CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED): INVESTIGATING ITS APPLICATION AND DELIVERY IN ENGLAND AND WALES

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Copyright Statement

Abstract

This thesis has two aims. First, it examines how the principles of Crime Prevention through Environmental Design (CPTED) are practically applied by a representative sample of 28 Architectural Liaison Officers (ALOs) across England and Wales. Second, it investigates how CPTED is delivered across Greater Manchester by Greater Manchester Police Design for Security Consultancy (DFSC).

The research demonstrates that when presented with a set of residential plans ALOs are, to varying extents, able to identify locations which time shows have higher levels of crime and disorder. Whilst there is a skill exhibited by ALOs, there is a wide range of performance with some ALOs tending to overstate the risks posed. The skill therefore requires finessing to ensure that ALO input is maximally useful. It is argued that those responsible for the application of CPTED should be afforded more training and resources to allow them to develop this skill. Research underpinning ALO advice also needs to be developed.

The way in which CPTED is delivered across Greater Manchester is atypical when compared to other forces across England and Wales. CPTED in Manchester is applied by former built environment professionals and a fee is charged for the production of a Crime Impact Statement (CIS). The aim of the CIS is to ensure that CPTED is considered early in the design and planning process. The thesis reports on how the CIS process was delivered during a period of austerity and examines how DFSC liaise with key stakeholders in compiling the CIS. The associated police recorded crime data for four residential CIS developments is reviewed as a means of measuring the extent to which the developments experienced crime and disorder compared to the immediate surrounding area. During the period of analysis no burglary offences were recorded. Analysis reveals that the involvement of DFSC is dependent upon a client being aware of the policy requirement for a CIS to accompany major planning applications. Some clients request a CIS late in the design and planning process, which limits the time DFSC can appraise the scheme and provide a consultative service. The content and structure of the CIS' varies depending upon when and by whom the CIS is written. Whilst CPTED is an important consideration for LPAs across Manchester, it is only one consideration, amongst others, for planning officers.

Acknowledgements

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List of Abbreviations

ACC	Assistant Chief Constable
ACPO	Association of Chief Police Officers
ADQ	Approved Document Q
ALO	Architectural Liaison Officer
BREAM	Sustainable Standard
BS 7950	Window Standard
CABE	Commission for the Built Environment
CIS	Crime Impact Statement
CJS	Criminal Justice System
CoP	College of Policing
CPA	Crime Pattern Analysis
CPD	Continued Professional Development
CPDA	Crime Prevention Design Advisor
CPTED	Crime Prevention through Environmental Design
CSEW	Crime Survey for England and Wales
CSR	Comprehensive Spending Review
DAS	Design and Access Statement
DCLG	Department for Communities and Local Government
DFSC	Design for Security Consultancy (at Greater Manchester Police)
GMP	Greater Manchester Police
GMP ALU	Greater Manchester Police Architectural Liaison Unit
GMP DFSC	Greater Manchester Police Design for Security Consultancy
GMP HQ	Greater Manchester Police Headquarters
HMIC	Her Majesty's Inspectorate of Constabulary
LPA	Local Planning Authority
NPIA	National Police Improvement Agency
NPPF	National Planning Policy Framework
NPT	Neighbourhood Policing Team
ONS	Office for National Statistics
PAS 24	Door Standard
PCC	Police and Crime Commissioner
RIBA	Royal Institute of British Architects
SBD	Secured by Design
SCP	Situational Crime Prevention

Chapter One: Introduction

1.1   Setting the scene

The meaning and relevance of the 'home' is multifaceted and as such has been the subject of extensive commentary within disciplines such as sociology, psychology, architecture and human geography (Mallett, 2004). Many academics describe the home as a haven and a place which is secure and safe allowing individuals to retreat from public space and surveillance (Dovey, 1985; Kearns *et al,* 2000 and Mallett, 2004). Therefore for many, the home is a place which offers freedom, allowing individuals to relax. Conversely, the home and its immediate environment provides those with criminal intent the opportunities to commit crime, such as burglary.

This thesis is about the manipulation of places and spaces in the service of crime prevention. In particular, it focuses upon residential housing, opposed to commercial or mixed use developments. This thesis aims to explore whether those involved in the planning, design and development of residential housing can improve its security.

1.2   Burglary

As documented by Section 9a and 9b of the Theft Act 1968, a person is guilty of burglary if:

> he enters any building or part of a building as a trespasser and with intent to commit any such offence[1], or; having entered any building or part of a building as a trespasser he steals or attempts to steal anything in the building or that part of it or inflicts or attempts to inflict on any person therein any grievous bodily harm (Theft Act, 1968).

Figures published by the Office of National Statistics (ONS) suggest that the number of burglaries occurring within England and Wales is decreasing annually (ONS, 2015). Nevertheless, the 2014/2015 Crime Survey for England and Wales estimated that there were approximately 559, 000 offences of burglary dwelling (ONS, 2015). Whilst it is reassuring that the national burglary rate is declining, this is no consolation to the victims of the estimated 559, 000 offences. Being the victim of a burglary can be a traumatic and distressing experience and one which can have a detrimental effect on the physical and mental health of

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[1] Offences include stealing anything in the building or part of a building in question, of inflicting on any person therein any grievous bodily harm and of doing unlawful damage to the building or anything therein.

the victim, immediately after the burglary and for some time after (Maguire, 1980; Brown & Harris 1989; Beaton *et al*, 2000; Baker & Gray, 2005). As Brown and Harris (1989) argue, being a victim of a residential burglary "...is more than just a property crime because it includes an intrusion into otherwise safe territory" (p. 119). As one victim of burglary commented "it's not just the things they took and the damage they caused, it's the idea that someone has been poking around your home" (Fagan, 2010 p.2).

It is also important to consider the economic cost of burglary. It is estimated that the average cost of a burglary is approximately £3,925 (Home Office, 2011) and is one of the main reasons why people decide to move home (Association of British Insurers, 2006). Thus, despite the declines in burglary, it is still very much a major issue and one that deserves attention.

1.3   Preventing burglary

There are a number of ways in which attempts can be made to prevent burglary. One example is through target hardening. Target hardening is an example of a *reactive* response to crime and disorder and is generally considered once a crime has occurred (e.g.: a home has been burgled). Although target hardening is often reactive, it can also be used to protect 'vulnerable' or 'at-risk' properties (i.e. properties identified as being most at risk of burglary *before* the offence takes place). For example, in the Home Office Reducing Burglary Initiative, properties were target-hardened "based on prior victimisation, on whether they were located in identifiable hot-spots, or if they were 'deemed to be at risk' by having insufficient security" (Millie & Hough, 2004 p. 14). Similarly, Wellsmith and Birks (2008) in an evaluation of a target hardening initiative in the West Midlands identified properties at risk owing to their proximate location to a burgled dwelling and identified these as requiring a 'proactive' security upgrade. As outlined by Ross and Pease (2008) "in domestic burglary…the danger of a further crime is greatest at the home of the original victim and spreads out to some 400 meters…" (p. 314). Targeting resources to homes which have been burgled, and those which are in close proximity (i.e. adjacent to the burgled location) is referred to as cocooning (Forrester, *et al* 1988). Crime prevention advice can also be delivered to residents via face-to-face contact (Jones, 2012). Although it is important to educate residents about the immediate crime prevention measures they can implement to

reduce the risk of victimisation, the risk can also be minimised during the development's design and build.

It is widely acknowledged that the design and the layout of the built environment can reduce the opportunity for crime and disorder to occur (Jacobs, 1961; Jeffery, 1971; Newman, 1973; Crowe, 2000; Armitage, 2013; Cozens, 2014; Cozens & Love, 2015). Attempting to incorporate and embed crime prevention into the initial design of a development aims to minimise the opportunity for crime and disorder to occur, without simultaneously impeding on the aesthetics of the development through target hardening. It is therefore a more *proactive* approach to crime prevention.

The manipulation of the built environment to prevent the opportunity for crime and disorder is often referred to as designing out crime or Crime Prevention through Environmental Design (hereinafter CPTED). There are various ways in which CPTED has been implemented across England and Wales. Within each police force, dedicated officers - Architectural Liaison Officers (hereinafter ALOs)[2], are responsible for assessing planning applications and providing advice on how the built environment can be manipulated to reduce the opportunity for crime and disorder. ALOs are responsible for liaising with urban designers and local planning officers, to appraise and amend planning applications in an attempt to make the proposed development as safe as possible. ALOs are also responsible for delivering the Secured by Design (hereinafter SBD) accreditation scheme. SBD is a UK police initiative, managed by the Association of Chief Police Officers[3] (hereinafter ACPO SBD) which aims to encourage the building industry to design out crime. Should a development receive SBD accreditation, this confirms that the development has been built to the principles of CPTED. Seeking to achieve SBD accreditation and embedding crime prevention into the design and development of residential housing requires the co-operation and 'buy in' from other agencies and professionals.

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[2] Also referred to as: Crime Prevention Design Advisors (CPDAs); Designing out Crime Officers (DOCOs) or Consultants and may be: i) serving police officers ii) retired police officers who have returned to force in a support staff role or iii) support staff with no prior policing experience. Throughout the remainder of the thesis the term ALO will be used.

[3] At the time of writing they are not managed by the National Police Chiefs' Council.

The introduction of Section 17 of the Crime and Disorder Act 1998 is often cited as the legislative mechanism which encourages this 'buy in' from responsible authorities. It states that responsible authorities should do all they can to prevent crime (Crime & Disorder Act, 1998). In addition, over the subsequent years there have been a number of key guidance and policy documents which have outlined the importance of CPTED and encouraged urban designers and developers to consider the impact their design may have on crime. Such examples include: Safer Places (ODPM, 2004); Planning Policy Statement 1 (ODPM, 2005); Planning Policy Statement 3 (ODPM, 2010) and World Class Places (DCLG, 2009). Whilst these documents have now been disbanded, the importance of designing out crime remains in the National Planning Policy Framework (hereinafter NPPF) (DCLG, 2012a).

Whilst policy and guidance has encouraged the use of CPTED, to date little research has been conducted on how the principles of CPTED are actually applied. Whilst a small number of evaluations have compared levels of crime on a development which has and has not been built to the principles of CPTED (such as the evaluations of the SBD scheme - Armitage, 2000; Armitage & Monchuk, 2011) they did not examine *how* the ALO implemented their skill to assess the plans, predict crime locations and make any subsequent recommendations. Thus, these evaluations do not provide any evidence to suggest that when presented with an architectural plan, an ALO can *apply* CPTED to make the development more secure than it might have been. This has been identified as a gap and this thesis seeks to contribute knowledge to this field.

In England and Wales, CPTED is practically applied by ALOs. Wootton *et al* (2009) conducted a comprehensive evaluation of crime prevention services across each of the 43 police forces in England and Wales and concluded that the delivery of crime prevention is ad-hoc and inconsistent both *within* forces and *across* forces. For example, they discovered that in some forces ALOs are serving police officers, whereas in others they are civilian staff. However, Wootton *et al* (2009) found that the delivery of CPTED in one police force area (Greater Manchester Police) was atypical to the delivery in others.

1.4   Greater Manchester Police (GMP)

Greater Manchester Police (hereinafter GMP) is one of the largest police forces in England and Wales (Home Office, 2013). The force covers a geographical area of approximately 500 square miles, serves a population of 2.7 million people and consists of 12 police divisions (GMP, 2014)[4]. Attempting to prevent crime through the design and the manipulation of the built environment, is delivered throughout the force by GMP Design for Security Consultancy (hereinafter DFSC).

DFSC is a design led consultancy based within GMP (Monchuk, 2011). Its aim is to work with built environment professionals (e.g. urban designers, planners, developers) at the *design* or *concept stage* of a development and to highlight any areas of the proposed design which, from a security/crime prevention perspective, could encourage crime and disorder to occur once the development has been built. To engage architects and developers at the pre-planning stage and before plans are submitted to the Local Planning Authority (hereinafter LPA), DFSC has developed the Crime Impact Statement (hereinafter CIS). The aim of the CIS is to encourage those submitting a planning application[5] to consider the current crime levels in and around the location of the proposed development and to ensure that the proposed design of the development itself does not incorporate any criminogenic features.

In 2007, Wootton *et al* conducted a small scale evaluation of GMP's atypical delivery. At this time, the delivery was very much in its infancy and as such they recommended that further research was conducted and included some element of crime analysis, which was absent in Wootton *et al's* (2007) evaluation. This gap has been identified and this thesis seeks to contribute knowledge to this field.

1.5   The aims and objectives of the thesis

As will be discussed in chapter two, there is a lack of research identifying the processes and mechanisms through which CPTED is applied and embedded into the planning system (Colqhoun, 2004; Morton & Kitchen, 2005; Schneider & Kitchen, 2007; Clancey, 2011; Armitage, 2013; Cozens & Love, 2015). This thesis seeks to contribute knowledge to the field by examining, in detail, how CPTED is applied across England and Wales and whether

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[4] The 12 police divisions are: North Manchester, Metropolitan, South Manchester, Salford, Tameside, Bolton, Wigan, Trafford, Bury, Rochdale, Stockport and Oldham.
[5] This may be an application for either a residential, commercial or mixed use development.

ALOs are able to successfully predict the nature and location of crime risk in the built environment. It also seeks to examine how CPTED is delivered across Greater Manchester (hereinafter Manchester) and consider whether a similar approach should be adopted elsewhere. Three key research aims have been identified. These aims and associated research questions are outlined below:

Research Aim 1:

Investigate whether ALOs are able to anticipate the locations at which crimes take place (according to police recorded crime figures) when reviewing the architectural plans for a residential development.

Research Questions:

- When viewing the architectural plans for a proposed residential development, can ALOs correctly identify the locations of crime risk?
- Is professional background associated with any such skill?
- What is the consistency of the advice offered?
- What processes/procedures do the top performing ALOs employ to formulate their advice and suggestions?

Research Aim 2:

Examine how designing out crime is delivered across Manchester by GMP DFSC.

Research Questions:

- How is DFSC structured?
- Who is involved in delivering the service?
- What activities, systems and processes does the service involve?
- What is the aim of a CIS?
- How is a CIS compiled?
- What information is included within a CIS?
- How and where is the CIS incorporated in the planning process?
- How effective is the CIS process in identifying and communicating potential opportunities for crime and disorder to occur within the built environment.
- Do developments that have been through the CIS process experience crime and disorder and how does this compare to the wider beat area?

Research Aim 3:
Elicit how representatives from the Local Planning Authorities (LPAs) view the services provided by DFSC.
Research Questions:
- What importance do the LPAs across Manchester place on Designing out Crime?   - How do the LPAs engage with DFSC?   - What do the LPAs perceive the advantages and disadvantages of working with DFSC to be?

Chapter Two: Literature Review

2.1   Introduction

This thesis is about the manipulation of places to prevent crime. The last three decades of the twentieth century witnessed a partial change in the focus of criminological research from offender to context. This is detailed in Laycock (2001 & 2005) and Tilley and Laycock (2007). The change was driven in part by a less than optimistic assessment of offender change programmes and a realisation that the criminal justice system (hereinafter CJS) cannot be exclusively responsible for the reduction or prevention of crime. As Laycock (2005) states, the CJS is "necessary, but not sufficient as a method of controlling crime...Acknowledging the limits of the CJS, we first need to prevent as many offences as possible" (p. 14). The focus of the thesis is the translation of the theory of place manipulation into policing, planning and development practice.

2.2   From traditional criminology to a new genre of criminological discourse

Concerned by the 'nothing works' view of offender change, the UK government reconsidered how it could address crime and disorder more effectively. While there is now a more nuanced view of rehabilitation (McGuire, 1995), the 1970s witnessed the greatest scepticism about the efficacy of offender change (Lipton *et al,* 1975). As Lipton *et al* (1975) concluded:

> While some treatment programs have had modest successes, it still must be
> conceded that the field of corrections has not as yet found satisfactory ways
> to reduce recidivism by significant amounts (p. 627).

As such, a research report published by the Home Office suggested that criminological discourse should consider the relationship between crime and the opportunities presented by the immediate environment in which it occurs (Mayhew *et al*, 1976). The authors elaborate on this when they state that: "…for the most part opportunity has been acknowledged in passing rather than taken as the main object of empirical scrutiny" (Mayhew *et al*, 1976 p. 4). The publication of this report was significant, timely in its coincidence with scepticism about penal treatments, and marked the introduction of a new genre of criminological discourse. The overarching principle of this genre is that crime is a normal occurrence in everyday life, is generated through opportunity and can be prevented by reducing this opportunity (Felson & Eckert, 2015).

2.3   The cost of domestic burglary

Prior to introducing the subject of environmental criminology, it is important to consider the cost of domestic burglary. Although the number of domestic burglaries committed in England and Wales has decreased since 1995 (ONS, 2015), domestic burglary still occurs. Between April 2014 and March 2015 197,021 domestic and 214,433 non-domestic burglaries[6] were recorded by the police (ONS, 2015). As Maguire (2002) describes, crime may not be reported to, nor recorded by the police, thus it is important to also review the Crime Survey for England and Wales (hereinafter CSEW[7]) to gain a more accurate reflection of the prevalence of domestic burglary. Between April 2014 and March 2015, the CSEW reports that there were approximately 559, 000 incidents of domestic burglary in a dwelling and approximately 225,000 incidents of burglary in a non-dwelling (ONS, 2015).

The economic cost of burglary is significant. As Brand and Price (2000) state "crime imposes a huge cost on society" (p. 1). In their analysis of the economic cost and social costs of crime, Dubourg and Hamed (2005) estimated the average burglary to cost approximately £3,268. This figure includes costs in the anticipation of crime (i.e. insurance premiums); as a consequence of crime (i.e. value of the property stolen) and in response to crime (i.e. the CJS). More recently, the Home Office has revised this figure, taking into consideration inflation, and estimate that the average domestic burglary costs approximately £3,925 (Home Office, 2011). Therefore, when considering the overall cost of burglary, from the cost to the victim and the range of criminal justice agencies who may be engaged, burglary is an expense to society. As Laycock (2005) suggests, perhaps it would be more productive to invest public monies into the prevention of crime, as opposed to funding the maintenance and development of the CJS in an attempt to manage and rehabilitate convicted offenders which, as discussed above, may not be effective. Aside from the costs of the CJS, research has shown that the main reason why people decide to move home is because they have been the victim of a burglary (Association of British Insurers, 2006). It is also important to consider the cost of burglary to society more widely. Owing to the emphasis the government has placed on sustainability (DCLG, 2008), one must consider the unintended consequences of burglary to

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[6] It is important to note that this figure includes commercial burglary.
[7] 'The CSEW is a face-to-face survey in which people resident in households in England and Wales are asked about their experiences of crime in the 12 months prior to the interview' (ONS, 2014 p. 3). It is therefore used to try and obtain data about crime which may not have been reported to and recorded by the police.

the environment. Pease (2009) reviewed the carbon cost of crime and based upon the cost of crime reported by Dubourg and Hamed (2005), tentatively estimates that the annual carbon cost of crime in England and Wales is more than 6000000 tonnes of carbon dioxide (CO_2). This figure does not include the carbon cost incurred should residents chose to move home owing to being the victim of a burglary.

