifting livelihoods. For this reason, VPUU's spatial interventions in Khayelitsha, in particular interventions implemented in Harare, are identified as the focus of this study. Concerns for addressing everyday realities of violence, victimisation and crime through spatial and other interventions therefore serve as a justification for undertaking this research.

1.4. Establishing the Aim of the Study

Based on the aforementioned background discussions and the identified problem, the aim of this study is to critically evaluate the

idea of crime prevention through the design principles of 'defensible space'. This aim leads me to the main research question.

1.5. Establishing the Main Research Question and the Research Methods

The main research question asks:

How has the implementation of a 'defensible space' reduced crime rates and anti-social behaviour in Harare, Khayelitsha? And what might planners learn from VPUU's prescriptions to 'defensible space' principles?

By asking about the impacts of implemented spatial principles, and by asking about the lessons learned from a critical and more nuanced study, answers to such questions reveal both the strengths and limitations of implementing defensible space principles in a situated context. Thus, in order to answer the main research question, a number of research methods and techniques

are used. The former consist of a case study and critical discourse analysis methods. Harare, in Khayelitsha, is the established case study area, while critical discourse analysis methods are employed to assess policy documents and other relevant texts. In terms of the research techniques used for this study, face-to-face and open-ended interviews are conducted with different users of Harare's public spaces. Research findings are also informed by non-participant observations of Harare's public spaces, and by spatial mapping exercises with local school children. Each of these research methods and techniques, as well as their strengths and limitations, are discussed in greater detail in Chapter 3.

Chapter 2 contains a literature review that is used to establish the assessment criteria and mapping requirement for the study. Assessment criteria are derived from Newman's (1972) concept of defensible space, the literature around Crime prevention through Environmental Design (CPTED) and situational crime prevention. See subsection 1.5.1 for the assessment criteria. These criteria need to be problematized for their context-specific validity. To this end, they are used in Chapter 4 to critically evaluate and assess the

case under study. Before turning to the next chapter, this introductory chapter concludes with a brief outline of the structure of the remainder of this dissertation.

1.5.1. Assessment Criteria

Territoriality

Territoriality refers to the spatial principles which provide residents with a sense of ownership over a particular public space or property. Clear demarcation between public and private space is often deemed to be one of the primary methods in which territoriality is achieved. This will be explored further in chapters 2 and 4.

Surveillance and Visibility

Surveillance supposedly enables the users of a public space to be observed by either other users of the space (via passive surveillance) or by security personnel and cameras (via active

surveillance). For some scholars, visibility improves surveillance through street lighting or uninterrupted lines of sight.

Image and Milieu

Image and milieu are linked to the perception people have of a particular space or neighbourhood. A neighbourhood or space can have a positive image or a negative image. When a negative image is present, the environment will be perceived to be a 'hotspot' for crime. This prescription to a 'positive environmental image' needs to be critically assessed for its context-specific validity.

Target Hardening and Access Control

Target hardening involves the presumed 'strengthening' of a property or a number of properties through high walls, fencing and other forms of access control, thereby restricting access to outsiders. 'Gated communities' are examples of target hardening that are most often criticized in the contemporary literature (see Chapter 2).

Defined Access and Safe Movement

It is argued by some scholars that the perception of safety can be improved in a neighbourhood if movement routes are clearly marked and well defined. The use of landmarks and visual connections can aid in safer pedestrian movement.

Maintenance and Management

The principle of maintenance and management supports many other 'defensible space' principles such as territoriality and image or milieu. Maintenance and management are therefore seen to be important to the sustainability of interventions and upholding a positive image for the residential environment.

However, and as previously stated, these assessment criteria need to be problematized for their context-specific relevance. An in-depth evaluation of VPUU's spatial interventions in Harare enables this problematisation. This in-depth evaluation also enables the

establishment of relevant policy recommendations for future planning actions that are concerned with crime prevention.

1.6. The Structure of the Dissertation

Chapter 2 contains an in-depth literature review through which the case study area will be analysed. This literature review is also used to establish the subsidiary research questions.

Chapter 3 outlines the qualitative research methods and techniques used to collect data for this study. Quantitative research methods, in turn, will be used to supplement and verify qualitative research findings. This chapter will also encompass discussions on conducting ethical research in addition to discussions concerning the limitations of the methods and techniques used to collect data for this study. This chapter will conclude with a discussion on how research findings are analysed.

Chapter 4 analyses the data collected using the assessment criteria established in Chapter 2 to evaluate the case study area.

Chapter 5 begins by providing answers to the main and subsidiary research questions. In so doing, the research findings will be synthesised. The chapter will then go on to present a few policy and other spatial planning recommendations on the problems identified in the study. Some of the recommendations are derived from the literature reviewed in Chapter 2, while other recommendations are derived from the research findings.

Table 1.1: Critically Exploring the Idea of Crime Prevention and Design

OVERARCHING ASSESSMENT CRITERIA	SUBSIDIARY RESEARCH QUESTIONS (see Chapter 2)	SUMMARY OF RESEARCH FINDINGS (see Chapter 4)	SUMMARY OF RECOMMENDATIONS (see Chapter 5)
<i>Territoriality</i>	<i>How does VPUU subscribe to, and apply, Newman's principles of territory?</i>	Through demarcating between public and private space. Community participation in the planning procedures. The active boxes are also used as a tool of territoriality	<p>Recommendations for Implementation</p> <ul style="list-style-type: none"> Promoting Context-driven Approaches. Promoting a People-led, as opposed to a Design-led, Approach. Identify and Evaluate why Crime Occurs. <p>Identifying possible Socio-economic Directives for addressing Poverty and Youth Unemployment</p> <ul style="list-style-type: none"> Encouraging Participation in Economic Activity. Investing in Community Based Youth Services. Youth Participation in Civic Affairs.

	<p><i>Firstly, is there clear delineation between public and private space in the VPUU intervention? Secondly, if there has been a delineation, has the delineation between public and private space created feelings of territoriality in residents? Third, in the parts of Harare, Khayelitsha where crime is still high, is there an absence of delineation between public and private space?</i></p>	<p>Yes there is clear delineation between public and private space. Delineation together with community participation has created feelings of territoriality. In the cognitive mapping exercise, many students mapped the informal settlement area and vacant land as crime hotspots. There is no delineation between public and private space in these hot spots, thus showing that delineation is important.</p>	
	<p><i>How are residents of Harare taking control over public spaces; and how does VPUU's planning process enable residents to control these spaces?</i></p>	<p>Through providing residents with the opportunity to maintain and manage spaces. Also by giving residents the chance to be part of the neighbourhood patrols and security.</p>	
<p><i>Surveillance and Visibility</i></p>	<p><i>How does VPUU subscribe to, and apply, Newman's principles of natural surveillance and visibility?</i></p>	<p>Assemblage of activities which will attract more users, hence more eye's on the street. Integration of uses which allow spaces to be active after business hours.</p>	<p>Recommendations for Harare</p> <p>Promoting both Passive and Active Policing Approaches</p>

		<p>The layout of the site is also considered in improving natural surveillance.</p> <p>Street lighting helps to promote visibility.</p> <p>The active boxes functions primarily as natural surveillance aid.</p>	<p>Improving the Maintenance and Management of Harare's Public Spaces</p> <p>Reducing the Displacement of Crime to Surrounding Areas</p> <p>Principles needs to be active 24hrs</p>
	<p><i>What type of surveillance, active or passive, is used in the VPUU intervention areas?</i></p>	<p>From my observations, both active and passive surveillance. Passive through the users of the space, and active through the security guards. There was no evidence of CCTV cameras.</p>	
	<p><i>Are the VPUU intervention spaces well used, and are there opportunities of natural surveillance being created by the layout of these spaces?</i></p>	<p>At certain times of day spaces are underutilised. However, the work/live units in Harare Square ensures that surveillance opportunities exist after business hours.</p> <p>The layout of the sites do allow for natural surveillance.</p>	
	<p><i>Other than safety, how and why are people motivated to use VPUU intervention spaces? And are there a variety of store types which attracts a variety of users?</i></p>	<p>Work, shopping, library, community meetings etc.</p> <p>The variety of commercial and civic functions in Harare Square, attracts a variety of users.</p> <p>The recreational precinct connects two precincts and thus a variety of users move through this space as well.</p>	

<i>Image and Milieu</i>	<i>How does VPUU subscribe to, and apply, Newman's principles of image and milieu?</i>	Landscaping and good urban design. Maintenance and management helps to maintain a positive looking image, although through my observations this has been lacking.	
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(Author's own work, 2015)

The background is a grayscale aerial photograph of a city, showing a dense grid of streets and building footprints. A prominent blue horizontal bar is positioned in the upper right quadrant, containing the chapter title. Three blue rectangular boxes are overlaid on the map: one in the lower left, one in the lower center, and one in the lower right, highlighting specific urban areas.

CHAPTER 2: LITERATURE REVIEW

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

Rising population numbers and associated urbanisation has led to crime becoming a major social ill in societies worldwide. Globally, governments are investing in crime prevention measures, yet the problem continues to escalate. Hedayati Marzbali, et al. (2011) note that reducing the impact of crime on our society will require more policies and greater community participation in order to tackle the issue. Crime is a result of various social, economic and governmental issues. However, in the last four decades the contribution of the built environment to reducing crime and anti-social behaviour has received widespread attention (Hedayati Marzbali, 2011; Crawford & Flint, 2009).

Reynald & Elffers (2009) note that the idea of our living environment reducing crime started in the early 1960s as

sociologists found that people living in certain places are more at risk of being victimised than others. Rodney Stark, a sociologist, argues that the residential population itself did not provide evidence of why crime was higher in certain areas than in others (Reynald & Elffers, 2009). He suggests that there must be a connection to the place in which those populations dwell (Ibid). Sociologists have moved from a sociological explanation of why crime exists in certain places, to focusing on the built environment as a causal factor of crime (Ibid). The main idea of this school of thought is that the “physical design and layout of urban living environments are a principal factor that determines why some places are more vulnerable to crime than others” (Reynald & Elffers, 2009:26). Reynald & Elffers (2009) suggest that this school of thought is a better selling point than the ‘sociological context’ because the built environment can be more easily manipulated than sociological factors. This point suggests that sociological issues are too complex whereas the built environment offers a more convenient solution, however a review and criticism of the literature in this chapter suggests that this may not be the case in the built environment.

One of the cornerstone theoretical frameworks of the crime prevention through built environment debate has been Oscar Newman's defensible space theory. The defensible space theory is a reference point for all other crime prevention through built environment theories, which will be discussed later in this chapter. While Newman's ideas have been influential, they have also been the subject of many controversies and criticisms. Many find the defensible space theory to be vague, and to have too little definition for it to be empirically tested (Reynald & Elffers 2009). Despite these criticisms, defensible space theory has been used explicitly by policy makers in the USA and the UK as a standard for housing design (Reynald & Elffers, 2009). Crime Prevention through Environmental Design (CPTED) originated in the USA from the defensible space theory (Ibid). Situational crime prevention, while not entirely based on defensible space, uses defensible space as a strategy (Clarke, 1992).

The aim of this research is to critically evaluate the idea of crime prevention through the design principles of 'defensible space'. In this chapter, the principles of defensible space will be identified

and the use of these principles in various theories of crime prevention through spatial planning and design will be established. These principles will provide the assessment criteria against which the case study on the VPUU initiative in Harare, Khayelitsha will be assessed, which is the overarching aim of this chapter. The assessment criteria are framed from the literature review found in this chapter. The secondary aim of this research is to establish subsidiary research questions for the study, which will be presented in tabular format after the conclusion.

This chapter is structured as follows: the first section reviews Oscar Newman's (1972) defensible space theory and briefly discusses the principles used to achieve defensible space. This is followed by a review of offensive space, which is the reverse of defensible space. Next is a brief discussion of Jane Jacob's (1961) work. This first section concludes with criticisms of defensible space. In the second section is a discussion on CPTED that concludes with an evaluation of the concept for the South African context. Situational crime prevention is discussed in the third section. CPTED and situational crime prevention are born out of

the principles of defensible space. Before concluding the chapter, a review of 'displacement' as a criticism of crime prevention through the built environment is made.

2.2. DEFENSIBLE SPACE

At the time of Newman's writing in the early 1970s, urban crime rates in the USA were out of control and middle class residents were moving from the crime ridden inner city to the suburbs (Cozens, Hillier & Prescott 2001). The writings on defensible space open with strong sentiments regarding the solution to America's urban crime problem. Newman (1972) argues that the solution is not increased police presence and firepower, as the moral and social framework that "kept crime in check and gave direction and support to police activity" has dissolved (Newman, 1972:1). The sense of community that enforced moral order has disappeared, and thus the "ability to agree on the action required to maintain the social framework necessary to our continued survival" has weakened (Newman, 1972:1). As a society, in our neighbourhoods we no longer have "shared beliefs or values",

and "collective community action, once easy, is now cumbersome" (Newman, 1972:2). Our cities have become "anonymous cities", (Newman, 1972:1-2). They were built for "maximum freedom and multiple choice", but in the process they destroyed the sense of community vital for the "survival of urban life" (Newman, 1972:2). In many cities in South Africa, gated communities and enclosed neighbourhoods have become a common sight. These types of developments, which will be explored later, have destroyed the sense of community and become a hindrance to the fight against crime. The argument Newman (1972) makes is that the breakdown of community is allowing crime to flourish. He argues that there must be a way to bring neighbours back together and to reinforce a sense of community. If the physical design of the environment can do this then it "must be so exploited" (Newman, 1972:2). Newman (1972) claims that our cities have become more unliveable than liveable, individual more than community-driven, and more uncontrollable than controlled. Defensible space can be used to restructure our living environments in order to make them more liveable and controlled, not just by police but by residents as well.

The control of residents over a particular space results in the space becoming defensible as residents dictate who should be allowed into a particular space, and the types of activity allowed within them. When spaces become defensible, suspicious persons and activities will be questioned or challenged, which can deter crime from taking place (Newman, 1972).

Defensible space is an alternative to crime prevention. It focuses on the design of the physical environment as a cause of criminal behaviour and restricts the criminal in the execution of a crime (Newman, 1972). Newman states: "The physical form of the urban environment is possibly the most cogent ally the criminal has in his victimisation of society" (Newman, 1973:2). Defensible space is a "living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbours and friends" (Newman, 1972:3). A living residential environment void of defensible space may generate fear and uncertainty, which can destroy safety and the joy of living in a particular environment. The focus of Newman's work has predominantly been on public housing.

Crime is not the only issue in these apartment blocks (Crawford & Flint, 2009).

There are four characteristics which allow all income groups the ability to police their environments, thus acting as strong deterrents to criminal activity (Newman, 1972):

- Grouping dwellings to reinforce the sense of community.
- Delineating paths of movement.
- Defining areas of activity for particular users with a sense of closeness to their internal living environments.
- An allowance of natural surveillance.

Defensible spaces occur when residents are able to perceive and control all the activities taking place within a space. This does not mean residents take matters into their own hands, but rather that they show and make known their concern over suspicious

activity in the environment, and the possible threat of their intervention (Newman, 1972).

Crime has a root cause, and defensible space aims to address this cause. Crime reduction normally relies on 'mechanical prevention' but this still ignores the motivations that led to the crime taking place (Newman, 1972). Defensible space, however, uses 'corrective prevention', which addresses these motivations so the crime will not take place (Newman, 1972). Mechanical and corrective prevention are both used by defensible space. Problematically, Newman is not clear on how corrective intervention is achieved. As Newman is focused solely on the design and layout of buildings, which is an example of mechanical intervention, there is no indication of how corrective prevention is achieved. CPTED and situational crime prevention, which will be discussed later in this chapter, go beyond design to the resident population. The reason for this is to change the character and motivations of the resident population, which will result in long-term crime prevention and reduction. This is done through early-childhood development, community upliftment via

education and workshops, and recreational areas for young people, amongst other methods. CPTED and situational crime prevention attempts to address the social issues that are a cause of crime, rather than just the design; thus the two theories focus on corrective prevention. In the next sub-sections, the problem as argued by Newman (1972) is discussed along with the mistakes made by architects and spatial planners.

2.2.1 The Problem

2.2.1.1 Design of buildings

There are five characteristics in the design of buildings which Newman (1972) identifies as reinforcing criminal behaviour:

1. Large apartment blocks that are over seven storeys and house over a thousand families.
2. The amalgamation of four to six separate city blocks into one superblock that is closed to city traffic.
3. Buildings standing in a freestyle fashion on the site.

4. Grounds that are a 'continuous space', where people can roam around buildings with no limitations and that are open to surrounding streets.
5. No differentiation of space providing buildings or groups of buildings ownership over those spaces.
6. The buildings are designed with slab or cruciform towers and have a single lobby that faces the interior grounds of the development.

Newman (1972) considers the above characteristics to be shared by both low- and high-income apartment blocks. However, high-income apartments have the presence of fencing, security personnel, and even a doorman, while low-income apartments have none of these expensive additions. Newman (1972) considers this to be the success factor of high-income apartment blocks. A problem with Newman's findings above is that these characteristics are specific of a particular case and may not be true elsewhere in the world. This points to the universalistic

assumption that defensible space theory may work elsewhere in the world as being problematic.

2.2.1.2 The mistakes made by spatial planners and architects

In the early 1970s, planners and architects had two choices when building housing that catered for low-income families (Newman, 1972:24):

1. "To build walk-up apartments so densely packed together as to have limited land left free of building".
2. "To build high-rise elevator apartment buildings and thereby free a large portion of the project grounds for the required open space and recreation". This was the favoured approach.

The problem with the second point is that planners did not predict that open and recreational space would seldom be used, that the towers creating open space would become a hazard for children to pass through, and that the space between apartment and playground would never be linked (Newman, 1972). Planners

also held dear to the automobile-free superblock, which implicated that intervening streets would be closed, thereby opening up space for more housing units (Newman, 1972). This type of thinking is problematic, in that:

1. If buildings are the same density then there will be no added open as a result of street closing.
2. If the streets were not closed, the amount of building that could be accommodated would be less, and the streets would still be able to provide space and light between buildings, resulting, in effective recreational space.
3. Streets offer security in terms of natural surveillance, and cutting them off places limitations on surveillance opportunities.

(Newman, 1972)

Planners and architects also often place lobby entries on the interior grounds, meaning that residents have to leave the streets in order to enter the apartment (Newman, 1972). Newman

(1972) notes that lobby and elevator muggings were considerably less when lobbies faced the streets than when these were on the interior. Again, these findings seem to be indicative of the particular case Newman observed and therefore may not be true elsewhere in the world. However, spatial planners and architects alike may learn a lot from these findings. In the next section, the solutions to making spaces defensible are discussed.

2.2.2 The Solution

2.2.2.1 Defensible space principles

2.2.2.1.1 Territoriality

“The capacity of the physical environment to create perceived zones of territorial influences.” – Newman (1972:5)

Territoriality is the cornerstone of all of the defensible space principles (Schneider & Kitchen, 2007; Reynald & Elffers, 2009). All the other principles are built upon territoriality. This principle enforces ownership and controls attitudes from residents over

property (Schneider & Kitchen, 2007). Territoriality can greatly assist in deterring crime because people protect spaces and places better if they believe that they own these (Schneider & Kitchen, 2007).

Single family housing

Newman opens his chapter on territoriality by noting that single-family housing allows the property owner to participate in the “social system” and is symbolic of ownership and belonging (1972:51). In Western society, owning a single-family house represents achievement, success and maturity on the part of the homeowner (Newman, 1972). Owning a home allows for participation in legal matters and processes of a country and reinforces existing “social values” (Newman, 1972:51). The idea of ‘Western society’ referred to in Newman (1972) is indicative of how these principles may only be applicable to a particular context. Based on interviews with single-unit dwellings, Newman (1972) claims that, because these families have ownership over their property and land, they defend it in order to maintain law and order. The single-dwelling unit invokes territoriality because

of its placement on its own piece of land, delineated through fences or vegetation from its neighbours and street. The direction of windows and lighting also reinforces this delineation. Thus, feelings of ownership created by single-family housing may cause residents to defend their residential environment.

Higher rise housing

The problem, however, Newman claims, is when there is a lack of territoriality, as associated with “denser and denser agglomerations to row houses, walk-up flats and high-rise apartments” (Newman, 1972:52). The denser things become, the more difficult it becomes to define territory. Residents in dense agglomerations thus do not feel control over their space, as they believe that any problem, such as crime or waste, happening on their property is not theirs to defend and is instead someone else’s responsibility, such as the municipality, police or security services. In apartments with higher densities and heights above ten stories, residents feel as if it is not their responsibility to defend space. This statement is merely an assumption.

Subdivision as method

Both Newman (1972) and Jacobs (1961) assert that, in order to enforce territoriality, there needs to be a clear demarcation between private, public and semi-private space. In order to achieve this demarcation, subdivisions can be used to divide spaces into “zones of influence and control” (Reynald & Elffers, 2009:28). These zones of control and influence can be achieved through the use of “real and symbolic” barriers (Reynald & Elffers, 2009:28). Real barriers are physical barriers such as “fencing, gateways, burglar-proofing, locks and walls” (Reynald & Elffers, 2009:28). Symbolic barriers are not physical but more psychological in that they “convey the message of private and restricted access” (Reynald & Elffers, 2009:28). Landscaping, plantations, signposts, and territorial markings can be used to achieve symbolic barriers (Reynald & Elffers, 2009). The barriers create boundaries, which create zones of control, thereby restricting the users of the space to behaviours that residents define as the norm (Reynald & Elffers, 2009). In other words, residents will inquire about and challenge any behaviour,

suspicious or odd. The barriers communicate to outsiders that they are not welcome (Reynald & Elffers, 2009).

Outside private apartments, or subdivisions, can provide control to residents over spaces (Newman, 1972). Subdivisions create perceptions that a particular portion of land is under the control of a group of residents (Newman, 1972). Planners and architects can subdivide even further by doing this hierarchically, subdividing land into building clusters and on the level of apartment units, thereby creating the perception that residents in three to four apartment blocks own a particular space (Newman, 1972). These residents will then adopt territorial attitudes over public spaces in their domain. Physical subdivisions can achieve greater rates of success if defined and related to “access paths, amenities, and entries” (Newman, 1972:53). Territoriality is, for Newman, the most fundamental principle for creating a residential environment in which movement is restricted, thereby making the space easy to monitor and control with few entry/exit points and strong barriers (Reynald & Elffers, 2009).

2.2.2.2 Natural surveillance

“The capacity of physical design to provide surveillance opportunities for residents and their agents.” – Newman (1972:78)

The second principle of Newman’s defensible space perspective is that of natural surveillance. Newman (1972) recognises that natural surveillance can undoubtedly increase security in an environment. When one is able to observe one’s own residential space, one should also be aware that they are under surveillance from other residents and this can increase confidence surrounding personal safety (Ibid). Newman (1972) suggests that surveillance reduces the fear of a crime happening. The productive use of a public space can be increased if there is natural surveillance, as more people utilising a public space increases surveillance opportunities (Ibid). To achieve better natural surveillance, windows and doors need to face each other on a street in order to allow for better visibility of public and private spaces in the residential environment (Reynald & Elffers,

2009). Sight lines from housing should be clear with no obstructions in order to increase observability (Ibid).

Importantly, Newman (1972) asserts that the presence of an observer does not mean that the observer will intervene should a crime take place. The famous case of Kitty Genovese is a good example of this. Kitty, a 28-year-old woman from New York, was stabbed to death while on her way home. The stabbing is the subject of many psychological studies because it took place in front of 38 observers in their apartments, yet none decided to intervene or call the police. Newman (1972) suggests that the decision to act is based on the following:

- If the observer feels a sense ownership and will defend it.
- If the activity takes place in an area that the observer feels is within their sphere of influence.
- If the observer feels that the activity is abnormal in the area and needs to be addressed.

- If the observer can identify with the victim or property under threat.
- If the observers feel that they can alter the course of events taking place.

In the Kitty Genovese case, the observers felt that the victim was unknown to them or that the event was happening on a public street (Newman 1972). There was therefore no ownership over the property that would have resulted in it being defended (Newman, 1972). Newman (1972) acknowledges that natural surveillance is not always effective. Natural surveillance is embedded in the idea of territoriality as fear is reduced amongst residents who take comfort in knowing that they are always observed (Reynald & Elffers, 2009).

2.2.2.2.5 Image and milieu

“The capacity of design to influence the perception of a project's uniqueness, isolation and stigma.” – Newman (1972:102)

The appearance of a residential space is able to create a space that is symbolic of residents' lifestyles (Reynald & Elffers, 2009). If the area has a negative image, for example if it is “isolated, dilapidated and neglected” it becomes a hotspot for crime (Reynald & Elffers, 2009:30). When an area has a more positive image, this is symbolic of it being well cared for and controlled, which will deter criminal activity. An area with a negative image also promotes feelings of fear, which means residents will prefer to stay inside and not make use of a space (Reynald & Elffers, 2009). However, when an area has a positive image, residents take pride in the space and will defend and maintain it (Reynald & Elffers, 2009). An area with a positive image therefore reinforces the idea of territoriality. Moreover, Newman also recognises that in an area where “streets or paths are recognised as being safe, adjoining areas benefit from the safety in a real

sense and also by association” (Newman, 1972:108). This is known as “diffusion of benefits”, where the benefits of crime prevention in one area filter into surrounding areas (Schneider & Kitchen, 2007:34).

Newman (1972) notes that buildings, such as high-rise government sponsored developments (which are the focus of his work), often have a “distinctive height and texture” causing them to stand out in the existing built environment (Newman, 1972:102). This causes the projects to have a negative stigma about them and residents may often be “castigated and victimised” (Newman, 1972:102). Government-sponsored buildings have very little articulation and are distinctive in their design when compared to surrounding residential buildings. Newman asserts that this distinctiveness creates negativity and their inhabitants are seen as “easy hits” (Newman, 1972:102). Newman (1972) recognises that the peculiar image of government-funded housing, along with design and the socio-economic state of residents causes them to become vulnerable to criminals. Moreover, the spatial layout of government-funded

housing tends to close internal streets, allowing cars to only be on the outskirts of the development, adding to this distinctive and peculiar image of the apartment (Newman, 1972).

2.2.2.2.6 Summary of principles

Reynald & Elffers (2009) notes that natural surveillance, image and milieu all form part of territoriality, even though Newman does not state this. These facilitate territoriality as all play a part in bringing an environment under the control of residents (Reynald & Elffers, 2009). Therefore, the quality of each of these principles can either strengthen or weaken the idea of territoriality and affects whether or not a space is defensible (Reynald & Elffers, 2009). Thus, it needs to be asked (by way of a subsidiary research question): how does VPUU subscribe to, and apply, Newman's principles of *territory*, *natural surveillance*, and *image and milieu* in the Harare case study; and what is the impact of these subscriptions? Problematically, if Newman’s findings gave rise to solutions based on evidence from a particular case then the solutions presented here may not be effective

elsewhere in the world. This paper will now turn to a discussion on 'offensible space'.

2.2.3 Offensible Space

'Offensible space' is a term coined by Atlas (1991, cited in Cozens, Hillier and Prescott, 2001: 143) to denote the sinister or *noir* outcomes of defensible space principles, namely "the use of defensible space and environmental design strategies for enhancing security for the criminal element and obstructing justice." The idea of offensible space is when criminals, in particular drug dealers and gangs, use the principles of defensible space to protect their crimes. For example, a drug den could be protected using the principles of "territoriality, surveillance and control of access" (Cozens, Hillier & Prescott, 2001). This requires:

1. Identifying outsiders and police;
2. Investigating others who may approach;

3. Passing on identified problems to those who are in control of the situation;
4. Maintaining communication networks to warn dealers of approaching police; and
5. Applying target-hardening mechanisms to the environment to impede police entry and help prevent the theft of drugs or other goods by outsiders."

(Cozens, Hillier & Prescott, 2001:143-144)

Criminals achieve territoriality by having associates, enforcers and distribution agents on the lookout (Cozens, Hillier & Prescott, 2001). In this environment the ordinary citizen is the stranger and is at risk of being victimised. This zone is called an offensible space, and is prevalent in gang-ridden areas where gangsters have territories.