Being the victim of a burglary can also be a traumatic and distressing experience. It can have a detrimental effect on the physical and mental health of the victim immediately after the burglary and for some time thereafter (Maguire, 1980; Brown & Harris 1989; Beaton *et al*, 2000; Baker & Gray, 2005). As Brown and Harris (1989) argue, being a victim of a residential burglary "...is more than just a property crime because it includes an intrusion into otherwise safe territory" (p. 119). Along with experiencing shock and anxiety burglary victims have the additional fear of continuing to live at the scene of the crime. As Brown and Harris (1989) conclude:

> [they] have had their most secure territory violated and cannot cope by avoiding the scene of the crime; these factors make the aftermath of a burglary unique (p. 130).

The impact of burglary on elderly victims can be serious, with elderly victims 2.4 times more likely to die or be placed in residential care when compared to their non-burgled neighbours (Donaldson, 2003). Research conducted by Victim Support (2014) suggests that burglary can impact upon children's sleep, confidence and academic progress at school. Shaw and Chenery (2007) suggest that the psychological impact of becoming a victim of burglary can be particularly difficult for men, who may feel that they have failed to keep their family safe in their traditional (if outdated) role as protector. Recent work by Staubli *et al* (2014) also found that being the victim of an *attempted* burglary can also impact negatively upon the victim's life satisfaction.

Thus, although the figures would suggest that domestic burglary is decreasing, it does still occur at a cost to the victim, the CJS and society more widely. This thesis aims to consider how the design and layout of the built environment can be manipulated to prevent the crime of domestic burglary so as to further reduce these costs.

2.4   Environmental Criminology

Environmental criminology is the school of thought which is less concerned with *why* an individual chooses to offend, than with the criminal event itself and the environment in which it occurs (Wortley & Mazerolle, 2009). As two eminent proponents of environmental criminology contend, "[it]…argues that criminal events must be understood as confluences of offenders, victims or criminal targets, and laws in specific settings, at particular times" (Brantingham & Brantingham, 1981 p. 1). Environmental criminology comprises of three linked criminological theories or approaches, namely: routine activity theory (Cohen & Felson, 1979); rational choice perspective (Cornish & Clarke, 1986) and crime pattern theory (Brantingham & Brantingham, 1981). Collectively, these are often referred to as Opportunity Theories. These theories will now be discussed in detail as providing the theoretical underpinning to the research undertaken.

2.5   Opportunity Theories

2.51   Routine Activity Theory

Routine activity theory, or approach as Felson (2008) refers to it, suggests that for crime to occur, three elements must converge at the same time and in the same space. These include: i) a motivated offender ii) a suitable target and iii) the absence of capable guardians (Cohen & Felson, 1979). The approach proposes that by removing any one of these three elements, an offence will not occur.

Routine activity theory is based upon the precepts of human ecology (Felson, 2008). It suggests that as modern society has increased the number of legal opportunities available to individuals (e.g. leisure and social activities) it has consequently increased the opportunity for illegal activities to occur (Cohen & Felson, 1979). For example, as individuals are increasingly spending more time away from their home, homes are left unoccupied, increasing their vulnerability to burglary. As Garofalo and Clark (1992) describe:

> ...the risk of being victimized is affected by the routine activities in which
> people engage – the recurring patterns of behaviour around which their
> lives are structured spatially and temporally (p. 443).

The *first* necessary condition for a crime to occur, according to this approach, is the presence of a motivated offender. Routine activity theory takes the offender's motivation for criminality as given, and instead places emphasis upon their role in the crime event:

> ...unlike many criminological inquiries, we do not examine why individuals or groups are inclined criminally. We take criminal inclination as given and examine the manner in which the spatio-temporal organisation of social activities helps people to translate their criminal inclinations into action (Cohen & Felson, 1979 p. 589).

This approach has been criticised by some criminologists for failing to describe what constitutes a potential offender (Tewksbury & Mustaine, 2010). McLaughlin (2001) and Farrington (2005) have also criticised the approach for not considering what motivates an offender or why some offenders have a greater propensity to offend than others.

The *second* key component of this approach relates to the presence of a *suitable target.* The use of the term 'target' opposed to 'victim' is one which warrants further explanation. Cohen and Felson (1979) avoided the term 'victim' in the development of this theory to ensure that it could be applied to a number of, what they describe as "direct-contact predatory violations" (p. 589), which are "illegal acts in which someone definitely and intentionally takes or damages the person or property of another" (Glaser, 1971 cited in Cohen & Felson, 1979 p. 589). Therefore, an individual may be the target (e.g. in the instance of assault) or their property may be the target (e.g. in the instance of domestic burglary). Thus, a target may be inanimate where a victim may not. Nevertheless, although routine activity theory does not specifically refer to the victim per se, Fattah (1993) acknowledges the theory for going some way to recognising victims are an important factor in a crime event and as such bridges the gap between more conventional criminological theory and victimology:

> …the routine activity approach converges toward victimology and moves beyond conventional criminological theories that consistently ignore the victims and the role they play in the genesis of crime (p. 246).

The *third* element in routine activity theory is the absence of capable guardianship, in the shape of those tasked to reduce crime, i.e. police or ordinary citizens who, whilst undertaking their routine activities, are simultaneously discouraging or preventing crime due to their presence (Hollis *et al*, 2013). Clarke and Felson (1993) argue that the term 'guardian' was consciously used to illustrate that this role did not require a police officer or security professional, rather members of the general public. Felson (2008) argues that the role of a guardian has often been misinterpreted to mean the presence of 'formal' guardians, such as the police. Nevertheless, the role of police officers and security guards should not be disparaged; they too act as guardians – albeit their presence at a specific location, at a particular time is probably often premeditated. As Clarke and Felson (1993) state, the presence of 'formal' guardians should not be relied upon:

> Indeed, the most likely persons to prevent a crime are not policemen (who seldom are around to discover crimes in the act) but rather neighbours, friends, relatives, bystanders or the owner of the property targeted (p. 3).

Felson (2008) also argues that the role of guardians has been misinterpreted to encompass the use of target hardening measures (e.g. inclusion of a burglar alarm). Thus, the role of the guardian is one of many aspects of routine activity theory which have evolved and developed since its initial conception in 1979. The term 'guardian' and the role of 'guardianship' has been redefined by Hollis *et al* (2013) as "the presence of a human element which acts – whether intentionally or not – to deter the would-be offender from committing a crime against an available target" (p.76). This definition clarifies that guardianship can only be undertaken by a human (removing any confusion about the use of target hardening). Although the importance of guardianship is often discussed in relation to crime prevention, there has been a lack of research undertaken to investigate the ways in which guardianship is implemented. Reynald (2009) has attempted to fill this void and developed a method to measure the intensity of guardianship by household residents. In essence, Reynald (2009) states that there are three key ingredients which are imperative for active, capable residential guardianship. Firstly, guardians need to be available. As Reynald (2009) describes this is where a guardian is present and visible. Once available, they must be capable of carrying out surveillance successfully. Finally, if available and capable, the final step is for the guardian to

be willing to actively intervene. Therefore, it could be suggested that the notion of capable guardianship is circular. If a crime does not occur, the guardianship was capable. If a crime does occur, the guardianship was not capable. The role of guardians in the prevention of crime will be revisited in a subsequent part of this chapter, as will the importance of adequate surveillance in facilitating opportunities for effective guardianship.

A number of characteristics can independently or collectively make a target suitable to the motivated offender. Cohen and Felson (1979) outline that a suitable target is one which is categorised by the following four attributes (VIVA):

- *Value* – calculated from the offender's perspective, the target must hold some level of value;
- *Inertia* - the physical aspects of the target (e.g. weight and size) must encourage or facilitate the easy removal of the target;
- *Visibility* – the target must be visible - marking out the person or property for attack and
- *Accessibility* – the target is at an increased risk of attack if easily accessible.

(adapted from Felson, 1998)

Clarke (1999) identified a number of fundamental limitations with VIVA. First, it failed to acknowledge the distinction between victims and crime targets. As Clarke (1999) suggests:

> For them [Cohen and Felson] human targets were no less subject to ecological principles and VIVA was as applicable to the victims of rapes...as to the targets of theft (p. 22).

Second, VIVA failed to consider why an offender might be motivated to steal and how the characteristics of a product may influence the decision to do so. Thus, Clarke (1999) attempted to modify VIVA to focus specifically upon the theft of "hot products" (p. v) (i.e. products which are most likely to be sought after and stolen). Products, he proposed, are at higher risk of theft if the product is one which is CRAVED: *Concealable* (a product must be easily hidden once it has been stolen); *Removable* (a product must be easy to move by the offender); *Available* (the product must be there in the first instance to allow it to be stolen),

Valuable (the offender must attribute some value in the product to make it worth stealing), *Enjoyable* (the product should bring some form of pleasure) and *Disposable* (the offender will be able to sell the stolen product easily). An example of a product which might be defined as being CRAVED is an iPad. Relatively small in size (approximately 24cm x 19cm) and lightweight (approximately 660g), it is easily concealable and removable. The technological capabilities of an iPad and the number and variety of applications which can be purchased for it make it enjoyable and, retailing at between £329 and £739[8], the iPad is valuable and disposable. Findings from the 2012/2013 CSEW suggest that computers and computer equipment were the second most commonly stolen item from burglaries with entry, with purses, wallets and money being the most stolen item (ONS, 2013).

It is important to note that routine activity theory was devised over 40 years ago (1979) and there have been a number of key changes in society since then which require us to reconsider how routine activity theory can be applied. One of the most notable developments is the creation of the World Wide Web (WWW) in the early 1990s. With this came an opportunity for those with criminal intent to exploit this medium, resulting in the emergence and rise of cybercrimes (Wall, 2001; Newman & Clarke, 2003; Wilson & Jones, 2008; Pratt *et al,* 2010; Soudijn & Zegers*,* 2012) which do not require direct and physical contact between an offender and a victim. Conversely, the introduction of such technology has proved instrumental for legitimate users allowing them to communicate more efficiently and readily. In short, recent developments do not make routine activity theory less applicable, but we do need to reconfigure it to take account of lifestyle changes.

2.511 *The evolution of Routine Activity Theory*

In 2008, one of the original authors of the theory, Felson, wrote candidly about the limitations of the initial approach. Felson (2008) states that the initial theory failed to consider any of its elements in detail and as such it became important to fuse the theory with other key criminological concepts such as situational crime prevention (Felson, 2008).

In the mid-1990s Eck (1994) and Felson (1995) amended routine activity theory in an attempt to place a greater emphasis on the location in which crime occurs and to unpack and elaborate

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[8] http://www.apple.com/uk/ipad [Accessed 17 April 2014].

on the role of 'guardians'. Thus, it was revised to include the following three elements: i) offender ii) target/victim and iii) place or setting in which the crime occurs. The aim of this revision was to demonstrate that the offender and crime target come together in a suitable *place* allowing a criminal event to be completed (Hollis *et al,* 2013). Outside of this inner triangle was a second triangle which depicted the controllers (or guardians) responsible for reducing or preventing crime by controlling one of the three elements (Eck, 1994 cited in Hollis *et al,* 2013). As depicted in Figure 1**,** there are three types of controller: a handler, a guardian and a manager. A handler is responsible for looking after potential offenders in an attempt to prevent them engaging in criminal activity. Sampson *et al* (2010) suggest that handlers and offenders must have some form of emotional attachment with one another. Examples of handlers include: parents, siblings, employers and schoolteachers. The responsibility of a guardian is to protect targets from motivated offenders. Examples of guardians include the police, hired security guards and the general public. Managers are responsible for ensuring the smooth operation of the place and to attempt to keep the place secure from offenders. Examples of managers include the owners of places (such as home owners) or the owners' representatives at the place (e.g. landlords and flight attendants for example) (Sampson *et al,* 2010).

Figure 1   The crime triangle/problem analysis triangle

(Adapted from the Centre for Problem-Oriented Policing, 2014)

Felson and Boba (2010) specify that guardians, handlers and managers are closely related in influencing whether or not crime is completed: "the offender moves away from handlers, toward a place without a manager and a target without a guardian" (p. 30). However,

Sampson *et al* (2010) suggest that the effectiveness of controllers is dependent upon the relationship the controller has with their super controller. Sampson *et al* (2010) define a super controller as "...people, organisations and institutions that create the incentives for controllers to prevent or facilitate crime...super controllers control the controllers" (p. 40). They suggest that there are three forms of super controller: i) formal super-controllers – such as organisational and regulatory functionaries; ii) diffuse super controllers such as political institutions and iii) personal super controllers. Successful crime prevention initiatives are reliant upon the controller being incentivised by relevant super controllers (Sampson *et al*, 2010).

The revision to the initial routine activity theory has proved useful in helping practitioners (such as the police) in considering how they might try to reduce crime and disorder by focusing upon offenders, targets and places (Eck & Clarke, 2003). Thus, practitioners commonly refer to this approach as the 'crime triangle' or the 'problem analysis triangle' (Centre for Problem-Oriented Policing, 2014) (refer to Figure 1). In addition to outlining the key elements required for a crime to occur, it also suggests those responsible for thwarting a potential offender from stealing a suitable target from an easily accessible place.

As alluded to above, the theory has been criticised for failing to consider what makes an offender motivated (Farrington, 2005).

2.52 Crime Pattern Theory

According to Brantingham and Brantingham (1993), crime "does not occur randomly or uniformly in time or space or society" (p. 264). Crime pattern theory asserts that crime is clustered in areas which are located within offenders' activity and awareness spaces - areas with which they are familiar (Brantingham & Brantingham, 1981). According to Brantingham and Brantingham (1995) crime occurs in locations where potential offenders and victims converge through their routine activities:

> …[offences] occur on major pathways and at major nodes where large numbers of potential offenders are brought together, through routine activities, with large numbers of potential victims and targets (p. 7).

Crime pattern theory suggests that crime clusters around:

i)   *Nodes* - places which people travel to and from (e.g. their homes, places where they work);

ii)   *Paths* - the routes which people take to travel between nodes as, according to Brantingham and Brantingham (1995); "Paths determine where people go" (p.11);

iii)   *Edges* – the areas which surround nodes and paths. Edges can be either physical or perceptual. Brantingham and Brantingham (1995) state that a perceptual edge includes "psychological barriers that keep neighbourhood insiders locked within their neighbourhood as well as keeping outsiders out of the area" (p. 12).

In addition to considering the immediate environment, it is also important to consider the environment more generally when considering the choices made by offenders. As Brantingham and Brantingham (1995) state:

> When looking at crime and criminal events, it is essential to see them, to the extent possible, in narrow focus. But it is also important to see them within a broader focus as well. We need to see both the tree and the forest (p. 6).

Thus, it is important to consider the function and location of what Brantingham and Brantingham (1995) refer to as crime generators and crime attractors. A crime generator is a location which attracts large volumes of people, at a set time, for reasons unrelated to criminal motivation. An example would include the gathering of a large number of individuals to watch a sporting event at a stadium. It is at such a location that those who are criminally motivated may see an opportunity to offend. Conversely, a crime attractor is a location which by its very nature creates opportunities for crime and disorder and so attracts motivated offenders. An example would include the attraction of shopping centres to shoplifters – although a shopping centre may also be classified as a crime generator.

Although crime pattern theory considers how opportunities for crime may occur spatially (owing to the location of nodes, paths and edges), it says little about the temporal patterns of crime. As Ratcliffe (2006) warns:

...though time plays a role in many of the key theories related to environmental criminology, little mention of temporality appears in the literature on microspatial criminal behaviour (p. 286).

Thus, both Ratcliffe (2006) and Townsley (2008) argue that it is important to consider the type of node and its temporal characteristics. For example, Ratcliffe (2006) suggests that there are two types of node:

i) those which have a strong spatio-temporal draw (i.e. place of work) where attendance is required at a specific time (e.g. at 9am) and at a specific location and

ii) those which are more discretionary (e.g. a restaurant) and have "lesser temporal rigidity" (Ratcliffe, 2006 p. 264).

When travelling to an obligatory node, a potential offender is constrained both spatially and temporally. Therefore a potential offender is unable to stray too far from the location of the node to explore surrounding areas, which then becomes part of their awareness space. The location of discretionary nodes provides offenders with both the time and excuse to explore the surrounding area, allowing them to identify opportunities for crime. Thus, as Wiles and Costello (2000) and Ratcliffe (2006) suggest, offenders identify potential opportunities for crime whilst moving through time and space undertaking their normal routine activities. Wiles and Costello (2000) state that "most travel associated with crime was not primarily driven by plans to offend" (p. 2). Ratcliffe (2006) also notes that the location of nodes and temporal constraints will also dictate the ways in which offenders travel to nodes. Ratcliffe (2006) suggests that potential offenders usually seek the most direct routes to nodes.

Thus, it is imperative that the location of nodes, paths, crime generators and crime attractors are carefully considered by those responsible for designing and planning future housing developments. They must not only consider the physical location of nodes and paths as they appear on a plan, but also consider the ways in which the space will be used at different periods of time and anticipate the time taken to travel to nodes, which may require the reconsideration of the location of paths.

Gilling (1997) also argues that although crime pattern theory is useful in assisting in the practical application of preventing crime, it fails to provide a complete theory of crime. Gilling (1997) suggests that crime pattern theory does not encompass the decisions taken by the offender to commit an offence in that particular environment:

> …a fully 'environmental' explanation needs to find a way of reconciling the opportunities and constraints for crime presented by the environment with the decisions about crime taken by individuals in the light of those 'external' factors. (Hope, 1986: 70 cited in Gilling, 1997: 56).

2.53   Rational Choice Perspective

The rational choice perspective[9] states that crimes are purposive and deliberate acts, committed with the intention of benefitting the offender (Cornish & Clarke, 2008). Cornish and Clarke (1986) suggest that offenders are at least quasi-rational and they use the information presented to them in the immediate environment to assess whether the rewards of committing a crime (e.g. successfully stealing an item) outweigh the risk of undertaking the crime (e.g. being arrested). Thus, rational choice perspective suggests that the potential offender asks two pertinent questions: i) will I succeed in carrying out the crime? and ii) if I do succeed, will I get caught?

The rational choice perspective states that offenders make two key decisions when considering whether to offend (Cornish & Clarke, 2008). The first is what Cornish and Clarke (2008) refer to as 'involvement decisions' – the decision relating to the initial involvement (or initiation) and their continued involvement (or habituation) in criminality. Guerette *et al* (2005) state that these decisions are fairly specialised and relate to the specific needs and desires of the offender:

> in other words, a particular type or group of crime becomes allowable and acceptable rather than the entire spectrum of criminal behaviour (p. 79).

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[9] Often referred to as the rational choice *theory* in many criminological texts. Cornish and Clarke (1986) state that as it is not a theory per se, it should not be referred to as such.

The second decision relates to 'event decisions' i.e. decisions made when preparing for, carrying out and concluding the commission of a crime type (Cornish & Clarke, 2008). The majority of criminal careers research suggests that offenders are not specialists, but rather generalists that often exhibit wide versatility in offending (Simon, 1997; Gottfredson & Hirschi, 1990). Cornish and Clarke (1986) suggest that offenders may use crime to rationally satisfy a range of motivations (in different places and at different times). As Guerette *et al* (2005) discuss:

> …an offender decides to engage in a particular form of criminal behaviour to suit his or her needs. He or she may commit any offence within this accepted category depending upon the environmental and social context. If an individual decides that that crime is an acceptable means of meeting monetary needs, then the situation may shape a decision to shoplift at Time 1, a decision to steal from an automobile at Time 2, and a decision to take money from an employer at Time 3 (p. 80).

Gilling (1997) suggests that rational choice perspective, unlike crime pattern theory and routine activity theory, attempts to consider both crime and criminality:

> ...in rational choice theory the intention has always been to build a bridge between situation (crime) and disposition (criminality), thereby bringing together what criminological politics has done much to keep apart... (p. 60)

However, there are a number of criticisms to the perspective. Wortley (2008) argues that it does not explain in sufficient detail the role of the immediate environment in encouraging offenders to commit crime. As Wikström (2005) claims:

> *motivation* to commit acts of crime arises as an outcome of the *interaction* of individual (crime propensity) and setting (criminogenic features) (p. 213)

Trasler (1993) also argues that the rational choice perspective is more applicable to crime for gain, than to 'expressive' crime. Nevertheless, the crux of this perspective and routine

activity and crime pattern theories is that crime can be prevented if the opportunity to do so is minimised.

2.6   Crime Prevention

Opportunity theories underpin the practical application of crime prevention measures. Crime prevention in England gained impetus in the 1960s owing to the work conducted by the Cornish Committee on the Prevention and Detection of Crime in response to increasing crime rates (Jones *et al,* 1994). This Committee stated that an officer of at least Inspector rank should be designated force crime prevention officer (Byrne & Pease, 2008) and that officers should forge relationships with agencies outside the police and set up crime prevention panels in an attempt to prevent crime through various mechanisms (Jones *et al,* 1994). Following the report produced by the Cornish Committee, the publication of the Morgan Report (Home Office, 1991) was instrumental in raising the importance of preventing crime through partnership working and it introduced the concept of community safety partnerships (Gilling, 1997). This then fed into the Crime and Disorder Act (1998), which placed a statutory requirement on local authorities, the police and health authorities to work in partnership (Berry *et al,* 2011). Section 17 of the Crime and Disorder Act (1998) highlighted that the police cannot reduce crime and disorder alone, but required the assistance of other organisations and agencies.

The terms crime prevention, crime reduction and community safety are often used interchangeably (Chainey & Ratcliffe, 2005). In addition to the terminology used, consideration must also be paid to what exactly is being defined as crime prevention as it can encompass a multitude of different activities, interventions and initiatives to prevent the occurrence of crime (van Dijk & de Waard, 1991). Thus, some criminologists have referred to crime prevention as: "...a chameleon concept which cannot be neatly or unproblematically defined" (Hughes, 2001 p. 63); "a difficult beast to tame" (Gilling, 1997 p. xi); "almost unending elasticity" (Crawford, 1998 p.6) and "disarmingly simple" and "bewilderingly complex" (Tilley, 2005 p. 3). As Ekblom (2011a) warns, the use of varying terminology does not assist academics and practitioners alike who are tasked with delivering crime prevention strategies or assessing their impact. Thus, a number of criminologists have sought to define crime prevention to rectify this conundrum. For example, Ekblom (2011a) defines crime

prevention as: "ethically acceptable and evidence-based advance action intended to reduce the risk of criminal events" (p. 114). The inclusion of the word 'advance' insinuates that potential opportunities for crime and disorder should be pre-empted. To contextualise this within the predominant focus of this thesis (i.e. domestic burglary) opportunities for burglary could be prevented by considering, in advance, the design and layout of a housing development which draws upon the existing evidence base in this field.

As outlined earlier, crime can be prevented if the opportunity for successfully doing so is minimised. Situational Crime Prevention (SCP) is the key practical mechanism of reducing opportunities for crime and disorder.

2.61   Situational Crime Prevention (SCP)

SCP attempts to reduce existing and specific crime problems through the manipulation of the environment and the way in which it is managed (Clarke, 1997). SCP attempts to "forestall the occurrence of crime" (Clarke, 1997 p.2) by increasing the effort and risk of committing the crime and reducing the rewards from successfully committing the crime, as perceived by the offender (Clarke, 1992).

As Cornish and Clarke (2003) suggest, SCP aims to prevent crime by:

- **Increasing the effort:** includes target hardening (e.g. installing locks) and controlling access to facilities (e.g. car parking barriers);
- **Increasing the risks:** includes promoting natural surveillance (e.g. through street lighting) and reducing anonymity (e.g. staff identification badges);
- **Reducing the rewards**: includes removing targets (e.g. removable car radios) and identifying property (e.g. property marking);
- **Removing excuses:** includes setting rules or posting instructions (e.g. 'no parking') and
- **Reducing provocations[10]:** includes avoiding disputes (e.g. separate seating for rival football fans) which could provoke or encourage crime and disorder to occur.

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[10] A situation which can 'create stress and provoke an anti-social response' (Wortley, 2008 p. 56).

Overall, research indicates that SCP measures are effective in reducing specific crime problems, such as domestic burglary (Forrester *et al,* 1988; Clarke, 1997; Young *et al,* 2003; Bowers *et al*, 2004; Teedon *et al*, 2009).

Although the literature suggests that use of SCP measures is effective in reducing crime and disorder (Clarke, 1997), it is not without criticism. Notable perhaps, are the publications by Hayward (2007 & 2012) who suggests that SCP lends itself to preventing acquisitive crimes, but is limited when applied to more expressive crimes such as football hooliganism and binge drinking. Farrell (2010) provided a rejoinder to Hayward's 2007 publication arguing that SCP can be applied to expressive crime. Aside from the argument raised by Hayward (2007 & 2012), the concept and development of SCP has been plagued by what Clarke (2005) refers to as the seven misconceptions of SCP that suggest that SCP:

i)   does not reduce crime, it simply displaces it;

ii)   is simplistic and atheoretical;

iii)   fails to address the root causes of crime;

iv)   is a conservative and managerial approach to crime;

v)   promotes a selfish and exclusionary society;

vi)   threatens civil liberties and

vii)   blames the victim.   (adapted from Clarke, 2005).

The most common cited criticism surrounding SCP is that it simply moves, or displaces, crime elsewhere (Repetto, 1976). Hough (1995) describes displacement as "like pressing on a globule of mercury" (p.1). Displacement can be defined as: "…the relocation of a crime from one place, time, target, offence, tactic, or offender to another as a result of some crime-prevention initiative" (Guerette & Bowers, 2009 p. 1333) and is often cited as the main limitation of SCP and environmental criminology more widely (Hough, 1995; Clarke, 1997; Clarke, 2008; Guerette & Bowers, 2009; Johnson *et al,* 2011; Bowers *et al*, 2011). In addition, Barr and Pease (1990) also suggest that displacement can apply to the perpetrator where new offenders replace those who have been apprehended by the police.

Research actually indicates that displacement is not a common side effect of implementing SCP measures (Hesseling, 1994; Tunnell, 1992; Weisburd *et al*, 2006). Guerette and Bowers

(2009) reviewed 102 published evaluations of SCP projects and found that from these evaluations there were 574 'observations'. Bowers *et al* (2011) explain that observations refer to studies which "reported results for more than one treatment and displacement catchment area and/or more than one crime type" (p. 13). Guerette and Bowers (2009) found displacement in 26% of the observations, thus Guerette and Bowers (2009) state that displacement should be considered as the 'exception' rather than the 'rule'. This is reiterated by Hough (1995) who states that it is naïve to assume that displacement is an automatic consequence of SCP. Conversely, the implementation of SCP measures may yield a positive result in areas which are beyond the area of the actual intervention as the offender may be uncertain about the precise area in which the SCP measure spans (Clarke & Weisburd, 1994; Smith *et al*, 2002; Clarke, 2005). Referred to as the 'diffusion of benefits[11]', it is the reverse of displacement and "refers to the diffusion of crime control benefits to contexts that were not the primary focus of crime prevention initiatives" (Weisburd *et al.* 2006 p. 555). Indeed, research has actually indicated that it is more likely to witness a diffusion of benefit, as opposed to any displacement. This is evident in the aforementioned study by Guerette and Bowers (2009) which revealed that a diffusion of benefits was found in 27% of observations.

As Wortley (2010) describes, SCP is also criticised for being too simplistic and atheoretical. It is often claimed that it is no more than a common sense approach to crime, which relies on the installation of target hardening measures and which fails to understand why crimes occur. Thus, Wortley (2010) suggests that it is often criticised for lacking the "...vigour, complexity and sophistication of other criminological theories" (p. 2). In response to this criticism, SCP is underpinned by the opportunity theories which state that they do not intend to address the factors underpinning one's reasons to offend; they merely attempt to block any opportunities for offenders. To also suggest that SCP is predominantly about installing target hardening measures demonstrates that SCP has not been fully understood by those providing a critique. SCP comprises of 25 techniques – target hardening is just one of these (Wortley, 2010).

SCP is also criticised for failing to address the root causes of crime (Clarke, 2005). As the theories which underpin SCP focus upon explaining (with the aim of removing) crime opportunity, they do not consider how factors such as poverty, inequality and poor parenting

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[11] Bowers *et al* (2011) also refer to the diffusion of benefit as the 'bonus effect', the 'halo effect', the 'free-rider effect' and the 'multiplier effect'.

may also influence crime (Wortley, 2010). As von Hirsch *et al* (2000) state, although SCP does not address the root causes of crime, it is effective in achieving practical and immediate results. However, Wortley (2010) suggests that situations are themselves one cause of behaviour and that other theories could be criticised for failing to consider the situation in which crime occurs. Allied to the misconception that SCP fails to address the root causes of crime is that SCP is a conservative and managerial approach to crime and one that simply focuses upon protecting the property of the powerful. Clarke (2005) argues that although SCP was initially applied to property crime, it has now expanded and developed into other crime types such as terrorism (Clarke & Newman, 2006); child abuse (Wortley & Smallbone, 2006) and wildlife crime (Wellsmith, 2011). Clarke (2005) also states that SCP promises no more than it can deliver and that solutions are economic and socially acceptable.

It is also suggested that SCP promotes a selfish and exclusionary society as security measures can only be purchased by those who can afford them. This critique fails to consider that since 1st October 2015 all new housing, regardless of tenure, is required to be built to a standardised level of security. It also fails to consider that each police force in England and Wales employs dedicated crime prevention officers who are able to offer free advice to members of the public and often provide free or discounted upgraded security measures.

Although some SCP measures may restrict personal freedoms and this may be perceived to be a criticism, Clarke (2005) argues that people are willing to compromise on this, in return for being protected from crime. Therefore, Clarke (2005) suggests that criticising SCP for threatening civil liberties is unfounded. Wortley (2010) provides an example of SCP at an airport:

> ...the inconvenience of airport screening procedures is generally patiently endured by passengers who are more concerned about the threat of terrorism (p. 7).

Another common criticism of SCP is that it blames the victim. Although the majority of individuals implement crime prevention measures on a daily basis (e.g. closing and locking the door upon leaving their home) SCP can help to empower individuals by providing them with information on what security measures are most effective to install in their home (e.g.

robust locks). As Tilley (2009) states, it is ultimately the offender who should be held accountable for committing a crime, but in some instances the victim may hold some responsibility. An example of this is provided by Wortley (2010) who argues that:

> In some cases it is wholly appropriate to blame the victim. For example, businesses, which through their irresponsible practices generate crime problems – like pubs that serve patrons to intoxication and then experience high levels of violence, should contribute to the prevention of these problems (p. 7).

This thesis argues that those responsible for designing, approving and developing residential developments should be held accountable if their poor design has the potential to facilitate crime. After all, these stakeholders will not be residing in the development once built and will not experience nor witness the consequences of ill-fated design on crime. This is referred to by Roman and Farrell (2002) as the "crime as pollution" (p. 53) principle.

Typically, SCP is used to reduce existing crime problems (Clarke, 2009). However, as Tilley (2009) states, the principles of SCP (i.e. increasing the effort) should be considered and embedded into the design of new places to ensure that opportunities for crime and disorder are 'designed out', before problems surface.

2.7   CPTED

Whereas SCP focuses upon existing crime problems, CPTED seeks to eliminate anticipated crime problems through the design and layout of the built environment (Ekblom, 2005). The term CPTED was originally coined by Jeffery in 1971. As Schneider and Kitchen (2007) state, dissatisfied with the effectiveness of the CJS and its purely *reactive* response to crime and disorder, Jeffery (1971) sought to establish a more *proactive* response to crime. Drawing upon social, behavioural, political and psychological systems, Jeffery (1971) suggested that the external environment was as equally important as one's internal environment (e.g. brain) in determining criminality (Cozens, 2008).

2.71   Defining CPTED

CPTED involves reducing crime through the planning, design and manipulation of the built environment. Its objective is to prevent crime. The most commonly cited definition of CPTED is that provided by Crowe (2000) which states that it is:

> The proper design and effective use of the built environment, that can lead to a reduction in the fear or incidence of crime and an improvement in the quality of life…The goal of CPTED is to reduce opportunities for crime that may be inherent in the design of structures or in the design of neighbourhoods (Crowe, 2000 p. 46).

Ekblom (2013) criticises this definition, suggesting that it is imprecise, ambiguous and fails to be easily translated into practice. Ekblom (2013) also argues that the definition provided by Crowe (2000) focuses solely on reducing opportunity and thus, omits any reference to 'situational precipitators' (e.g. prompts, pressures, permissions and provocations[12]) which may facilitate crime and disorder. As Samuels *et al* (2004) state, it is not the design of the development which explicitly *causes* criminal behaviour, but it is the design which can "...embody opportunity – and thus influence the likelihood of certain behaviours emerging" (p.4). Ekblom (2011b) suggests that CPTED should be redefined to ensure that it considers and encapsulates some of these key omissions and proposes the following definition:

> Reducing the possibility, probability and harm from criminal and related events, and enhancing the quality of life through community safety; through the processes of planning and design of the environment; on a range of scales and types of place, from individual buildings and interiors to wider landscapes, neighbourhoods and cities; to produce designs that are 'fit for purpose', contextually appropriate in all other respects and not 'vulnerability led'; whilst achieving a balance between the efficiency of avoiding crime problems before construction and the adaptability of tackling them through subsequent management and maintenance. (p. 4).

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[12] Wortley (2008).

Similarly, Armitage (2013) suggests that the initial definition provided by Crowe (2000) requires updating owing to the findings from research conducted in the field over the past decade (Armitage, 2000; Cozens *et al*, 2005; Armitage & Monchuk, 2011; Armitage *et al*, 2011; Ekblom *et al,* 2013). In particular, Armitage (2013) suggests that the definition should consider the process of applying CPTED measures as well as social and environmental sustainability. She therefore proposes the following and more succinct definition:

> The design, manipulation and management of the built environment to reduce crime and the fear of crime and to enhance sustainability through the process and application of measures at the micro (individual building/structure) and macro (neighbourhood) level (Armitage, 2013, p. 23).

2.72   Principles of CPTED

Over the past 30 years, the principles of CPTED and the associated terminology have been adapted to suit the disciplines involved in its delivery (i.e. design, planning and criminology). Thus, the principles which underpin CPTED have been debated extensively in the literature and this continues to be the case. For example, Poyner (1983) stated that there were four key principles i) surveillance; ii) movement control; iii) activity support; and iv) motivational reinforcement. Moffatt (1983) suggested that there are six: i) territoriality; ii) surveillance (informal and formal); iii) access control; iv) image and maintenance; v) activity support; and vi) target hardening. Cozens *et al* (2005) suggest that there are seven, those identified by Moffatt (1983) plus permeability. Most recently, Armitage (2013) has suggested that there are five principles: i) physical security; ii) surveillance; iii) movement control; iv) management and maintenance and v) defensible space. As Cozens *et al* (2005) warn, these principles are not always mutually exclusive and very often there is an overlap between the principles. Ekblom (2011c) advises that it is imperative that the principles are defined in depth to ensure that CPTED remains "...practically relevant and theoretically and empirically sharp" (p.7) and discusses the importance of clear definitions especially when working across disciplines, which is fundamental to the success of CPTED.

Although this debate is on-going, it appears to be one which is purely academic and fails to acknowledge the views of those practitioners who are involved in the delivery of CPTED.

This thesis attempts to shed light on how CPTED is viewed and applied by practitioners. The principles of CPTED will now be discussed in turn. The principles listed are predominantly those listed by Armitage (2013).

2.721 Territoriality or defensible space

Cozens *et al* (2005) suggest that territoriality is the primary principle of CPTED upon which all the remaining principles are based. Territoriality refers to the clearly defined ownership of space in a neighbourhood and encourages and promotes residents to feel a sense of responsibility for the areas adjacent to their home (Newman, 1973). Schneider and Kitchen (2002) state that ensuring resident's feel a sense of attachment to space helps to foster a willingness to take control of the area and defend it against intruders. Newman (1973) proposed that areas should be clearly defined as: i) public (e.g. pavement); ii) semi-public (e.g. front garden); iii) semi-private (e.g. rear garden); and iv) private (e.g. inside the home); and that these areas should be demarcated through the use of real barriers (such as access control measures) or symbolic measures (such as planting). The aim of the barriers ensures that "public and private spaces cannot ooze into each other" (Jacobs, 1961 p. 44) and attempts to inform an individual that they are passing through space where their presence may be recognised, observed and questioned by residents:

> Both [real and symbolic barriers] serve a common purpose: to inform that one is passing from a space which is public where one's presence is not questioned through a barrier to a space which is private and where one's presence requires justification (Newman, 1973 p. 63).

Within a residential housing development, it is important to ensure that space is accounted for and that it has a defined and designated purpose (Cozens *et al,* 2005) or what Newman (1973) refers to as "defensible space" (p. 3). Research suggests that territoriality is an important principle (Brown & Altman, 1983; Ratcliffe, 2003) and one which is considered by burglars when assessing the suitability of a target (Brown & Bentley, 1993). Research conducted with 72 incarcerated burglars found that territoriality was assessed by burglars when deciding upon whether a target was suitable, or not:

A four-foot fence or hedge clearly would not stop a burglar intent on burglary. Its deterrent value may stem from its ability to put the burglar in the spotlight as well as hinder his approach. A fence provides clear demarcation of borders, making the presence of a burglar appear more deliberate and effortful, thus relating fences to burglars' concerns about detection (Brown & Bentley, 1993 p. 52).