An additional subsidiary research question asks: has the implementation of defensible space principles in Harare,

Khayelitsha, led to the development of 'offensible space' and, if so, how?

2.2.4 Criticisms of Defensible Space

The defensible space theory has come under heavy criticism, especially towards Newman's investigation methods that have been found as grounded in speculations that lack rigour in empirical testing (Reynald & Elffers, 2009). Criticisms have revolved mainly around Newman's lack of consideration for the "social, psychological and behavioural process" which underpins the principles of defensible space (Reynald & Elffers, 2009:32). Thus assuming that defensible space theory can be applied to every situation and in every context. Reynald and Elffers (2009) cite the argument made by Mayhew (1979) who explained that some criminals may be deterred by natural surveillance, however, criminals who are under the influence of substances may react differently to the threat of being detected.

At the first presentation of defensible space by Newman, residents found him "wonderfully naive" (Newman, 1972:11). Police officers commented that teenagers and drug addicts do not weigh the consequences of being caught before committing a crime (Newman, 1972). Ghetto leaders and social scientists alike were also sceptical that crime, which is born out of poverty, can be prevented architecturally (Newman, 1972). Newman (1972) notes that these positions are well founded, but suggests that tenants are not aware of how different building types can influence quality of life. For Newman (1972), architecture is able to improve the image and milieu of the buildings found in 'the projects', which will eliminate the stigmatisation often found with those dwellings. Newman provides examples of high-rise buildings that make their residents vulnerable, yet across the road buildings at lower heights are able to avoid these same problems (Newman, 1972). Moreover, Newman (1972) maintains that an architect who is equipped with knowledge of criminal behaviour is able to design a space that prevents criminal activity.

Perhaps one of the main critiques of defensible space theory is its over-reliance on “physical determinism” while lacking consideration of social factors underpinning the principles (Reynald & Elffers, 2009:31). Cozens, Hillier & Prescott (2001) note that the work has been highly criticised for its lack of nuance and universal assumptions. Newman (1972) deliberately focuses on the physical factors rather than on causal factors, which Oc & Tiesdell (1997) believe may “nullify attempts to make use of the theory to control crime” (1997:55). The lack of concern for social factors may also hinder the corrective prevention that Newman asserts defensible space attempts to do. While Newman (1972) does recognise that the poor are most vulnerable to crime, his failure to include social factors in the analyses of his research points to the complex nature of crime and crime prevention (Cozens, Hillier and Prescott, 2001).

Having a dislike or a fear of the police may also stop residents from calling on them for help (Cozens, Hillier and Prescott, 2001). Moreover, there is recognition that, in a neighbourhood where crime has become a part of the everyday experience, residents

may fear being victimised and therefore not report or act on criminal activities (Cozens, Hillier and Prescott, 2001). These issues may impede residents from defending a space even if it has the qualities of a defensible space. There is also the dilemma of the nature of the users of a space. A tattooed gang member who enters a public space that is deemed to be ‘well designed’ (from a defensible space standpoint) may stir up feelings of fear and anxiety for other users of the space. By contrast, a space that is not considered to be safe (from a defensible space standpoint), but where users of the space have a greater familiarity of the space, may create a sense of safety (Cozens, Hillier & Prescott, 2001). Environmental design can only create defensible space if the social conditions allow it to do so (Reynald & Elffers, 2009). This claim sets up another subsidiary research question, namely have the social conditions in Harare, Khayelitsha enabled the development of defensible public spaces and, if so, how?

Some academics, such as Mawby (1977), have noted contradictions in defensible space design. Defensible space could increase the chances of crime between residents through the use

of territoriality (Mawby 1977). Both Jacobs (1961) and Newman (1972) believe that active streets and public spaces with many people enable safer streets and public spaces. However, Mawby (1977) notes that more people may mean more witnesses, but it could also mean more victims. More people will also allow potential offenders to become undetectable (Mawby, 1977). Defensible space strategies often conflict with fire regulations, increase segregation of public and private housing, and affect residents' preference for privacy (Cozens, Hillier and Prescott, 2001).

Arguments around territoriality have also surfaced in recent years. Some scholars note that territoriality has not been proved to deter criminals (Cozens, Hillier and Prescott, 2001). According to Merry (1981, cited in Cozens, Hillier and Prescott, 2001), Newman (1972) is quite vague on how territoriality is achieved and how residents defend space. The area of territoriality thus requires further study and investigation. It must therefore be asked, what are users' perceptions of territoriality in Harare, and how does VPUU aim to promote the *idea* of territoriality through

its planning interventions? This leads to the next sub-section on ambiguity.

2.2.4.1 Ambiguities

Reynald & Elffers (2009) claim that Newman is ambiguous in his writings regarding defensible space because of his “failure to identify, define and measure” the principle of territoriality at different scales. Newman’s writings on defensible space seem heavily focused on high-rise apartments, however the theory seems to assert that defensible space is applicable for any residential environment (Ibid). In the text on defensible space, concepts, such as space or residential environment, are used, which could mean anything from an apartment to a residential street or neighbourhood (Ibid). Newman (1972:9) makes it clear that defensible space can be operative in an “evolving hierarchy” of dwelling types, yet he does not make it clear how these concepts operate in different residential environments (Reynald & Elffers, 2009).

The territoriality principle, and its application to different residential environments, is also ambiguous (Reynald & Elffers, 2009). Reynald & Elffers note that there is an “unspecified level of space” which is born from some “unexplained combination of territoriality” happening on “individual residential premises, shared semi-public grounds and public streets” (2009:33). For example, how territoriality at individual premises affects semi-public and public spaces in the residential environment is unclear (Reynald & Elffers, 2009). Newman also asserts that ‘collective territoriality’ controls the residential street, but does not say how ‘individual territoriality’ automatically becomes collective territoriality (Reynald & Elffers, 2009).

In the final part of this section, the work of Jane Jacobs (1961) is discussed. In *The Death and Life of Great American Cities*, which is considered to be one of the most influential writings and critiques of modern city planning, Jane Jacobs (1961) writes about the use of sidewalks in providing safety in cities. Newman (1972) shares many of Jacobs’ (1961) ideas. Still, Newman’s (1972) writings are based on empirical research (albeit critiqued

for its lack of rigour), while Jacobs’ (1961) work was based on observations. Jane Jacobs’ writings on city safety are included in this section together with the writings on defensible space, as many of the principles corroborate each other.

2.2.5 Jane Jacobs - The Use of Sidewalks for Safety

Jacobs (1961) considers the city sidewalk (or pavement, in the South African context) to be ‘abstract’ and, in itself, meaningless. Rather, meaning is defined by the land-uses that borders them (Jacobs, 1961). While many consider public parks to be the main public spaces of a city, Jacobs considers the streets and sidewalks to be a city’s “vital organ” (1961:29). A city is recognised by its streets. Jacobs asserts that, “if a city’s streets look interesting, the city looks interesting; if they look dull, the city looks dull” (1961:29). At the same time, if the city's streets are safe then the city is safe. Jacobs (1961) asserts that when residents say a part of the city is dangerous, they are actually saying that its streets and sidewalks are unsafe. If people fear a particular street, they will use it less, in turn causing these to be even less safe (Jacobs,

1961). This study explores Jacobs' argument by asking research participants to speak about Harare's streets via the use of oral narratives and mental mapping exercises (see chapter 4). Jacobs (1961) supports Newman's (1972) argument that the user of a particular space is responsible for the safety of others in that space.

In our modern day society, much focus is placed on the police to maintain law and order on city streets and sidewalks. While police are a necessary authority, residents are also a part of the war against crime (Jacobs, 1961). In certain city districts, such as the public housing projects that Newman (1972) writes about, maintenance of law and order is considered to be the job of the police. Jacobs (1961) articulates that police cannot possibly restore 'civilisation' in these places when the enforcement of it by residents is no longer there. Newman's defensible space theory attempts to give residents the control they need to enforce law and order. Accordingly, an additional subsidiary research question asks: how are residents of Harare taking

control over public spaces; and how does VPUU's planning process enable residents to control these spaces?

Jacobs (1961) also heavily critiques the urban form of cities, noting that the low-density urban form, characteristic of suburbia, is not a solution to solving crime. If it were, then a city such as Los Angeles would have a low crime rate. Cities are also not safer when they are denser – Newman's case studies are on dense high-rise buildings. Jacobs (1961) notes that the larger and denser a city, the more strangers can be found on the streets. A successful city, Jacobs (1961) notes, is one in which residents feel safe amongst strangers. In order for a city to have safe city streets and sidewalks, three main qualities are needed:

1. There needs to be a clear delineation between public and private space. Newman (1972) notes that this was a problem in 'the projects' where public spaces mix with private spaces and no clear demarcation exists between them.

2. Second is the famous idea of 'eyes on the street'. There must be eyes on the street to deter criminal activity. Buildings need to be oriented to the street and should not have their backs facing it, leaving blank facades. This is similar to Newman's (1972) principle of natural surveillance.
3. Lastly, there must be a sufficient amount of users on these streets at all times. This does two things. Firstly, it provides more eyes on the streets and, secondly, it leads people in buildings to want to look at the street. Jacobs (1961:35) asserts that "large number of people entertain themselves, off and on, by watching street activity" (1961:35).

These three qualities lead to new subsidiary questions. First, is there a clear delineation between public and private space in the VPUU intervention? Second, if there has been delineation, has the delineation between public and private space created feelings of territoriality in residents? Third, in the parts of Harare, Khayelitsha where crime is still high, is there an absence of

delineation between public and private space? Finally, are the VPUU intervention spaces well used and are opportunities for natural surveillance being created by the layout of these spaces?

Surveillance (via 'eyes on the street') is an important part of the three qualities. However, Jacobs (1961) notes that this can be difficult to achieve. First of all, people can't be forced to use a street, especially if there is nothing for them there, like a shop (Jacobs, 1961). Secondly, people can't be forced to watch a street, especially if there is nothing to watch (Jacobs, 1961). In order for surveillance to be effective, a type of activity is needed, including retail activities (Jacobs, 1961). Some stores should be open at night to maintain safety during these hours. Streets with activity generated by "stores, bars and restaurants" assist in enhancing surveillance in four ways (Jacobs, 1961:36):

1. They give people a reason to use the streets.
2. They attract people to use routes that are not normally used by the public in order to get to activity streets. Those

underutilised routes also begin to have surveillance potential and thus become safer. A variety of store types also mean people travelling for different reasons cross paths.

3. Storeowners and small business owners will want to ensure the safety of their clients, and will therefore advocate for the safety of the streets by continually keeping an eye on them.
4. When there is increased activity created by people who are running errands or eating and drinking, it attracts other people. This is an idea that planners and architects find difficult to understand.

(Jacobs, 1961)

These four methods of enhancing natural surveillance provide another subsidiary research question. Other than safety, how and why are people motivated to use VPUU intervention spaces? Also, are there a variety of store types that attract a variety of users? Jacobs (1961) seems to primarily advocate for eyes on the

street or natural surveillance as a manner by which to reduce or prevent crime. While this principle may improve feelings of safety, it does not necessarily mean that crime will be reduced or prevented. The writings of Jacobs (1961) were also created in the early 1960s, which may mean that these principles are no longer applicable. After all, Newman, who wrote in 1972 (11 years later), already suggested a few critiques of the principles of natural surveillance and its limitations. Jacobs (1961) also provides solutions to a particular location, much as Newman does, and thus both solutions may not be useful elsewhere in the world. A study done by Anderson, et al. (2013) in Los Angeles has already disproved many of the ideas put forth by both Jacobs (1961) and Newman (1972).

According to Jacobs, the best city streets have a combination of users and watchers (1961). A good street can handle strangers, has good delineation between public and private space, and has a sufficient amount of activity with people keeping surveillance knowingly or unknowingly (Jacobs, 1961). Jane Jacobs (1961) also advocated that a diversity of land uses encourages a vibrant

urban environment, which leads to the concept of 'eyes on the street' (Anderson, et al., 2013). In a study done on 205 blocks located within eight high crime areas of Los Angeles, Anderson, et al. (2013) tested a series of hypotheses derived from Newman and Jacobs. The aim of the research was to examine the relationship between "zoning, the built environment and crime" (Anderson, et al., 2013:704).

The research of Anderson, et al. (2013) suggests a stronger research design than previous empirical research and their study was focused on more modern cities compared to those found in the literature of Jacobs (1961) and Newman (1972). The main finding of the research was that city blocks with a mix of zonings (residential and commercial) had less crime than those with commercial-only zonings. This led Anderson, et al. (2013) to suggest that bringing residential zonings to existing commercial-only blocks might reduce crime. Anderson, et al. (2013) also found that, even in high crime precincts, crime was lower in residential-only city blocks. The final finding was that when commercial-only blocks undergo a change in zoning to

residential, crime drops significantly when compared to neighbourhoods that had similar crime statistics before zoning changed (Anderson, et al., 2013). These findings suggest that zoning definitely has an effect on crime rates. However, these findings may seem obvious, as commercial developments tend to a greater variety of people, which may include criminals. On the other hand, residential environments attract residents and those linked to residents, and people become suspicious if they see people who have no business being in a neighbourhood. This is advocated by the Louisiana Supreme Court when it notes that "a place of business in a residence neighbourhood furnishes an excuse for any criminal to go into the neighbourhood" (Anderson, et al., 2013). This would make detecting criminal and suspicious behaviour difficult as people enter a neighbourhood for different purposes.

These findings contradict those of Jacobs (1961) and new urbanism, which advocates for multiple uses of city streets in order to generate more activity, thus creating healthy and safe streets (Anderson, et al., 2013). Further research has also found

that residential-only neighbourhoods have less crime. Jacobs (1961) mentions that bars in neighbourhoods attract people and allow for surveillance opportunities. However, Anderson, et al. (2013) found, through their empirical research, that bars actually increase assault and robberies in residential areas. Crawford & Flint's (2009) study on anti-social behaviour in Britain notes that bars and nightclubs, where excessive alcohol consumption takes place, increase anti-social behaviour, especially at night.

Oscar Newman's (1972) defensible space principle of territoriality is also of concern in regards to recent research on zoning. Anderson, et al. (2013) agree that territoriality is effective even though Newman's (1972) empirical research was not rigorous enough. However, research has found that, when commercial land uses mix with residential land uses, territoriality is reduced (Anderson, et al., 2013). This could be attributed to an overwhelming amount of visitors to commercial activity residential areas, which residents do not have a desire to defend as they might see this as the job of commercial vendors. On the other hand, Jacobs (1961) encourages increased commercial

activity because business owners could be expected to ensure the safety of their clients. However, the quality of life and community is reduced when commercial activity is combined with residential activity. Anderson, et al. (2013) note that residents are less happy, chances of interaction between neighbours are less and the inability to distinguish between insiders and outsiders is increased. This could be due to commercial activity attracting outsiders, obscuring the identification of who belongs in the neighbourhood or not, and thus tending to decrease social ties in the community. The conclusion is that commercial uses interfere with residential territoriality.

There is also the argument of physical disorder affecting rates of crime. This has links with Newman's (1972) principle of image and milieu. Physical disorder includes activities such as graffiti, litter, vandalism, waste dumping, and neglected housing. Anti-social behaviour is seen as a part of physical disorder (Millie, 2008). How physical disorder affects the rate of crime is unclear (Anderson, et al., 2013). One study suggests that when a business is responsible for physical disorder or deterioration there are less

burglaries (Anderson, et al., 2013). This could be because offenders find no worth in breaking into houses in areas that are run down or deteriorating and might move to alternative acts; whether offenders choose other crimes is still unclear. When street blocks had non-residential land uses, the block had higher levels of physical deterioration (Anderson, et al., 2013). Anderson et al. (2013) attributes this to commercial uses creating disorder because territorial attitudes are reduced. Dutch researchers found that when disorder was present, it led to other forms of disorder (Anderson, et al., 2013). For example, if graffiti appeared, littering would increase. A subsidiary question arises from this finding: has there been evidence of physical disorder in Harare, Khayelitsha where commercial uses are present?

The findings discussed above are of value, but Anderson, et al. (2013) suggest that there is no strong evidence that the type of zoning and land-use is causing the crime or whether other socio-economic variables are responsible. From the findings on density, it can be assumed that socio-economic variables do play a role in the crime rate. Furthermore, the findings of this research are

highly critical of Jacobs (1961) and Newman (1972). The problem with this is that the research was done in different locations compared to Jacobs (1961) and Newman (1972) and different results can be expected. This is an important point, as it points to the complex nature of crime prevention through the design of the built environment, which evokes the argument that no universalistic assumptions can be made on the work of Jacobs (1961) and Newman (1972). Each location is different and therefore the principles described in crime prevention strategies need to evaluate the context before assuming that they may or may not work.

In the following section, Crime Prevention through Environmental Design (CPTED) will be reviewed. CPTED is a crime prevention strategy based on the principles of defensible space but, whereas Newman focused predominantly on housing design, CPTED focuses on housing design and the layout of the built environment. In this light, scholars consider CPTED to be an enhancement of defensible space theory.

2.3 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

2.3.1 Background

The premise upon which CPTED is based is that if the “environment is planned, designed, and managed appropriately, certain types of crimes can be reduced” (CSIR, n.d.:1). Accordingly, the design and layout of the environment plays a role in how individuals perceive safety in an area. Certain areas can engender feelings of fear, even if the level of crime is not high (CSIR, n.d.). Spatial planning and design can therefore encourage a sense of safety in places where residents feel vulnerable (CSIR, n.d.). While environmental design can be beneficial, it has limitations and this is therefore not a perfect theory (CSIR, n.d.). Before environmental design interventions can take place, the area must be thoroughly analysed. The success of environmental design can be increased if it is partnered with other crime prevention initiatives. Environmental design also has a tendency to displace crime to other areas, and this needs to be avoided (CSIR, n.d.).

In order to understand the relationship between crime and environmental design, the various elements in a situation of crime need to be understood (CSIR, n.d.). In order for a crime to take place the CSIR (n.d.) recognises three necessary elements. The first is an offender, second a victim or target, and the third an environment suitable for crime to take place. In order for crime prevention to be effective, it needs to respond to these three aforementioned elements (CSIR, n.d.). The way the environment is designed can restrict or allow for opportunities to commit a crime and the role of the environment is therefore necessary to any crime prevention initiative (CSIR, n.d.). CPTED, much like Newman and Jacobs, identifies the environment as being a key factor in the crime prevention debate. However, it differs, as it believes that crime prevention can only be effective when the environment, the offender and the victim are dealt with accordingly. Social factors are thus a key concern of the CPTED discussion, necessitating that whenever a CPTED intervention is planned, the social factors of the neighbourhood are assessed

before planning goes ahead. The lack of social factor consideration is perhaps one of the key issues in the work of Newman. Thus, CPTED can be considered an improvement on his theory.

2.3.2 What is Crime Prevention through Environmental Design (CPTED)?

CPTED is defined by the CSIR as the reduction of the “causes of, and opportunities for, criminal events and [the] address[ing of] the fear of crime by applying sound planning, design and management principles to the built environment” (CSIR, n.d.:3). This definition applies to VPUU’s planning and design approach, as research findings demonstrate in chapter 4. Peyroux, James & Krause (n.d.:5) assert that CPTED builds on defensible space, but that its focus is on all “land-use categories”. CPTED places a greater emphasis on maintenance. The CSIR evaluated CPTED for the South African context and found the following to be requirements for effective CPTED:

- Physical planning and planning approaches used at the strategic level;
- A detailed design of the different elements – for example, the movement system and roads, public open space system, and individual buildings on their separate sites, amongst others; and
- The management of either the entire urban system or the different elements and precincts that make up the urban area.

(CSIR, n.d.:4)

It is important to note that when the built environment is altered for crime reduction, crime is often displaced to surrounding areas (CSIR, n.d.). Since displacement remains a concern, CPTED measures have to be reviewed on an on-going basis in order to maintain effectiveness (Ibid). The CSIR (n.d.) also notes that interventions are location specific, and therefore “what works in one situation might not be appropriate in another” (CSIR, n.d.:4).

Based on these arguments, it must be asked for the purpose of this research: has VPUU's use of CPTED principles resulted in a displacement of crime to surrounding neighbourhoods?

Some examples of CPTED initiatives include:

- Reducing the opportunities for crime through well-planned pedestrian routes, appropriately designed informal trading areas, and mixed-use and extended hours of use of facilities.
- Limiting the potential danger posed by reducing and managing open spaces and vacant land.
- Providing appropriate lighting in parks, along streets and pedestrian routes, and so forth.
- Providing adequate infrastructure and facilities, such as roads and telecommunication so as to improve interaction between communities and the police.
- Managing the built environment efficiently, for example replacing light bulbs timeously, trimming trees and

vegetation when and where required, and collecting refuse regularly.

(CSIR, n.d.:4)

2.3.2.1. Background to CPTED

CPTED has undergone a paradigm shift since its initial inception. Rising criticism from criminologists led to the development of 2nd generation CPTED. 1st generation CPTED focused on the use of physical design principles to augment the environment in such a manner that it was not conducive for crime (Letch, et al., 2011). Criminologists criticised 1st generation CPTED because it merely displaced crime rather than reduced it (Ibid). One of its main criticisms was that it assumed that criminals made a rational choice when committing a crime (Ibid). CPTED is therefore limited because criminals are not always rational in their decision making. 2nd generation CPTED was introduced to complement 1st generation CPTED. It goes beyond 1st generation CPTED by taking into account social conditions within a community (Ibid). Madanipour (1996) advocates that social conditions be included

within the design process in order to make for effective urban design. 2nd generation CPTED does not replace 1st generation CPTED, as the principles of 1st generation CPTED are still applied, however, it focuses on these principles by incorporating social factors. Letch, et al. (2011) notes that 2nd generation CPTED attempts to prevent crime from growing in an area. For this reason 2nd generation CPTED is a more holistic approach to crime prevention in a neighbourhood (Ibid). Early childhood development, along with built environment augmentation to reduce crime, is an example of 2nd generation CPTED (Ibid). It is also safe to say that 2nd generation CPTED is interested in long-term crime prevention by changing the social conditions of the population to reduce crime (Ibid). Social cohesion is the goal of CPTED, as it gives residents the responsibility to protect and manage their environment (Ibid). For example, through uplifting the community by providing economic opportunities or education. The success of 2nd generation CPTED is based on partnerships between various stakeholders, such as the community, business owners, police, and local government (Ibid).

2.3.3 The Principles of CPTED

There are five principles of CPTED, which corroborate Newman's (1972) defensible space and Jacobs' (1961) 'eyes on the street' principles:

1. Surveillance and visibility

There are two types of surveillance, as identified by the CSIR (n.d.): passive and active surveillance. Passive surveillance is when residents casually observe public and private spaces whilst pursuing daily activities and is conveyed through the idea of 'eyes on the street' (Jacobs, 1961). On the other hand, active surveillance is done intentionally by the police or security organisations in order to monitor an area (CSIR, n.d.). Surveillance can be enhanced through a number of factors, "windows, doors ... distances between buildings, the size of public spaces, vacancy rates ... and type of use that the space is put to" (CSIR, n.d.:8). The zoning of areas will also affect whether eyes are available at night.

Visibility improves surveillance. The term refers to how the environment is made visible through “lighting and uninterrupted lines of sight” (CSIR, n.d.:8). Lighting design and how paths are laid out will improve surveillance and visibility.

2. Territoriality

Territoriality refers to ownership of residential and working environments. When residents have a sense of ownership, they take responsibility for a space and feel it is their right to defend it (CSIR, n.d.). The CSIR (n.d.) notes that a clear demarcation between public and private space can increase territoriality.

3. Access and escape routes

Spaces that lend themselves to criminal activity are often those in which there are easy escape routes as perceived by the offender before committing a crime. On the other hand, access and escape routes can also contribute to residents’ safety (CSIR, n.d.). Derelict vacant land also tends to become a criminal

opportunity as it provides a hiding space for offenders (Ibid). The CSIR (n.d.) notes that property opposite vacant land is prone to burglaries. The manner in which roads and paths are laid out, and the combination of spaces can influence the “ease of access and escape”. Victims can be assisted through “[clear] signposting of streets, buildings, and exit routes” (CSIR, n.d.:9).

4. Image and aesthetics

This is a principle of defensible space, which notes that the images of buildings or public areas often draw stigmatisation and feelings of fear, and are thus linked to levels of crime. When a community suffers from urban decay and degradation, people tend to feel unsafe in those areas. Good design combined with effective and continuous management can prevent spaces and buildings from having bad images. Resultantly, images of spaces can be improved by “ensuring human scale in design, using attractive colours or materials, providing adequate lighting, and design for high levels of activity” (CSIR, n.d.:10).

5. Target hardening

This is the physical strengthening of a property through fencing and boundary walls. High walls and burglar bars are the common target hardening measures in South Africa, as these are perceived to reduce crime (CSIR, n.d.). The problem, however, is that target hardening can often violate other CPTED principles, such as surveillance and visibility, which are important for crime prevention.

When these five principles are combined, the potential for crime reduction and prevention is increased (Ibid). When a principle is applied, it's implication on other principles, such as target hardening on surveillance, must also be considered (Ibid).

A strong component of CPTED is also community development, rather than just reducing crime. Similar to defensible space, which gives residents control over their living environment, CPTED is about developing the community and bringing community participation into crime reduction and prevention.

Public participation is a key ingredient to the success of CPTED, as suggested by Landman & Liebermann (2005) and noted by the CSIR, (CSIR, n.d.). This research aims to establish which of the CPTED principles inform VPUU's approach to planning, and how this approach has had an impact on Harare (see chapter 4). Another subsidiary question can be formed from these principles: what type of surveillance, active or passive, is used in the VPUU intervention areas?

2.3.4. Crime Displacement

Displacement is perhaps one of the fore most criticism of environmental based crime prevention strategies. Crime displacement is when criminal activity prevented in one location is displaced or moved to another where no crime prevention intervention exists (Schneider and Kitchen, 2002). For example, if extra store assistants are hired at a local store to prevent further robberies, then crime displacement assumes that criminals will move on to another store where similar interventions have not

been carried out. There are five types of crime displacement as recognised by Oc and Tiesdell (1997):

- Spatial displacement: *When a criminal commits crime in another area.*
- Temporal displacement: *When a criminal changes the time and day in which the crime is committed.*
- Tactical displacement: *When a criminal changes the method to commit a crime in order to avoid being caught.*
- Target displacement: *Because of the obstacles placed by defensible space and CPTED, the criminal changes the type of crime committed.*

Schneider & Kitchen (2007) argue that there are ethical dilemmas with displacement, as it assumes that if criminals are out-smarted at one location they simply move on to the next. However, for Schneider & Kitchen (2007), criminals are not necessarily programmed to switch to another target, and therefore much more research is needed on this issue. Crime displacement has

also been noted to be difficult to measure, but this does not mean that it does not exist (Oc and Tiesdell, 1997). Oc and Tiesdell (1997) does not consider crime displacement to be an effective argument against environmental crime prevention strategies.

2.3.4 CPTED for South Africa

Karina Landman and Susan Liebermann (2005) evaluate the idea of CPTED for the context of South Africa. Landman & Liebermann (2005) note that urban planning can be an effective tool in the prevention and reduction of crime. The two academics indicate that urban planning is already creating safer neighbourhoods through gated communities and security villages (Landman & Liebermann 2005). These types of developments, however, are controversial as they promote segregation and exclusion, which spatial planning in post-apartheid South Africa is trying to reverse. This statement is corroborated by Madanipour (1996:82), who argues that gated communities may be effective in preventing crime but exacerbate social segregation and exclusion. Madanipour (1996) also argues that, should gated

communities increase, cities will disintegrate as these developments restrict access, reduce public space and increase fear of strangers. Madanipour (1996) notes that because the city is full of strangers, it is when strangers and residents are allowed to interact that safety can flourish. Gated communities also emphasises differentiation between those living in the community and those living outside of it, Madanipour (1996) considers this to be a reminder of South Africa's apartheid past.