Newman (1973) reports on research conducted in New York where he compared the recorded crime rates on two developments. One development (Van Dyke) consisted of 23 blocks of high-rise towers between 3 and 14 storeys high and did not incorporate any of the qualities of defensible space (for example there were large open spaces between the towers). The second development (Brownsville) consisted of 27 buildings which were between 3 and 6 storeys high. According to Newman (1973) the Brownsville development incorporated a number of defensible space qualities[13] (for example the outdoor ground areas were specific to each individual building). An analysis of the crime data suggested that the Van Dyke development had a 50 per cent higher crime rate than the Brownsville. Although Mawby (1977) critiqued the initial work of Newman (1973) and questioned the justification for the selection of the two estates and the analysis of the data; Newman's text still remains seminal in this arena and helped to influence the principles of CPTED.

The effects of territoriality and defensible space can also be seen in the more recent work by Armitage *et al* (2011). Whilst some planning guidance recommends that vehicles should be parked within the curtilage of a property (i.e. in semi-private space) to ensure the vehicle can be well overlooked by its owners and neighbouring residents (ACPO SBD, 2014), other guidance (Department for Transport, 2007) recommends that vehicles should be parked in communal car parking courts (i.e. in semi-public/public space[14]) and often to the rear of dwellings. The rationale for this is to try and ensure that vehicles do not dominate the street scene. In their comprehensive evaluation of 12 housing developments, comprising a total of 2192 dwellings, Armitage *et al* (2011) found that developments which composed of communal rear car parking courts experienced higher levels of vehicle crime and criminal

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[13] Although Newman suggests that it is "far from perfect" (Newman, 1973 p. 49).

[14] This is dependent upon whether there are access control measures in place (i.e. electronic gates) and whether these are used effectively by residents and are also well managed and maintained.

damage than other types of parking formation. Armitage *et al* (2011) also comment on how they witnessed many residents failing to use car parking courts, instead preferring to park on the street, where their vehicles could be viewed more easily, thus making the parking courts redundant. The research also suggested that car parking courts facilitated access to the rear of properties, which confirms the research conducted by Budd (1999). Cozens *et al* (2005) suggest that surveillance and access control feed into territoriality.

2.722 Natural surveillance

Natural surveillance is a key principle of CPTED - to ensure residents are able to naturally observe the areas surrounding their home and their neighbourhood. Jacobs (1961) suggests that the built environment should be designed to encourage 'eyes on the street' and that this level of surveillance should be provided by natural proprietors of the street (i.e. from those living, working and travelling through the area).

By designing environments in a way to facilitate natural surveillance (e.g. ensuring that front doors face onto the street and areas are well illuminated) residents are provided with an opportunity to easily recognise, observe and challenge a stranger who may be attempting to gain unauthorised access to a private or semi-private area (Newman, 1973; Crowe & Zahm, 1994; Reynald, 2009).

Ham-Rowbottom *et al* (1999) unpack the term *surveillance* by suggesting that it can be provided from either an external perspective (i.e. from the road) and/or an internal perspective (i.e. how easily a resident can view the surrounding area from within their home). Whilst it is important to provide opportunities for surveillance, whether from an external or an internal perspective, it is equally important to ensure that it is not compromised by poor lighting, the positioning of street furniture and overgrown landscaping (Crowe & Zahm, 1994).

Research has shown that levels of natural surveillance can impact upon levels of crime and disorder (Winchester & Jackson, 1982; Armitage, 2006; Armitage *et al,* 2011) and that it is commonly cited by offenders as a reason for making a target unsuitable (Repetto, 1974; Taylor & Nee, 1988; Brown & Bentley, 1993; Nee & Meenaghan, 2006; Lee & Lee, 2008). For example, Repetto (1974) found that burglars were deterred if they perceived there to be too many people in the area (i.e. neighbours) who may act as witnesses. This finding has been

echoed by others. For example, Taylor and Nee (1988) reporting on research conducted with experienced burglars found that layout cues (such as whether a property was overlooked by its neighbour and whether the property provided cover[15] to help conceal the presence of an offender) were important considerations when selecting a suitable target. Nee and Meenaghan (2006) conducted interviews with 50 convicted burglars and found that the degree of cover was a key factor in making a target attractive to burglars. More recently, research conducted by Armitage *et al* (2011) found that properties overlooked by between 3 and 5 other properties experienced 38 per cent less crime than those not overlooked. This is also reiterated by the recent work conducted by Chenery and Pease (2013) who interviewed 52 convicted burglars in Leeds. They found that 50% of those interviewed stated that the presence of residents and neighbour vigilance were key factors which would deter them from committing a burglary.

Although it is important to provide opportunities for natural surveillance, Armitage (2013) warns that "the relationship between surveillance and crime risk is quite complex"' (p. 152). The key reasons for this are twofold. First, although it is essential that a dwelling is well overlooked by neighbouring properties to deter potential offenders, being visible from the public realm (such as the road or footpaths) may actually increase the risk of victimisation. This is a rational assumption when reviewing crime pattern theory - where offenders become aware of opportunities if it is in their awareness space. Thus, although the dwelling may be well overlooked by 'eyes on the street', some of these 'eyes' may be those of a potential offender seeking a suitable target.

Second, although neighbourhoods may initially be designed to promote natural surveillance, the onus is upon the resident to be active in surveillance. As Reynald (2009) argues, the role of guardianship can only be achieved if residents can carry out surveillance successfully. They may fail to do this by erecting net curtains or blinds to restrict surveillance and to foster a sense of privacy (MacDonald & Gifford, 1989). So although they have the opportunity, they do not choose to surveil the area. Nevertheless, even if the resident is able to conduct surveillance it does not guarantee that they would be willing to intervene. As Cozens and Love (2009) state "the presence of 'eyes on the street' does not guarantee intervention" (p. 349).

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[15] Such as vegetation cover.

Reynald (2010) explored the process of guardianship and the resident's willingness to surveil and intervene. She conducted interviews with 255 residents in Holland and found that 217 residents (85 per cent) would regularly monitor and surveil their surroundings. Of these 217 residents, 20 per cent stated that they would not be willing to intervene[16]. Of the remaining 80 per cent, 41 per cent stated that they would intervene indirectly (i.e. by notifying the police); 16 per cent stated that they would intervene directly (i.e. by physically intervening) and the remaining 23 per cent said that although they would intervene, the seriousness of the incident they were observing would determine whether their intervention was direct or indirect. Reynald (2010) found that participants often referred to their personal safety when deciding upon whether to intervene or not. It could be argued that the inter-relatedness of feelings of territoriality and the extent of surveillance may impact upon an individual's willingness to intervene. Should an individual observe some form of criminality within the wider area of the development and which does not directly impact upon the observer, they may be unwilling to intervene. However, should an offender be observed entering an area of semi-private space unauthorised (e.g. a rear garden), the observer may be more willing to intervene as this is part of their property and thus there is a greater sense of territoriality.

2.723   *Access or movement control*

The notion of access control involves attempting to reduce or block opportunities for crime by denying access to potential targets (Cozens *et al*, 2005). Crowe and Zahm (1994) agree with Cozens *et al* (2005) who suggest that natural access control is the use of real barriers (i.e. physical security – such as doors); symbolic barriers (such as shrubbery) and "other physical design elements to discourage access to an area by all but its intended users" (p. 22). Conversely, Armitage (2013) argues that the term 'access control' is too limited and relates more closely to SCP, as opposed to CPTED. She therefore suggests that the definition should be widened and proposes that it includes the: "limitation of access, egress and through movement" (Armitage, 2013 p. 25).

Armitage's definition warrants further attention as the design and layout of the built environment, particularly relating to access, egress and through movement is frequently debated in the literature. Some believe that developments should be permeable, have high

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[16] 9 per cent said that they would 'turn a blind eye' and 11 per cent said that they would undertake 'covert monitoring'.

levels of connectivity and through movement (Jacobs, 1961; Hillier & Shu, 1998; Shu, 2000; Hillier, 2004). Others (White, 1990; Taylor, 2002; Armitage, 2006; Armitage *et al,* 2011 for example) believe that permeability should be minimised as it can increase the risk of crime. Cozens and Love (2009) refer to these as the "encounter" model and "enclosure' model" (p. 348).

The 'encounter' model encapsulates the views of those who believe that the built environment should promote and facilitate access and through movement (Hillier & Shu, 1998; Shu, 2000; Hillier, 2004). This model is underpinned by the work of Jacobs (1961) who suggested that environments are safer if the layout is designed to encourage more people to use the space (e.g. by walking). By encouraging movement on the street, this would increase levels of natural surveillance. As Cozens and Love (2009) state, the encounter model therefore proposes that the presence of strangers (as the additional eyes on the street) is positive as they will assist in policing spaces.

Jacobs' (1961) work is often cited by academics and urban planners as the seminal text to support increased levels of through movement and connectivity. However, it is important to state that Jacob's work was based upon a number of observations (not an empirical study) and that these were conducted in a city, not a residential area. Jacobs noted this and its associated issues when she stated:

> I have concentrated on great cities…But I hope no reader will try to transfer
> my observations into guides as to what goes on in towns, or little cities, or
> in suburbs which are still suburban. Towns, suburbs and even little cities
> are totally different organisms from great cities. To try and understand
> towns in terms of big cities will only compound confusion (Jacobs, 1961 p.
> 22).

It is important to note that some academic research has concluded that through movement is beneficial in reducing crime (Hillier & Sahbaz, 2009 for example). However, this work has been subject to criticism and the methodology employed to assess street segmentation/connectivity questioned (Johnson & Bowers, 2010; Armitage, 2013). Hillier's methodology, referred to as space syntax, is a mathematical approach which analyses the street network and the connectivity of street segments (Johnson & Bowers, 2010). As

Armitage (2013) suggests, although the application of space syntax allows for a large number of street segments to be analysed at once, it fails to consider any instances where a street segment may have been amended (i.e. the inclusion of non-official footpaths) which would be identified if assessed by fieldworkers on site (Armitage *et al,* 2011). This illustrates some of the complexities associated when determining levels of access and through movement in a development.

Although high levels of permeability may be beneficial to residents, as they are able to move around the development easily and more sustainably[17], proponents of the 'enclosure' model suggest that it may also be beneficial to potential offenders. As Ekblom (1995) suggests, more permeable streets increases access for all citizens (including offenders) and this then increases opportunities for crime. Thus, the 'enclosure' model suggests that areas with high levels of access and through movement experience more crime and disorder and so opportunities for access should be minimised (White, 1990; Eck, 1997; Taylor, 2002; Armitage, 2006; Armitage *et al,* 2011 for example). As Armitage (2013) states, the reasons for this are threefold:

i)   High levels of through movement allow offenders to easily access and egress an area;

ii)   By providing offenders with easy access, it affords them an opportunity to identify suitable targets in their awareness space (Brantingham & Brantingham, 1995 and Davies and Johnson, 2015) and

iii)   High levels of through movement increase the level of anonymity for offenders.

Research conducted with burglars has also suggested that ease of access and the number of 'get-away routes[18]' is a key consideration when selecting a property (Nee & Taylor, 2000; Nee & Meenaghan, 2006). By minimising the number of access and egress points, a development may discourage an offender from committing a crime as they feel more at risk of being observed[19] and approached by legitimate users of the space. Proponents of the

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[17] i.e. on foot as opposed to relying on the use of a motor vehicle.
[18] Such as footpaths.
[19] This is consistent with the literature presented on natural surveillance.

'enclosure model' therefore tend to favour the use of culs-de-sac[20], as opposed to through roads.

As is apparent from reviewing the preceding three sections, there is some overlap between the principles of territoriality, surveillance and access control. This is noted by Crowe (2000) who warns that the principles should not be considered in isolation and that territoriality should be viewed as the "umbrella concept, comprising all natural surveillance principles, which in turn comprises all access control principles" (p. 38).

2.724 *Space management and image or management and maintenance*

Space management and image relates to the importance of ensuring that a development is free from graffiti, vandalism and litter. In doing so, it transmits signals to residents and visitors that the area is cared for (Cozens, 2008). Space management and image is often referred to as 'management and maintenance' and the terms interchangeably used. Armitage (2013) suggests that whereas 'image' refers to a state, 'management and maintenance' refers to the activities which create that state. Therefore, by ensuring that an area is well managed and maintained, it can simultaneously improve the image of the area for both residents and visitors.

Ensuring adequate levels of management and maintenance is important. As Wilson and Kelling (1982) suggest, areas which are not adequately maintained can experience higher levels of crime, disorder and fear of crime:

> Disorder and crime are usually inextricably linked…if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken…one unrepaired broken window is a signal that no one cares. Untended property becomes fair game for people out for fun or plunder...(Wilson & Kelling, 1982 p. 31).

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[20] Culs-de-sac can be either linear (straight) or sinuous (winding). They can also be true (have only one access/egress point) or leaky (where there is more than one access/egress point i.e. via a footpath leading from the cul-de-sac). Armitage *et al* (2011) found that crime was lower on culs-de-sac which were sinuous and true was the safest road layout.

Armitage (2006 & 2013) reiterates the importance of ensuring that developments are well managed and maintained. From assessing the design, layout and environmental factors of 1058 properties across West Yorkshire, Armitage (2006) found that dwellings which showed brief signs and lengthy signs of desertion were more vulnerable to burglary than dwellings that showed no signs of disorder. Armitage (2013) therefore suggests that a greater consideration should be paid to the importance of management and maintenance, the practicalities of how this can be monitored and what appropriate remedial action can be taken and by whom, if required.

2.725 *Physical security*

Physical security refers to the measures used on individual dwellings to ensure that they withstand some form of attack from offenders. Brooke (2013) discusses the importance of ensuring that properties have good levels of physical security to try and prevent burglary. In response to high levels of domestic burglary in England in the 1980s, greater emphasis was placed upon ensuring that physical security measures were fit for purpose and resist from attack (Brooke, 2013). Consequently, a plethora of physical security measures have been subjected to independent, rigorous testing and certified by the British Standards Institute (BSI). These security standards are cited by the police as being the minimum level specification one should seek to include in the development of new homes and the refurbishment of existing homes (ACPO SBD, 2014). Research suggests that good quality physical security is important in the prevention of domestic burglary (Tilley *et al,* 2011; Grove *et al,* 2012). As Tilley *et al* (2011) state: "security of the house is linked to substantial reductions in burglary risk" (p. 310) however using data from four sweeps of the CSEW, Tseloni *et al* (2014) found that protection against burglary does not consistently increase with the number of devices installed. They suggest that window and door locks as well as external lighting or a security chain, are the most effective combination of security devices to be installed (Tseloni *et al*, 2014).

Teedon *et al* (2010) reviewed levels of burglary before and after the installation of SBD doors and windows in Glasgow and found that housebreaking crime[21] reduced by 61 per cent. Similarly, findings from the CSEW 2011/2012 showed that properties with no or less than

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[21] This included: i) attempted housebreaking ii) housebreaking with intent to steal and iii) theft by housebreaking (Teedon *et al,* 2010).

basic home security measures[22] were more likely to be burgled than properties that had basic security measures[23] (ONS, 2013). Research conducted by Pease and Gill (2011) estimates that the effective installation of good physical security can prevent burglary saving the public purse approximately £1.97 billion a year. Research suggests that home owners consider good levels of security to be an important factor when looking to purchase a new home. Armitage and Everson (2003) developed and administered a questionnaire which was distributed to potential house buyers via two national estate agencies. The aim of the questionnaire was to elicit how important security was when purchasing a new home compared to other requirements such as fitted carpets and a garage. A secure environment was the preferred option and many of the participants believed that security should be included in the initial cost of the home. Whilst good levels of physical security are important, they are only effective should they be used. Research conducted by Budd (1999) found that approximately one third of burglaries occur through insecurities (i.e. an unlocked door or window). As Chenery and Pease (2013) found, 40% of the burglars they interviewed admitted to selecting targets based upon whether they saw an opportunitiy to gain entry through an insecure door or window.

Although research suggests that the implementation of target hardening measures can be effective in preventing crime and disorder, there are concerns that an over-reliance on target hardening could result in the development of a "fortress mentality" (Cozens & Love, 2015, p.5). Gated developments, designed to only allow access to residents or those visiting residents, are an example of this. Minton (2009) criticises the use of gated developments (and CPTED more widely) when she claims that gated communities are "psychologically snug" and "perfectly safe" (p. 81), thus when residents leave the gated community they are unable to cope with any risks which they may encounter. However, Minton's statements are not supported by research, whereas the research conducted by Armitage *et al* (2011) found that gated developments are not crime free. Reflecting upon this, Armitage (2013) suggests that rather than preventing and discouraging unauthorised access, the gating actually encourages offenders to try and gain access. Alternatively, offenders may be living within the gated community themselves or that by living in a gated community encourages feelings of safety

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[22] "Households with no home security measures or households with some security devices but without both window locks and double or deadlocks on outside doors" (ONS, 2013 p. 24).
[23] "Households with window locks and double or deadlocks on outside doors" (ONS, 2013 p. 24).

that lead to people neglecting security at the micro-level, thus making it easier to offend once the gates have been breached, should the gates have been securely locked in the first instance.

2.726 *Activity support*

The final principle of CPTED relates to activity support. Activity support seeks to ensure that areas attract legitimate users to engage with a space, resulting in an increase of natural surveillance which may deter potential offenders (Crowe, 2000). Cozens (2008) also states that to facilitate activity support, areas should include good levels of signage[24] to promote and facilitate the use of an area by legitimate users. Ekblom (2011b) states that the concept of activity support is difficult to "get to grips with" (p. 21) as it focuses on both practical methods and mechanisms. For instance, the definition provided by Crowe (2000) outlines the mechanisms through which crime can be thwarted through activity support, whereas the definition provided by Cozens (2008) is more concerned with the practical methods of achieving this. Built environment professionals are increasingly being encouraged to provide areas of open space within the design of residential housing estates to try and help foster a sense of community (CABE, 2009). Although such spaces aim to attract legitimate users, Ekblom (2011b) warns that they could also attract illegitimate users who perceive there to be opportunities to offend. Thus, inadvertently the space has the potential to be dubbed as a crime attractor or generator (Brantingham & Brantingham, 1995), becomes unused by the community it was intended and is poorly managed and maintained as a result (Wilson & Kelling, 1982). As Cozens (2008) and Armitage (2013) state, activity support encompasses a number of the key elements of CPTED (i.e. surveillance, territoriality and management and maintenance).

The preceding sections have attempted to provide a detailed account of each of the principles which underpin CPTED. The following sections examine the practical application and delivery of CPTED across England and Wales.

2.8   The application and delivery of CPTED

CPTED is a multi-disciplinary approach which draws upon key aspects of criminology, architecture, planning and environmental psychology (Cozens, 2008). Whilst this multi-

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[24] Such as signage to help assist with way-finding, for example.

disciplinarian approach can be commended as it draws upon expertise (both academically and professionally) from a range of fields and encourages partnership working, this can also be a limitation; what emphasis does each discipline place on CPTED? Which discipline drives and promotes the concept overall? Should different disciplines focus upon different principles? Ekblom (2013) has raised similar questions and concluded that currently CPTED is in "No Man's Land":

> Academically and professionally CPTED is in a disciplinary 'No Man's Land'. It's isolated empirically and theoretically from the rest of criminology and crime prevention, even from situational prevention; and isolated, too, from the main body of design and architecture (Ekblom, 2013 p. 232).