2.3.4.1 Linking urban planning to crime prevention

Landman & Liebermann (2005) note that crime is one of the top three concerns of every municipality in the country and municipalities desire crime prevention plans. This provides a perfect opportunity for the facilitation of CPTED in local planning agendas. CPTED principles are similar to those of defensible space, which include: "natural surveillance and visibility, a sense of ownership ... and other factors which make it difficult to commit crime in a particular place" (Landman & Liebermann 2005:22). CPTED also favours a mix of land uses and a more

integrated approach to urban development and guards itself against development that creates segregation and exclusion, such as gated communities (Landman & Liebermann, 2005).

2.3.4.1.2. Alternative approach to crime prevention in South Africa

Landman & Liebermann (2005), in partnership with the CSIR, attempt to provide an alternative to gated communities and enclosed neighbourhoods. Their approach focuses on community participation in crime prevention, which is a requirement of the integrated development plan (IDP). Said differently, municipal IDPs place a great deal of emphasis on public participation thereby involving and integrating, as opposed to excluding and segregating, residents in crime prevention strategies (Landman & Liebermann, 2005).

The idea behind having residents participate in crime prevention strategies is that they know the opportunities and constraints of their community (Landman & Liebermann, 2005). Residents identify which places they consider to be dangerous and, through

professional expertise, are taught why certain places are dangerous and how they could become safer. The main aim of residents identifying dangerous places is to open their eyes to the fact that crime does not happen randomly or everywhere but rather in specific places (Landman & Liebermann 2005). Moreover, it also helps residents to understand that crime prevention is not just a job of the police but that the community and municipality have a role to play in making places safer. This leads to an additional subsidiary question: how is public participation conducted in Harare, Khayelitsha and have the concerns of residents been addressed and expressed through the VPUU intervention area?

CPTED is used to understand spatial issues via maps, conceptual diagrams and site visits. The process is used to help residents understand why they fear particular places, and that places represent a threat to others (Landman & Liebermann, 2005). Cognitive mapping is also an important part of the process, during which residents map places where they feel the most threatened. Usually, a group of residents identify similar

locations. The objective is to help residents understand that particular places lend themselves to crime and that crime does not happen in random places (Landman & Liebermann, 2005). Solutions are then drawn up for the specific context, and responsibilities delegated to main actors. Residents need to understand that fighting crime is not just a responsibility of the police, as strongly noted by Jacobs (1961), and that it can be fought much more strongly through partnerships with police, community, councillors, and the municipality. For the purpose of this study, an additional subsidiary research question asks: how does VPUU make use of maps, conceptual diagrams and site visits to understand its project areas? Additionally, how are residents involved in these data collection and analyses processes?

Benefits of the process

The public participation process is beneficial in a number of ways. Firstly, it provides valuable information on crime hotspots, and also insight into how criminals use the space. Secondly, people tend to become participative in their role to reduce crime, and

recognise that it is not just the police's job but also that of the community and municipality (Landman & Liebermann, 2005). Thirdly, residents recognise that it is their responsibility to report crime and anti-social behaviour (Landman & Liebermann, 2005). Finally, police find that, in the areas where the workshops have been carried out, unsolved crimes have been solved because of "improved communication and mutual respect" (Landman & Liebermann, 2005:25). It therefore needs to be asked: have similar participatory processes taken place with the users of Harare's public spaces? If so, what are some of the outcomes of participatory processes?

Limitations of the process

The police regard this process as time consuming. Much of the intelligence and information gathered by the police cannot be addressed immediately, as it still has to be processed by the municipality (Landman & Liebermann, 2005). Finally, choosing a good facilitator is often tough, as police are often considered incapable. Despite the limitations, the benefits of the workshop

outweigh the limitations (Landman & Liebermann, 2005). In the final part of this section, a summary on the approach to community safety is provided.

2.3.5 Approach

The approach to community safety requires three levels of integration:

1. Crime prevention initiatives need to be based on spatial integration (Landman & Liebermann, 2005). Gated communities and enclosed neighbourhoods are therefore not an effective crime fighting option as they negate integration principles. Spatial integration requires mixed-use developments, higher density, and natural surveillance, improving public spaces, reducing vacant land, developing existing public spaces, and permeable fencing and symbolic barriers (Landman & Liebermann, 2005). However, as proven by the research from Anderson, et al. (2013) on Los Angeles, it is important to note that mixed-use does not necessarily mean lower crime rates.

2. Social integration through public participation is a necessity, as this encourages residents to become active participants in the reduction and prevention of crime (Landman & Liebermann, 2005). It also allows for solutions to become people-centred, which is the goal of the IDP public participation agenda (Landman & Liebermann, 2005). Newman was critiqued for a lack of consideration of social factors in the defensible space theory, whereas CPTED recognises this as important for crime prevention to be effective.
3. Institutional integration is the third aspect, and this can be made successful through principles of the IDP, which will ensure crime prevention is a reality through planning (Landman & Liebermann, 2005). Crime can inform the IDP by mapping strategic locations for intervention and this will promote better integration. In this way, the IDP can also respond to people's concerns. Landman & Liebermann (2005) note that the workshop method described above can be used in the IDP participation phase. Crime prevention methods, such as gated communities, can also

account for their impact on surrounding areas and the city (Landman & Liebermann, 2005). Newman (1972) made it clear that policing crime was not just the job of police but also that of residents. However, Newman neglects to consider how effectively partnerships between residents, business owners, police and local government may improve crime prevention designs. Moreover, considering that most residents are afraid to intervene when they witness a crime through natural surveillance, the help of police and other residents are necessary as people may rightfully be afraid to intervene alone. Jacobs (1961) hints at the possibility of partnerships when she suggests that, when businesses are in a neighbourhood, business owners will ensure the safety of residents who make use of the business.

The abovementioned three levels of integration provide an additional subsidiary research question: how have spatial, social and institutional integration approaches been utilised to implement VPUU interventions?

In the following section, 'situational crime prevention' is reviewed. Situational crime prevention utilises many strategies for its effectiveness, and is not limited to spatial planning interventions. However, situational crime prevention does utilise defensible space as one of its strategies and also has secondary strategies that are similar to those of defensible space. At this stage it is important to state why situational crime prevention is included in the review when its strategies are not exclusively centred on spatial planning and design interventions, which is the core of this research. Firstly, situational crime prevention considers defensible space to be one of the foundations and informants of the theory. Secondly, VPUU's crime prevention measures are not exclusively based on defensible space but also utilise situational crime prevention as their overarching crime prevention strategy for the built environment. This allows VPUU to strengthen the defensible space principles that underpin the organisation's strategy. For example, natural surveillance (a defensible space principle) is enhanced through street lighting, which is a situational crime prevention technique. Thus, situational crime prevention, like CPTED, can be said to be an

enhancement of defensible space. In addition, situational crime prevention and CPTED principles are similar.

2.4 SITUATIONAL CRIME PREVENTION

Situational crime prevention draws upon CPTED and was developed by psychologist and criminologist Ronald V. Clarke. It attempts to explain "specific crimes in specific circumstances" (Schneider & Kitchen, 2007:27). While situational crime prevention has its roots in Britain, it was influenced by defensible space and CPTED, which originated in the USA (Clarke, 1992). The aim of situational crime prevention is to reduce the opportunity for crime to occur. Opportunity reducing measures are threefold. Firstly, by directing measures at "highly specific forms of crime", secondly, through the "management, design or manipulation" of the built environment and, finally, by increasing the effort taken to commit a crime (Clarke, 1992:4). In addition, it also reduces the reward of the crime, should it be committed, in the hopes of deterring the offender (Clarke, 1992). The concepts are based on

the idea that the opportunity to commit a crime is motivated by five primary factors:

- Risk: How likely is it that I will be caught?
- Effort: How difficult is it to get to the target?
- Reward: How much do I have to gain?
- Provocation: What pushes me over the edge?
- Shame and guilt: How excusable are my actions?

(Schneider & Kitchen, 2007:27)

The factors of risk and effort can be attributed to the design and management of the built environment. Schneider & Kitchen (2007) notes that situational crime prevention, while largely grounded in psychology, is in fact much more directed at the environmental factors shaping a crime, which are the risk and effort. The factor of reward, which is based on the psychological condition of the offender, is balanced by the risk and effort presented by the environmental design (Schneider & Kitchen,

2007). Schneider & Kitchen (2007:27) illustrate this point through the example that “a valuable racing bicycle left unattended on a deserted street corner presents far more opportunity in terms of reward, and far less risk and effort, than one locked behind a showroom window in a busy shopping district”. Situational crime prevention thus aims to reduce the opportunity to commit a crime by changing the “physical environment and conditions that generate crime and fear of crime through improved design and planning” (CoCT, n.d.:14). Examples of situational crime prevention initiatives include, “improving lighting, cleansing and waste removal, the elimination of graffiti and maintenance of street equipment” (CoCT, n.d.:14). In addition, other measures include closed-circuit television (CCTV), security guards, neighbourhood watch, defensible space, and vandal resistant designs, amongst others (Clarke, 1992).

Implementing situational crime prevention is usually done through the action research model (Clarke, 1992). Thus, a situational crime prevention project has five stages, as stated by Clarke (1992):

1. Collecting data about the “nature and dimensions” of the particular crime problem.
2. Analysing the situational condition that “permits or facilitates” particular crime.
3. Systematically finding ways of “blocking opportunities” for the particular crime; a cost-analysis is included.
4. Implementing the most “promising, feasible and economic measures”.
5. Evaluating the results and “dissemination of experience”.

(Clarke, 1992:5)

Unlike Newman (1972), situational crime prevention considers social conditions as a necessity for reducing crime.

2.4.1 The Twelve Techniques of Situational Crime Prevention

These twelve techniques serve three purposes. They increase the risk of doing crime, increase the difficulty of committing a crime

and, finally, reduce the reward of committing a crime (Clarke, 1992).

1. Target hardening: reducing criminal opportunities by erecting physical barriers.
2. Access control: similar to target hardening. Access control works by reducing access opportunities. This can be done through locked gates, fenced yards, parking lot barriers, or ID badges.
3. Deflecting offenders: this works by channelling potential criminal behaviour in an acceptable manner. For example, providing graffiti boards in order for people to spread messages through graffiti in a legal manner.
4. Controlling facilitators: facilitators are items that facilitate a crime, such as guns, knives, alcohol, drugs, and so forth. Controlling access to gun ownership is an example of controlling facilitators.
5. Entry/exit screening: entry screening is about detecting those who are not in line with entry requirements. For example, the requirement of a ticket to access a concert

venue. Exit screening is to restrict the theft of objects from a protected area. For example, book scanners in a library that stop a person from removing a book without first checking it out.

6. Formal surveillance: this is surveillance done by police or security guards, whose purpose it is to deter a crime from happening as a result of formal surveillance. CCTV cameras are another form of formal surveillance. This is similar to active surveillance in CPTED.
7. Surveillance by employees: this is surveillance carried out by employees, such as shopkeepers, doormen or parking lot attendants.
8. Natural surveillance: this technique is adopted from defensible space, and provided by ordinary people going about on their daily business.
9. Target removal: this technique is simply to remove the potential target of a crime. For example, storing cash in a safe off the premises from the business to which it belongs.

10. Identifying property: marking property so that it can be identified should it be stolen. This often deters the property from being stolen as it can easily be identified later. Car registration plates are a good example of this.
11. Removing inducements: certain items tend to persuade offenders to commit a crime. For example, it has been found the presence of a gun might invoke aggressiveness in certain people. A car parked in a deserted street may also be attractive to some potential offenders. It is important to remove inducements such as these.
12. Rule setting: This is simply to set rules in order to regulate conduct. For example, schools or universities will set rules in order to regulate conduct in the learning environment.

(Clarke, 1992)

These 12 techniques provide an additional research question: which of the 12 techniques of situational crime prevention are used in Harare, Khayelitsha? This section on situational crime prevention concludes with criticisms on the strategy.

2.4.2 Criticisms of Situational Crime Prevention

These techniques, notes Clarke (1992), may be directed at the prevention of certain crimes, which may evoke the argument that situational crime prevention is only useful for some types of crimes. Perhaps some crimes are committed out of opportunity, while others are as a result of deeper motivations of anger or revenge by hardened offenders (Clarke, 1992). Whatever the motivation might be every potential crime is affected by “situational contingencies” (Clarke, 1992:21). However, Clarke (1992) notes that evidence has revealed that situational crime prevention is not only effective with opportunistic crimes but also those with deep motivations. For example, bank robberies in North America have been reduced because the risks of being caught while committing the crime have increased and the reward is low, thereby reducing motivation to commit the crime.

2.5. SUMMARY OF CRIME PREVENTION THEORIES

Defensible space by Newman (1972) neglects social, psychological and behavioural factors, and focuses solely on

architectural design and spatial planning. Newman takes it for granted that defensible space can be applied in different contexts when in actuality the principles seem to be applicable to only his case under study. Newman is also vague on how territoriality is achieved and on how each of the principles would be achieved at different residential scales.

Jane Jacobs (1961) makes universalistic assumptions based on non-empirical evidence. There is also no evidence that professionals have taken her suggestions into account for the neighbourhood she observed, thus there is no evidence to say that these have worked. A study in Los Angeles by Anderson, et al. (2013) disproves much of what Jacobs (1961) argued. The study by Anderson, et al. (2013) also proves that what Jacobs (1961) suggests cannot be applied to different contexts. Jacobs (1961) also suggests that a safe street is a street where there is a sufficient amount of users on it at all times, however, this is problematic as it is the type of user that makes a street unsafe. Moreover, Jacobs advocates for eyes on the street as this will reduce crime, but its effectiveness has not yet been proven.

CPTED as a principle has evolved from 1st generation to 2nd generation. Unlike Newman, CPTED focuses strongly on social factors and recognises the importance of these in the fight against crime. CPTED goes beyond Newman by focusing on more than just the residential environment. The focus is on community empowerment and upliftment, suggesting that it believes in long-term crime prevention. This means that results may take years before actually proving the theory as effective. As it involves the community, it is more of a people-oriented bottom-up solution than top-down when compared to Newman and Jacobs who hint at spatial planning and design professionals to make spaces safer. CPTED recognises that spatial planning and design can create safer spaces but not without people involvement. Maintenance and management is also a strong focus of CPTED. CPTED is more of a holistic approach to crime prevention, focusing not only on the built environment but also the community and governance.

Situational crime prevention, unlike CPTED, tries to change the situation and not the person/community/criminal. Its focus is not primarily the built environment, but rather a possible crime

situation, which includes the built environment. Some of its strategies are therefore not geared to changing the built environment. Unlike defensible space or CPTED, a criminologist and psychologist developed situational crime prevention. Its principles are similar to CPTED, but it neglects community upliftment and improvement of the resident population's situation. Its effectiveness in the long term can be questioned, because if a criminal has mastered a situation then the strategy becomes obsolete. For example, high walls may make the task of breaking into a household difficult and deter a criminal but if the potential offender has figured out how to overcome the high wall then the situational crime prevention strategy is useless.

To sum up the principles, Newman neglects social factors and therefore defensible space may not be effective, as social conditions do not allow it. As Jacobs lacks empirical evidence, it is difficult to confirm whether or not her suggestions are effective in different contexts. CPTED and situational crime prevention are perhaps the better of the four theories as they account for the social conditions in their strategies. As it is only possible to

account for social conditions by working with the community, the community ends up being empowered in the planning procedure. Each community is different and therefore working with the community will assist the interventions and strategies in being people-oriented and geared to address the social conditions present. CPTED and situational crime prevention strategies are context driven, and recognise this to be success for crime prevention.

2.6 CONCLUSION

This chapter focused on defensible space as the main theoretical framework for crime prevention through spatial planning. It then briefly discussed the ideas of Jane Jacobs (1961). The second and third sections demonstrated the extent to which the work of Jacobs (1961) and Newman (1972) influence crime prevention principles, including CPTED and situational crime prevention. All of these principles necessitate a deeper and more nuanced assessment in order to establish their context-specific suitability. To assist in such an assessment, this study explores the main

research questions posed in chapter 1 as well as the many subsidiary research questions derived from a review of the relevant literature. In summary, the subsidiary research questions can be tabled as follows.

Table 2.1: A Summary of the Subsidiary Research Questions

SUBSIDIARY RESEARCH QUESTIONS DERIVED FROM AN IN-DEPTH LITERATURE REVIEW
1. How does VPUU subscribe to, and apply to, Newman's principles of territory, natural surveillance, and image and milieu in the Harare case study; and what is the impact of these subscriptions?
2. Have the social conditions in Harare, Khayelitsha enabled the development of defensible public spaces? If so, how?
3. What are users' perceptions of territoriality in Harare, and how does VPUU aim to promote the <i>idea</i> of territoriality through its planning interventions?
4. How are residents of Harare taking control over public spaces, and how does VPUU's planning process enable residents to control these spaces?
5. Firstly, is there clear delineation between public and private space in the VPUU intervention? Secondly, if there has been delineation, has the delineation between public and private space created feelings of territoriality in residents? Thirdly, in the parts of Harare, Khayelitsha where crime is still high, is there an absence of delineation between public and private space?
6. Are the VPUU intervention spaces well used, and are there opportunities for natural surveillance being created by the layout of these spaces?

7. Other than safety, how and why are people motivated to use VPUU intervention spaces? Are there a variety of store types that attract a variety of users?
8. Has VPUU's use of CPTED principles resulted in a displacement of crime to surrounding neighbourhoods?
9. What type of surveillance, active or passive, is used in the VPUU intervention areas?
10. How does VPUU make use of maps, conceptual diagrams and site visits to understand its project areas? How are residents involved in these data collection and analyses processes?
11. Have similar participatory processes taken place with the users of Harare's public spaces? If so, what are some of the outcomes of participatory processes?
12. How has spatial, social and institutional integration approaches been utilised to implement VPUU interventions?
13. Which of the 12 techniques of situational crime prevention are used in Harare, Khayelitsha?
14. Where commercial uses are present, has there been evidence of physical disorder?

(Author's Own Work, 2015)

An aerial photograph of a city grid, showing streets, buildings, and green spaces. A semi-transparent blue horizontal bar is overlaid across the middle of the image, containing the chapter title. Three blue rectangular boxes are drawn on the map, highlighting specific areas: one in the bottom-left corner, one in the bottom-center, and one in the bottom-right. The text is centered within the blue bar.

CHAPTER 3: RESEARCH METHODS & TECHNIQUES

CHAPTER 3: RESEARCH METHODS AND TECHNIQUES

3.1. INTRODUCTION

In the previous chapters, the main research and subsidiary questions were outlined. This chapter describes the research methods and techniques used to collect data in order to answer those questions. The first part of this chapter deals with the research methods, which include case study methods, mixed methods and critical discourse analysis. In the second part, a discussion is held on the relevant research techniques that will be utilised, these include interviews, non-participant observation and cognitive mapping.

3.2. RESEARCH METHODS

In this section, the research methods are outlined. The use of the following research methods was based on the type of research question and problem under investigation.

3.2.1 Case Study Method

The case study method helps a researcher to understand issues and phenomena that are often multi-faceted and complex (Baxter & Jack, 2008). This definition is shared with Yin, who notes that the case study method is particularly useful when trying to “understand complex social phenomena” (2014:4). Yin finds the case study method to be useful in many situations and to contribute to our knowledge about “individual, group, organisational, social, political and related phenomena” (2014:4). This approach places a particular phenomenon within a context whilst drawing on a host of data sources (Baxter & Jack, 2008). As phenomena explored through the case study method are complex, this approach allows these complexities to be revealed. A case study method is often useful when one is trying to answer “how” and “why” questions, or when there is no intention to ‘manipulate’ the actions of participants (Baxter & Jack, 2008:545). If there is already particular insight into contextual conditions and one wants to uncover them as they are of relevance, or there is no link between the phenomenon and

context, then the case study method is also useful (Baxter & Jack, 2008:545). Shuttleworth (2008) notes that the case study method can be useful for testing whether or not “scientific theories and models” – for example, theories of defensible space – work in the real world. In the case study method, data can be collected from various sources including the media, brochures, the internet, police, government, and others. In terms of urban research, a case study could be a community, organisation, or process. In this research Harare represents the community under review, VPUU represents the organisation under review, and VPUU’s approach to defensible space planning represents the process under review. Collectively, all three foci of investigation necessitate the use of case study research methods. Accordingly, Wisker (2001:191) suggests that the case study method can be used to reveal “difficulties” (including crime and antisocial behaviour) and provide the changes that need to be made (including crime prevention strategies through planning and other interventions). Yin provides a definition of case study research as an empirical inquiry that:

“Investigates a contemporary phenomenon (the case) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.” (Yin, 2014:16).

There are four common applications of the case study method as described by Yin. The most common is when there is “presumed causal links in real world interventions that are too complex for survey or experimental methods”. The second application is to “describe an intervention and the real-world context in which it occurred” (2014:19). Both applications resonate with this research, since nuanced understandings of crime necessitate real world and situated knowledge, and since the *idea* of addressing these phenomena through spatial interventions is often too complex for survey or experimental methods alone. As such, a case study can “illustrate certain topics within an evaluation ... in a descriptive mode” (2014:19). The final application is the use of case study research to “enlighten those situations in which the intervention being evaluated has no clear, single set of

outcomes” (2014:19). Still, there are a few limitations, or misconceptions, of case study methods.

3.2.1.1 Misconceptions

Flyvbjerg (2006) identifies five common misconceptions that threaten the strength of the case study method. However, for the purpose of this dissertation only two of these will be discussed, as they are most relevant to the research. The first misconception is that “one cannot generalize on the basis of a single case” (Flyvbjerg, 2006). Flyvbjerg (2006) notes that this is firstly incorrect as one can generalise through use of the case study method, but he warns that generalisations are often overrated as a sign that scientific progress is being made. Generalisations are only one of many ways of gaining knowledge, but if knowledge cannot be generalised then this does not stop it from being a form of knowledge accumulation in a particular field or society (Flyvbjerg, 2006). Flyvbjerg addresses this misconception by asserting that:

“One can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas “the force of example” is underestimated.” (Flyvbjerg, 2006:228).

The literature in chapter 2 makes it evident that the principles of defensible space, situational crime prevention, and CPTED cannot be applied universally. Each context is unique; especially in terms of socio-economic status, and each have different institutional requirements. It would therefore not be appropriate to generalise the application of defensible space, situational crime prevention and CPTED in the Harare case study to other locations. However, there are some general lessons that can be learned from the Harare case study that may improve the process of implementing defensible space, situational crime prevention and CPTED to other locations.

The second misconception is that the case study method often subjects itself to subjective bias. This results in the method being

used to verify the researcher's "preconceived notions, so that the study therefore becomes of doubtful scientific value" (Flyvbjerg, 2006:234). The problem with this misconception is that implies that 'verification' characterises the case study method. However, this is not true as it is rather falsification that characterises the case study method. Falsification is simply when an observation being made does not align with the proposition; that observation is then considered invalid and must either be revised or rejected (Flyvbjerg, 2006). Flyvbjerg (2006) notes that researchers who have used the case study method have found that their preconceived views, assumptions, and hypothesis are often falsified after being in the field and, as such, this requires the preconceived notions to either be rejected or revised. Flyvbjerg (2006:237) addresses this misconception by arguing that:

"The case study contains no greater bias toward verification of the researcher's preconceived notions other than methods of inquiry. On the contrary, experience indicates that the case study contains greater bias toward falsification of preconceived notions than toward verification."

Defensible space, situational crime prevention and CPTED contain principles that allow these strategies to be effective. However, these principles may not always be effective in any context, especially as many of the principles are based on case studies from the global North (see chapter 2). The case study method may therefore be useful in falsifying or verifying the principles found in the aforementioned crime prevention strategies. For example, is natural surveillance an effective principle in the Harare case study? The case study method will either falsify or verify whether or not this principle is effective in Harare, Khayelitsha.

3.2.1.2 Relevance of the case study method

In regard to this dissertation, the case study is the VPUU intervention in Harare, Khayelitsha. As the principles of defensible space, situational crime prevention and CPTED have been applied in this case study, case study research methods will help to reveal and understand the complexities around applying

these crime prevention measures in Harare. Understanding and revealing these complexities will answer the second part of the main research question asked in chapter 1 of, “what might planners learn from VPUU’s prescriptions to ‘defensible space’ principles?” The case study method will also be useful in answering the first part of the main research question which is “how has the implementation of a ‘defensible space’ reduced crime rates in Harare, Khayelitsha?” The reason for the case study being useful in this regard is that it will test whether or not the theory of defensible space actually works in this particular context.

3.2.2 Mixed method research

Mixed methods research has recently become an increasingly popular method of research in the fields of psychology, sociology, health sciences and education (Cameron & Molina-Azorin, 2010). The method involves the combination of both qualitative and quantitative research methods in one study. Its rise in popularity is based on the assumption that the use of qualitative and

quantitative methods can improve the quality of findings, especially if the phenomenon or issue being investigated is complex (Ibid). Mixed methods research is not superior to single method research. Rather, its effectiveness is based on whether or not it addresses the research problem under study and the research questions posed (Ibid). It is also important to note that mixed methods research may be a standalone research method or it may fall under part of case study research.

3.2.2.1 Barriers and benefits

Mixed methods research is often considered to take more time and also to need an extra amount of work compared to single method research. The increase in time is simply because of the integration of both quantitative and qualitative research. Moreover, the researcher utilising mixed methods research has to develop a new set of skills, which cover both quantitative and qualitative methods (Ibid). The enhancement of skills has also been one of the main reasons for the rise in use of mixed methods research (Brannen, 2005).

Cameron & Molina-Azorin (2010) consider the central benefit of mixed methods research to be that the use of two methods may increase the understanding of complex phenomena, but more importantly can increase the validity and reliability of results. This is due to the quantitative confirming qualitative findings and vice versa. This phenomenon also allows for 'triangulation' (Brannen, 2005). Triangulation is simply when other methods "check, validate or corroborate" each other (Brannen, 2005:12). There are four other concepts within the mixed methods discourse other than triangulation that are able to corroborate data.

First is 'elaboration'. This is when qualitative data shows similar patterns to that of quantitative findings. Brannen (2005:12) defines elaboration as when "the use of one type of data analysis adds to the understanding being gained by another." Second is 'initiation', which is when the use of quantitative methods reveals a new finding that can be investigated by the use of qualitative methods. Third is the concept of 'complementarity'

approaches, which allow quantitative data to be enhanced by qualitative findings, or vice versa. In other words, data analysis from the two methods provides insight which, when combined, creates a bigger picture. Finally, 'contradictions' might also arise where there is conflict between quantitative and qualitative findings (Brannen, 2005). This may lead to a method being passed over in favour of another as it is deemed more reliable and valid in its findings.

3.2.2.2 Relevance of mixed methods research

The use of mixed methods for this research will help to confirm and increase confidence in the findings from the field. Qualitatively, the data will include interviews with residents on the success of VPUU interventions, and whether or not they feel crime or the fear of crime has been reduced in the intervention area. Quantitatively, the use of crime statistics pre- and post-VPUU intervention will be used to establish the effectiveness of the intervention in reducing crime. When the qualitative and quantitative are combined, they may elaborate or complement

findings. Moreover, there is also the potential that the qualitative data may contradict the quantitative. For example, residents may feel that crime has reduced significantly (based on qualitative interviews) but the crime statistics (based on quantitative findings) may show that crime has actually rapidly increased.

3.2.3 Critical Discourse Analysis

Discourse is a term often used without proper definition attached to it. The term tends to be vague and used blindly, often resulting in it either becoming meaningless or meaningful for different contexts. Jørgensen & Phillips (2002) provides a general understanding of discourse by stating “language is structured according to different patterns that people’s utterances follow when they take part in different domains of social life”. The types of discourse vary, but popular ones include sport, political, medical and scientific. When these patterns are analysed critically, the term critical discourse analysis is born. It is important to note that critical discourse analysis has no one particular method and approach. It differs depending on the field

being studied and, as a result, the approaches are interdisciplinary in nature (Jørgensen & Phillips, 2002). Jørgensen & Phillips (2002) argues that there is no clear holistic understanding of what a discourse is and how to analyse discourse.

Critical discourse analysis is an important tool, especially when it comes to understanding special texts with regards to the case under investigation. There are many uses for critical discourse analysis, but for the purpose of this research its significance for urban policy research is focused on. Keith Jacobs (2006) notes that in recent years critical discourse analysis has become an important tool for researchers who are trying to understand the urban policy implementation process. Owing to this, Jacobs (2006) recognises two reasons why critical discourse analysis is such a useful tool. Firstly, researchers are beginning to understand the important role of language in the formation and implementation of policies. Critical discourse analysis allows the researcher to gain important insights that could not have been revealed through other research methods. This statement

corroborates the significance of case study research, which has similar strengths. A special insight is that when language is analysed, a greater understanding can be gained of the policy process (Jacobs, 2006). Understanding the use of language in VPUU's urban design principles for a safer neighbourhood will help build understanding of whether VPUU aims to achieve a safer neighbourhood where crime rates are reduced, or whether their purpose is rather quality urban spaces where the *perception* of safety has increased. This would be an interesting finding, as VPUU aims to improve safety but they are not clear on whether this is actual safety or perceived safety. For the purpose of this research, a critical discourse analysis will be done on VPUU's urban design principles for a safer neighbourhood. This may provide interesting insights on how VPUU perceives crime could be reduced in Harare and also reveal nuanced insights that may not have been found through other research methods.

3.2.3.1 The role of the analyst

The role of the discourse analyst is to find out the actual meaning behind a discourse and not to simply analyse it (Jørgensen & Phillips, 2002). The primary role of discourse analysis is to explore what has been said or written, and to explore patterns arising from the statements being analysed (Jørgensen & Phillips, 2002). It is also to identify the "social consequences of different discursive representations of reality" (Jørgensen & Phillips, 2002:21).

3.2.3.2 Criticisms of discourse analysis

The first criticism recognised by Jacobs (2006) is that researchers utilising critical discourse analysis do not state what their reasoning is and the types of methods used. This makes it difficult to assess whether empirical research is able to back the claims made in the research as a result of critical discourse analysis. The reasoning and methods used in critical discourse analysis will be justified against arguments made in chapter 2, and not be based purely on independent thought. Secondly, critical discourse

analysis has been found to have limited practical uses. This claim arises out of the notion that those involved in urban activism rarely use critical discourse analysis as a tool (Jacobs, 2006). However, Jacobs asserts that the purpose and use of discourse analysis is to “foreground the pivotal role that language performs in the realms of politics and urban governance” (2006:46). This leads to another interesting use of discourse analysis, to “highlight organisational inequalities and contested dynamics of power” (Jacobs, 2006:46). This sentiment is shared with Rugg & Petre (2007) who note that discourse analysis is useful when the researcher suspects that there are regularities or irregularities. For example, one of the key aims of the critical discourse analysis is to understand how VPUU’s prescriptions for a safer neighbourhood are being carried out practically and whether or not they are effective. A third criticism is that researchers may reduce complex processes to simple categories (Jacobs, 2006). This happens when the factors causing inequalities in institutions are born out of a researcher’s subjectivity. This can be overcome by positioning the findings in a “political and economic context” (Jacobs, 2006). The findings of the critical discourse analysis will

be positioned against arguments made in chapter 2, after which they will be evaluated against research findings from the field with personal arguments from the researcher also coming to the fore. Another criticism of discourse analysis is that researchers tend to select findings that back up their own biased arguments and ignore contrary data (Jacobs, 2006). This will be avoided through objectivity in the selection of findings and through the presentation of both sides of the data.

3.3. RESEARCH TECHNIQUES

The following section will outline the various research techniques used to collect data.

3.3.1 Interviewing

Interviewing is an effective research technique that most qualitative researchers rely on (Marshall and Rossman, 1995). Interviews enable face-to-face contact with participants (Wisker, 2001). Marshall & Rossman (1995:80) identify three types of interviews: “the informal conversational interview, the general

interview guide approach, and the standardised open interview approach". Qualitative interviews are generally treated as conversations rather than as formal meetings. Within these conversations the researcher tries to understand the participant's perspective on a phenomena and allows the participant to structure his or her response (Marshall & Rossman, 1995). However, structured interviews may be necessary, especially when a group of people is being interviewed, as this will bring some structure to what could be potentially be a chaotic situation. Rugg & Petre consider structured interviews to be a 'spoken questionnaire' as the interviewer decides on a topic and also provides a scripted set of questions (2007:138). Unstructured interviews are when there is no predetermined structure and the interviewer often uses his or her judgement of which direction to proceed in (Rugg & Petre, 2007). Next is the semi-structured interview, which is a combination of structured and unstructured interviews. In semi-structured interviews there are predetermined topics, but there is also room for other interesting subjects (Rugg & Petre, 2007). Rugg & Petre (2007) further distinguish between 'hard-wired' and 'soft-wired'

interviews. Hard-wired interviews are when the interviewer predetermines the topic and questions for the session. For example, the role of environmental design in reducing crime. On the other hand, soft-wired questions are used when the interviewer provides an overall structure, but no questions or topics are predetermined. For example, the respondent may be asked what factors contribute to a safer environmental design, and then be asked about how these factors may reduce crime. Soft-wired is similar to hard-wired, but there is a vast difference as the interviewer has no way of knowing what the response to the first question will be; and the follow up questions will be determined by this response (Rugg & Petre, 2007).

Interviews can also contain either open- or close-ended questions, or a mixture of both (Wisker, 2001). Close-ended questions are ideal when trying to obtain quick facts about phenomena but are not useful when trying to identify or understand a participant's true feelings as it only allows for a limited set of responses (Rugg & Petre, 2007). An advantage to close-ended questions is that these are easy to interpret and

analyse, whereas open-ended questions provide the researcher with an unlimited amount of responses, which is difficult to quantify (Wisker, 2001). A disadvantage of close-ended questions is that the interviewer often directs the interviewee to a set of responses that might not reflect real conditions (Rugg & Petre, 2007).

Open-ended questions are the predominant form of interviewing in this dissertation, as they provide better insight and understanding of how residents in Harare, Khayelitsha perceive the VPUU interventions. They can also help gain understanding of why residents do or do not use intervention spaces. In turn, interviews with residents will be unstructured. Soft-wired questions will be used to initiate conversation with residents and to allow residents to express their opinions of how they feel about VPUU interventions. A possible soft-wired question could be: do you feel safe in the intervention area? This question will lead into other questions based on the residents' opinion. A total of ten interviews were conducted, mostly with residents and workers who are also residents in Harare.

3.3.2 Non-Participant Observation

An effective data collection technique in urban planning research, and used extensively in case study research, is observation. Allan Jacobs (1984) notes that many conclusions can be drawn about a city or neighbourhoods by just by looking at them. Observations are an important tool for anyone designing and planning a built environment. There are two types of observations: participant and non-participant. For the purpose of this dissertation, non-participant observations are used as a research technique.

Non-participant observation is the observation of activities, events and interactions with the goal of understanding the phenomenon in its real context. In the case of non-participant observation, the researcher does not participate in the activities or events, but simply observes (Liu & Maitlis, 2010).

There are two categories of non-participant observation, as devised by Liu & Maitlis (2010). These are overt and covert. Overt non-participation is when the participants being observed

understand that you are a researcher observing the activities and interactions taking place. In covert observations, the exact opposite applies, where the participants being observed are completely unaware that they are being observed (Liu & Maitlis, 2010). Covert non-participant observation will be used in this research, as this will be more effective for observing how the principles explained in chapter 2 are used in the intervention area. The reason for this is that the users of a space differ throughout the day and thus overt non-participant observation may limit findings.

An important point to understand about the observation techniques is that the researcher is entering the actual context where real lives are involved. Therefore, a good first step for an overt non-participation observer is to build rapport and trust with the participants, especially if participants are uncomfortable about being researched (Liu & Maitlis, 2010). At the same time when good trust is built between the observer and the participants, a greater level of information can be attained (Liu &

Maitlis, 2010). However, the risk that follows is that the observer may become too emotionally involved with the participants.

Spradley (1980) describes three stages of the observation process. The first stage is descriptive observation in which the researcher tries to gain an overview of the setting they are observing. This moves on to focused observation, where the researcher directs attention to certain parts of the research that are of great interest to them. Lastly, selected observation is when a researcher selects a particular interesting group of elements and observes the relations between them. Liu & Maitlis (2010) identifies that observations end when 'theoretical saturation' is reached. This is when nothing further can be added to the researcher's understanding, as everything that the observer was looking for has been found. Descriptive observation is the dominant form of observation used in this study, as the aim is to gain an understanding of how VPUU spaces are used, and how well. Moreover, there are three VPUU spaces that will be observed, and selective or focused observation may take too much time.

3.3.2.1 Strengths and weakness of observations

There are at least three strengths of non-participant observation as identified by Liu & Maitlis (2010). Firstly, the insight gained into a particular event is often unique and the meanings for the participants are also profound. A VPUU intervention space may be praised for its ability to improve the quality and safety of a space, but how do residents in Khayelitsha perceive the space? The second strength is that the complexities of how participants interact with each other and the environment are revealed over time. For example, how do participants interact with the VPUU intervention environment? Finally, the type of data collected will also be very different to that of interviews as it could potentially be the only way for sensitive data to be collected.

As with any other data collection technique, there are a few weaknesses to observation. The first is that participants could react negatively to being observed (Ibid). Although this risk lessens over time, it will always exist. Secondly, observations made in the field may be subject to an observers' bias (Ibid). For example, if the researcher's bias is that VPUU interventions do

not work, observation may be conducted with the intention of finding something wrong. Thirdly, observations are prone to selectivity and thus are never fully complete in their findings as circumstances change over time (Ibid). For example, observing users in a VPUU intervention space may reveal findings that are only true for those users, but different findings may be revealed when the users change. The way to deal with this phenomenon is to observe the space over a longer period of time, which may not be possible for this dissertation. Lastly, the researcher's voice may come through much more strongly than those of the participants when describing what is happening in a particular setting. In order to avoid this, both insider (participant) and outsider (researcher) accounts will be used in order to provide a more holistic account of what is being observed in the space (Ibid).

3.3.3 Cognitive Mapping

Mapping is an important data collection tool for urban planning research. The importance of mapping lies in its ability to uncover "realities previously unseen or unimagined" (Corner, 1999).

Mapping, as Corner (1999:213) explains, “unfolds potential; it re-makes territory over and over again, each time with new and diverse consequences.” The map is a spatial planner’s tool for planning as it reveals important data about a particular space that may otherwise not have been exposed through the use of other data collection methods. The map guides a planning project, and allows it to be “rationally developed, evaluated and built” (Corner, 1991:216). Maps show important opportunities and constraints that are prioritised in a planning project and inform decisions. The value maps provide in terms of revelation to planners and other associated professional bodies cannot be underestimated. Essentially interventions in the built environment are done based on the revelations revealed through mapping, thus stressing its importance as a data collection tool (Corner, 1999).

Prior to the initiation of the VPUU project in Harare, Khayelitsha, the organisation conducted a series of crime mapping exercises with residents to determine where residents felt most unsafe and these subsequently provided the direction for interventions to

take place. Thus, VPUU’s interventions are located where they are because of valuable information revealed by residents’ crime maps. For the purpose of this dissertation, cognitive mapping will be done of Harare, Khayelitsha to reveal new knowledge of where residents feel safe or unsafe in post-VPUU intervention sites. As Corner (1999) notes, mapping can reveal new knowledge even if it seems as if all knowledge has been exhausted. The cognitive mapping exercise may reveal interesting trends taking place in the intervention area and may corroborate or weaken arguments made in the literature review found in chapter 2. For example, Merry (1981, cited by Cozens, Hillier & Prescott, 2001) makes the argument that even if a space is defined as architecturally safe the users of the space may make the space feel unsafe. It is interesting to map whether or not residents feel safe within the VPUU intervention spaces, as perhaps the answer will corroborate Merry’s (1981, cited by Cozens, Hillier & Prescott) argument. If the cognitive mapping reveals that residents do not utilise the VPUU space, and instead use other routes, then this finding exposes a flaw regarding VPUU interventions.

3.4. ETHICAL CONCERNS

As the human subjects in the interviews were residents in the community, the main ethical concern was that, while residents' personal information would not be given out, they could possibly still be identified by the information they provide. This was addressed through the use of a consent form that explained to residents that their names would not be used, even though one participant did not mind his name being used because of his strong opinion on violence in Harare. During the course of this research, these participants are only referred to as resident or worker. This makes it hard for them to be identified. It was also made clear that the research findings will not be made available to anyone else in the community, in case of fears of victimisation, which is prevalent in Harare.

3.5. DATA ANALYSIS

The aim of the data analysis phase is to describe and analyse the data. Five steps are used to do this:

1. Get to know the data

2. Focus the analysis
3. Categorise information
4. Identify patterns
5. Interpretation

Get to know the data

The first step of the data analysis process is to first understand the data. This was done by transcribing interviews and rereading observation data. Finding quality data was also important. For example, some of the data in the interviews did not add any meaning or value to the research. Once the data was transcribed and important comments and observations highlighted, the next step was to focus the analysis.

Focus the analysis

The analysis was focused using the subsidiary research questions identified in chapter 2. These questions are important as they

provide guidelines for what needs to be investigated. The subsidiary research questions led to the data being categorised.

Categorise information

Observation and interview data along with secondary research documents were then analysed in order to categorise the data. As the subsidiary research questions were based on crime prevention principles and general information like criticisms, the data was categorised in terms of these. Principles such as territoriality and natural surveillance became the themes in chapter 4. These themes provide direction for categorising primary and secondary information. For example, if an interviewee mentions that the presence of surveillance does not make her safer, this will go under the theme of natural surveillance. The themes are considered as 'preset categories' as they arose from the literature review in chapter 2 (Taylor-Powell & Renner, 2003). The next step was to identify patterns.

Identify patterns

While analysing the data, it was evident that patterns were developing. For example, many (not all) interviewees had similar

responses for the question of if they feel safe with security in the space. Most interviewees said no with the explanation that security couldn't keep gangs away. These responses were then grouped and placed under the theme of natural surveillance. The final step was to interpret the data.

Interpretation

Research findings were not only described but also analysed. The method to doing this was to analyse the findings against the arguments made in chapter 2 and then apply personal interpretation and meaning to the results.

3.6 CONCLUSION

In conclusion, this chapter outlined the research methods and techniques used to answer the main and subsidiary research questions. The strengths and weaknesses of each method and technique were discussed. Ethical concerns were also addressed and the process of data analysis was explored.

An aerial photograph of a city grid, rendered in a light, desaturated color. A prominent blue horizontal bar is overlaid on the right side of the image, containing the text 'CHAPTER 4: RESEARCH FINDINGS'. Below this bar, three blue rectangular boxes are positioned in the lower-left and lower-center areas of the map, highlighting specific urban blocks or features. The map shows a dense network of streets and building footprints, with some larger, more distinct structures scattered throughout.

CHAPTER 4: RESEARCH FINDINGS

CHAPTER 4: RESEARCH FINDINGS AND ANALYSIS

4.1. INTRODUCTION

The research findings presented in this chapter are based on interviews with residents and users of public spaces in Harare, Khayelitsha, and on cognitive mapping exercises with local primary school children. Qualitative research findings on perceptions are substantiated and verified through field observations and crime statistics from the South African Police Service (SAPS). Moreover, the findings presented in this chapter are assessed against criteria established in chapter 2 (which align with VPUU's urban design principles), since the overarching aim of this study is to critically assess how crime prevention through spatial planning has impacted on actual crime rates and perceptions of safety in a situated context. To this end, links between the principles of defensible space, CPTED, situational crime prevention and the writings of Jane Jacobs are evaluated.

This chapter is structured as follows: the first section provides a brief analysis of VPUU as an organisation and its planning

processes. The second section discusses VPUU's spatial interventions. The third section provides an analysis of VPUU's design principles, which are critiqued based on qualitative and quantitative research findings. To this end, cognitive mapping and critical discourse analyses are used, after which a brief analysis of Harare crime statistics are provided. Finally, and before concluding this chapter, the critiques of crime prevention principles are discussed.

4.2. VPUU

VPUU is a "bi-lateral international financial cooperation programme" between the German government and the CoCT (Uğer, 2014:115). Financing is made partially available by the German Development Bank, KfW (Kreditanstalt für Wiederaufbau) (Uğer, 2014). According to Uğer (2014), 67% of costs are funded by the CoCT, highlighting the seriousness of violence and crime in local communities. Harare, in Khayelitsha was the first area to receive the initial phases of development (see chapter 1 and figure 1.1). Harare is considered to be one of

South Africa’s most dangerous and under-resourced urban areas (Ibid). After initial implementation in Harare, the program has been rolled out in the broader Khayelitsha area, as well as to other parts of Cape Town.

VPUU approaches violence prevention through a holistic approach (Cassidy, et al. 2015). The methodology used by VPUU has a strong focus on community participation and giving residents power over their community (Ibid). This is similar to the idea of defensible space discussed in chapter 2, which aims to give residents control over their living environment. Some of the key aspects that VPUU focuses on stems from the UN-Habitat Model for Safer Cities (Ibid). The UN-Habitat Model for Safer Cities prescribes that urban crime prevention be dealt with through institutional prevention, social prevention and the physical environment (unhabitat.org, 2015). This approach is adopted by VPUU and is formally known as situational crime prevention, social crime prevention and institutional crime prevention (see figure 4.1). Situational refers to the physical upgrading of the environment, social to the upliftment of the

local community, and institutional to the formation of key partnerships between stakeholders, including the local community. VPUU focuses strongly on public participation of the community, and all developments and interventions are community orientated (Cassidy, et al., 2015). VPUU acknowledges, “the community should be the driving force behind all developments” (Cassidy, et al., 2015:5).

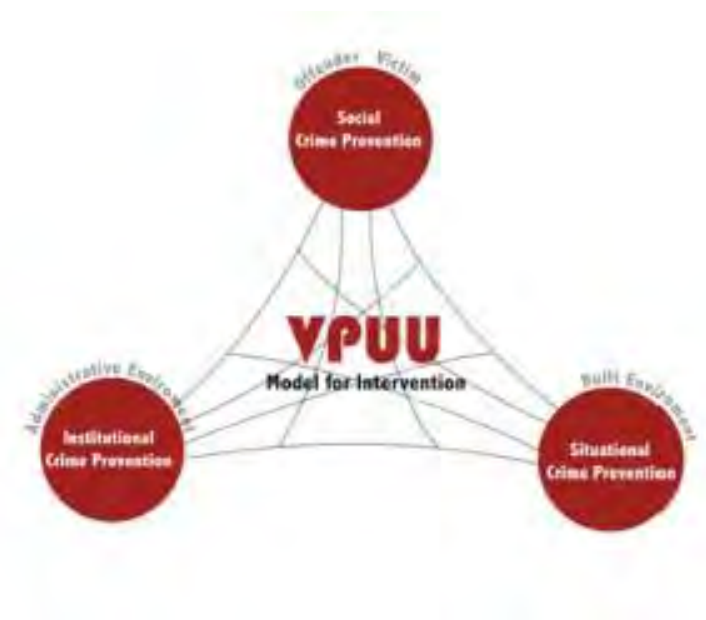


Figure 4.1: Three-Tier Approach (Data Source: vpuu.org.za, 2015)

The VPUU process is an alternative to crime prevention, away from gated communities and enclosed neighbourhoods, towards a more people-oriented solution. One of the main criticisms of defensible space, as described in chapter 2, is that it overly relies on physical determinism yet negates the use of socio-economic and demographic factors in planning interventions. VPUU recognises the importance of including the community and their socio-economic state in its planning processes.

4.3. VPUU SPATIAL INTERVENTIONS

4.3.1. Package of Plans Approach

All physical interventions taking place in the Harare safe node area (SNA) need to adhere to strict guidelines that can be assessed by the CoCT and provincial government for their approval (www.vpuu.org.za, 2015). Before any intervention takes place in the Harare SNA, land use applications, removal of title deed restrictions, and rezoning and subdivision applications need to be adhered to (ibid).

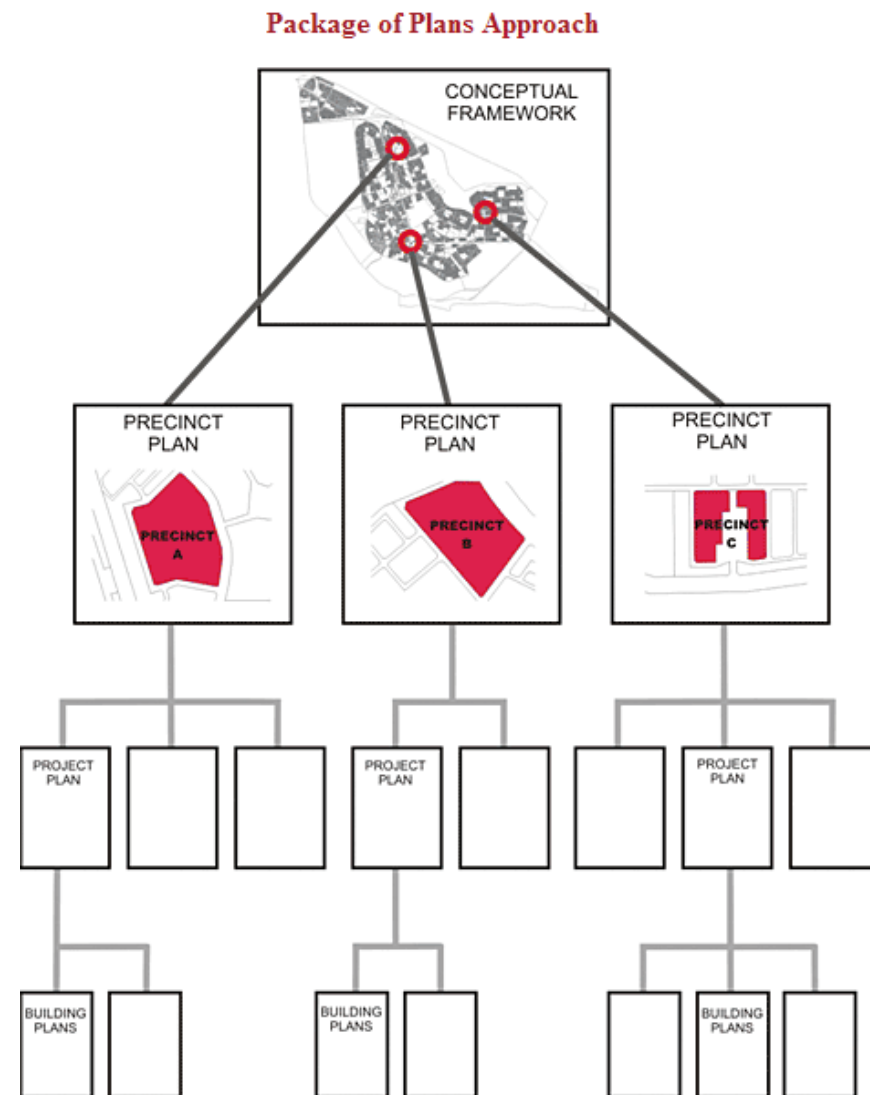


Figure 4.2: Package of Plans Diagram (Data Source: vpuu.org.za, 2015).

Participatory processes are a necessary part of any development, especially when the broader Khayelitsha community is affected (ibid). The 'package of plans' approach is used by VPUU for the "identification, design, planning and construction of the Safe Node Areas" (ibid). This approach entails a VPUU urban design concept plan, a precinct plan, a project plan, and detailed buildings plans for the SNA (ibid). These will be explored below.

The management and implementation of projects is made possible by the package of plans approach, which is a hierarchy of plans "that allows the design and approval process to move from general to more detailed as the various levels of planning is completed" (ibid).

4.3.2. The Urban Design Concept Plan

The urban design concept plan assists in drawing up policies and principles for the development of the Harare SNA (ibid). Urban design concept plans are drawn up based on a review of the

Khayelitsha Spatial Development Framework (SDF) and thus complement the strategies found in the SDF. For example, the Khayelitsha central business district CBD is the primary node in the SDF and the SNA will act as a second and tertiary node complementing the CBD with commercial and social facilities (ibid).

Urban design concept plans are drawn with community participation at all stages of the process, allowing the community to become involved. This provides the community with a broader understanding that is bigger than their immediate needs. As urban design concept plans complement the Khayelitsha SDF, the concept plans are integrated into the urban context. The concept plans contain "land uses, proposed subdivisions, service arrangements, road design, landscaping, pedestrian environment and three dimensional built form controls" (Ibid).

The urban design concept plan (see figure 4.3) provides a guideline for the layout of the Harare SNA. The focus of the urban design concept plan is a safe environment. As implementation is rolled out, new developments will be integrated into the concept plan as well as different views and opportunities of the planning concept (ibid).



Figure 4.3: Harare SNA Concept Plan (Data Source: vpuu.org.za, 2015).

4.3.3. Precinct Plans

The Harare SNA is divided into several different precincts. During the precinct plan phase, a precinct plan is drawn up for each of the different precincts (see figure 4.4). The goal of precinct plans is to design quality urban environments that respond to the policies and principles developed during the urban design concept plan (Ibid). These principles are territoriality, surveillance and visibility, image and milieu, target hardening and access control, safe access and movement, visual connections and signage, and maintenance and management, which will be critiqued later in this chapter. The implementation phases are also developed at this stage, helping implementation to occur in a cohesive and coherent manner that responds to funding dictates and community requirements without compromising on the functioning of the SNA as a safe violence preventative environment (ibid). An example of Harare Precinct 3 (recreational precinct) is provided below.

Harare precinct 3

Harare precinct 3 is a recreational precinct, which will act as recreational space for the local community (see figure 4.4). The design agenda includes developing the edges surrounding the open space in order to increase natural surveillance opportunities (ibid) (see figure 4.5). Pedestrian and cycle routes are also extended through the precinct in order to facilitate movement between Harare Square and Khayelitsha Station.

The design proposal for precinct 3 includes:

- Provide raised, level and well-lit pedestrian routes and associated landscaping. These will also function as retaining elements to adjacent properties.
- Extend no. 25 of the surrounding properties to encourage the extension of existing dwellings or the building of new 'back yard' dwellings in order to activate 'dead' edges and provide natural surveillance. Provide a fence and gate to each property.

- Terrace detention pond to create a recreational area with game courts, children's play equipment, tree planting and seating.
- The extension of existing black top sidewalks on Ncumo Road to property boundaries and the provision of appropriate lighting.
- Formalise tenure arrangements for informal dwellers wherever possible.
- No. 6 new housing units.
- Provide new community facility.
- Provide no. 1 live/work unit with business opportunity.
- Investigate opportunities of existing shop.
- Provide a new active box.
- Reconstruct storm water canals that serve as pedestrian paths.

(VPUU, n.d.)

Ownership and Zoning

As the precinct is zoned as a public open space, new developments such as property extension, formalising tenure arrangements and the building of a crèche will need to undergo rezoning and subdivision (www.vpuu.org.za).



Figure 4.4: Recreational Precinct Plan (Data Source: www.vpuu.org.za, 2015).

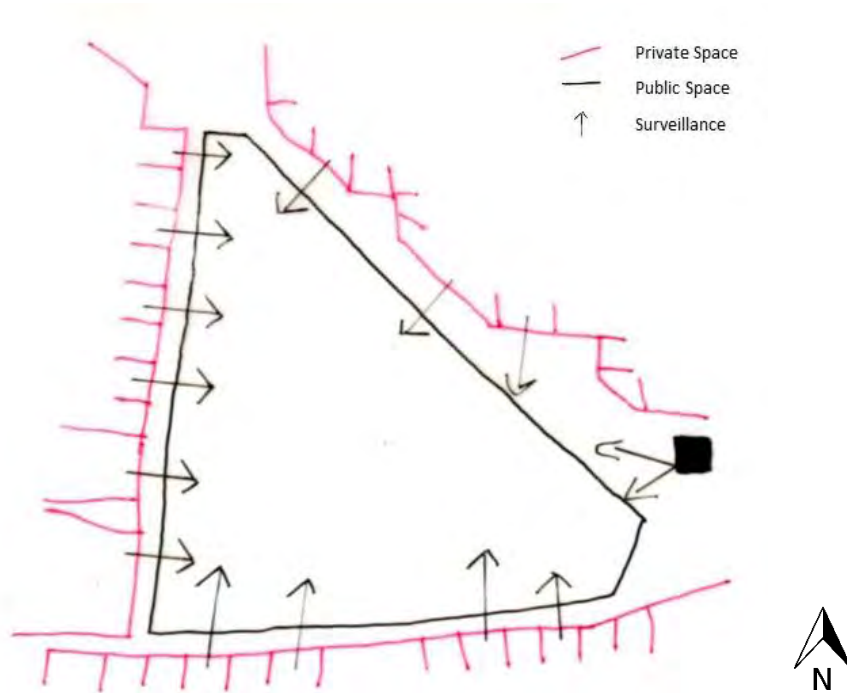


Figure 4.5: Conceptual Diagram of the Recreational Precinct (Data Source: Author's own work).