In addition to considering where CPTED fits within the genre of criminology and other genres more widely, one must also ask who is responsible for its delivery on the ground – police, architects, planners? Perhaps it could be said that the delivery of CPTED epitomises Garland's concept of the responsibilization strategy (Garland, 1996) which seeks to devolve the responsibility of preventing crime and disorder from central government to other agencies and organisations.

2.81   Who is responsible for crime prevention?

Garland (1996) argues that the CJS is limited in the effect it can have on reducing and preventing crime. He therefore suggests that the government should devolve some responsibility on organisations and agencies outside of the CJS. As Garland (1996) states:

> …the state alone is not, and cannot effectively be, responsible for preventing and controlling crime. Property owners, residents, retailers, manufacturers, town planners…and individual citizens – all of these must be made to recognise that they too have a responsibility in this regard, and must be persuaded to change their practices in order to reduce criminal opportunities and increase informal control (p. 453).

Although Garland (1996) is suggesting that the state should not be relied upon to prevent crime, he warns that the responsibilization strategy should not be interpreted as the government relinquishing all control. Rather, the responsibilization strategy aims to encourage agencies, organisations and individuals to work in partnership and adopt a multi-agency approach to preventing crime and disorder. As already stated, the Morgan Report (Home Office, 1991) is often cited as being instrumental in raising the importance of partnership working (Gilling, 1997). However, it was the introduction of the Crime and Disorder Act 1998 which placed a statutory requirement for local authorities and the police to work in partnership (HMSO, 1998). The crux of Section 17 of the Crime and Disorder Act 1998 was that crime can be (better) prevented and managed through a multi-faceted, multi-agency approach. In particular, sections 5 and 6 of the Act stated that authorities (namely the local authority, police and probation) should be responsible for developing crime and disorder reduction partnerships (CDRPs) and formulate and implement a strategy to reduce crime in the local area. Of particular relevance to this thesis is section 17 of the Act which states:

> it shall be the duty of each authority…to exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent crime and disorder in its area (HMSO, 1998).

Moss and Pease (1999) state that this is perhaps the most fundamental section of the act as "crime drivers' pervade every sphere of local authority responsibility" (p.16). In relation to the application of CPTED, it is argued that councils and specifically LPAs, have a duty to ensure that they consider crime and disorder when granting planning permission[25]. The introduction of Section 17 was welcomed by those whose remit was the prevention of crime, as previously planning proceeded with little consideration to the impact of crime patterns[26] (Brantingham & Brantingham, 1995). However, as Moss and Pease (1999) suggest, the importance of Section 17 has perhaps not permeated all local authority departments, including LPAs. For those authorities who are familiar with this requirement, there may be an

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[25] It is important to reiterate that Section 17 relates to all functions undertaken by the local authority and is not specific to planning departments.
[26] I.e: the characteristics underpinning crime pattern theory.

element of confusion regarding what is meant by the term crime prevention, a failure to understand how section 17 relates to their work and by what processes or mechanisms crime prevention can be embedded. This is confirmed by Schneider and Kitchen (2013) who state that:

> The available evidence suggest that this [the introduction of Section 17] had very little impact, partly because of its very non-specific nature and the absence of any penalties, but also because planners did not see it as part of mainstream planning legislation (p. 16).

In addition to the Section 17 legislative requirement, policy and guidance had been published stating the importance of CPTED in the design of new residential developments. For example, Planning Policy Statement 1 (PPS 1) (ODPM, 2005) stated that developments should "...create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion..." (p. 15). Planning Policy Statement 3 (PPS 3) (ODPM, 2010) stated that LPAs should "...develop design policies that set out the quality of development that will be expected for the local area, aimed at: – creating places, streets and spaces which meet the needs of people, are visually attractive, safe..." (p. 8). Examples of relevant guidance documents published to support PPS 1 and PPS 3 and reiterated the importance of CPTED included: Safer Places[27] (ODPM, 2004) and World Class Places (DCLG, 2009).

The publication of the NPPF (DCLG, 2012a) sought to condense all these policy documents into a single, standalone fifty-nine page document. Therefore policy documents, such as PPS 1, which were commonly cited by ALOs to reiterate the importance the government placed on designing out crime, no longer exist. Nevertheless, reference to the importance of CPTED in the design of new developments has remained with the framework which states that planning policies:

> should aim to ensure that developments create safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion (DCLG, 2012a p.15).

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[27] However, Morton & Kitchen (2005) found that very few planners had read this document in the 12 months after its publication.

Whilst the NPPF was being published, a review of all supporting guidance, often cited alongside planning policy statements, was being conducted by Lord Taylor (DCLG, 2012b). The Taylor review advised that over 100 guidance documents should be cancelled and recommended that any relevant material from 28 documents should be incorporated into revised guidance. Taylor recommended that Safer Places was cancelled as the essential principle of Safer Places was embedded into the NPPF:

> The essential principle of this guidance is contained within the NPPF. The document sets out guidance in relation to design and safety, and these aspects are now considered to be understood and mainstreamed in planning work. Key aspects should form part of a shortened guidance suite (DCLG, 2012b p. 33).

However, the NPPF fails to provide instruction as to how local authorities should aim to do this practically. Currently, the most obvious mechanism for considering CPTED in the design of new housing (whether private or social) is through the Design and Access Statement (hereinafter DAS). Introduced by the Planning and Compulsory Purchase Act 2004, a DAS must be completed and submitted alongside any major planning application made to a LPA. Failure to submit a DAS renders the application invalid. A DAS is:

(a) a statement about the design principles and concepts that have been applied to the development and

(b) a statement about how issues relating to access to the development have been dealt with (HMSO, 2004).

In 2010, the DCLG published guidance on what information applicants were required to submit to validate their planning application. The document states that a DAS should demonstrate how CPTED has been considered in the design and how it reflects the attributes of safe places (DCLG, 2010). To further assist applicants, West Yorkshire Police published a guidance document which sought to help applicants consider and reference CPTED in their DAS (West Yorkshire Police, 2009). The DAS must cover a multitude of aspects such as access and sustainability. However, applicants are encouraged not to submit a lengthy DAS and guidance on the Planning Portal advises that it should not exceed one page, thus it is

difficult to foresee CPTED being referred to in detail. One could also argue to what extent the applicants consider CPTED in the DAS by virtue of the fact that they have a vested interest (i.e. financial) in ensuring that the development is built and are unlikely to draw attention to any problems with their development at the risk of planning permission being refused. Therefore, it is insufficient to rely upon a DAS to ensure CPTED is incorporated into a development.

2.82   The role of central government and the Housing Standards Review

As outlined above, CPTED has permeated into planning policy at a national level and provided an opportunity for LPAs to develop additional planning documentation to assist in the local delivery of CPTED. Although this can be commended, ultimately, LPAs are governed by central government and in particular the Department of Communities and Local Government (DCLG). During the course of writing this thesis, the government reviewed building regulations and housing standards in England. The review aimed to simplify the "untenable forest of Codes, standards, rules and regulation" (Archibald *et al,* 2013 p. 3) which is often considered a major contributor to hindering building development across the country. Thus, the Housing Standards Review (hereinafter HSR) aimed to encourage and promote development whilst ensuring that any unnecessary bureaucracy and unsubstantiated costs to house builders were eliminated. The HSR focused upon a number of themes including: accessibility; space; security; water efficiency; energy; indoor environmental standards; materials and process and compliance (DCLG, 2013). The remainder of this section focuses specifically upon the government's review of security.

The HSR was only concerned with physical security and not the overall layout of the development in which the dwellings are located. This is an important distinction. Whilst the initial proposals outlined in the HSR raised concerns amongst practitioners and academics alike (Armitage & Pease, 2013), the result was that a new building regulation was introduced – Part Q of the Building Regulations 2010 which states that:

> The building must be designed and constructed in such a way that it
> adequately resists - (a) unauthorised access from outside the building; and
> (b) unauthorised access from within the building to flats within the building
> (HM Government, 2015 p.2).

It specifically relates to preventing unauthorised access to dwellings by ensuring that the physical security of all easily accessible doors and windows meet British Standards publication PAS: 24:2012 or equivalent. This is the industry specification for enhanced security of doors and windows. Whilst it is reassuring that security has been included as a building regulation across all new build homes regardless of tenure, there are a number of ambiguities that may impede Part Q's effectiveness. First, Part Q states that any window or door installed must be "manufactured to a design that has been shown by test to meet the security standards of PAS:24:2012" (HM Government, 2015 p. 3). However, it fails to stipulate who is responsible for undertaking this test. Whilst the document suggests that this is undertaken by an independent third party, this is not a requirement. Thus, whilst the components of a door may be to the required security standard, failing to construct and install the door correctly may thwart its resistance to attack. Second, it is the responsibility of the LPA's building control officers or an approved inspector (such as a representative from the National House Building Council) to discharge this building regulation. However, it is currently unclear how this inspection will be undertaken, the feasibility of this and what training, if any, the inspectors will receive to help them undertake this assessment. It is too early to comment on the impact of these potential ambiguities owing to the relatively recent introduction of Part Q (1st October 2015).

2.9   The practical application of CPTED

In the UK, one way that CPTED is practically applied is through the SBD accreditation scheme. Established in 1989 and currently managed by ACPO SBD, it aims to encourage those involved in the design of new developments to design out crime by ensuring that the principles of CPTED are considered throughout the design and concept stages (ACPO SBD, 2014). The scheme is delivered on the ground by ALOs[28] (Brooke, 2013).

SBD comprises of the Developers' Award and Licensed Products. The Developers' Award certifies that a development has been built to the SBD standard, thus conforming to the principles of designing out crime. Licensed Products are a set of products which have been tested, approved and recommended by SBD and are advertised as the police preferred specification (ACPO SBD, 2014).

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[28] The role of ALOs will be discussed in detail in section 2.91.

Focusing upon the design of new residential developments in particular, SBD has produced the New Homes design guide (ACPO SBD, 2014) which outlines a number of key design principles that should be considered by those involved in the design of new developments. The guide comprises of three parts: Part 1 relates to the design and layout of the development (and is consistent with the principles of CPTED); Part 2 relates to physical security and Part 3 relates to ancillary security requirements. Part 1 of SBD has been subjected to criticism in a publication by the local housing delivery group[29], who suggest that some of the principles relating to design and layout actually conflicts with or contradicts urban design guidance. Concerns were also raised that Part 1 is often inconsistently applied across the country.

Research suggests that developments built to SBD standards (Part 1 and Part 2) experience less crime and disorder than developments which are not built to the standard (Brown, 1999; Pascoe, 1999; Armitage, 2000; Teedon & Reid, 2010; Armitage & Monchuk, 2011). In their evaluation of SBD developments in West Yorkshire, Armitage and Monchuk (2011) analysed police recorded crime during August 2007 and July 2008 on the following three samples:

i)   SBD versus West Yorkshire (16 residential developments built to the SBD standard compared to the county of West Yorkshire);

ii)   same street analysis (11 developments containing both SBD and non-SBD properties) and

iii)   matched pair analysis (16 SBD and 16 non-SBD matched pairs located as close as possible to each other).

The findings suggest that in all strands of analysis, SBD properties experienced less crime and disorder (both recorded and self-reported) than non-SBD properties. In terms of SBD versus West Yorkshire, there were 5.8 burglary dwelling offences (per 1000 properties) in the SBD sample compared to 22.7 (per 1000 properties) within the county of West Yorkshire - a burglary rate 75% higher within the non-SBD sample. There were only two burglaries within the SBD sample and analysis of the *modus operandi* revealed that one of these offences was committed through an insecure front door and the second was an unsuccessful attempt to

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[29] A collection of professionals from the housing sector who were asked by the Government to review non-statutory requirements which are often placed on new home building through the planning process (Local Housing Delivery Group, 2012).

force open a side door. In terms of the same street analysis there were no burglary dwellings recorded against the SBD properties and five in the non-SBD sample. The matched pair analysis revealed that rates of burglary dwelling offences were lower within the SBD sample (5.9 per 1000 dwellings as compared to 7.9). Armitage and Monchuk (2011) also conducted visual audits and administered questionnaires to those residing at each of the 16 SBD and non-SBD developments to assess levels of self-reported crime. Although the self-completion questionnaires only yielded an 11 per cent response rate, analysis revealed that respondents from the SBD sample claimed to experience less crime and disorder compared to the non-SBD sample. Overall, the SBD sample also showed less visual signs of disorder than non-SBD developments.

Although research suggests that incorporting the principles of CPTED into the design of new developments can be successful in preventing crime, CPTED has been criticised for relying too heavily upon offenders being able to acknowledge and compehend the psychological signals provided through the use of real and symbolic barriers (Shaftoe, 2004). As Shaftoe (2004) states: "part of the problem associated with attempts to design out crime may be that offenders just don't get the message" (p. 78). Although the design of places can help to mitigate opportunities for crime and disorder, particularly burglary and vehicle crime[30], it fails to prevent *all* crime. Referring specifically to SBD, this point is highlighted by Shaftoe (2004):

> Although some research has suggested that SBD schemes actually do experience lower levels of crime rates victimisation (and repeat victimisation) crime still does occur and certain crimes (such as domestic violence and distraction thefts, for example) will be unaffected by design modifications (p.79).

CPTED does not claim to result in crime free developments and it is therefore important that it is not solely relied upon to prevent crime (Ekblom, 1995; Minnery & Lim, 2005). As Cozens *et al* (2001) state "design per se does not represent the panacea for reducing

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[30] Vehicle crime can include: theft *of* a motor vehicle and theft *from* a motor vehicle as outlined in Section 1 of the Theft Act 1968. Taking without the Owner's Consent (TWOC) is defined by Section 12 of the Theft Act 1968.

criminogeneity" (p. 136), it is afterall the individual offender who is responsible for their behaviour, not the environment. Nevertheless, the remainder of this chapter argues that CPTED has not been given the attention it warrants both by the state (i.e. the police and local councils) and the private sector (i.e. urban designers and developers). First, the chapter reviews the role of those responsible for the delivery and practical application of CPTED – ALOs.

2.91   The role of ALOs

Although crime prevention was the initial aim of the police when established in 1829 by Sir Robert Peel, it was not until over a century later when the role of a crime prevention officer became a recognised role within the police service. In 1965 the Cornish Committee on the Prevention and Detection of Crime outlined that an officer of at least Inspector rank should be designated force crime prevention officer (Byrne & Pease, 2008). Nearly a decade later (1979), ACPO summarised the tasks of a crime prevention officer which included a variety of roles predominately related to the installation of target hardening measures in an attempt to reduce existing crime problems, but there was, albeit brief, reference to CPTED:

> to give advice on security to builders and architects in the planning stages
> of buildings…to maintain liaison with architects and local planning
> departments (Weatheritt, 1986 p. 13).

In 1994, Circular 5/94 – Planning out Crime was published (Department of the Environment, 1994). Although brief, this document was instrumental in further outlining the role of ALOs and attempting to encourage LPAs to work alongside them in the design and planning of new developments.

Currently, CPTED is delivered across England and Wales by ALOs who are required to complete a two week training course facilitated by the College of Policing and additional annual training events hosted by SBD[31]. Located within each police force, the role of an ALO is to provide crime prevention advice to built environment professionals on the proposed design and layout of developments and deliver the SBD accreditation award. In 2004, the ODPM suggested that:

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[31]Police forces must pay for their ALOs to attend.

[. . .] for many [seeking crime prevention advice] there can be no better place to start than their local Architectural Liaison Officer… (p. 9).

Although it appears to be the police who have driven forward the concept of CPTED, as illustrated by the creation of a dedicated post, the following section suggests that unfortunately, CPTED is not viewed as a key priority for the police. Wootton *et al* (2009) undertook a national evaluation of the role of ALOs in England and Wales. This involved conducting focus groups with ALOs in each police force to elicit data on the role of ALOs and their engagement with LPAs. In August 2009, Wootton *et al* (2009) estimated that there were approximately 305 ALOs in post. However, this figure has decreased to approximately 190 (Brooke, personal communication by email 12th June 2014).

There are a number of explanations as to why the numbers in post has decreased. Firstly, the role of an ALO is often filled by officers approaching their retirement (Weatheritt, 1986). Thus, it may be the case that once an ALO retired, their post was not filled. Secondly, the numbers in post may have decreased as a consequence of the Comprehensive Spending Review (hereinafter CSR) and the reduction in the policing budget (HM Treasury, 2010). As Schneider and Kitchen (2013) suggest, the reduction in funding has meant that Chief Constables have had to identify ways of reducing expenditure and although crime prevention was the main aim underpinning the formation of the police service, forces are identifying it as a function which can be reduced in an attempt to save resources and protect front line services. This is confirmed by Olasky (2004) who states that, unfortunately CPTED has failed to develop owing to a lack of financial support and direction by the police:

...the implementation of CPTED has largely been left to two groups – the police and the public. Although well meaning, the resulting efforts are often poorly conceived, underfunded, and haphazardly implemented, delaying the widespread development of CPTED... (p. 330)

Research conducted by Wootton *et al* (2009) concluded that in the main, the management of ALOs is ad hoc and unstructured. Nearly 80 per cent (79%) of ALOs interviewed by Wootton *et al* (2009) stated that their management do not understand the role and subsequently, ALOs feel unsupported. There are two key explanations as to why this may be the case. First, according Jones *et al* (1994) crime prevention is a "small-scale police specialism" (p. 52),

therefore the role of crime prevention is not viewed as a core function of the police and less attention has been paid to its aims and impact. Byrne and Pease (2008) suggest that crime prevention was perceived to be the "Cinderella of police work" (p. 347). This echoes the assumptions of others who have published on the subject. For example, Graef (1989) has suggested that crime prevention has often been considered a peripheral specialism in the police service which has been treated with low status and interest when placed alongside crime fighting. In relation to the role of ALOs, Schneider and Kitchen (2007) argue that in comparison to other functions of the police, the ALO service is small, is not akin to other policing tasks and therefore raises the question of how this fits within the police culture.

The work by Loftus (2009) provides a first-hand account of how those tasked with crime prevention and community safety duties are perceived by other officers. Although Loftus (2009) is not reporting upon the role of ALOs per se, she makes some interesting observations which suggest that the police still perceive crime prevention tasks as less important. Loftus' (2009) work involved undertaking 600 hours of direct observation at one police force, on how crime prevention and community policing is perceived amongst officers within the force. Loftus (2009) outlines how she observed a symbolic separation between those responsible for community policing and those who were tasked with more immediate response duties and concludes that "officers who adopted the new community role were disparaged by their immediate response colleagues" (p. 93) and were often referred to as 'station cats' – a reference perhaps to their unreactive duties. Loftus (2009) also found that police officers were unenthused when tasked with crime prevention duties and preferred to be responding to immediate incidents – such as calls for service received via 999. As Byrne and Pease (2008) state:

> Frontline officers often derive more satisfaction from arresting offenders
> and detecting crimes, which inevitably have victims and consequences,
> rather than preventing the commission of crime and disorder in the first
> place (p. 349).