The recreational precinct is strongly grounded in the principles of natural surveillance, territoriality, defined access and safe

pedestrian movement. The surrounding houses and the active box provide the natural surveillance function. Territoriality is achieved through demarcating public and private spaces. The landscaping, which can be seen in figure 4.6, defines the movement routes. The exploration of the effectiveness of these principles in reducing crime will be detailed later.

4.3.4. Project Plans

Project plans or site development plans provide more detailed development for the site. These plans are detailed to the extent that they include street furniture, movement patterns, focus areas, hard and soft spaces and urban design proposals (Ibid) (see figure 4.6). The detailing of each project is done to achieve "sensible, logical and cost-effective implementation" (ibid).



Figure 4.6: Project Plan for Recreational Precinct (Data Source: vpuu.org.za, 2007).

4.3.5. Building Plans

The planning process is complete with detailed building plans guiding the construction of new buildings in each precinct.

The package of plans approach allows for approval by both the local community and the relevant authorities. The broad policies and principles are important as they steer the direction of more detailed precinct plans and attempt to avoid duplicative consultation processes. The sustainability of the SNA is ensured through community participation, allowing the local community to feel as if the project is their own (ibid).

4.4. CRIME PREVENTION THROUGH SPATIAL PLANNING AND DESIGN

VPUU's main goal is to reduce violence through urban upgrading and to improve quality of life for locals (Uđer, 2014). The urban design and planning principles used by VPUU are those discussed in chapter 2 – these include CPTED and situational crime

prevention theories (VPUU, n.d.). Both CPTED and situational crime prevention have defensible space as part of their planning agenda and share similar principles. However, VPUU does not use defensible space exclusively as this theory focuses on public housing and VPUU's focus is "much larger than public housing" (Peyroux, James & Krause, n.d.:6). The VPUU urban design principles, which will be interrogated further in this chapter, are "based on the assumption that the proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime, as well as the significant improvement in the quality of life" (Peyroux, James & Krause, n.d.:3). However, VPUU recognises that this design strategy needs to be "a part of [an] holistic approach to crime prevention, incorporating social, environment and community development strategies" (Peyroux, James & Krause, n.d.:3). As the principles for these three theories overlap, it was found necessary to merge the principles under various categories in order to present the research findings.

4.4.1. Territoriality

Territoriality is about providing residents with a sense of ownership over their community. There a number of ways in which VPUU brings about territoriality, which are explored in this section.

4.4.1.1. Public participation

One of the main themes reoccurring throughout chapter 2 is that fighting crime is not solely the job of police but also that of the community. These arguments can be found in the writings of Jacobs (1961), Newman (1972) and also Landman & Liebermann (2005). An important part of Newman's (1972) writings is that the environment should be restructured so that residents are able to defend their space without necessarily relying on police. The aim of territoriality is to provide residents with a sense of ownership over their community, that they will defend it should it be under threat. Public participation in crime prevention strategies would

allow for the arguments of Newman (1972) and Jacobs (1961) to be achieved.

Public participation is the first method of providing residents with a sense of ownership over their community and in particular the VPUU public spaces. Residents are involved in the VPUU planning process from the beginning when the area is surveyed in terms of crime hotspots, until the end when the intervention has been implemented and the situation is monitored and evaluated. The involvement of residents is done through the process of a baseline survey. As the focus of this dissertation is primarily on the VPUU interventions and not public participation, the baseline survey process will be described briefly.

Before carrying out an intervention a 'baseline survey' is done with the community. The aim of a baseline survey is "to prepare a participatory based analysis of violence and crime related problems, the socio-economic situation, [and] the needs, potentials and organisation[al] patterns of the people in the ...

Safe Node Areas of Khayelitsha (Harare)” (VPUU, n.d.:1). A baseline survey is an important part of the planning process as it informs:

- The physical planning of both existing as well as new infrastructure.
- Policy development.
- The overall development vision informed by CCT plans such as the IDP to strengthen the social cohesion and the economic potential within each safe node.
- Socio-economic situation in order to develop a monitoring and evaluation system.

(VPUU, n.d.:1)

The indicator development for violence prevention and the findings from the baseline survey are linked to further monitoring and evaluation processes (VPUU, n.d.). This is done through

weekly household surveys conducted by locals. A unique element of the household survey is that it gains an understanding of safety along major pedestrian routes (Ibid). Figure 4.8 shows the routes households perceived as dangerous for July 2008 and September 2008. The more households mention a route as being dangerous, the darker the colour. A useful function of this map is that it informs patrol teams of where to focus on (Ibid).

The baseline survey is used to analyse the residents’ perceptions of violence, the main forms of violence, crime hotspots mapped by community members (see figure 4.7), and possible support for victims of crime in Harare (VPUU, n.d.). Once the findings have been analysed and made available to the community through a mass community meeting, the types of violence are prioritised and short-term interventions are defined in order to address the three main types of crime. Murder, rape and robbery were identified as high priority crimes in the Harare SNA (VPUU, n.d.). The short-term interventions are defined through consultation with the community and professional expertise.

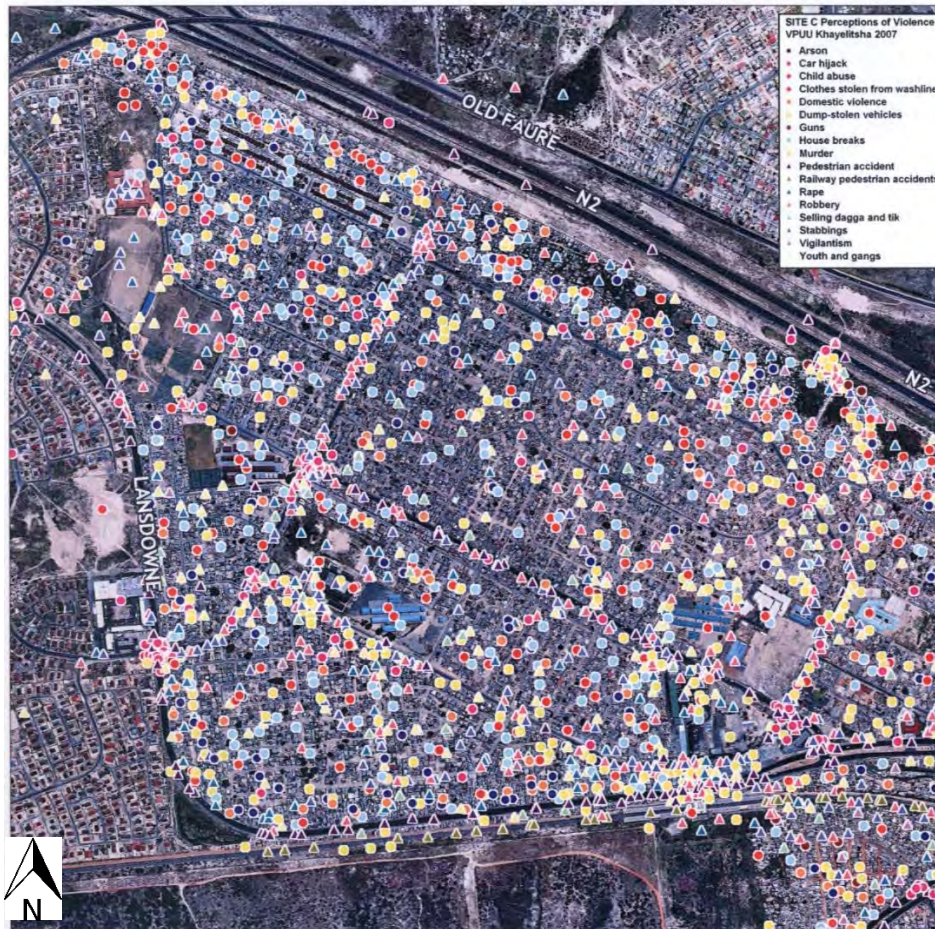


Figure 4.7: Residents' Maps of Hotspots (Data Source: Peyroux, James & Krause, n.d.).

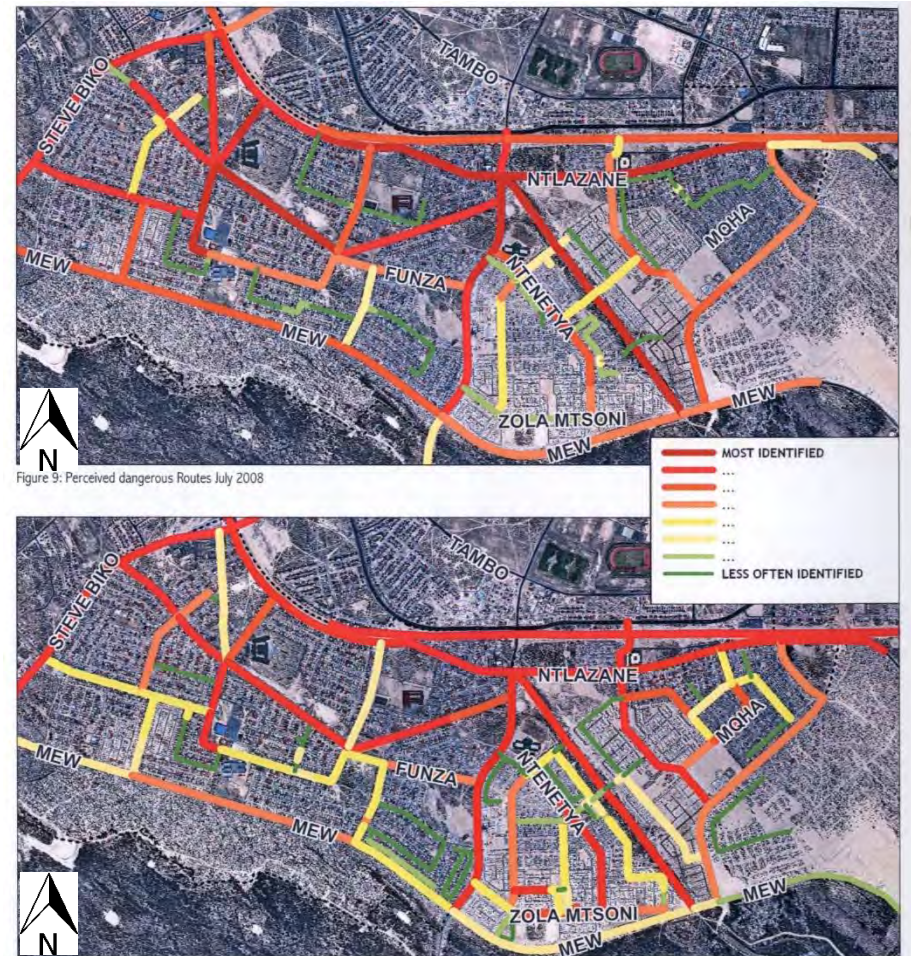


Figure 4.8: Crime and Violence Routes 2008 (Data Source: Peyroux, James & Krause, n.d.).

From a review of VPUU's policy documents, public participation is key to any intervention. Landman & Liebermann (2005) argues that when there is participation, residents understand that crime prevention is not just the job of police but is also up to them. Accordingly, the goal of territoriality is to provide residents with a sense of ownership over their community in the hope that they defend it against any threat. Public participation supports territoriality as residents are provided with the feeling that they are a part of interventions. A security guard who was interviewed at the recreational precinct was also a community member and it is his task to survey the space. Furthermore, residents also do maintenance and management of the spaces. These two examples, along with community participation in the planning processes, indicate how VPUU provides residents with a feeling of ownership over their community. Another territoriality tool is that of active boxes.

4.4.1.2. Active boxes as a territoriality tool

According to VPUU urban design principles, the active box structures are supposed to provide a sense of territoriality or ownership over the space. The way in which this is done is by giving the community responsibility over managing the structures. Community participation in the planning process has also led to the introduction of these structures, therefore the community feels as if it is theirs. The active boxes have individual names, chosen by the community, which will further invoke feelings of identity, ownership and territoriality (Krause, n.d.; Peyroux, James & Krause, n.d.).



Figure 4.9: Active Boxes in Harare Recreational Precinct (Data Source: www.theguardian.com).

4.4.1.3. Delineation between public and private space

Jane Jacobs (1961) and Oscar Newman (1972) prescribe that cities could be made safer by a clear demarcation between public and private spaces. Newman notes that areas of the city where high crime exists show a weak demarcation between public and private space. Through observations in this research of aerial imagery of Harare in 2005 it was noted that there was very little demarcation between public and private space (see figures 4.10 and 4.11). However, post-VPUU interventions show a much stronger and clear demarcation between these spaces. The quality of the public space has certainly improved and, from field observations, locals enjoy being in these spaces. Unlike what Jacobs (1961) and Newman (1972) suggest, crime rates in Harare have not decreased but have instead increased (see appendix A). Particularly, crimes such as murder, sexual crimes and common robbery. There could be many reasons for this, including an increase in population. Aerial image comparisons between 2005 and 2015 show that there has been an increase in housing in the area, which in turn has resulted in an increase in population.



Figure 4.10: No Demarcation between Public and Private Spaces in Harare Square (Data Source: Google Earth, 2005).

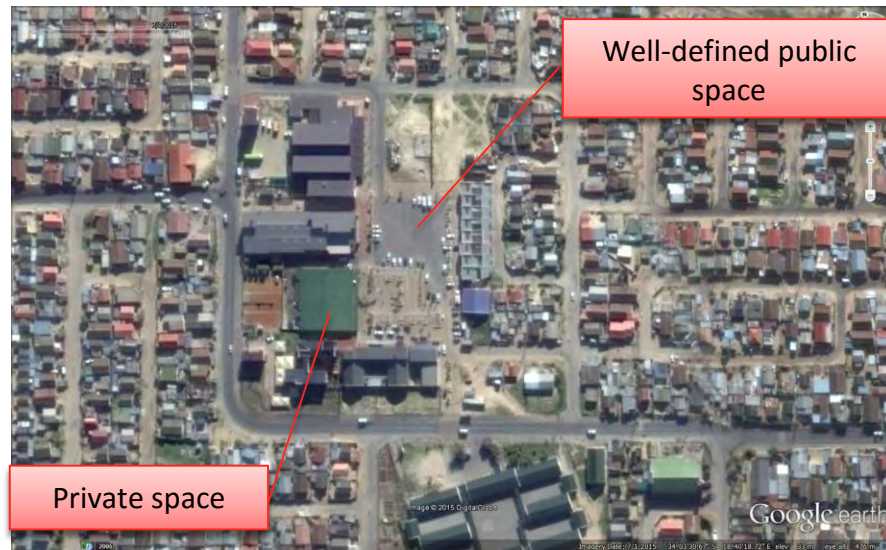


Figure 4.11: Clear Demarcation between Public and Private Space in Harare Square (Data Source: Google Earth, 2015).

4.4.1.4. Discourse on territoriality

Discourse on territoriality does not describe how territoriality is achieved over a space. The writing suggests that territoriality is “the physical restructuring of neighbourhoods to allow residents to control the area around their homes” (Peyroux, James & Krause, n.d.:14). From observing aerial imagery, there is no evidence that suggests VPUU has physically restructured the residential environment of Harare. Besides the public spaces, no physical restructuring has occurred around the homes. A second statement from the writing on territoriality is that “it relies on resident involvement to reduce crime and remove the presence of criminals”. From the interviews with residents and unarmed security, most residents feel threatened by gangsters who control the streets and have observed that, even with the presence of security and police, gangsters still commit crimes and terrorise the community. Territoriality aims to provide residents with a sense of ownership over the private (house), semi-private (in-front of the house) and the street (public). However, interviews with residents indicate that gangsters have taken ownership of

the streets and public spaces of Harare, bringing anti-social behaviour. One interviewee mentioned that a particular street in Harare had gangsters with long knives in their possession waiting to rob people (interview, 12 August 2015). This interviewee's statement suggests that residents are also afraid to call on police and thus allow criminal activity to linger. Territoriality is therefore not effective because residents are not defending their community against criminal activity. The qualitative and quantitative findings show that crime is rampant on the streets of Harare, and residents have very little control. In another interview, a resident claimed that VPUU was not for him; they were just for themselves (interview, 12 August). That is to say, that the organisation does not cater for him but rather for their own desires. This type of comment indicates that residents don't necessarily feel as if they have ownership over the streets.

There is also the dilemma of individual and collective ownership. Individual ownership is at the moment in itself problematic, as a result collective ownership is not possible. As mentioned in chapter 2, there is no demonstration or explanation of how

individual ownership becomes collective ownership in the defensible space theory (Reynolds & Elffers, 2009). According to VPUU, territoriality encourages residents to "adopt, secure and maintain these spaces" (Peyroux, James & Krause, n.d.:14). However, it does not state exactly how residents should secure and adopt these spaces.

Newman (1972) believes that territoriality can greatly reduce crime if people believe they own it. By giving the community a sense of ownership, they will defend the space should it be under threat. Observations and interviews did not show this to be the case. Many residents fear that gangsters in the community are armed with weapons and thus they won't be able to defend themselves should there be an altercation. In the writings of Newman (1972) there is no indication of how residents should defend their space. Besides indicating how territoriality can be achieved, CPTED also offers little in terms of how residents will defend their space. It seems fair to say that through effective architecture, spatial planning and design, and community participation, territoriality has been achieved, but residents have

no means of defending it. An architecturally safe environment does not mean that it will be defended because this has to do with social conditions. Therefore, feelings of territoriality do not automatically mean that residents will defend their space. Reynald & Elffers (2009) critiques the agenda of crime prevention through the built environment because social conditions do not allow for the spaces to be defended, even though these are safe according to design standards.

VPUU has improved the quality of the space, however crime statistics point out that crime has not decreased and anti-social behaviour is still present. While a clearer demarcation between public and private space exists in the Harare SNA, crime has not decreased. This shows that design alone has not decreased crime rates and that social conditions need to be addressed. Nevertheless, having a clearer demarcation of public and private space does allow for other principles to occur, such as surveillance and visibility.

4.4.2. Surveillance and Visibility

The idea behind surveillance is that the presence of an observer will either deter a crime or will allow for possible intervention should a crime take place. In the literature on CPTED and situational crime prevention, surveillance is distinguished as passive or active (see chapter 2). Passive surveillance is present in the Harare SNA as residents casually observe the spaces as they move. However, this is not to say that residents are intentionally looking out for criminal activity. Active surveillance exists in Harare through the presence of formal security in the public spaces and VPUU active boxes. Through observation, no CCTV cameras were noted as being present in the Harare SNA.

In order for surveillance to take place there needs to be a sufficient amount of users. Well-used spaces will often provide natural surveillance opportunities. When a space is well used, it allows the users of the space to act as surveillance and it also creates an exciting spaces that motivates people to look at it (Jacobs, 1961). During the research in Harare Square, while there

were many users of the space, people did not look out onto the space even though the double-storey design of the buildings allow for it. Some of the buildings also appeared vacant or unoccupied and thus limited natural surveillance opportunities. The informal trade happening in the square also provides a fair amount of activity in the space, which consequently provides natural surveillance. On the second round of observations during the morning hours, the space was fairly underutilised as most people were at work or school. Besides workers and informal traders, there were really no forms of surveillance going on. A VPUU security guard does sit in a mobile shelter and observes the space from a distance. However, as the space is big in size, it's very difficult to know whether security is present when one stands at the other end of the space.

4.4.2.1. Assemblage of activities

Through an assemblage of activities VPUU concentrates on one location. Harare Square is a good example of where a group of activities have been assembled. For example, the square includes

a library, flats, youth centre, grocery store and informal trade. An assemblage of activities promotes convenience as residents can make one trip for all their needs. It also allows for a sufficient amount of users to be present in the space, as the space becomes a popular node. The more users, the more eyes on the street, thereby improving the perception of safety. While this principle does make it more convenient for locals in terms of travelling, from the interviews it is hard to justify that this makes the space safer. An assemblage of activities makes a space much more active and the more active a space is, the greater the opportunities for natural surveillance. However, the presence of more people promoting passive or natural surveillance may mean a space is safer but it can also mean more victims will be present should a crime take place, as critiqued by Mawby (1977). While not stated explicitly in the VPUU urban design manual, this is what Jane Jacobs (1961) prescribes as needed in order for cities to become safer. The concern, however, is who is in the space? If the space was more active but, hypothetically, it was filled with more gangsters than ordinary citizens, this space is not safer. Architecture and spatial planning and design cannot possibly

keep gangsters out and therefore it cannot keep crime or anti-social behaviour out of a space as well. Unless, of course, the space has strict access control and each person had to be identified before entering. However, this will negatively affect the community integration that VPUU is trying to achieve.

The VPUU recreational space was underutilised in the mid-morning and early afternoon as very few people passed through it. As it is a space that links two precincts together, that is Harare Square and Khayelitsha Station (see figure 4.12), it is most likely only busy when people are commuting to and from work in the early morning and late evenings. The times when the area was observed were when most people were at work or school. While speaking to a security guard in the recreational precinct, it was noted that he was unarmed and unable to defend himself against a gang or group of criminals. He had the purpose of keeping watch over the space and was able to radio another security guard or the police, should anything happen. On the second visit, the security guard was an unarmed elderly lady who kept watch.

In this crime ridden community, with underutilised space and unarmed security guards, natural surveillance does not seem to be an effective tool. A security guard at the recreational space explained that even when the police is radioed to intervene, it can take hours before they actually arrive, long after the situation has ceased and suspects have fled (interview, 12 August 2015). A resident who was interviewed at Harare Square stated that having security “keeping watch” is pointless because “what are they going to do when gangsters come? Having security around is not going to help” (Ibid.). On the other hand, another resident mentioned that “there is no chance of getting robbed in a VPUU space because there [are] people all over watching you” (interview, 12 August 2015). These interviews seem to suggest that people feel safer knowing that they are being watched by security personnel, however some feel that security will not be able to defend themselves or intervene in a situation, especially when gang members terrorise the community. This is a strong criticism that came to the fore in chapter 2, namely that the presence of an observer does not necessarily guarantee the likelihood of intervention.



Figure 4.12: Conceptual Relationship between Precincts (Data Source: Authors own work, 2015).



Figure 4.13: Harare Recreational Precinct (Data Source: vpuu.org.za, 2010).

From observations, interviews and a discourse analysis of VPUU's design manual, it is clear that VPUU aims to achieve surveillance and visibility by having a good line of sight through active frontages and through the placement of buildings. Blank building facades, 'lost spaces' (in the sense as argued by Trancik, 1985) and large car parks are avoided as much as possible. Interestingly enough, however, in Harare Square the parking space is too big for the amount of cars present. Lighting is also a significant feature that helps to make surveillance and visibility possible. However, a resident interviewed explained that lighting does not matter in Khayelitsha because people get "robbed in broad daylight" (interview, 12 August 2015).

4.4.2.2. Active boxes as a surveillance tool

The natural surveillance function of the active box can also be critiqued. Newman (1972) suggests that natural surveillance can increase security. However, this refers to the perception of safety and not actual safety. The fear of crime may be reduced but this does not mean that actual crime has decreased. An interview

with a resident corroborates this statement, noting that Harare recreational precinct where an active box is present is still a popular space for muggings (interview, 12 August 2015). Here design has again improved the perceptions of safety but it has not increased safety because social conditions do not allow it. People, and not the design, are responsible for crime.

4.4.2.3. Site layout and active frontages

The layout of the site should not hinder natural surveillance and visibility. When a site has clear legibility, the 'perception of safety' is increased (Peyroux, James & Krause, n.d.). Natural surveillance can be improved by positioning buildings and windows close to the street boundary. There should be little space between buildings and blank building facades, and overgrown vegetation should be avoided (Peyroux, James & Krause, n.d.). Landscaping can be used to define edges, routes, and spaces to mark transitional spaces, marking a change of use in space and lastly promoting a positive image to help restore civic pride (Peyroux, James & Krause, n.d.).

Through observations of the SNA this was a strong design tool, particularly in Harare Square and the recreational precinct. In Harare Square the buildings are positioned in a manner that forms a strong enclosure (see figure 4.14). The buildings define the space. The active frontages include the position of the windows and entrances, which also define the space. Thus, natural surveillance is not impeded or hindered in any manner. Because the entrances are visible, a person in danger in the space could easily access those entrances to try escape danger. Newman (1972) notes that crime is lower in apartment blocks where the entrances are clearly visible. In the recreational space, the positioning of the active box, the Football for Hope Centre and the various playing fields all allow for natural surveillance to take place as the corridor through which commuters walk through can easily be seen.

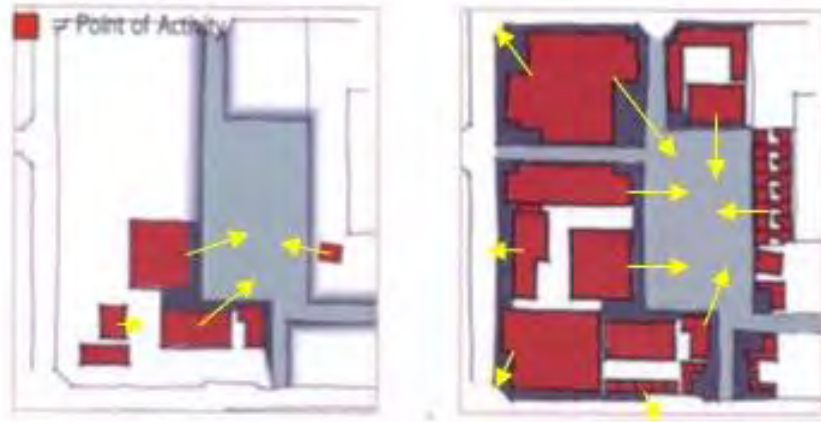


Figure 4.14: Site Layout of Harare Square Provides Natural Surveillance Opportunities (Data Source: Peyroux, James & Krause, n.d).

4.4.2.4 Integration of Uses

An important principle to achieve integrated human settlements is the mix of functions (www.vpuu.org.za). The work/live unit is VPUU's answer to this (see figure 4.15). These comprise of a living component and a working component (ibid). Thus, it is residential with the ability to create an income. The ground floor is an income generating activity, like a shop or office, with the second floor being a flat occupied by the business owner (ibid). VPUU

explains that this “will increase the mix of uses within Khayelitsha, a mono-functional area (purely residential)” (ibid). This statement seems to suggest that a multi-functional area will increase safety, however, research by Anderson, et al. (2013) suggests that mono-functional areas are safer because they improve territoriality and surveillance opportunities. However, the research done by Anderson, et al. (2013) was done in Los Angeles and therefore may not be true for Harare. The work/live units will strengthen ownership and improve passive surveillance (ibid).

The work/live units resonate strongly with Jacobs' (1961) suggestions for a safer city as she advocates for a mix of uses to create activity after hours. The work/live units were implemented in Harare Square because after business hours, including on weekends, there was little activity. The square was thus conducive to crime, especially armed robberies (Peyroux, James & Krause, n.d.). The work/live units would mean the space is active during the day when business happens, and after hours when it has a residential function. This means that natural

surveillance opportunities are available but the effectiveness is highly debatable as the chance of residents intervening in an armed robbery (the main crime in the square) is low. Again, the social conditions and not the design factors play a role in the space being safer. Theoretically, according to Jacobs (1961), this works for a safer city but interviews with residents indicate the space is still unsafe because of the presence of suspicious users. Social conditions have a much stronger role to play in the safety of a space than the design.



Figure 4.15: Live/Work Units (Data Source: Author's own work, 2015).

4.4.2.5. The discourse on surveillance and visibility

Compared to the writings on defensible space, CPTED and situational crime prevention, VPUU is not necessarily clear on how surveillance and visibility increase the safety of a space. The VPUU urban design principles of a safe neighbourhood state how natural surveillance can be achieved but does not state that this makes a space safer. VPUU notes that natural surveillance “as a design concept ... promotes the creation of environments where people can easily observe the space around them while carrying out their day to day activities” (Peyroux, James & Krause, n.d.:13). When the writing is analysed closely, it seems to suggest that those who use the space may be made aware of the presence of any threat through natural surveillance, as the principle strives to “maintain visual connections between activities (both within buildings and on streets) and the street or public space” (Peyroux, James & Krause, n.d.:13). This would imply that a resident will be able to spot a threat and try to escape or protect himself or herself but it does not imply that surveillance will deter criminal activity. The writing does not suggest that natural surveillance makes a space safer. From the interviews, it can be

concluded that, even with the presence of security observing a space, residents do not feel any safer because of the anti-social behaviour promoted by gangsters. Natural surveillance can be made more effective through a healthy looking environment with a positive image.

4.4.3. Image and Milieu

VPUU recognises the importance of a healthy looking environment with a positive image in improving the perception of safety in a community. Before the VPUU interventions, the environment in Harare was in decay, which led to a bad image. Today, the quality of public spaces in Harare has increased considerably. An interviewed worker spoke about her joy at VPUU's interventions, as before "there used to be a lot of sand which would go into my shoes ... but now it's nicely paved and much safer" (interview, 12 August 2015). VPUU has improved the quality and image of the public spaces in Harare (see figure 4.16 and 4.17). Landscaping of the space in particular has improved the image of the public spaces in Harare. The presence of trees,

paving, nicely trimmed vegetation, and the removal of waste is all a part of this. However, good-looking spaces do not mean safer spaces, as indicated through resident interviews. Harare Square is a well-designed space, but there are walls that are vandalised with graffiti thereby demising the aesthetic quality of the space (see figure 4.18). Anderson, et al. (2013) suggest that where commercial uses are present, physical disorder, such as graffiti, is also present. This is especially true of Harare Square, which is made up of predominantly commercial uses and has graffiti, as illustrated in figure 4.18. This could be attributed to the residents staying in the square feeling as if physical order is the responsibility of the commercial vendors. The zoning of Harare Square, which is mixed use, has had an adverse effect on principles, such as image and milieu.



Figure 4.16: Recreational Precinct before VPUU Intervention (Data Source: VPUU, 2007).



Figure 4.17: Recreational Precinct after VPUU Intervention (Data Source: Peyroux, James & Krause, n.d)



Figure 4.18: Decaying Residential Area Adjacent to VPUU Space (Data Source: Author's own work, 2015).

4.4.3.1. Active boxes and improving the image

The active boxes also bring about a positive image in their location. In the Harare recreational precinct the presence of the active box has certainly improved the image of the space when compared to its previous state. Newman (1972) explains that a neglected isolated area, which characterises the recreational precinct, becomes a hotspot for crime. Conversely, a positive image deters criminal activity and anti-social behaviour because it shows the space is well looked after and controlled (Newman, 1972). The positive image that characterises the recreational precinct today (see figure 4.17) has not deterred criminal activity or anti-social behaviour. A space with a positive image may have a better perception of safety but may not necessarily be safe.

4.4.3.2. The discourse on image and milieu

In the image and aesthetics section, VPUU recognises the importance of an area having a good image. A good image creates the perception of safety, while an area in environmental decay creates feelings of being unsafe (Peyroux, James & Krause, n.d.).

This statement supports the writings of Reynolds & Elffers (2009) on image and milieu, which attributes a negative image to creating feelings of fear and limiting resident interaction with the environment, thus reducing surveillance opportunities. However, this does not refer to actual crime but rather to perceptions of safety. VPUU states, “appropriate design and management of public spaces plays a key role in creating precincts which do not become ‘hotspots’ for crime” (Peyroux, James & Krause, n.d.:15). This statement assumes that the design of the public space can reduce crime or prevent criminal activity from taking place. It also assumes that an environment with a positive image will not be a hotspot for crime or anti-social behaviour. A crime mapping session conducted with school children from a local school in Harare indicated that Harare Square, despite its positive image compared to the rest of Harare, is still a place where they perceived crime as high (see figure 4.23 under section 4.6). The recreational space is a space with a good image; however, once again it is the users of the space that create an unsafe space, and not the design. During interviews a security guard at the recreational space mentioned that after 21:00 the space

becomes the centre of gang activity (interview, 12 August 2015). Image and milieu of building facades is able to improve the quality of the environment, which it has done in Harare, and these can assist in target hardening and access control.

4.4.4. Target Hardening and Access Control

Target hardening is the strengthening of the security of a property through the use of high walls and fences (CSIR, n.d.). Access control is those elements that reduce access opportunities, such as barriers, card scanners, locked gates, and so forth (Clarke, 1992). VPUU uses the building facades as a method of target hardening. This is done by placing buildings close to the street and allowing them to occupy the entire width of the site with minimal gaps in-between them. Harare Square is a good example of this, where buildings create enclosures around the space, thereby enhancing natural surveillance (see figure 4.14). It also helps to demarcate public and private space, allowing for the creation of territoriality and access control. There is no evidence of high walls being erected for extra security

or any strict forms of access control in the precincts. They are open to everyone from the community to utilise. This does pose a potential risk, as potential offenders or armed gang members cannot be kept out. However, VPUU plans its developments with the whole community in mind and not a select few. This is done in order to promote social cohesion and integration in its developments, and so as not to be exclusionary (VPUU, n.d.).

4.4.4.1. The discourse on target hardening

The strengthening of building facades and the environment will improve the safety of both the environment and building. The noted example is of how row housing can be improved or strengthened. However, the housing in Khayelitsha is not row housing; it is individual to semi-detached housing. Also, VPUU has mainly focused on public space and not on housing. The writing is therefore not clear on how target hardening has happened in Harare, making the example irrelevant. Target hardening and access control can strengthen movement networks.

4.4.5. Defined Access and Safe Movement

The purpose of having defined access and safe movement is to increase the perception of safety for users. This is done by providing official routes with landmarks, such as the active boxes, which act as landmarks to guide pedestrians. As an observer in a foreign space, the active boxes and lighting provide a sense of direction. It was also noticed that on one of the routes people made use of 'desire lines' and did not stick to the well-lit route. The well-lit route moved towards the station, however a MyCITI stop attracts users off the route over a vacant site. Visual connections and signage aid in safe pedestrian movement.

4.4.5.1. Visual connections and signage

Visual connections are important for the movement and safety of pedestrians. Landmarks, such as the active boxes and other buildings, are important orientation aids and subsequently allow a pedestrian to detect any oncoming danger, such as suspicious persons (Peyroux, James & Krause, n.d.). Clear visual connections support natural surveillance, both passive and active, as they

allow ordinary citizens and official security to observe any threat in the space. Naturally, as in the discussion under natural surveillance, this does not necessarily mean intervention will happen should a crime occur. However, it will allow residents to survey oncoming threats and find refuge at an active box should they feel threatened. Long straight routes are provided for pedestrian paths in order to aid visual connection (CSIR, n.d.). The CSIR (n.d.) note that when paths are clearly laid out and combined with spaces, as in the case of the Harare SNA, these provide ease of access and escape should residents feel threatened. The problem, however, is that should a resident feel threatened and move off the route for safety, they might escape into another dangerous part of Harare where official security may not be present. Clear visual connections may provide methods of escape but there is no guarantee that the person may escape to a safer place.

Pedestrian routes have landmarks up to Khayelitsha Station, which could help someone unfamiliar with the area to find their way. As a stranger to the area, I found it convenient to move

around Harare with these landmarks. The long straight pedestrian routes help to avoid oncoming danger or threats (see figure 4.19).



Figure 4.19: Long Pedestrian Route (Data Source: Google Earth, 2015).

Signage is a key component that assists with orientation (Peyroux, James & Krause, n.d.). Signage is even more important when it becomes impossible to avoid restricted visibility. During observations, signage was seen pointing to Harare Square and

various other places. On the first day of observations, I successfully attempted to find Harare Square due to the signs pointing to it. As a stranger, I was pleased at having clear guidance on where to go when in an unfamiliar community. These two components aid in the reduction of danger and improve the perception of safety.

4.4.5.2 Movement networks

Vehicle, cycle and pedestrian movement are managed through surface change, landscaping and bollards. VPUU prescribes that “surface change, landscaping and bollards” can help to protect pedestrians from vehicular traffic and demarcate cycle paths (Peyroux, James & Krause, n.d.:22). These can protect cyclists and pedestrians.

During observations, well-lit pedestrian routes were noticed. Pavements were wide to accommodate large groups of pedestrians and facilitate parking. However, there were no cycle lanes or cyclists. Unfortunately, while the pedestrian is accommodated in Harare SNA through resident interviews and

crime statistics, the streets of Harare are not safe. Again, design increases perceptions of safety but cannot increase actual safety. The safety of the users of the space can only be sustained through proper maintenance and management.

4.4.6. Maintenance and Management

One of the ways that VPUU fosters a sense of ownership and pride in the community is by giving them and other relevant stakeholders the chance to take care of maintenance and management. Maintenance and management are important to uphold a positive image in the community, thus improving feelings of safety. Community groups are formed in the design of spaces and are also trained in managing these spaces. During observations, spaces were clean and well kept. This shows that residents have a sense of pride when it comes to these places. Maintenance and management by residents will also help in assisting with surveillance and visibility.

4.5. OFFENSIBLE SPACE

An offensible space, as mentioned in chapter 2, is “the use of defensible space and environmental design strategies for enhancing security for the criminal element and obstructing justice” (Atlas, 1991, cited by Cozens, Hillier & Prescott, 2001:143). An interview with a security guard at the recreational space revealed that after 21:00 gangsters take over the space and it becomes dangerous for an outsider. This caused a limitation during this research as I had to take his personal safety into account and was therefore unable to observe gangsters taking over a space and how they operate within that space. It is therefore difficult to say that gangsters use the principles of defensible space in their operations. However, a key part of the offensible space literature is that an ordinary citizen is the stranger and will most likely be victimised should they enter that space. It is assumed, based on the interview with the security guard, that the space is dangerous after 21:00. This shows signs of gangsters turning spaces into offensible spaces and allowing these spaces to become conducive to criminal activity and anti-social behaviour

4.6. COGNITIVE MAPPING

The aim of cognitive mapping with roughly 30 students from Luleka Primary in Harare (see figure 4.20) was to gain an understanding of how young people perceived the area of Harare. In order to do this, students who were in grade 7 were asked to draw the route they took from home to school. Once this was done, they were asked to indicate by drawing smiling or sad faces on the map where they felt safe or unsafe. Students were not limited in how expressive they could be on their maps, and were free to draw whatever else they felt necessary. For example, some drew their friends’ houses, shops, fields, train lines, etc. The most important aspect, valid for this research, was to understand their perceptions of safety. It is important to state that even young people can influence urban planning policies, such as those living in ‘the slums’ of India who, through the use of mapping, are influencing the future of their neighbourhood (Sturgis, 2015). The students doing the cognitive mapping exercise understood their community well as some of them were able to accurately map street patterns and the location of public spaces. Unlike some of the residents interviewed, the majority of

the young people knew what VPUU was about. It was also observed that when young people were asked to map where they felt safe or unsafe in their community, they could do so with ease.

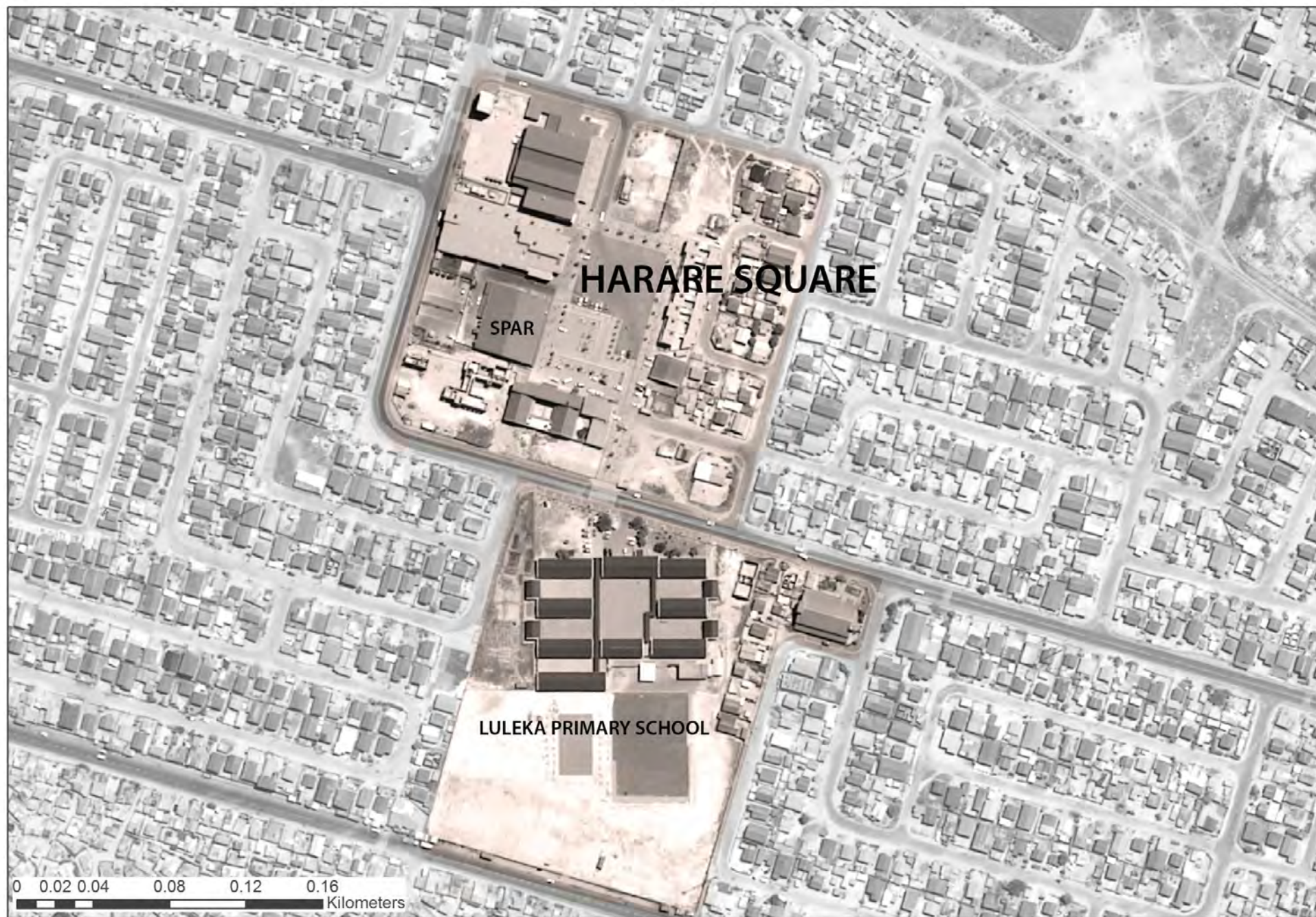


Figure 4.20: Location of Luleka Primary School in Relation to Harare Square (Data Source: Author's own work, 2015).

Luleka Primary School is located to the South of Harare Square and forms part of the SNA. During the baseline survey, the school was found to be located in a dangerous part of Harare. The traffic intersections around the school were also found to be a hotspot for vehicular hijackings. The streets surrounding the school are a common place for robberies. Many of the students who participated in the cognitive mapping exercise live near the school have to pass through VPUU spaces on their way to and from school. Thus, their perception of safety is vital to this research. In analysing the cognitive maps, many students drew their houses and school as being the safest parts in their community (see figure 4.21 and 4.22). This is not surprising as many most likely find their houses and the school to be a safe place of refuge, away from what is happening outside in their community. Most of the cognitive maps had the local Spar

mapped out, as this is an important landmark on their way to school. The local Spar is located in Harare Square, which is the VPUU space (see figure 4.20). Surprisingly, many children drew a sad face next to the Spar as an indication that they do not feel safe in this particular area. This is an interesting finding and one that was also shared in the interviews with residents, who revealed that VPUU spaces that are active and nicer are not any safer than the rest of Harare. Students who walked past the recreation precinct also indicated that they felt unsafe near this space. A teacher interviewed at the school spoke about how many of the students are victims of robberies as they walk to school (interview, 12 August 2015).



Figure 4.21: Cognitive Map indicating perceptions of safety in Harare, Part I (Data Source: Unknown Author, 2015).

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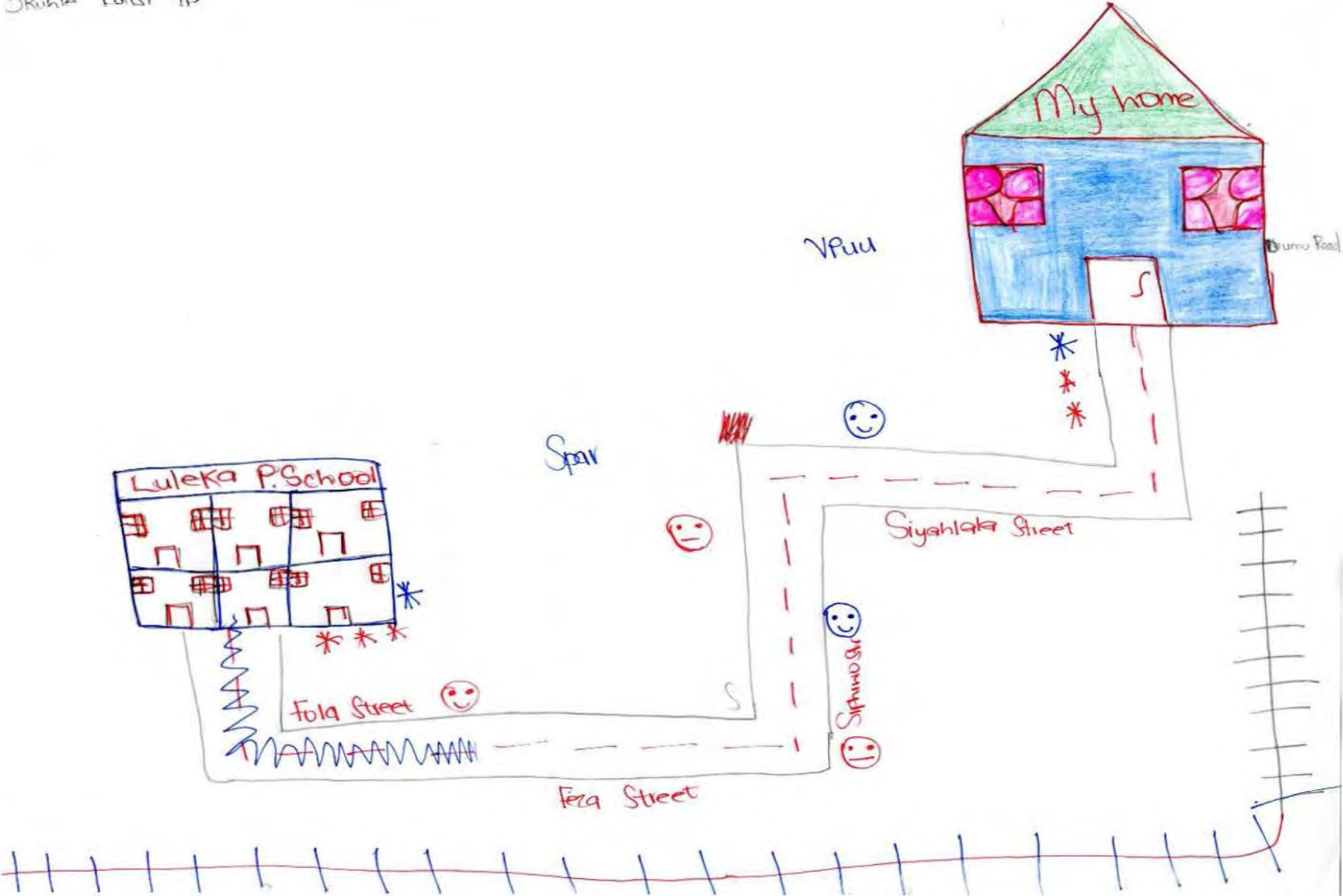


Figure 4.22: Cognitive Map Indicating Perceptions of Safety in Harare, Part II (Data Source: Unknown Author, 2015).

The interviews were with adults and this helped form an understanding of how adults perceive safety in Harare. However, the cognitive mapping exercise with the young people provided the perception of safety in Harare from their perspective. Interestingly, the perceptions of both adults and young people are similar and highlight that the streets of Harare are not any safer than they were before the VPUU intervention. Besides the interviews, the crime statistics for Harare tell the same story. Despite VPUU design principles advocating for a better perception of safety, the high quality design of the public spaces has not improved the perception of safety. Residents' acknowledgement that VPUU has made spaces nicer but not safer could be understood to mean that the organisation has beautified the community but not dealt with safety.

The cognitive mapping exercise was taken a step further and a select group of young people were provided with an aerial image. They were then asked to circle where they thought the unsafe areas in Harare were. Many of the unsafe areas the young people mapped were in the township and an informal settlement south of Harare. However, three of the areas that the group thought were unsafe were found in the VPUU spaces of Harare Square, Recreational Space and Khayelitsha Station (see figure 4.9). This finding tells the same story found throughout this dissertation that design may make a space nicer but it cannot necessarily make it safer. The social conditions of a community are a huge factor when it comes to making a community safer and this cannot be done by design alone.

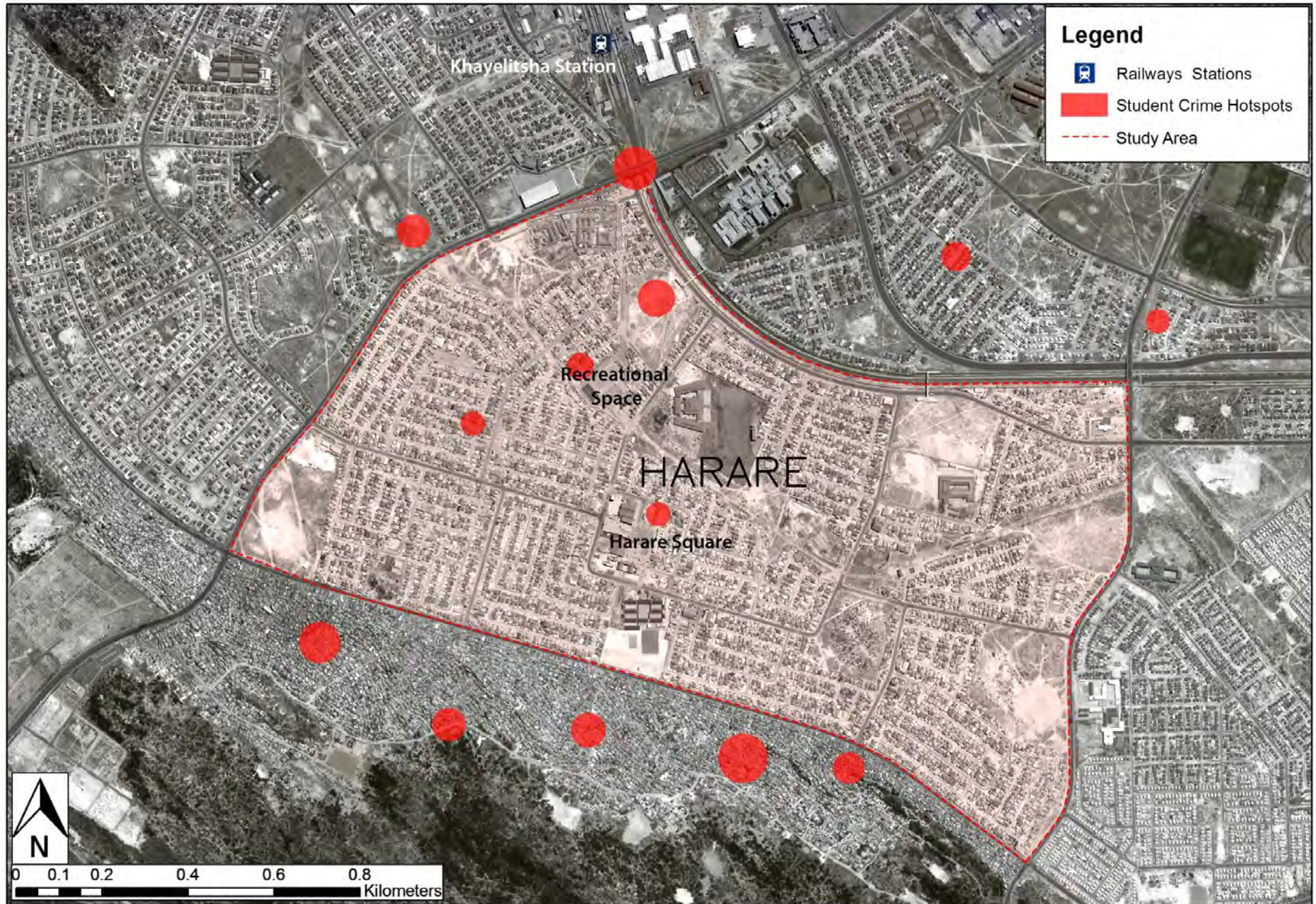


Figure 4.23: Student Map of Crime Hotspots in Harare (Data Source: Author's own work, 2015).

4.7. ANALYSIS OF CRIME STATISTICS

Since the implementation of VPUU interventions in 2006, crime statistics have remained unchanged. Murder, for example, has not shown much decrease since the inception of interventions in 2006 (see figure 4.24). In fact, before VPUU interventions, murder was lower than after. Between 2007 and 2008, a year after VPUU intervened, murder was the highest recorded within a ten-year period (2004-2014). The recent crime statistics recorded in 2014 show that murder is still high when compared to before the VPUU intervention.

Sexual crimes have not shown much change either and are still high after VPUU intervention (see figure 4.25). In fact, between 2010 and 2012 (four years after VPUU interventions had taken place) sexual crimes were extremely high with fewer than 600 cases reported for the two years. The VPUU interventions have not done much to reduce sexual crimes. The same trend is seen in common assault where the statistics have remained fairly similar (see figure 4.26).

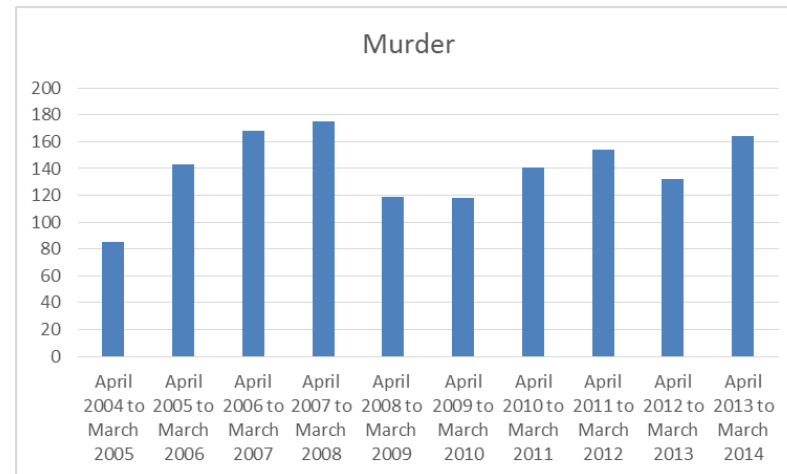


Figure 4.24: Murder Rate for Harare 2004-2014 (Data Source: SAPS, 2015).