An example of this is documented by Loftus (2009) who observed an officer who had been tasked with an initiative which involved officers visiting properties to offer practical crime safety advice to members of the public:

> Warren and I got into the car and I asked him that the job entailed. After giving me a brief overview, he said that it was a 'crock' and he and the rest of his shift had nicknamed it 'Operation Bullshit'...A call came over the radio about a public order incident in the town centre. Warren expressed much disquiet about the fact that he was 'stuck doing this bullshit' and could not attend. (p. 94).

Thus, crime prevention is often considered a less important area of policing and the ALO role in particular is often still viewed as something of a 'Cinderella service' (Schneider & Kitchen, 2007). This is not aided by the fact that their work does not yield results immediately as it may take years for the advice provided by an ALO to be implemented (owing to the time it takes to go through the planning process and development). Therefore the ALO role is often not popular with senior police or management who want to see quick results and evidence that resources are being used to reduce crime and disorder quickly (Shaftoe, 2004). The work undertaken by ALOs involves assessing the level of risk a new residential development may pose on its future residents and those in neighbouring areas. Attempting to predict and consequently avert potential risks is a well-established concept which has permeated the CJS in a variety of forms (Beck, 1992; Simon, 2007; O'Malley, 2010; Walklate & Mythen, 2011). For example, in the prison and probation service the Offender Assessment System (OASys) is used to assess the risk of an offender re-offending. As Beck (1992) describes, society has become preoccupied with attempting to assess and predict risk based on previous experience and trying to reduce negative experiences in the future. As he states: "we become active today in order to prevent, alieviate or take percautions against the problems and crises of tomorrow and the day after tomorrow…" (Beck, 1992 p. 34). As the aim of CPTED is to predict risk and future-proof residential developments by reviewing site plans, it may have received little attention as it is not responding to a current issue, it is pre-empting the prevention of future issues. In addition, CPTED does not provide political quick fixes to issues which perhaps are of concern to the

general public (Shaftoe, 2004). Yet it is naïve to ignore the impact of crime prevention in favour of quick fixes, as Shaftoe (2004) states "long-term preventative investments usually yield a better return than short-term reactive measures and actually save money over time" (p. 5).

Second, there is often a high turnaround of staff managing the ALO role –a manager is rarely in post for an adequate amount of time to gain an understanding as to what it entails. Wootton *et al* (2009) found that 84 per cent of ALOs were managed by warranted police officers of varying rank: 3% Police Constable; 52% Sergeant; 23% Inspector; 4% Chief Inspector and 2% Superintendent. There was also some suggestion that managers were disinterested in the ALO role, and only saw it as a post which would help to facilitate their promotion. One ALO referred to managers as butterflies – reference to the fact that individuals are brought into line manage and are then promoted or moved into a different area of the force a short time after:

> We're managed by butterflies – the term is 'butterfly syndrome'. They flit around; they land; they take off again. And so it is very difficult to see a Chief Superintendent or a Chief Constable saying 'I am going to really commit to this [ALO role]', because by then they are gone. (Wootton *et al* p. 19).

Wootton *et al* (2009) also found that owing to a lack of resource and understanding by management, ALOs are often tasked with a plethora of jobs which may fall outside their initial remit.

2.911   Dual role of ALOs

Of the 305 ALOs interviewed by Wootton *et al* (2009), 74 per cent were identified as having a dual role (i.e. they had other responsibilities alongside the ALO role such as CCTV operator, licensing officer). There was also evidence to suggest that ALOs were often called upon should their line manager require immediate assistance with a task – further highlighting that management do not understand the full complexities of role. As a result, ALOs often find that they are unable to complete all aspects of their ALO work (i.e. reviewing and commenting upon plans) owing to competing demands. Unfortunately, this can then impede upon the availability and quality of the service provided by an ALO. This

was recently noted by the Local Housing Delivery Group (2012) who suggest that there are inconsistencies in the application of CPTED and this can be dependent upon the individual ALO involved:

> Another specific concern is the inconsistency with which it is applied, depending upon the Architectural Liaison Officer involved (p. 17).

Unfortunately, Wootton *et al* (2009) failed to publish a detailed break-down of the background of the ALOs that they interviewed; however it is apparent that this composed of serving police officers and police staff (both with and without a background in operational policing). In England and Wales, a warranted police officer has the legal power to arrest and control the public (ACPO, 2012). Thus, the focus groups revealed that trying to successfully complete ALO work was particularly difficult for those who were a warranted police officer as they may be called upon to undertake operational duties at any time, which had to be given priority. However, as Armitage (2013) suggests, some ALOs are serving police officers who are unable to perform operational duties as they are on restricted (desk-based) duties perhaps, for example, owing to injury. In her observational study, Loftus (2009) found that these officers who were working in offices and undertaking non-operational posts were often belittled by their colleagues and referred to as "civilians on police wages" (p. 103).

Unlike warranted police officers, police staff are civilian employees and do not have the powers of arrest. One of the key changes to policing across England and Wales has been the increase in employing civilian staff (Newburn, 2003; HMIC, 2004). As Garland (1996) states, the increase of civilian staff allows warranted police officers to concentrate on more front-line duties which may require the power of arrest. It provides forces with the opportunity to reduce expenditure, as the cost of employing a police officer is greater than a civilian (Garland, 1996 cited in Jones *et al*, 1994). This therefore raises the question as to whether those who are responsible for identifying potential opportunities for crime and disorder in the design and planning of new developments should be warranted police or police staff? It could be argued that those who are warranted police officers, or have operational policing experience are best placed to identify potentially criminogenic design and 'think thief' (Ekblom, 1997). During the course of their career they will have attended burglaries, pursued suspected offenders, witnessed the consequences burglary and observed the mechanisms

through which burglars successfully gain access into a property. Yet, is this the best use of a resource which could be tasked with front-line policing duties especially when policing budgets are so taut? Police officers who have retired and are able to be employed in a civilian (or police staff) role, might be a solution to this. Although they still have a wealth of experience from their policing career, they are employed as a civilian member of staff, so are less costly than employing a warranted officer. It also has to be questioned whether ALOs need any policing experience or whether those with experience in the built environment professions might be better placed to provide design advice. Although it could be argued that they might not be able to 'think thief' as well as those who have attended burglaries, their professional background should equip them with the necessarily skills to communicate effectively with planners, architects and developers and be well placed to recommend suitable design solutions to areas of a design which may be considered criminogenic. However, although the employment of civilian officers may be beneficial in saving resources, a key priority owing to the CSR, there is a culture among the police to demean the role of civilian officers (Loftus, 2009): As Loftus (2009) noted:

> …officers bemoaned the appointment of 'civvies[32]'…Civilian personnel were criticised for lacking any 'real understanding' of the apparently special rudiments of the police role and they were accorded little status (p. 103).

Focusing upon the background of ALOs, Schneider and Kitchen (2007) warn that the civilianisation of the role could be problematic. They suggest that it is an ALO's policing experience which adds kudos to their role in the planning process and substantiates any comments they may make on a planning application – as they have first-hand experience of attending burglaries. However, Minton (2009) argues that the police should not be involved in the design and development process and is concerned that it may result in the over fortification of developments, which may increase levels of fear of crime. Minton (2009), writing specifically about the role of ALOs in administering the SBD scheme, states:

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[32] Abbreviation of the word 'civilian'.

[this] leaves us in the strange position of having police officers, rather than architects, responsible for the way places look and feel, which can create bizarre places (p. 73).

It could be argued that if the architect carefully considered the impact of their design on crime in the first instance, it would not be necessary to involve ALOs in the design and planning process. However, architects along with planners, have a multitude of factors to consider when designing schemes and reviewing planning applications, thus the impact their design may have on crime may not be considered. Therefore, the specialised role of an ALO to review proposed planning applications specifically from a crime perspective ensures that any criminogenic areas are highlighted and amended prior to the development's build. Along with demonstrating the capacity to manipulate crime levels by place design, this thesis examines the skills, practices and organisational constraints on those charged with implementing crime reduction by place design.

2.10   CPTED – embedding it into practice, developing a process

Although there has been an abundance of literature published on the principles of CPTED, little has been published on how ALOs actually apply CPTED (Schneider & Kitchen, 2007) and the mechanisms through which CPTED is embedded and considered in the design and planning process. Armitage (2013) states that this is an "unexplored area" (p.210) and one which warrants further investigation. This thesis aims to address this by critically exploring how CPTED is applied and embedded into the process in England and Wales. It also considers how this can be sustained in a period of austerity when the police are constantly reviewing their performance to ensure that they are cost effective.

As stated earlier, in formalising the duties of a crime prevention officer, ACPO stated that it should be one of their duties to provide advice to builders and architects in the planning stages of buildings (Weatheritt, 1986). However, unlike agencies such as the Health and Safety Executive and the Environment Agency, the police are not named as a statutory consultee in national planning guidance (DCLG, 2014). Therefore, there is no legal obligation for the applicant to contact the police for advice prior to submitting a planning application to the LPA. This, coupled with the fact that there are an increasing number of

factors which have to be considered by the client to ensure that their planning application satisfies national and local planning requirements (DCLG, 2010), often means that CPTED is not viewed as a priority amongst those within the built environment (Colquhoun, 2004; Schneider & Kitchen, 2007). This is reiterated by Zahm (2005) who described the transmission of CPTED theory into practice as 'spotty' and states that planners and urban designers have been slow to incorporate CPTED practice into their profession.

Owing to the research and guidance which has supported the principles of CPTED, academics and practitioners alike have expressed their concern at the lack of consideration of CPTED in the design and planning of new residential developments (Colquhoun, 2004; Schneider & Kitchen, 2007; Armitage 2013). As such, there have been a number of examples where housing developments have been built and subsequently experienced high levels of crime and disorder and have had to incorporate security measures retrospectively to try and curtail the problems, the cost extending to the aesthetics of the development, marred by add on target hardening measures.

There is also a concern amongst academics and practitioners that when CPTED is considered, it is considered too late in the planning process. Colquhoun (2004) and Schneider and Kitchen (2007) state that for CPTED to be executed successfully it should be embedded at the design, pre-planning or concept stage. This is reiterated in policy[33], which states that:

> Once a development has been completed the main opportunity to incorporate crime prevention measures will have been lost. The costs involved in correcting or managing badly-designed developments are much greater than getting it right in the first place (ODPM, 2004, p. 7).

As Crowe (2000) states, CPTED is a process for improving planning decisions. By considering CPTED as *a* process and *in* the planning process, recommendations can easily be incorporated at the design stage, as opposed to later in the planning and development process where recommendations made may be unachievable, too expensive to incorporate/implement and may impact upon the development's design quality.

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[33] It is acknowledged that this particular policy document has been disbanded.

The following section of this chapter comments upon the typical process of the engagement of ALOs in the planning process.

2.101   ALOs engagement in the planning process

Although legislation, policy and guidance state that local authorities should consider crime prevention, it does not follow that this is automatically undertaken in practice. As Morton and Kitchen (2005) state:

> …Government decreeing that things should be so is an important matter in
> its own right, but of itself this does not make things happen on the ground
> (p. 422).

As ALOs are not a statutory consultee, historically the onus has been on them to try and establish a good working relationship with LPAs. This often involved the ALO and the LPA developing and agreeing upon a protocol whereby the ALO will comment upon selected planning applications and identify areas of the proposed development which could pose crime and disorder problems (Schneider & Kitchen, 2002; Morton & Kitchen, 2005). Wootton *et al* (2009) found that there was little consistency across forces and within forces regarding the way in which ALOs engaged with their LPAs and described the overall engagement as 'ad-hoc'. Wootton *et al* (2009) found that only 26 per cent of forces had a formal agreement in place with LPAs. However, upon examination, this typically composed of a document stating the type and scale of developments the ALO would review. The majority of forces (69 per cent) stated that their engagement with the LPA was a result of individual working relationships with individual planning officers. As Wootton *et al* (2009) state "a majority of these agreements are unwritten and informal, based solely on the professional relationship between the ALO and the planner" (p. 26). Although it is encouraging that these relationships have flourished, it is concerning as to what may happen should the individual planner or ALO move to another post or retire.

Wootton *et al* (2009) found that although the majority of ALOs had informal agreements with LPAs, it is commonplace for the ALO to view the weekly planning lists (publically available on each LPA website) and request to comment on planning applications which may be of interest (e.g. a development in a high crime area). As the following quotation suggests, ALOs

are of the consensus that once a planning application has been formally submitted to the LPA (thus appearing on the weekly planning lists) the main opportunity to incorporate the principles of CPTED has been lost. Once the plans become more detailed, the opportunity to seamlessly incorporate the principles of CPTED into the design and layout of the development becomes difficult.

> …a lot of developments will bypass us at the pre-planning stage and we
> won't see much of it until it gets to the…planning application – which is far
> too late down the line (Wootton *et al*. 2009, p. 28).

This frustration is shared by those receiving the ALO comments. Receiving comments at such a late stage in the planning process can be frustrating and obtrusive for built environment professionals if the ALO recommends significant amendments which may be expensive, time consuming and result in delaying the progress of the planning application (Monchuk, 2011). Owing to this, it is commonplace for an applicant to simply ignore the comments made by the ALO. As ALOs are not statutory consultees, there is no requirement for their advice to be considered and unless the applicant is pressed by the LPA to amend the plans accordingly, the ALOs comments may go unheard[34].

This view is shared by a number of academics (Colquhoun, 2004; Schneider & Kitchen, 2007; Armitage, 2013) who state that CPTED can be seamlessly incorporated into a development if it is considered early in the design process (i.e. before the application is submitted to the LPA). Referring to the Royal Institute of British Architects (RIBA) plan of work (RIBA, 2013) shown in Figure 2, CPTED should be considered at stages 1- Preparation and Brief and 2 – Concept and Design. RIBA (2013) suggests that the planning application should be submitted at stage 3 – Developed Design.

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[34] Until recently, ALOs were named as non-statutory consultees. DCLG (2014) have removed ALOs from the list and replaced this with the Police and Crime Commissioner.

Figure 2   RIBA Plan of Work 2013
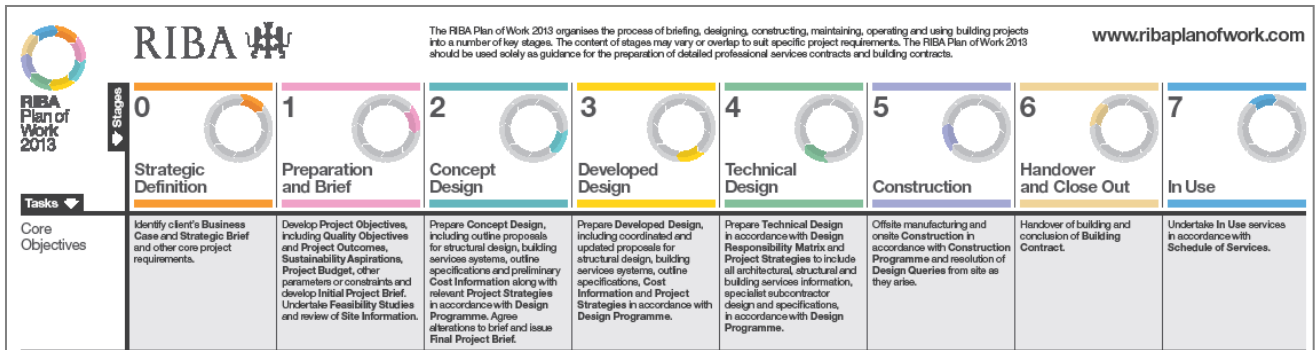
Some (for example Minton, 2009) might disagree with the argument above and warn that involving an ALO earlier in the process could produce what Cozens and Love (2015) refer to as a "fortress mentality" (p. 404). However, as Schneider and Kitchen (2007) state, this need not be the case. By considering CPTED much earlier in the design process, it provides built environment professionals with the opportunity to use creative design solutions as a means of designing out potentially criminogenic aspects of a development. Thus, incorporating CPTED into a development should be seen as a design challenge and an opportunity to stimulate good, creative design, as opposed to being an inconvenient, prescriptive and inflexible add on, which is viewed as hindering good design (Olasky, 2004). As Schneider and Kitchen (2007) state, CPTED "…does not deny designers creative opportunities by telling them what to do, but invites them to consider design solutions for potential crime problems" (p. 235). It should be stated that the onus on the successful delivery of CPTED in the planning process should not soley be on the LPAs, it is important that ALOs understand and appreciate that they too need to learn how to work within the planning process (Schneider & Kitchen, 2007) and that they need to be "active and creative, rather than passive and reactive" (Crowe, 2000 p. 46). As Armitage (2013) states, the effective delivery of CPTED relies upon "communication, compromise and common-sense" (p. 210). Whilst it is important for CPTED to be incorporated into the design and planning process, ALOs must appreciate that designing out crime is only one agenda that a planner has to consider when assessing a planning application, thus the need for effective communication, compromise and common-sense is imperative.

GMP has attempted to engage with the LPAs to ensure that CPTED is considered earlier in the process (Wootton *et al,* 2007). The ALOs or consultants[35] at GMP are police staff (Wootton *et al,* 2007). They have no operational policing background, but unlike the majority of forces, since 1990 consultants at GMP have been recruited from a built environment background (Blyth, 1994; Schneider & Kitchen, 2007; Wootton *et al,* 2007). Rather than relying upon an LPA to seek the advice of DFSC when they deem it necessary, or by reviewing weekly planning lists, DFSC seek to be involved from the inception of a proposed development and throughout the planning process (Wootton *et al*, 2007). In 2007, a small-scale evaluation of DFSC was undertaken by Wootton *et al.* The evaluation consisted of undertaking semi-structured interviews with each consultant and representatives from a number of LPAs across Manchester. The research found that in an attempt to engage architects and developers at the pre-planning stage, DFSC had developed the CIS. The CIS is a document compiled by a DFSC consultant who provides a risk assessment of the proposed planning application. It outlines the main areas/issues which may be criminogenic and, from a crime prevention/security perspective, need amending (Wootton *et al,* 2009).

This thesis seeks to contribute knowledge to the field by examining, in detail, how CPTED is delivered and applied across England and Wales and whether ALOs are able to successfully predict the nature and location of crime risk in the built environment. It also seeks to examine how CPTED is delivered across GMP and consider whether a similar approach should be adopted elsewhere in light of the CSR and the ever reducing numbers of ALOs in post. Adopting a case study approach, the thesis reviews, in detail, four residential developments which have been built in the conurbation of Manchester and as such have received input from DFSC at the design stage, where this advice was taken, where it was not and the levels of crime and disorder once the development had been built.

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[35] DFSC has ceased using the term ALO, and use the term 'consultant'. The term 'consultant' will be used when referring to the staff at DFSC.

Chapter Three: Methodology

3.1 Revisiting the aims, employing the methods

This chapter provides a detailed account of the methodology employed to achieve the aims and objectives of the thesis. Each of the research aims are presented and the methods used described and, where necessary, critiqued. Prior to commencing a detailed discussion of the methodology and methods used, it is important to outline the philosophies which underpin research in the social sciences and the approach adopted for this study.

3.2 Research in the social sciences

Research in the social sciences is divided into two broad categories – qualitative and quantitative approaches. Qualitative approaches generally focus on text and language, whereas the quantitative approach focuses upon numerical data (Bryman, 2012). Each approach has different epistemological and ontological stances. Bryman (2012) defines epistemology as "…the question of what is (or should be) regarded as acceptable knowledge in a discipline" (p. 27). Thus, epistemology is concerned with whether the social world can and should be studied according to the same principles as the natural sciences (Bryman, 2001). Matthews and Ross (2010) define ontology as "the way the social world and the social phenomena or entities that make it up are viewed" (p. 24). Therefore ontology questions whether social entities should be considered as objective entities which exist external to social actors or whether they should be considered as social constructions which are formed as a result of the perceptions of the social actors (Bryman, 2001).

Berg (2009) describes qualitative research as an approach which refers to the meanings, concepts, definitions, characteristics and descriptions of things. The main research methods associated with the qualitative approach include semi-structured and unstructured interviews; focus groups and case studies. These methods lend themselves to being able to examine and explore meanings, concepts and definitions as perceived by the subjects of the study. As Kraska and Neuman (2008) note, qualitative research is "an approach to research that emphasizes the systematic analysis and detailed study of people and text in order to arrive at understandings and interpretations of how people construct and maintain meaning within social worlds" (p.74). Gray (2014) suggests that qualitative research is powerful as it is highly contextual and is collected in a real life setting. Thus, epistemologically, the qualitative approach adopts an interpretivist stance in that it requires the social scientist to

examine and comment upon the subjective and interpretive understanding of social action (May, 2001). Owing to this, it is often suggested that qualitative methodologies take much longer to design, administer and analyse than quantitative methodologies (Berg, 2009). The qualitative approach has an inductive relationship between research and theory where theory is the outcome of research. As May (2001) states, this then allows social scientists to "…generate theoretical propositions on social life from [their] data" (p. 32). Ontologically, the qualitative approach is aligned to constructionism which suggests that social phenomena is constantly being created and adapted by social actors (Gray, 2014). As Bryman (2001) suggests constructionism "…implies that social phenomena and categories are not only produced through social interaction but they are in a constant state of flux" (p.18). Thus, it is argued that it is more difficult to generalise the findings from qualitative data to the wider population.

Berg (2009) suggests that qualitative approaches have tended to receive less attention in the social sciences compared to quantitative approaches. Berg (2009) proposes that "this may reflect the tendency of the general public to regard science as relating to numbers and implying precision" (p. 2) as the quantitative approach refers to the measurement and quantification of data which can then be presented numerically (Matthews & Ross, 2010). The main research methods associated with the quantitative approach include surveys and questionnaires. Unlike the qualitative approach, the quantitative approach lends itself to larger sample sizes which allows for a greater amount of data to be collected and analysed. Owing to this, the findings from quantitative data are often able to be generalised to the wider population. Nevertheless, quantitative data does not allow participants to provide detailed comments nor explanations. Epistemologically, the quantitative approach supports the application of the methods employed in the natural sciences and therefore adopts a positivist stance. The quantitative approach has a deductive relationship between theory and research. It commences with hypotheses which are formulated from existing theory and which are then tested. Ontologically, the quantitative approach can be described as being objectivist. This suggests that social phenomena exist independent of social actors (Bryman, 2001). As outlined and discussed in the remainder of this chapter, this thesis adopts a predominantly qualitative approach to addressing the research aims and objectives. As the thesis can be described as a process evaluation, the author considered a qualitative study the most

appropriate to examine how CPTED is applied and delivered by ALOs. Thus, the qualitative nature of the thesis allowed the author to explore, examine and delve into the ways in which developments are assessed and how CPTED is implemented.

3.3   Rationale for Research Aim 1

Research aim 1 sought to:

> Investigate whether ALOs are able to anticipate the locations at which crimes take place (according to police recorded crime figures) when reviewing the architectural plans for a residential development.

As outlined in chapter two, the aim of an ALO is to become involved in the design and planning of a proposed development and to appraise the proposed design from a crime prevention perspective. However, there is paucity in the literature to demonstrate whether or not ALOs are able to correctly anticipate at the planning stage the types and locations of crime likely to occur if the development is built as envisaged and occupied. To the writer's knowledge, this skill has never been tested by research. It is difficult to test for a number of reasons which will become evident in due course; nonetheless, it is the critical question for the practice of CPTED. How reliable is the advice given by the ALOs? Are they able to identify design features which prove to be criminogenic once the development is built and occupied? Is the ALO a role which requires further support from the police as a successful mechanism to reduce the opportunities for crime and thereby reduce the associated policing and social costs? Thus, this section of the thesis sought to elicit whether ALOs, when presented with a site plan for a residential development which had in fact already been built and had experienced crime and disorder, but with which they were unfamiliar, are able correctly to identify the locations of these incidents (i.e. do they have the predictive skills to identify the types and location of crime risk). It also sought to examine the way in which those ALOs who performed well in identifying the locations which were victimised, went about assessing the risk and applying the principles of CPTED.

3.31   Methods

To address research aim one, a semi-structured interview was conducted and a case study exercise used. Semi-structured interviews involve the researcher interviewing one participant,

face-to-face (Creswell, 2009). Matthews and Ross (2010) define an interview as a qualitative research method which "…enables the interviewer to elicit information, feelings and opinions from the interviewee using questions and interactive dialogue" (p. 219). In terms of evaluative research, semi-structured interviews are very useful as they provide an opportunity to find out about a social phenomenon based upon the knowledge, understanding and views of the participants. As Matthews and Ross (2010) suggest, there are a number of advantages of conducting semi-structured interviews such as: being able to explore experiences in-depth; having the flexibility to allow participants to discuss topics in their own way and collecting data which is raw and in the participant's own words. The format of a semi-structured interview is often outlined in the interview schedule or guide. An interview schedule comprises of a collection of topics to be covered and questions to be asked during the interview which helps to ensure that the same topics are discussed with all participants (Bryman, 2001). The interview schedule, which is reproduced in full at Appendix 1, comprised two parts. The first part was a 'typical' semi-structured interview and included a number of questions which sought to provide contextual information about the ALO's professional background, history and current role such as: how long the ALO had been in post; their background and what training they had completed to undertake the role. The second part of the interview comprised an exercise which focused on a case study and required the interviewee to review and annotate a site layout plan.

A case study involves focusing upon one particular case (event or context specific progression) in detail and attempting to understand how respondents construe the event or progression. Simons (2009) refers to a case study as "...a study of the singular, the particular, the unique" (p. 3). Berg (2009) elaborates on this when he defines a case study as:

> …a method involving systematically gathering enough information about a particular person, social setting, event or group to permit the researcher to effectively understand how the subject operates or functions (p. 317).

This method is often criticised for being less rigorous and systematic than other research methods (Berg, 2009; Flyvbjerg, 2001). Indeed, Berg (2009) suggests that the case study method is often considered "…as being somewhat of a weak sister among social science

methods" (p. 317). However, Flyvbjerg (2001) argues that case studies are an important method and one which should not be oversimplified nor regarded as inferior. Adopting a case study method allows researchers to examine a subject in depth, allowing them to "focus on [the] minutiae" (Flyvbjerg, 2001 p. 133), something which quantitative methods (e.g. questionnaires) may lack owing to their large sample sizes (Flyvbjerg, 2001). By focusing on the minutiae, Flyvbjerg (2001) suggests that a case study approach helps to address larger, over-arching questions and to further expand knowledge and expertise in the discipline. Thus, it was considered appropriate to adopt a case study approach to address this research aim, contribute to knowledge in this field and to the discipline of crime science more widely. Regardless of its strengths and weaknesses, the case study was the only feasible approach to the research issue in hand. Prior to outlining how the case study was administered, it is important to discuss how the sample was recruited and how a suitable case study site was selected. The following section provides a comprehensive discussion of the sampling strategy used.

3.32   Selecting the case study

It was important to find a residential development which would be suitable to form the case study and address the research aim and questions. The development had to have been built, occupied, experienced incidents of crime and disorder and raised a number of concerns for the ALO who was initially responsible for providing comment on the planning application, prior to its build (thus resulting in communications from the ALO to the applicant and planner). The site plan for the development was to be presented to the 30 ALOs and their comments sought to identify how they applied the principles of CPTED and whether they were able to correctly identify the types and locations of crime which were experienced at the site.

To ensure that the case study was suitable for the purpose of the exercise, it was therefore important that it met the criterion as outlined in Table 1.

Table 1   Case study site selection criterion

Criterion	Justification for criteria
Had to be a residential development	Residential housing was the predominant focus of the thesis.
Development built and resided in	To assess actual levels/experiences of crime and disorder.
Had ignored, or failed to incorporate, the advice provided by the local ALO during the planning process	The ALO would be familiar with the case study site and have documentation which outlined their initial concerns and suggested recommendations providing useful contextual information.
Experienced incidents of crime and disorder	Essential for Research Aim 1 to be achieved – (i.e. could the participants correctly predict the type and location of the crime when assessing the site plan?).
Initial ALO willing to support/facilitate request for crime data from relevant police force	To undertake this exercise, crime and disorder data was required. It was important that this could be successfully provided by the ALO/police force.

The case study exercise required the co-operation of an ALO from a police force who were able to identify one residential housing development within their area of responsibility which met this criterion. When attempting to identify a force to participate in the research, police forces within the North of England (and hence relatively local to the researcher) were contacted in the first instance and their assistance sought. The predominant reason for this was to try and minimise any associated travel expenditure. Initially, contact was made with the regional manager from ACPO SBD who was briefed on the aims and objectives of the research. He was informed of the selection criterion (Table 1) and contacted all ALOs in the region to establish whether any were able to identify a suitable case study site.

Initially, three police forces indicated that they were aware of potentially suitable case studies and extensive telephone conversations were held with these forces. Although these forces[36] had suggested suitable developments to be included within the research, upon further

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[36] The names of these forces will not be presented for confidentiality and anonymity reasons.

inspection, it was evident that two of the three forces had recommended developments which were not suitable. One force suggested a commercial development and the other a development which was not fully occupied and therefore would not have extensive recorded crime data needed for the analysis. It was imperative that the developments were residential, as this is the predominant focus of the thesis, and that they had been occupied for a number of years to allow sufficient crimes to have occurred and been recorded to ensure that the aims and objectives of this exercise could be met. Two residential developments, which were suitable for the inclusion in the study, were suggested by one police force. To ensure that the location of these specific developments remains anonymous, the police force area will be referred to as 'Force X' hereinafter. A meeting was held with the ALO from Force X and the two suggested developments were discussed in detail to confirm that they met the relevant selection criterion. The ALO was also asked to provide copies of any relevant documentation exchanged between themselves, the LPA and the applicant and evidence to suggest that the development had experienced incidents of crime and disorder.

To undertake the exercise, all the architectural plans for the two developments were required. Unfortunately, the developments went through the planning system prior to the introduction of the 1APP electronic planning portal and therefore the plans were not available electronically. Thus, the hard copy case files had to be requested from the LPA and a date arranged to visit the LPA to view the paper plans. Rather naively, the writer expected that the plans would be neatly organised chronologically making it easy to obtain the relevant plans. This was not the case and searching for the set of plans which most closely reflected the actual design and build of the development was extremely time consuming. Hundreds of different site layout plans, housing elevations and landscape plans were reviewed, assessed and then either dismissed as being an early iteration which did not represent the actual design of the developments or were identified as being an accurate reflection of the developments and copied. Indeed, four visits to the LPA were required to ensure that all the relevant plans were obtained. The relevant ALO visited the LPA on three of these four occasions. Their assistance at the LPA was invaluable as they were able to dismiss any plans which did not accurately represent the build of the development. Whilst undertaking this initial data collection exercise it became apparent that it would not be possible to obtain all the relevant plans for one of the two suggested developments. Therefore, the case study development was

selected purely by the process of elimination. Throughout the remainder of this thesis, this case study will be referred to as 'Development X'. Development X comprised 90 dwellings which included two and three bedroom houses and two bedroom flats. It included 112 car parking spaces and there was communal cycle storage provision. Development X was built in 2002 and was fully occupied by the end of 2003.

Once hard copies of all the relevant plans were obtained from the LPA, two comprehensive site visits of Development X were undertaken with the ALO. The aim of these site visits was to help contextualise the plans and to confirm that the development would be suitable for the exercise. In addition, the crime data for a four year period (July 2006-July 2010) was requested from Force X. This comprised data relating to: burglary dwelling; burglary in a building other than a dwelling; criminal damage to dwellings; criminal damage to other buildings; theft or unauthorised taking of motor vehicle; theft from motor vehicle and criminal damage to motor vehicle. Force X provided the following data for each incident (where available):

- Crime type (e.g. Burglary)
- Home Office classification (e.g. Burglary Dwelling)
- Address of incident
- Date of the incident
- Time the incident was recorded
- Modus operandi
- Easting and northings of the incident

3.33   Designing the case study exercise

Initially, it was envisaged that the participants would be provided with the site layout plan for Development X along with the number of recorded crimes and the number of victimised locations and asked to pinpoint *exactly* where they suspected those victimised locations to be. However, upon reflection it was felt important to ensure that the exercise included a more thorough and comprehensive examination about how the ALO would apply the principles of CPTED (and the process through which they do this) in the first instance and then consider how this translated into assessing the potential risks posed by the design of the Development

X. In short, one needs to know *why* as well as *where* crime was anticipated in particular locations. It was also important to acknowledge that asking ALOs to pinpoint the *exact* number of victimised locations would not be an accurate way to assess their predictive skill, as this might detract from their overall appraisal of the development. It was therefore important to ensure that the exercise was as realistic as possible and not too prescriptive (so that participants were not restricted to identifying specific, individual locations), yet not too all-encompassing.

Thus, the exercise consisted of two key parts. First, the participant was asked to review the site plan and describe their initial thoughts about its design and layout and identify and annotate any areas which, from their perspective, could be problematic. Second, the participants were provided with the number of property and vehicle crimes (and not the number of victimised locations) which had been recorded by Force X between July 2006 and July 2010. Utilising these data, participants were asked to locate and annotate the areas where they envisaged the offences occurring.

The number of recorded crimes had to be known prior to conducting the exercise so that this information could be presented to each participant to help facilitate the exercise. Thus, the researcher needed to become aware of the location of the incidents to be included in the exercise. However, it was important to recognise that this may negatively affect the validity of the exercise and any subsequent results. For example, it could be argued that the researcher, already familiar with Development X (as detailed discussions had been held with the ALO during the selection of the case study) could inadvertently have directed the participants to the location of the incidents. Coolican (1999) warns that it is important that a researcher carefully considers their behaviour during an interview as it could impact upon the responses provided by the participant:

> The interviewer has to be careful not to inadvertently display behaviour, however subtle, which might get interpreted as disagreement or encouragement since the interviewee may well be searching for an acceptable or desired position (p. 138).

Careful attention was therefore paid as to how the data should be analysed when designing the exercise. One solution was to ask an independent person to review the crime data provided by Force X, confirm the number of incidents which could be attributed as occurring within Development X and simply provide this number to the researcher. To assist with this, the expertise of the Director of the University's School Research and Ethics Panel (SREP) was requested. Upon explaining the reasoning for an independent person to analyse the crime data, the Director confirmed that in this instance it would be appropriate and justified to avoid biasing any results. Thus, the data from Force X was analysed by an independent person to calculate the number of recorded offences which occurred at Development X. The researcher was then provided with the number of offences for each crime type, but not the location. The location of the offences was not made available to the researcher until all the data had been collected.

3.34   Piloting the interview and case study exercise

Coolican (1999) outlines the importance of piloting, or testing, research tools before they are used. As Coolican (1999) states, piloting allows the researcher to "…highlight snags or ambiguities for which adjustments can be made before the actual data gathering process is begun" (p. 18). Thus, a pilot of the interview and case study exercise was conducted in December 2013. The pilot participant was a Development Officer (referred to hereinafter as Pilot X) from ACPO SBD and had eight years' experience of being an ALO prior to an appointment with ACPO SBD. The pilot proved invaluable and as a consequence a number of revisions were made to the interview schedule – some questions were made clearer and additional prompts were added where necessary.

Piloting the case study exercise highlighted a number of potential complexities regarding its administration. As with all the participants who completed this exercise, Pilot X did not know the location of the development nor any information relating to the types of incidents which had occurred there. Based upon the pilot, a number of small revisions were made. First, it was envisaged that the exercise would take approximately 30 minutes to complete and that the overall length of the interview (part 1 and part 2) would take approximately 1 hour and 30 minutes. However the pilot exercise lasted 65 minutes which increased the overall time of the interview. It was therefore envisaged that the interview would take approximately 2 hours to

complete and the information sheet to be sent to participants prior to the interview was amended accordingly. Secondly, generic information about the development (e.g. number of dwellings and car parking spaces) was printed out and laminated. Although the participant was made aware of this information verbally, it was decided that this information should also be available to the participant in written form so that he or she could refer back it to whilst undertaking the exercise. The number of recorded property and vehicle incidents was also available in the same form. Finally, an important revision was made to the way in which the exercise was administered and participants encouraged to annotate the site plan. To ensure that any annotated areas of the plan corresponded to the discussion recorded on the Dictaphone, each annotation was numbered.

3.341 Sampling

Participants were recruited by utilising a stratified purposive sampling method. Purposive sampling is a form of non-probability sampling which Bryman (2004) contrasts with a random selection method. Patton (1990) suggests that purposive sampling allows the researcher to select "information-rich" (p. 169) cases that can be studied in detail. As Patton (1990) outlines, adopting a purposive sample of information-rich cases allows the researcher to learn about issues which are of central importance to the research. This is reiterated by Bryman (2012) who states that:

> The researcher does not seek to sample research participants on a random basis. The goal of purposive sampling is to sample cases/participants in a strategic way, so that those sampled are relevant to the research questions that are being posed (p. 418).

However, like other qualitative methods, both Berg (2009) and Bryman (2012) warn that purposive sampling is less generalisable to the wider population.

Stratified sampling has been identified as the most common form of purposive sampling (Matthews & Ross, 2010). It involves selecting cases from groups where there is some variation between groups. As Patton (1990) indicates, each of the strata comprises a relatively homogeneous sample and so allows the researcher to capture variations between the samples.

Patton (2001) therefore refers to stratified purposive sampling as samples within samples. Three key strata were identified as being of relevance to this thesis. These included: i) ALOs from GMP; ii) ALOs who had a background in the built environment, but were not employed by GMP and iii) ALOs who were serving police officers, retired police officers or police staff and who had been in post for the greatest amount of time. These three strata are shown in Table 2.