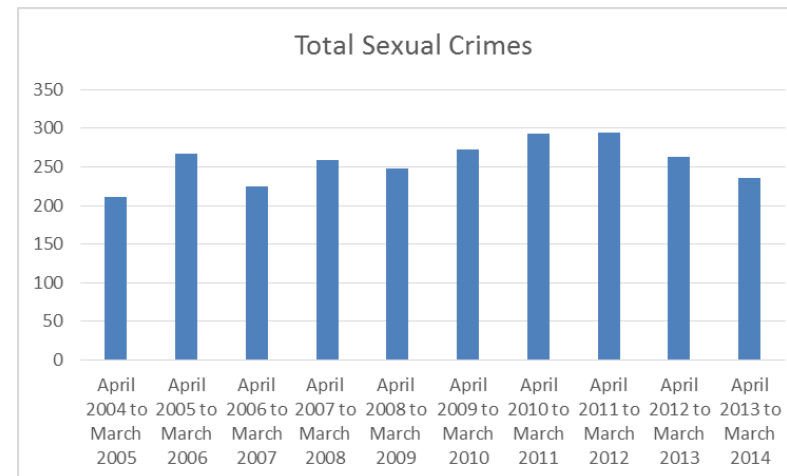


Figure 4.25: Sexual Crimes for Harare 2004-2014 (Data Source: SAPS, 2015).

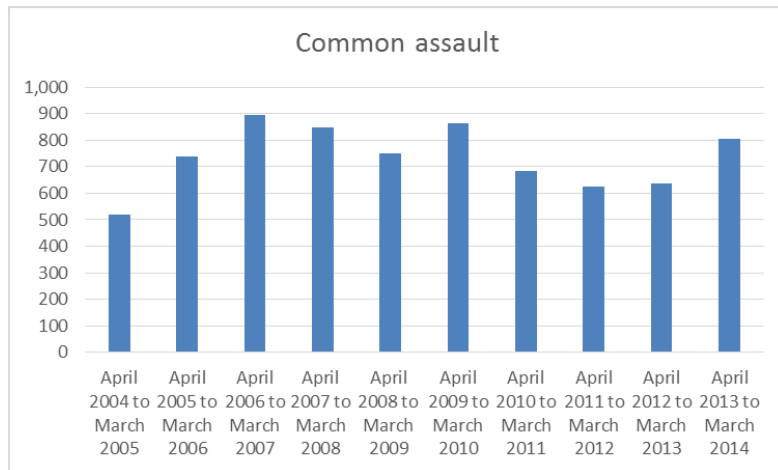


Figure 4.26: Common Assault for Harare 2004-2014 (Data Source: SAPS, 2015).

Robbery with aggravating circumstances has shown an increase and then a slight decrease before increasing again in the ten-year period (see figure 4.27). Common robbery has seen the biggest improvement as it decreased drastically since 2004, with just over 170 less cases being reported between 2010 and 2011. Since 2011, common robbery has almost doubled, bringing it close to where it was in 2004 (see figure 4.28). Interestingly enough, these two crimes reduced drastically around 2010 when the Fifa Soccer World Cup was hosted in the city. As common robbery and robbery with aggravated circumstances normally occur on the

streets, an increase in police presence during the World Cup may have curbed these types of crimes in order to protect tourists and maintain a good image for the city.

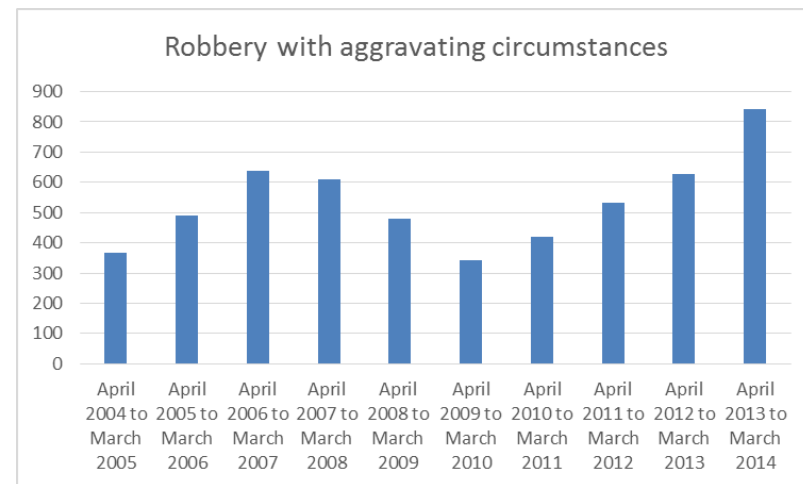


Figure 4.27: Robbery with Aggravating Circumstances for Harare 2004-2014 (Data Source: SAPS, 2015).

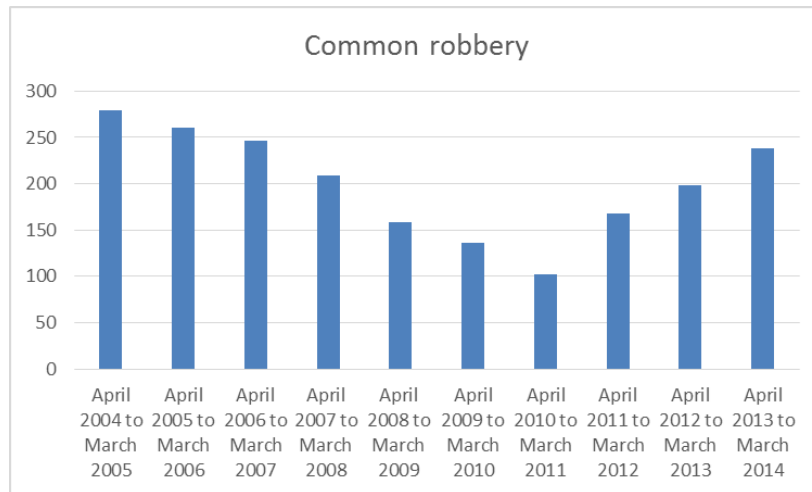


Figure 4.28: Common Robbery for Harare 2004-2014 (Data Source: SAPS, 2015).

The crime statistics prove that the interventions have had very little effect on crime statistics. These crime statistics may also not reflect the true extent of crime in Harare as they are only of reported crimes. In a community such as Harare where residents fear victimisation by police, many crimes may go unreported, as Cozens, Hillier & Prescott (2001) explained in chapter 2. The actual crime statistics may be much higher than the reported statistics show. One must also note that VPUU interventions are not necessarily focused on the residential environment but rather on public space, so crimes in the residential areas may not have had any reduction at all. For example, figure 4.29 shows that burglaries at residential premises are still as high as before VPUU intervened. There has been a sharp increase in drug related crime since 2004, increasing from 70 to 594 reported cases in 2014 (see figure 4.30). This proves that improved environmental design has done very little to address criminal activity conducted under the influence. This criticism was placed on Newman (1972), where he was critiqued for neglecting social, psychological and behavioural processes in a criminal’s decision-making (Reynald & Elffers, 2009). Mayhew (1979, cited by Cozens, Hillier & Prescott, 2001)

also mentions that criminals who are under the influence of drugs or alcohol may not be turned off by the presence of natural surveillance. The crime statistics highlighted above prove that crime is still a big issue in Harare. The study now turns to some criticisms from chapter 2 revealed during the course of the fieldwork.

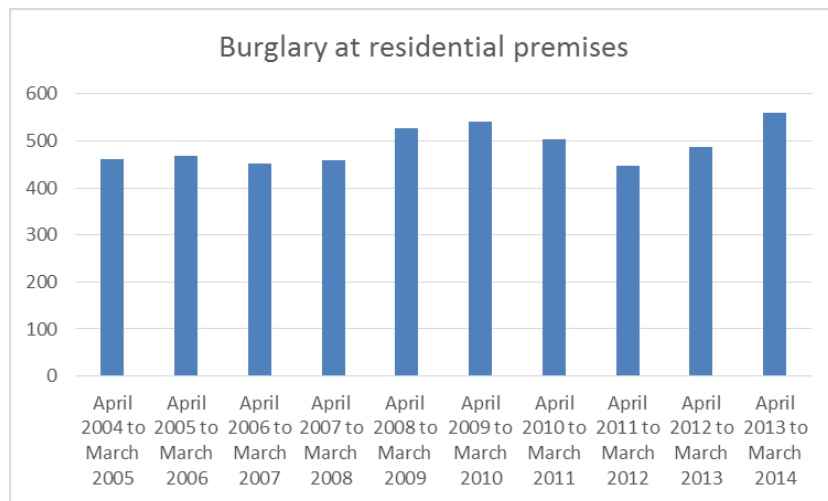


Figure 4.29: Burglary at Residential Premises for Harare 2004-2014 (Data Source: SAPS, 2015).

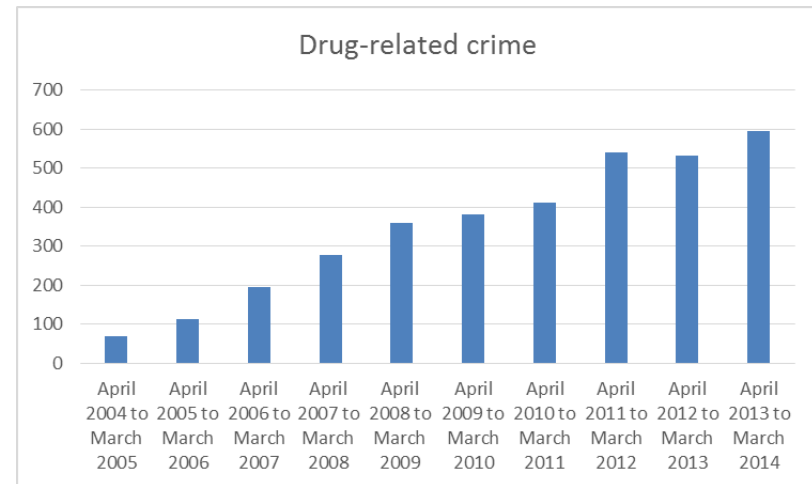


Figure 4.30: Drug-Related Crime for Harare 2004-2014 (Data Source: SAPS, 2015).

4.8. CRITICISMS OF CRIME PREVENTION THROUGH BUILT ENVIRONMENT

4.8.1. Crime Displacement

In chapter 2, Cozens, Hillier & Prescott (2001) suggested that crime displacement is difficult to measure and Schneider & Kitchen (2007) recommends that further research be done on crime displacement to make it an effective criticism. During this dissertation, crime displacement was found to be difficult to measure. The reason for this is that crime statistics in Harare are higher than what they were before VPUU intervened (see appendix A). This leads to questions regarding the validity of the crime displacement argument, as crime in the SNA has increased substantially and thus any argument of crime being moved to the surrounding area is invalid. It was also not possible to interview a police officer at Harare police station about crime displacement.

VPUU interventions are in public spaces but little has been done in the residential areas, and VPUU interventions cannot deter

crime in these areas. The VPUU public spaces may also have displaced crime and anti-social behaviour to residential areas where the opportunities for natural surveillance and safe pedestrian movement may be limited. Crime displacement is difficult to measure and if crime in the interventions is difficult to measure, then the effectiveness of VPUU interventions will be also be difficult to measure.

4.8.2. Social Conditions

Perhaps one of the most significant findings of this dissertation has been that the users of a space make that space unsafe. In an interview a resident stated that the recreational space is unsafe because the men playing soccer are gangsters who terrorise others in that space (interview, 12 August 2015). Even though the space has all the design qualities of a safe space, research findings reveal that this does not make it safer, but that the users of the space make it unsafe. As part of the VPUU approach is to address the social conditions and provide community

upliftment, it recognises that design alone cannot make a space safer.

4.8.3 Victimisation

Another criticism of the literature is that if crime is normal in a community, residents may not report it due to victimisation. This is particularly true in Harare, where crime is a normal part of life in the community. This reflects strongly in interviews with residents who spoke of criminal activity in the community as quite a common thing. The fear of victimisation is a very real part of residents' everyday experiences. A resident mentioned that he did not even feel safe at the police station, as the police work with criminals and he therefore fears that he could be mistreated at the station (interview, 12 August 2015). When residents have this type of mindset towards the police, then the fight against crime becomes a losing battle and even if VPUU means to do good, their interventions are ineffective when police and community do not work together.

If residents have a fear of police, then residents will stop calling on them to intervene in a situation. This becomes problematic because, should a crime take place in the safe node areas (SNA), then no matter the safety principle present the crime will still go ahead because of inefficiencies in the Khayelitsha police force. According to the commission of inquiry formed to investigate inefficiencies in Khayelitsha police, it was found that for every 100 cases reported, less than 1% resulted in conviction (Davis, 2015). The commission of inquiry also released a finding after interviewing residents that "police would sometimes fail to respond to phone calls unless a personal contact was invoked" (Davis, 2015). These types of inefficiencies in the police force make it difficult for interventions by VPUU to become effective. A principle, like surveillance and visibility, may be a strong crime deterrent but if the interviewees fear gangsters and being victimised by police then the chance of an observer intervening in a life-threatening situation is low.

4.8.4 The Discourse

When the discourse of the urban design principles is matched with qualitative and quantitative findings, a clear disconnect shows up between what is prescribed and what actually happens in the field. VPUU prescriptions revolve around improving the quality of the space and the discourse indicates that these prescriptions automatically create a safer environment. However, there is neglect on the social factors at play in the space. It is as if the type of user of the space does not influence safety and feelings of safety, and crime in Harare can be attributed solely to design flaws in the environment. Many residents in the intervention spaces speak about users of the space, such as gangsters, who make the space unsafe despite it being nicer. The statement made in the introduction of the safety principles of “how design, management and use of space can contribute to reduce crime and enhance feelings of safety” assumes that design alone can reduce crime. However, the findings in the field as well as crime statistics for Harare prove that it is not design alone – the social factor is more important

because the findings reveal that even after the safety principles have been applied, the space is still unsafe.

4.8.5. Universalistic Assumptions

In the VPUU urban design manual for a safer neighbourhood there is an assumption that these principles will work for any neighbourhood (Peyroux, James & Krause, n.d.). This is problematic as every context has different social conditions, and this needs to be accounted for in the crime prevention strategies. Also, many of the examples given to illustrate the principles are not from Khayelitsha but rather other neighbourhoods and therefore this assumes that what works in one neighbourhood will work in any other, such as Harare SNA.

4.8.6. Useful for Certain Crimes

One of the criticisms of situational crime prevention is that it is only useful for certain crimes (Clarke, 1992). Natural surveillance in particular may deter petty crimes but may be ineffective if masked armed robbers should enter a space. Moreover, residents are unable to intervene in armed robberies.

4.9. CONCLUSION

In conclusion, Reynald & Elffers (2009) asserts that a space may only become defensible if the social conditions allow it to be so. Through observations and assessments of photography and aerial imagery, VPUU's spatial and procedural interventions have been noted as enhancing the aesthetic quality of the public spaces in Khayelitsha. The interviews with locals highlight that residents feel a sense of pride in their community and that they are happy with the VPUU developments. Yet, one of VPUU's primary objectives is to prevent violence and reduce crime through the principles of CPTED. This has not happened in Harare, because the current social conditions (including anti-social behaviour) nullify CPTED interventions. Interviewees claim that spaces are not safer because of the threat of gangsters who occupy them. High unemployment rates, high drug abuse, high dropout rates and an inefficient police system are all factors that have an

impact on CPTED interventions. Aesthetic interventions alone are therefore ineffective in the fight against crime.

Table 4.1 A summary of the Research Findings

Subsidiary research questions	Research Findings
<p>1. How does VPUU subscribe to, and apply, Newman's principles of territoriality, natural surveillance, and image and milieu in the Harare case study?</p>	<p>Territoriality Through demarcating between public and private space. Community participation in the planning procedures. The active boxes are also used as a tool of territoriality</p> <p>Natural Surveillance & Visibility Assemblage of activities which will attract more users, hence more eye's on the street. Integration of uses which allow spaces to be active after business hours. The layout of the site is also considered in improving natural surveillance. Street lighting helps to promote visibility. The active boxes functions primarily as natural surveillance aid.</p> <p>Image and Milieu Landscaping and good urban design. Maintenance and management helps to maintain a positive looking image, although through my observations this has been lacking.</p>
<p>2. Have the social conditions in Harare, Khayelitsha, enabled the development of defensible public spaces? And if so, how?</p>	<p>VPUU spaces are defined as architecturally safe, however, my findings suggest that the users of the space make it unsafe. Gangsterism and drug-related crime is on the increase, and these along with inefficient policing are hampering the success of defensible space principles.</p>
<p>3. My study explores Jacobs' argument by asking research participants tell me about Harare's streets via the use of oral narratives and mental mapping exercises</p>	<p>Cognitive mapping session with primary school students indicate that students perceive Harare's streets as unsafe.</p>
<p>4. How are residents of Harare taking control over public spaces; and how does VPUU's planning process enable residents to control these spaces?</p>	<p>Through providing residents with the opportunity to maintain and manage spaces. Also by giving residents the chance to be part of the neighbourhood patrols and security.</p>

<p>5. Firstly, is there clear delineation between public and private space in the VPUU intervention? Secondly, if there has been a delineation, has the delineation between public and private space created feelings of territoriality in residents? Third, in the parts of Harare, Khayelitsha where crime is still high, is there an absence of delineation between public and private space?</p>	<p>Yes there is clear delineation between public and private space. Delineation together with community participation has created feelings of territoriality. In the cognitive mapping exercise, many students mapped the informal settlement area and vacant land as crime hotspots. There is no delineation between public and private space in these hot spots, thus showing that delineation is important.</p>
<p>6. Are the VPUU intervention spaces well used, and are there opportunities of natural surveillance being created by the layout of these spaces?</p>	<p>At certain times of day spaces are underutilised. However, the work/live units in Harare Square ensures that surveillance opportunities exist after business hours. The layout of the sites do allow for natural surveillance.</p>
<p>7. Other than safety, how and why are people motivated to use VPUU intervention spaces? And are there a variety of store types which attracts a variety of users?</p>	<p>Work, shopping, library, community meetings etc. The variety of commercial and civic functions in Harare Square, attracts a variety of users. The recreational precinct connects two precincts and thus a variety of users move through this space.</p>
<p>8. Has VPUU's use of CPTED principles resulted in a displacement of crime to surrounding neighbourhoods?</p>	<p>Unable to measure practically, especially seen that crime has increased substantially in Harare. Interview data suggests that because crime has been reduced in the VPUU spaces, crime has been displaced to the surrounding residential areas.</p>
<p>9. What type of surveillance, active or passive, is used in the VPUU intervention areas?</p>	<p>From my observations, both active and passive surveillance. Passive through the users of the space, and active through the security guards. There was no evidence of CCTV cameras.</p>
<p>10. How does VPUU makes use of maps, conceptual diagrams and site visits to understand its project areas? And, how are residents involved in these data collection and analyses processes?</p>	<p>Residents are involved in the mapping of crime hotspots and decide on the type of interventions with the help of professional expertise. Therefore residents feel a sense of pride in interventions.</p>
<p>11. Have similar participatory processes taken place with the users of Harare's public spaces? And if so, what are some of the outcomes of participatory processes?</p>	<p>Yes. The outcomes include mapped crime hotspots and routes, designated task teams and focus groups to manage and maintain the</p>

	SNA. However the intervention such as the active boxes is the main outcome.
12. How has spatial, social and institutional integration approaches been utilised to implement VPUU interventions.	VPUU focuses mainly on interventions in the built environment, but recognises that social conditions need to be address and institutional partnerships need to be formed to address violence in Khayelitsha.
13. Which are of the 12 techniques of situational crime prevention are used in Harare, Khayelitsha?	<p>Target Hardening Access Control: Harare Library Entry/Exit Screening: Harare Library Formal Surveillance Surveillance by Employees Natural Surveillance</p> <p>These are based on observations</p>
14. Where commercial uses are present, has there been evidence of physical disorder?	In Harare Square, which has the main forms of commercial activities was plagued with graffiti, thus corroborating Anderson et al. (2013) arguments surrounding the relationship between physical disorder and commercial uses.

(Author's own work, 2015)

The image is a grayscale aerial photograph of a city's street grid. A prominent blue horizontal bar is overlaid on the right side of the image, containing the chapter title. Three blue rectangular boxes are drawn on the map, highlighting specific areas: one in the lower-left quadrant, one in the lower-middle section, and one in the lower-right section. The text is centered within the blue bar.

CHAPTER 5: RECOMMENDATIONS & CONCLUSIONS

CHAPTER 5: RECOMMENDATIONS AND CONCLUSIONS

5.1. INTRODUCTION

The overarching aim of this dissertation was to critically assess whether the implementation of VPUU's defensible space principles in Harare, Khayelitsha, has reduced crime rates. Research findings demonstrate that crime rates have not reduced in the area under study despite spatial interventions, beautification and participatory planning initiatives (see chapter 4 and appendix A). The aim of this research was also to provide spatial planners with new information regarding the use of defensible space principles. This was done by an in-depth review of the relevant literature concerning crime prevention through spatial planning and design. The literature reviewed in chapter 2 has overlapping principles that became the criteria against which the case study of Harare was evaluated, while the research methods and techniques used to collect data and undertake this study are discussed in chapter 3.

Research findings, which were guided by the main and subsidiary research questions, are presented in chapter 4. These research findings are summarised in section 5.2 of this chapter, and will answer the main research question. After this, recommendations are provided for spatial planners and designers of how to improve the implementation of crime prevention through spatial planning and design principles. The second set of recommendations deal specifically with Harare. When these recommendations are implemented they will improve the quality of interventions by strengthening crime prevention strategies. The last section deals with the limitations of this research. Before concluding, reflections on the research process and findings are made.

5.2. ANSWER TO THE MAIN RESEARCH QUESTION

The main research question asked:

How has the implementation of a 'defensible space' reduced crime rates and anti-social behaviour in the case study of Harare,

Khayelitsha? And what might planners learn from VPUU's prescriptions to 'defensible space' principles?

As mentioned in chapter 4, VPUU does not only utilise defensible space principles, it also makes use of CPTED and situational crime prevention strategies. However, both CPTED and situational crime prevention strategies include aspects of defensible space as a strategy of crime prevention.

In terms of the first part of the question, namely:

How has the implementation of a 'defensible space' reduced crime rates and anti-social behaviour in the case study of Harare, Khayelitsha?

The implementation of a defensible space in Harare has had an insignificant impact on crime rates and anti-social behaviour. Since the VPUU implementation in 2006, crime statistics have remained fairly similar across the years, as analysed in chapter 4. From the research findings it can be deduced that residents do

not feel safer in the VPUU redesigned public spaces, even though this is the goal. Residents and security alike have also made mention of criminal and anti-social activities taking place in the intervention spaces. To answer the first part of the main research question, the implementation of a defensible space in Harare has not reduced crime rates. Nevertheless, research findings also demonstrate that participatory planning initiatives have created some sense of ownership over, and inclusion in, VPUU's planning processes. This has led to some of the positive responses gathered from research participants with regards to VPUU's spatial interventions (see chapters 1 and 4).

The second part of the question asks:

What might planners learn from VPUU's prescriptions to 'defensible space' principles?

The main lesson learned from the research findings is that crime prevention is not only a physical concern. Crime prevention also concerns socio-economic conditions. 'The physical' does play a

role, but it is a small part of a more holistic strategy. The utilisation of defensible space principles alone will not reduce crime. Defensible space is about giving residents control over their space, in the hope that they defend it. This is a near impossible prescription for the residents of Harare, as many feel threatened by the presence of gangsters (who, in turn, engage in anti-social behaviour). If police and security guards struggle with defending Harare, the likelihood of unarmed residents defending their space is low. Defensible space principles therefore need to be combined with socio-economic principles in order to address crime prevention effectively and sustainably. Spatial planners and designers cannot 'design out' crime through spatial interventions alone. However, they can aim to improve the livelihoods of residents through economic development and educational strategies, as well as through participatory planning processes in the hope that these strategies and processes may turn residents away from criminal activity and gangsterism, which many rely on for survival. This is not to say that defensible space principles are invalid or irrelevant. They are absolutely necessary for the creation of liveable and human environments, as is the

case in Harare, but they need to be combined with socio-economic and institutional policies in order to become effective crime deterrents. The recommendations below will attempt to address the findings and the aforementioned learning points.

5.3. RECOMMENDATIONS

The recommendations presented in this chapter are split into two parts. The first being policy recommendations for the implementation of crime prevention through spatial planning principles and socio-economic directives. The second part is focused specifically on Harare, Khayelitsha, in order to address the research findings presented in chapter 4. Both sets of policy recommendations are written for institutions –including NGOs and municipalities – that engage in crime prevention strategies through spatial and socio-economic interventions.

5.3.1. Recommendations for Implementation

5.3.1.1. *Promoting context-driven approaches*

Spatial and socio-economic crime prevention strategies need to be context driven. Newman (1972) is criticised for his universalistic assumptions that the principles of defensible space will work anywhere in the world (Cozens, Hillier & Prescott, 2001). This argument is not only flawed, it is a disservice to the population when interventions are simply imported from elsewhere without problematising the context first. Solutions for the built environment need to address the problem of the context within which the neighbourhood exists. As such, both the spatial and socio-economic conditions of the local context need to be understood and addressed. Such an understanding further necessitates deeper explorations of the history, politics and cultural identities of the neighbourhood where planning interventions are sought.

5.3.1.2. *Promoting a people-led, as opposed to a design-led, approach*

The idea behind defensible space, and the suggestions provided by Jacobs (1961), was to give residents power over their environment to allow them to defend it instead of relying solely on the police. Crime prevention needs to be part of a broad scope of processes rather than be purely design-based. Both the socio-economic and physical aspects of crime prevention need to be integrated in order to provide an effective crime prevention strategy. This will allow interventions to be people oriented and implemented in the best interests of the people. Madanipour (1996) asserts that when the focus is on design alone there will be a conflict of interests between openness and safety. For example, in a certain neighbourhood (such as, for example, Woodstock) graffiti may be seen as an expression of art and valued by the community. However, if the neighbourhood has interventions that do not allow for this 'freedom of expression', then there is a conflict of interest between residents and graffiti artists (or, in the case of Harare, a conflict of interest between residents and gangsters who 'tag' and vandalise public spaces).

Planners or designers will not know what the community values unless the community is allowed to participate in the planning procedures. This was the case with, and the success behind, VPUU's planning approach (see chapters 1 and 4).

There are thus implications for choosing a design-led approach. A design-led approach assumes that the existing physical conditions of the built environment are the reason for high crime rates. In Harare, crime rates remain unchanged despite good design and VPUU's physical interventions. There must be another reason for high crime rates, and it can be found in the socio-economic fabric of the community. Spatial planners and designers must address the social and the economic conditions of the community they plan for, and not focus on design alone. Community involvement in addressing these concerns through the co-production of resolutions to spatial, economic and social needs is then an absolute necessity, as suggested by Landman & Liebermann (2005). The effectiveness of principles, such as territoriality and natural surveillance, relies on this community participation and co-production. However, giving the community

power over a space does not necessarily mean spaces are defended. For this reason, identifying why crime occurs in a situated context is recommended, as well as how socio-economic directives might begin to create economic and educational opportunities in situated contexts.

5.3.1.3. Identify and evaluate why crime occurs

This recommendation may seem nonsensical but it is important. The crime prevention theories reviewed in chapter 2 all assume that crime occurs because people are not being watched or because people have no ownership over spaces. VPUU's urban design principles are guilty of this very thing by assuming that crime occurs because of a lack of natural surveillance and a lack of ownership over public spaces. If this was the case, then currently crime should not be as high in Harare because natural surveillance is present and residents are gaining ownership over the spaces through VPUU's inclusionary planning processes. Each context to which the principles will be applied needs to be evaluated carefully and thoughtfully. The root of why crime occurs in a neighbourhood needs to be understood and dealt

with. Newman (1972) is criticised for assuming that the failure of social housing projects in the USA is a result of architectural flaws. When a proper evaluation is done of why crime occurs, it will help strategies to become context driven and avoid a 'copy and paste' approach to crime prevention. A problem with CPTED, situational crime prevention, and defensible space is that their principles are the same, irrespective of context. Professionals will be tempted to say that the high crime rates in a neighbourhood are due to the absence of these principles when the issue runs far deeper than design flaws. For example, gangsterism and anti-social behaviour are deep-rooted socio-economic problems in Harare with most residents saying crime is as a result of gangsterism. However, no VPUU document actually addresses the issue of gangsterism and it instead assumes that ordinary citizens cause crime. The true reason for criminal activity needs to be evaluated.

5.3.1.4. Identifying possible socio-economic directives for addressing poverty and youth unemployment

This recommendation stems from the notion that crime is often a survival strategy for people living in poverty (UN-Habitat, 2007). In Harare, where 50% of the population is unemployed, Uğer (2014) speculates that some residents resort to criminal activities as a means of making a living. Young people in particular are susceptible and vulnerable to gang activity as a form of 'security', 'community' and identity. Based on this, crime prevention strategies need to offer solutions to reduce poverty and youth unemployment that, according to UN-Habitat (2007), are underlying causes for criminal activity. However, poverty reduction and youth employment recommendations need to be cognisant of the particular needs and socio-cultural history found in Harare. To this end it is also recommended that residents, including (and especially) the youth, are involved in crafting possible solutions to poverty and youth unemployment in Harare.

If the neighbourhood is one with a bulging youth population like Harare, where gang activity and drug abuse is on the increase then strategies need to demonstrate an alternative way of living

to young people (see appendix A). Strategies need to encourage young people to pursue employment and educational opportunities. In the short term, strategies need to deter and dissuade young people from criminal activities, so that they may contribute effectively to the neighbourhood and societal development in the longer term.

5.3.1.4.1. Encouraging participation in economic activity

This recommendation involves getting young people involved in local neighbourhood economic activities. Through initiatives such as internships or job-shadowing, young people will be able to develop the skills and experience required for future employment. Through VPUU interventions, new economic activities have now been accommodated in Harare, for example, a computer consulting firm, clothing and food stores, internet café, and many more. These new economic activities offer significant opportunities for young people to participate in the local economy and to turn away from a life of crime and gangsterism. The local government also needs to get involved by

prioritising at-risk neighbourhoods such as Khayelitsha, and offering skills training and employment activities during the school vacation to young people in at-risk neighbourhoods. At-risk neighbourhoods are neighbourhoods with high rates of poverty, inequality and crime.

5.3.1.4.2. Investing in community-based youth services

Support services need to be provided for young people in at-risk neighbourhoods. If a neighbourhood has a bulging youth population, then it is necessary for the municipality to support local services geared toward young people. These support services need to provide life skills training, gang prevention/exit programmes, student support and mentorships, after school programmes with a recreational aspect, peer group mediation, conflict resolution and restoration, anger management, teacher training, anti-bullying campaigns, and educational support services.

5.3.1.4.3. Youth participation in civic affairs

Young people in crime-ridden neighbourhoods need positive role models. In neighbourhoods with a high level of gang activity, young people may find role models in gangsters. This leads to aspirations to become gangsters, which further leads to an endless cycle of gang activity in at-risk neighbourhoods. There needs to be a strong youth leadership team in at-risk neighbourhoods, who will be involved in the future of their neighbourhood and who will also influence policy development and planning decisions. In chapter 4, the cognitive mapping exercise proved that young people understood their neighbourhood as well as the adults, and could influence the future of their neighbourhood. This youth leadership team needs to be representative of the young people in the particular neighbourhood and should work closely with community groups, municipal departments and councillors. When young people are given the power to influence decision-making and planning in their neighbourhood, they will be empowered to 'take back the streets' from criminal activity and make a difference in their community.

5.3.2. Recommendations for Harare

5.3.2.1. Promoting both passive and active policing approaches

The notion that the crime prevention theories discussed in chapter 2 are only useful for certain types of crimes shows up strongly in the interviews with residents in Harare (Clarke, 1992). Many residents alluded to the powerlessness of security guards who conduct natural surveillance when gangsters are present. One resident went as far as noting how gangsters pull off criminal activity in front of policemen and women. Natural surveillance is a principle that may not be useful in a crime-ridden neighbourhood like Harare because if residents do observe criminal activity the chance of them intervening is low, especially with an ineffective and inefficient police force. Moreover, the principle of territoriality, or the ownership of spaces by residents, is also ineffective when armed gangs seem to have ownership over Harare's streets. The success of VPUU's intervention is largely dependent on the police force. If they are ineffective then residents are powerless against crime. This argument is made in spite of Newman (1972) and Jacobs' (1961) call for residents to police their environment and not rely solely on police. This call is

ineffective in an abnormal crime ridden neighbourhood like Harare, which many would consider to be under siege (Uğer, 2014). The intervention of the police is absolutely necessary. A police task unit needs to be set up, focusing on the eradication of gangsterism in the community.

It is recommended that stronger partnerships be drawn up between police and the residents of Harare. This must be done against the background that corruption in the local police force is being eradicated. While there is no indication from VPUU's documents that police are involved with locals in the public participation process, it is worth pointing out that this could improve resident communications with police, as suggested by Landman & Liebermann (2005). Through interviews with residents, many were shown to feel as if the police are in cohorts with criminals and are corrupt (interview, 12 August 2015). Public participation with police could help strengthen relationships between the two. This makes for effective and healthy crime fighting. Part of the VPUU approach, which is institutional prevention, aims to strengthen relationships between

stakeholders; including residents and police. This suggests that VPUU recognises the relationship between the two as being important to fighting crime. Recent newspaper reports on Khayelitsha police note that policing in Khayelitsha is inefficient (Sesant, 2015). Moreover, Western Cape Premier, Helen Zille, launched a commission of inquiry into the state of Khayelitsha policing. The commission found that there was a 'breakdown' between police and the community, which has led to a spate of vigilante killings in Khayelitsha (Sesant, 2015). It is this breakdown that will need to be resolved in order to make crime fighting effective.

5.3.2.3. Improving the maintenance and management of Harare's public spaces

From observations of Harare Square and the recreational precinct, the lack of maintenance and management is clearly evident. As residents are responsible for maintenance and management, the lack thereof indicates a lack of territoriality as well as a lack of finances. When spaces suffer from a lack of

maintenance and management, the space becomes conducive to criminal activity, as there is no control over it. Harare Square may be prone to graffiti due to a lack of maintenance and management. The success of VPUU interventions is strongly determined by how well a space is maintained and managed. Therefore, it is recommended that maintenance and management improve by not just relying solely on residents but also by bringing in third parties and the municipality¹ to perform maintenance tasks, such as graffiti removal or vegetation maintenance.

5.3.2.4. Reducing the displacement of crime to surrounding areas

A major criticism of the crime prevention theories discussed in chapter 2 is that they displace crime to surrounding neighbourhoods. Researchers, such as Oc and Tiesdall (1997) suggest that displacement is not a valid argument against the

crime prevention principles. Displacement is also difficult to measure in most contexts, however it does happen. As VPUU's main focus is on the public spaces of Harare, crime is most likely being displaced to the residential areas surrounding these. However, it is difficult to confirm that this is true, as no proof has been found. An interviewee mentioned that the VPUU public spaces are safer than the residential areas (interview, 12 August 2015). This statement seems to suggest that crime has moved from the public spaces into the residential environment. Also, the VPUU urban design principles for a safer neighbourhood are geared towards improving the quality of the public spaces and not the residential environment. Based on this, further studies need to be conducted of surrounding contexts to determine crime statistics in these contexts. From reviewing VPUU documents the only evident interventions in the surrounding residential environment are the foot patrols done by residents and lighting. As VPUU adopts a design-led approach, the design

¹ Homeowners in Harare do pay rates and taxes to the municipality for maintenance services, and therefore the municipality has a responsibility to maintain and manage the community.

of the residential environment needs to be addressed. Figure 4.7, which is the crime hotspot map plotted by residents, is evidence that crime is high in the residential environment and urgent interventions are needed.

The decay and decline of the residential environment is also a cause for concern, as a negative image allows the environment to become conducive to criminal activity. The suggested research and proposed policies derived from this research also need to include a policy on how to reverse the decay of this environment. As the design of the built environment should not be done without considering socio-economic conditions, the suggested policy needs to give advice on how residents may be empowered to take care of their households. The reason for this is that residential decay may be as a result of high unemployment, resulting in many people not being able to take care of their homes. It is also recommended that residents be trained in household maintenance through specialised workshops. This will empower residents to take ownership over their community. An

opportunity for youth employment and innovation will also originate from such a policy.

5.3.2.5. Principles need to be active 24 hours a day

There is evidence, as suggested by a security guard, that the recreational precinct in particular is becoming an offensible space during the night, as gangsters take over the space. The primary reason for this is that the space is vacant at night. When a space is vacant it becomes a hive for criminal activity and anti-social behaviour. Most importantly is that principles such as natural surveillance and territoriality are also ineffective, simply because there is no one enforcing it. The security guard spoke of how he locks himself in the Football for Hope Centre because of a fear of victimisation from the gangsters. There needs to be a manner in which spaces can remain active at night. It is recommended that the recreational precinct receive work/live units in order to keep it active after hours, like in Harare Square. This will ensure that the recreational precinct is defended against

criminal activity and will promote ownership and control over the space. Armed security should also be present in this space at night. Passive surveillance may not be possible at night as residents are unable to keep watch. This can be addressed by implementing active surveillance through armed security and CCTV cameras linked to the CoCT crime prevention unit. 24-hour activities could also be made present in the recreational space, such as a mobile police station or a convenience store to activate the space at night. Jacobs (1961) advocates for after hour activities such as bars, restaurants and convenience stores to be present as these activate streets at night and allow for natural surveillance. A problem in Khayelitsha, however, is the presence of shebeens open at night in the residential environment, which leads to alcohol-related crimes. Anderson, et al. (2013) found that bars or shebeens increase assault and anti-social behaviour, which is the case in Harare. This leads to the recommendation that stricter by-laws be imposed on legal shebeens in terms of their opening hours in order to avoid anti-social and criminal behaviour during the night. Illegal shebeens must be closed

down. Alcohol related crimes are a common occurrence in Harare, and stricter by-laws on shebeens may reduce these.

5.4 LIMITATIONS TO THE STUDY

A major limitation to this study has been time. The limitation of time has meant that the amount of research participants was limited and the amount of time spent in the field doing observations was also constrained. If there had been more time, more research participants would have been included in the study, which would have provided greater depth to the findings. More time would also have allowed for more observations in the field, especially on weekends when spaces are perhaps more active. A second limitation relates to the inaccessibility of VPUU as an organisation. Interviewing a VPUU practitioner would have allowed a deeper understanding of the organisation beyond the information found in the documents. While the documents provide a great wealth of information, it would have been interesting to hear a VPUU practitioner discuss the problem of crime prevention, as the documents seem to suggest that this process is straightforward and without any complexities.

A third limitation was the focus on social crime prevention. While this research is concerned with the design of the environment, a major finding has been that social conditions need to be addressed. Unfortunately due to time constraints, the social crime prevention aspect was unable to be fully analysed, along with how effective this has been. A recommendation is that future research be directed towards the development of socio-economic policies geared for youth transformation and employment in Harare. The primary research indicates that social conditions are the leading cause of crime more so than the design of the built environment. Future research needs to analyse the socio-economic conditions of Harare and explain how these have resulted in an increase in crime, and how the situation could worsen in the future. Recommendations need to advise professionals and policy makers on how the socio-economic conditions in Harare can be improved. The UN-Habitat (2007) provides a wealth of information regarding case studies from around the world on how socio-economic conditions can be improved in a location, and how young people can be empowered. The policy recommendations made in the UN-

Habitat (2007) report Enhancing Urban Safety and Security should be used as a tool for improving the socio-economic conditions of Harare.

The final limitation has been that of safety. While observing and interviewing residents in the VPUU intervention has provided key insights, understanding how the residential environment has been affected would have added greater richness to this research. There were numerous occasions when the researcher was advised by residents to not dwell in the 'township' or residential environment for concerns around his safety.

5.5. REFLECTIONS

Before I went into the field, I had an idea that what I was going to find in the Harare SNA was an innovation that would become a good precedent for crime prevention in other crime-ridden neighbourhoods in Cape Town. Instead, I found a development that has not reduced crime in any way. The first day, entering into

Harare Square, I thought the space was very attractive and that it must be safe simply because it was well designed. Harare Square looked like many other spaces in upmarket neighbourhoods in Cape Town. Getting out of my car and walking to Harare Library, I could not shun the fear I felt as I walked through Harare Square with suspicious looking men observing my possessions. Immediately I felt unsafe in this well-designed space. The amount of security standing at the entrance of Harare Library added to this fear as it indicated that the neighbourhood was still under siege by criminal activity. While in the library and interviewing residents, the stories of crime they told left me in disbelief. It was on the first day that I realised crime is not a product of bad design but rather a result of poor social conditions. I did not find a safe environment. Instead, I found a resident population still trying to recover from the past spatial and social injustices of South Africa.

Harare's streets are not any safer than they were before VPUU's spatial interventions. To say that Harare's high crime rates are as

a result of bad design is a completely flawed argument. This argument avoids the real social ills and economic disparities at play in the community. Much like Newman, who was criticised for jumping on the bandwagon of trying to address soaring crime rates in America by suggesting that existing physical conditions cause high crime rates in South Africa, planners undermine the complexity of the topic under study. If this was the case, then trying to explain why neighbourhoods with worse design flaws in Cape Town are safer becomes very complex. There must be something else at play. This study suggests that socio-economic conditions – that, in turn, are compounded by a history and a politics of injustice – give rise to nefarious and anti-social activities. If an architecturally safe environment like the recreational precinct is still a hotspot for crime because of the users, then this is proof that socio-economic realities, and a history of injustice and marginalisation, are a major cause of crime. Analysing VPUU's urban design principles suggests that VPUU is about improving the perception of safety, and not actual safety. If actual safety has been improved then this would have shown up in the interviews with residents and crime statistics;

but this is not the case. The quality of the urban environment has improved through VPUU interventions but actual safety has not. Still, what planners might learn from VPUU's approach is the value of facilitating inclusionary planning processes by involving residents in design projects from the start.

5.6. CONCLUSION

In summary, chapter 1 presented the problem under investigation. This was contextualised and the overarching aim of the research was set up. The assessment criteria used to undertake this study were briefly discussed.

Chapter 2 provided the overarching framework against which the case study was assessed. In order to set up this framework, a review of the relevant literature took place. Assessment criteria were based on theories of defensible space, CPTED and situational crime prevention. Suggestions made by Jacobs (1961) were also used to establish assessment criteria.

Chapter 3 provided an overview of the research methods and techniques used in this research. As each research method and technique has limitations, these were also explained, along with how these limitations would be addressed.

In chapter 4, the research findings were presented and analysed against arguments made in chapter 2. These research findings were based on interviews, observations, and cognitive mapping sessions. Secondary research based on a review of VPUU documents and SAPS crime statistics also informed the findings. In sum, research findings demonstrate that VPUU's spatial interventions have improved the quality of urban space in Harare but have not made it safer.

In chapter 5, the research findings were synthesised and used to inform recommendations. The main recommendation was that crime prevention strategies should not be based on design alone, but should also consider social and economic factors. In other words, a more holistic approach is required.

Table 5.1 A summary of the Recommendations

Subsidiary research questions	Research Findings	Recommendations
<p>1. How does VPUU subscribe to, and apply, Newman's principles of territoriality, natural surveillance, and image and milieu in the Harare case study?</p>	<p>Territoriality Through demarcating between public and private space. Community participation in the planning procedures. The active boxes are also used as a tool of territoriality</p> <p>Natural Surveillance & Visibility Assemblage of activities which will attract more users, hence more eye's on the street. Integration of uses which allow spaces to be active after business hours. The layout of the site is also considered in improving natural surveillance. Street lighting helps to promote visibility. The active boxes functions primarily as natural surveillance aid.</p> <p>Image and Milieu Landscaping and good urban design. Maintenance and management helps to maintain a positive looking image, although through my observations this has been lacking.</p>	<p>Recommendations for Implementation</p> <p>Promoting Context-driven Approaches Spatial and socio-economic crime prevention strategies need to be context driven. The context for which strategies are applied needs to be problematized first.</p> <p>Promoting a People-led, as opposed to a Design-led, Approach Effective crime prevention happens when the local community is involved in the strategies. Strategies should include both socio-economic and design factors and not design alone.</p> <p>Identify and Evaluate why Crime Occurs The root cause of why crime happens in a community needs to be understood and dealt with. To say that design alone, is the cause of crime is a flawed argument.</p>

		<p>Identifying possible Socio-economic Directives for addressing Poverty and Youth Unemployment</p> <p>These strategies are geared towards young people especially in communities with high poverty and unemployment where a life of crime seems to be normal.</p> <p><i>Encouraging Participation in Economic Activity</i></p> <p>Young people should be involved in local economic opportunities.</p> <p><i>Investing in Community-Based Youth Services</i></p> <p>In a community with a high youth population there needs to be appropriate support services.</p>
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		<p><i>Youth Participation in Civic Affairs</i></p> <p>Young people should be involved in the future of their neighbourhood. This can be done by involving young people in important decision-making and policies regarding their neighbourhood.</p>
<p>2. Have the social conditions in Harare, Khayelitsha, enabled the development of defensible public spaces? And if so, how?</p>	<p>VPUU spaces are defined as architecturally safe, however, my findings suggest that the users of the space make it unsafe. Gangsterism and drug-related crime is on the increase, and these along with inefficient policing are hampering the success of defensible space principles.</p>	
<p>3. My study explores Jacobs' argument by asking research participants tell me about Harare's streets via the use of oral narratives and mental mapping exercises</p>	<p>Cognitive mapping session with primary school students indicate that students perceive Harare's streets as unsafe.</p>	<p>Recommendations for Harare</p> <p>Promoting both Passive and Active Policing Approaches</p> <p>Improve the relationship between the local police and the community in order to strengthen crime prevention initiatives</p>
<p>4. How are residents of Harare taking control over public spaces; and how does VPUU's planning process enable residents to control these spaces?</p>	<p>Through providing residents with the opportunity to maintain and manage spaces. Also by giving residents the chance to be part of the neighbourhood patrols and security.</p>	

<p>5. Firstly, is there clear delineation between public and private space in the VPUU intervention? Secondly, if there has been a delineation, has the delineation between public and private space created feelings of territoriality in residents? Third, in the parts of Harare, Khayelitsha where crime is still high, is there an absence of delineation between public and private space?</p>	<p>Yes there is clear delineation between public and private space. Delineation together with community participation has created feelings of territoriality. In the cognitive mapping exercise, many students mapped the informal settlement area and vacant land as crime hotspots. There is no delineation between public and private space in these hot spots, thus showing that delineation is important.</p>	<p>Improving the Maintenance and Management of Harare's Public Spaces Maintenance and management should not just be the job of the local community, but also that of the municipality. After all, residents do pay rates to the municipality for services such as maintenance and management.</p> <p>Reducing the Displacement of Crime to Surrounding Areas</p> <p>Further research needs to determine actual crime statistics in the residential environment compared to the public spaces. Residents also need to be equipped with the skills for maintaining their houses, in order to improve the neighbourhood image and provide the perception of a controlled environment.</p> <p>Principles needs to be active 24hrs</p>
<p>6. Are the VPUU intervention spaces well used, and are there opportunities of natural surveillance being created by the layout of these spaces?</p>	<p>At certain times of day spaces are underutilised. However, the work/live units in Harare Square ensures that surveillance opportunities exist after business hours. The layout of the sites do allow for natural surveillance.</p>	

		<p>Through an increased police presence, work/live units, principles need to be active 24hrs a day. Illegal shebeens should also be closed down, and legal shebeens should close earlier in order to avoid alcohol related incidents late at night.</p>
<p>7. Other than safety, how and why are people motivated to use VPUU intervention spaces? And are there a variety of store types which attracts a variety of users?</p>	<p>Many people used VPUU intervention spaces for the purpose of work, shopping, library, community meetings etc. The variety of commercial and civic functions in Harare Square, attracts a variety of users. The recreational precinct connects two precincts and thus a variety of users commute through this space.</p>	
<p>8. Has VPUU's use of CPTED principles resulted in a displacement of crime to surrounding neighbourhoods?</p>	<p>Displaces is difficult to measure practically. Interview data suggests that because crime has been reduced in the VPUU spaces, crime has</p>	

	been displaced to the surrounding residential areas.	
9. What type of surveillance, active or passive, is used in the VPUU intervention areas?	From my observations, both active and passive surveillance. Passive through the users of the space, and active through the security guards. There was no evidence of CCTV cameras.	
10. How does VPUU makes use of maps, conceptual diagrams and site visits to understand its project areas? And, how are residents involved in these data collection and analyses processes?	Residents are involved in the mapping of crime hotspots and decide on the type of interventions with the help of professional expertise. Therefore residents feel a sense of pride in interventions.	
11. Have similar participatory processes taken place with the users of Harare's public spaces? And if so, what are some of the outcomes of participatory processes?	Yes. The outcomes include mapped crime hotspots and routes, designated task teams and focus groups to manage and maintain the SNA. Interventions such as the active boxes are the more visible outcomes.	
12. How has spatial, social and institutional integration approaches been utilised to implement VPUU interventions.	VPUU focuses mainly on interventions in the built environment, but recognises that social conditions need to be address and institutional partnerships need to be formed to address violence in Khayelitsha.	
13. Which are of the 12 techniques of situational crime prevention are used in Harare, Khayelitsha?	Target Hardening Access Control: Harare Library Entry/Exit Screening: Harare Library Formal Surveillance Surveillance by Employees Natural Surveillance These are based on observations	

<p>14. Where commercial uses are present, has there been evidence of physical disorder?</p>	<p>In Harare Square, which is home to commercial activities was plagued with graffiti, thus corroborating Anderson et al. (2013) argument regarding the relationship between physical disorder and commercial uses.</p>	
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(Authors own work, 2015)

An aerial photograph of a city grid, rendered in a light gray, semi-transparent style. A solid blue horizontal bar is positioned in the upper right quadrant, containing the word "APPENDIX" in a black, sans-serif font. Three blue rectangular boxes are overlaid on the map: one in the lower-left corner, one in the lower-center, and one in the lower-right. The map shows a dense network of streets and building footprints, with some larger, more prominent structures scattered throughout.

APPENDIX

APPENDIX A

Harare (WC) for April to March 2004/2005 - 2013/2014 (Data source: SAPS, 2015)

CRIME CATEGORY	April 2004 to March 2005	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008	April 2008 to March 2009	April 2009 to March 2010	April 2010 to March 2011	April 2011 to March 2012	April 2012 to March 2013	April 2013 to March 2014
CONTACT CRIMES (CRIMES AGAINST THE PERSON)										
Murder	85	143	168	175	119	118	141	154	132	164
Total Sexual Crimes	211	267	225	259	248	273	293	294	263	236
Attempted murder	76	74	89	73	76	67	96	92	87	120
Assault with the intent to inflict grievous bodily harm	816	683	568	532	496	581	662	654	634	605
Common assault	519	737	896	848	750	863	684	623	637	805
Common robbery	279	261	247	209	158	136	102	168	198	238
Robbery with aggravating circumstances	368	491	638	610	481	344	421	533	627	842
CONTACT-RELATED CRIMES										
Arson	29	32	40	26	22	43	24	21	19	22
Malicious injury to property	318	369	457	383	347	377	342	346	356	452
PROPERTY-RELATED CRIMES										
Burglary at non-residential premises	12	27	42	37	63	87	96	61	92	131
Burglary at residential premises	461	469	451	459	526	541	503	446	488	560
Theft of motor vehicle and motorcycle	95	113	123	180	144	182	145	133	113	144
Theft out of or from motor vehicle	39	88	89	75	74	174	214	115	98	138
Stock-theft	0	0	0	0	0	1	0	0	0	0
CRIME DETECTED AS A RESULT OF POLICE ACTION										
Unlawful possession of firearms and ammunition	48	59	85	67	75	71	81	82	81	92
Drug-related crime	70	112	196	276	359	380	410	541	532	594
Driving under the influence of alcohol or drugs	20	36	64	136	160	381	259	318	385	357

OTHER SERIOUS CRIMES										
All theft not mentioned elsewhere	670	489	846	618	547	477	417	552	580	810
Commercial crime	31	23	30	26	19	29	36	26	47	51
Shoplifting	35	25	28	15	33	24	45	51	43	48
SUBCATEGORIES OF AGGRAVATED ROBBERY										
Carjacking	33	41	68	43	34	29	31	32	53	76
Truck hijacking	4	1	2	3	2	0	0	1	4	13
Robbery at residential premises	6	35	77	88	88	75	66	98	70	103
Robbery at non-residential premises	1	3	17	40	62	56	87	96	88	119
OTHER CRIME CATEGORIES										
Culpable homicide	16	37	35	20	35	32	26	28	25	23
Public violence	12	12	14	6	12	7	10	10	9	5
Crimen injuria	103	51	58	29	22	25	23	18	25	37
Neglect and ill-treatment of children	45	33	13	13	10	15	10	5	12	15
Kidnapping	6	11	14	0	7	7	17	28	34	33

An aerial photograph of a city grid, likely in a coastal or urban area, showing a dense pattern of streets and buildings. A prominent blue horizontal bar is overlaid across the middle of the image, containing the word "REFERENCES" in white, bold, sans-serif capital letters. Below this bar, three blue rectangular boxes are drawn on the map, highlighting specific areas: one in the lower-left quadrant, one in the lower-center, and one in the lower-right quadrant. The map shows a mix of residential and commercial buildings, with some larger structures and open spaces interspersed among the smaller lots.

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Figure 4.1

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Figure 4.7

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Figure 4.8

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Figure 4.11

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Figure 4.17

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Figure 4.18

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Figure 4.19

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Figure 4.21

Figure 4.21. Unknown Author (2015) *Cognitive Map Indicating Perceptions of Safety in Harare – part 1* [Drawing] In possession of: The Author: Fester. R. N.

Figure 4.22

Figure 4.22. Unknown Author (2015) *Cognitive Map Indicating Perceptions of Safety in Harare - part 2* [Drawing] In possession of: The Author: Fester. R. N.

Figure 4.23

Fester, R.N. 2015. *Figure 4.23: Student Map of Crime Hotspots in Harare* [Map, September, 20]. Scale 1:7,000. Data layers: Cape Town Suburbs [shape file], Student Crime Hotspots [shape file], Aerial Image: 3418BA: Department of Rural Development & Land Reform. [Computer files]. Cape Town. Using: *ArcGIS for Desktop Advanced* [GIS]. Version 10.1. Redlands, CA: Esri, 2012.

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Tables

Author's own work (2015), Table 1.1: *Critically Exploring the Idea of Crime Prevention and Design*. Unpublished.

Author's own work (2015), Table 2.1: *A Summary of the Research Questions*. Unpublished.

Author's own work (2015), Table 4.1: *A Summary of the Research findings*. Unpublished.

Author's own work (2015), Table 5.1: *A Summary of the Recommendations*. Unpublished.

Application for Approval of Ethics in Research (EiR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

APPLICATION FORM

Please Note:

Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data. The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook** (available from the UCT EBE, Research Ethics website) prior to completing this application form: <http://www.ebe.ucl.ac.za/usi/ebe/research/ethics.pdf>

APPLICANT'S DETAILS	
Name of principal researcher, student or external applicant	Ryan Nicholas Fester
Department	School of Architecture, Planning and Geomatics
Preferred email address of applicant:	ryan.fester63@gmail.com
If a Student	Your Degree: e.g., MSc, PhD, etc.:
	Name of Supervisor (if supervised):
If this is a research contract, indicate the source of funding/sponsorship	None
Project Title	Critically exploring the idea of crime prevention through spatial planning and design

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY	Full name	Signature	Date
Principal Researcher/ Student/External applicant	Ryan Nicholas Fester		29 Apr 2015

APPLICATION APPROVED BY	Full name	Signature	Date
Supervisor (where applicable)	Tanja Winkler		29 Apr 2015
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section 1; and for all Undergraduate research (Including Honours).	Click here to enter text		Click here to enter a date.
Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions.	G. S. Hule Click here to enter text		21/10/2015 Click here to enter a date.