Table 2   Diagram to show strata used to select the purposive sample

Stratum 1	ALOs from GMP (i.e. those with a built environment background)
Stratum 2	ALOs who had a built environment background, but worked at a police force that was not GMP
Stratum 3	ALOs who were serving police officers, retired police officers or police staff and who had been in post for the greatest amount of time.

Stratum 1:

Since 1990, all the ALOs employed by GMP have been former built environment professionals (Blyth, 1994). Due to this and the fact that GMP sponsored part of the PhD, it was both of intrinsic interest, and an implicit obligation to the force, to ensure that ALOs from GMP were included in the sample.

Stratum 2:

The second stratum included ALOs that had experience in a field which may be akin to the design or planning of the built environment, but who did not work for GMP. As limited research has been published on this, it was important to identify these participants and include them in the sampling frame.

Stratum 3:

As outlined in chapter two, historically each police force had to ensure that an officer of at least Inspector rank should be designated force crime prevention officer (Byrne & Pease, 2008). The role of an ALO is predominantly held by those who are serving police officers or those who have retired from the police and returned in a civilian capacity (Weatheritt, 1986; Armitage, 2013). Thus, stratum 3 composed of ALOs who were either serving police officers,

retired police officers or police staff (thus had predominant policing background either direct operational experience or had worked within the policing environment as a civilian) and who had been in post for the greatest amount of time[37]. The reasons for selecting the most experienced ALOs were twofold. First, the more proficient participants were more likely to have experienced successes and mistakes and learnt from new and challenging job tasks and problem-solving situations, allowing them to be more reflective in their responses (Paloniemi, 2006). Second, it was envisaged that by selecting participants based upon their length in post would naturally result in the selection of ALOs from a wide geographical spread of forces across England and Wales and include both urban and rural forces which may have differing experiences in the types and density of the developments which they have to advise on.

The next section of this chapter describes how ALOs were recruited to each of the three strata.

3.342   Recruitment of ALOs

There are a total of 43 territorial police forces covering England and Wales. The names and contact details of the ALOs employed in each of these forces were obtained from the SBD website[38]. The SBD website was used in the first instance as it includes a detailed directory of the name and contact details for every trained ALO. This initial data collection exercise was conducted in May 2012 and the details for each of the 196[39] ALOs listed on the SBD website entered into a database. This part of the exercise was reliant upon the data presented on the SBD website being accurate. Each listed ALO was individually telephoned or emailed between 1st June and 7th June 2012. This was to elicit: i) their length in post ii) their background and iii) whether they would be willing to take part in the research at a later date, should they be selected. Of the 196 ALOs who were contacted, 150 ALOs replied and provided the information requested. It is unknown whether the remaining 46 participants

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[37] One ALO from GMP is included in this stratum. This ALO differs from other GMP participants as the ALO does not have a built environment background. Their background is police staff.

[38] http://www.securedbydesign.com/professionals/design_advisors.aspx

[39] This number was calculated from reviewing the number of ALOs listed on the SBD website. However, this number could not be confirmed as ACPO SBD rely upon ALOs to inform them once they come into/or leave post (Brooke, personal communication by email 12th June 2014). Thus, the initial figure may be inaccurate.

were no longer in post or were simply not responding to emails and telephone calls. A minimum of two attempts were made to establish contact with each of the 46 unresponsive ALOs. Of the 150 who responded to the initial email/telephone call, 14 indicated that they were unwilling to take part in the research. An additional seven participants indicated that they were about to retire imminently or were about to be redeployed to another post (i.e. returning to front line duties) and so were unable to take part.

Each of the ALOs who indicated that they were willing to take part in the research (129), was then placed into one of the three strata as depicted in Figure 3. Two of the 129 willing participants were identified as having a design/built environment background. One participant was a former modeller and one was a chartered surveyor and architect. These ALOs were selected and invited to take part in the research. Five of the 129 participants were ALOs from GMP and the remaining 121 were serving police officers, retired police officers or police staff. A list of these 121 participants was compiled and ranked according to their length in post.

As the generic information about ALOs was collated in 2012, it was important that the list of contacts was reviewed prior to organising the fieldwork. Thus, in January 2014 the most experienced ALOs were re-contacted. This revealed that five of the selected participants were no longer in post, one of whom was the civilian ALO chartered surveyor and architect (stratum 2). Initially, it was envisaged that a total of 40 participants would be interviewed. However due to cost and time implications (including travelling to and from forces across the country, conducting the two hour interview, transcribing and writing each interview up), this was reduced to 30 – still a relatively large sample.

The total number of participants interviewed was 30 from 19 different police forces[40]. This consisted of: i) four from GMP (stratum 1); ii) one participant from stratum 2 (this was the smallest category as there are the least number of ALOs with this background in England and Wales) and twenty-three of the most experienced ALOs across England and Wales who were either serving or retired police officers or police staff (stratum 3). This is presented in Figure

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[40] It should be noted that except for GMP, the name of these forces will not be provided as in some instances this would inadvertently assist in identifying the participant(s) interviewed.

3. Based upon the estimate that there were approximately 196 ALOs in post at the time an initial database of ALOs was compiled, the participants interviewed represent approximately 15 per cent of the total ALO population (although it is likely to be higher than this as at the time the interviews were conducted, there were less than 196 ALOs in England and Wales).

Figure 3   Recruitment of the ALO sample
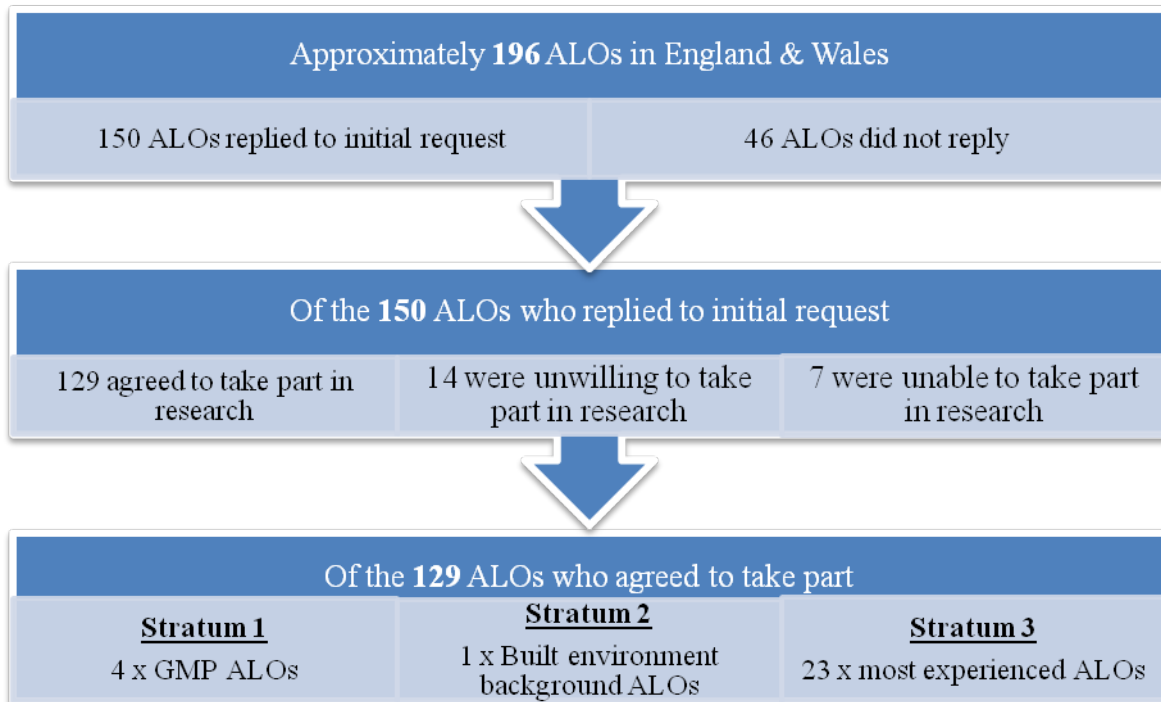
3.35   Conducting the interview and exercise

Thirty face-to-face semi-structured interviews were conducted between January and May 2014. All but two of the interviews (28) were conducted at the participant's place of work (either a police station or planning office). The two remaining interviews were conducted in a café (1) and the researcher's office (1) as these locations proved more convenient for the participants. Prior to commencing the interview, participants were verbally informed of the aims and objectives of the interview and were also asked to read an information sheet which outlined the aims and objectives of the research. Participants were also asked whether they required any additional information or clarification and then asked to sign a consent form to confirm that they were willing to take part in the research. As stated above, the interview comprised two parts: i) a typical semi-structured interview which sought to examine how

long the ALO had been in post and the training they had undertaken to undertake the role and ii) a case study exercise.

In concluding part one of the interview, the participant was told that the interview would move onto the case study exercise. The exercise was introduced by reading the following to each participant:

> *The aim of this exercise is to obtain data from a number of ALOs across the country to add to the evidence base in this field. In particular, this exercise aims to elicit how opportunities for crime and disorder can be identified early in the planning process.*

The participants were shown the site plan for Development X and provided with generic information relating to the development (such as the number of dwellings and car parking spaces). Ordinarily, ALOs are provided with this descriptive information when commencing a review of a proposed planning application. Participants were asked to spend a couple of minutes reviewing and digesting the information provided. A copy of the site plan is shown in Figure 4. They were then asked a number of generic questions which initially sought to engage the participant with the exercise and stimulate a discussion about how they would assess the plan if they were providing comment to the LPA. A copy of the interview schedule can be found at Appendix 1, but ultimately the two key lead-in questions were:

- From looking at the site plan, what initially do you <u>like</u> about the plan from a crime prevention perspective and why? and
- What <u>don't you like</u> about the plan from a crime prevention perspective and why?

During this discussion, participants were asked and encouraged to think aloud when discussing their presumptions and concerns about the site plan. They were asked to do this so as to gain a better understanding about how they assessed the plan (e.g. by themes or by working through the plan in a certain direction) and how they interpreted and applied the principles of CPTED. They were also encouraged to annotate the site plan using a red marker and asked to circle any areas of the development which they perceived to be problematic or a

cause for concern from their perspective. Alongside this, they were asked to provide a justification as to why they had indicated an area as problematic. This aimed to ensure that there was both a visual and audio account of their concerns. Any reference to additional plans, such as housing elevations or the landscaping plan, was noted and participants were then informed that this information was available to them should they wish to review it. Upon request, the participant was provided with any additional plans they had referred to. The rationale for only providing this additional information at the request of the participant was to assess what information ALOs use when reviewing a planning application. This information was reviewed by some ALOs, yet not by others and the main reasons given for this were twofold. First, some participants said that they would not normally review the detailed housing plans if they felt that the site layout required significant alteration in the first instance (which was the case with Development X). Second, some participants felt that it was unnecessary to review the plans in detail as it would be too time consuming and the case study was merely an exercise and not a live planning application which they needed to respond to.

Although the exercise had been very carefully considered and relevant additional information collated (e.g. house elevations), there are a number of important points which must be highlighted and discussed to explain how the exercise differed from how the ALOs would usually undertake an appraisal of a development. First, the participant did not have the opportunity to undertake a site visit of the proposed and surrounding areas of the development. This would have been too time consuming and difficult to facilitate. It also would not be feasible as the development had already been built, thus voiding the purpose of the exercise. Second, the participant was not provided with any local intelligence relating to recorded crime levels at locations surrounding the development. Participants were not able to liaise with police colleagues, such as the local Neighbourhood Policing Team (NPT), with whom they may normally try to ascertain further intelligence, albeit anecdotally. Third, the participant was not able to contact anyone who may be involved in the design of the development (e.g. the architect who designed the site, the planning officer allocated to the application) to clarify any issues or obtain further detailed information. This is a limitation of the exercise as often the context in which the new development will be surrounded is an important factor in determining crime risk and any mitigation measures.

Figure 4   Site plan of Development X provided to the participant
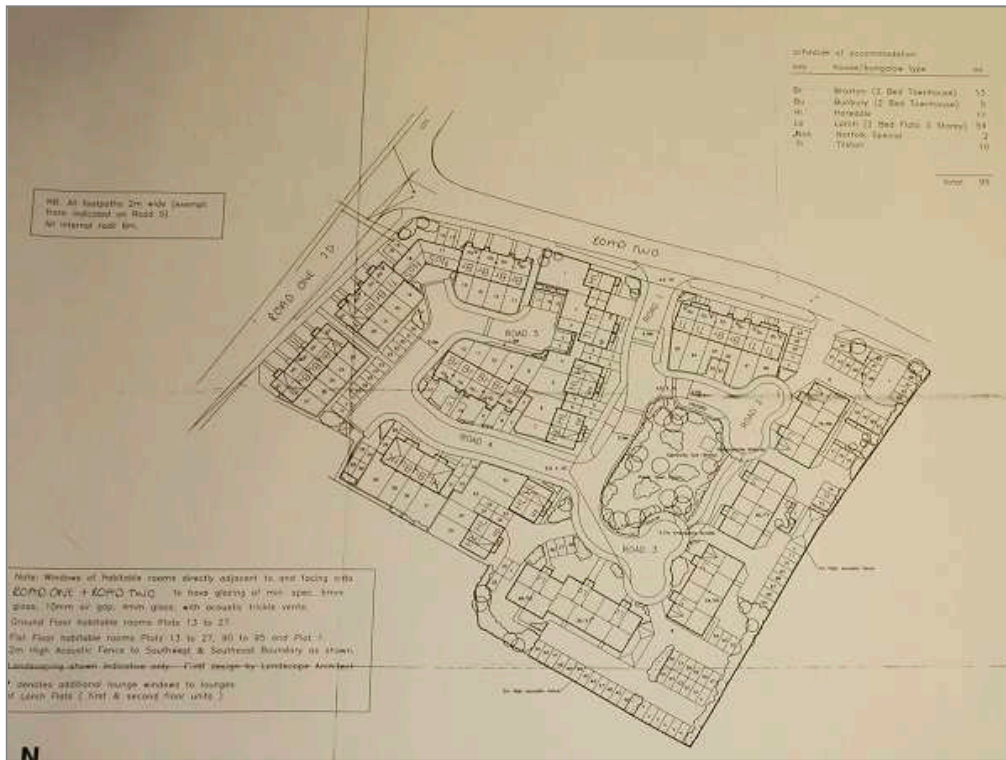
Once the participant had identified aspects of the development that they deemed to be vulnerable from a crime prevention perspective, they were told the number of property and vehicle crimes recorded by Force X between July 2006 and July 2010 (as calculated by the independent person). First, participants were asked whether they thought the number of property and motor vehicle incidents was below or above what they might have expected. Second, participants were asked to identify and annotate the areas of the development where they envisaged the incidents occurred. Only two main crime types (property crime and vehicle crime) were reviewed during the exercise to ensure that these could be discussed in detail, without being too onerous and time consuming. Participants were asked to annotate areas vulnerable to property crime using a blue marker and any areas vulnerable to vehicle crime using a green marker. Whilst the ALOs were informed about the number of recorded crimes, they were not informed about the number of victimised locations and so, the limit to the number of locations the ALO could identify as being vulnerable was the number of victimisations. This was to examine the way in which the ALOs assessed risk and to elicit an understanding as to how they would go about identifying risky areas in their everyday work. An example of a completed annotated site plan is shown in Figure 5. When identifying these

areas, the participants were asked to provide a justification as to why these areas had been selected.

Figure 5   Example of annotated site plan
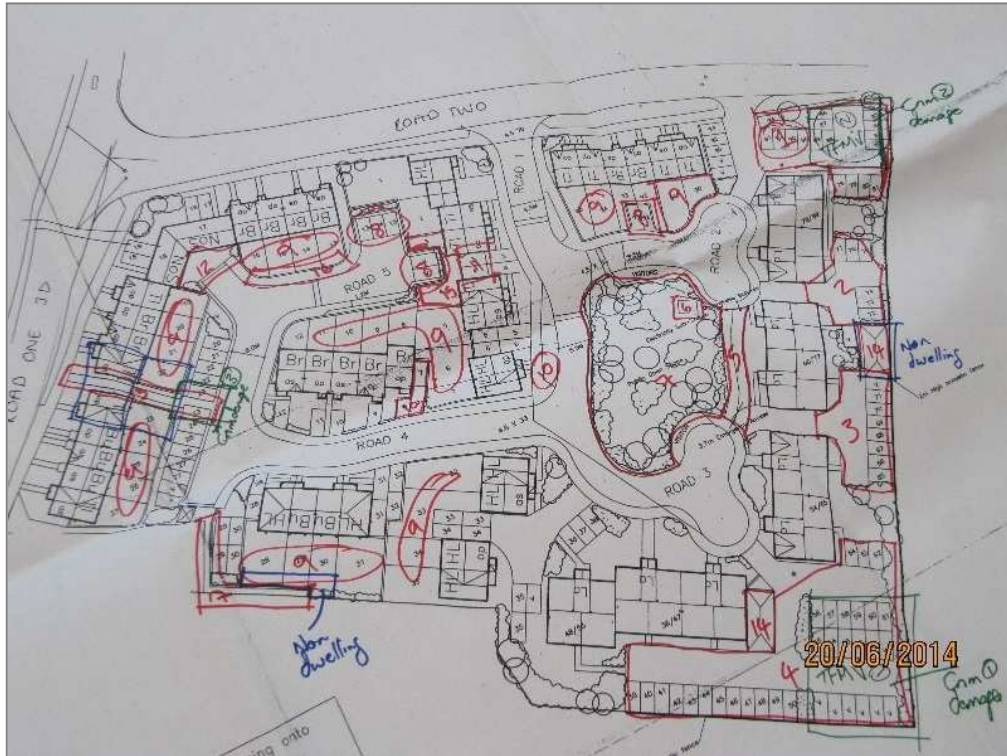
3.351 *Limitations and reflective commentary*

Owing to time restrictions outside of the control of the researcher, the exercise appeared to be rushed in a small number of interviews (approximately 2). In two instances it was not possible to conduct the exercise and the interview had to be terminated after the first part of the interview was completed. Observations and discussions with the participants revealed that although the exercise was a useful and innovative way in which to assess how ALOs apply the principles of CPTED, the one hour exercise did not provide a completely realistic account of how ALOs assess planning applications. To assess the plans in full, the participants would have required spending more than one hour reviewing and reflecting upon them. The following section outlines how the data were analysed.

3.352 *Data analysis*

The complete interviews were recorded using a Dictaphone and the audio files uploaded onto the University of Huddersfield's secure network. Only the first part of each interview was

transcribed verbatim. It was deemed unnecessary to transcribe the commentary from the case study exercise as the analysis relied heavily on the marked traces each ALO made of the site plan that they were provided. Once all audio files had been successfully uploaded onto the secure network, the files were deleted from the Dictaphone. Much of the data that were collected during the first part of the interview and transcribed verbatim has not been analysed and included in this thesis. This data was predominantly used to confirm the professional background of the ALOs and their length in post. The author plans to use this data in future publications.

The data available for analysis comprised the following. The site plan for one residential development comprised forty-five dwellings and twenty-eight ALOs were recruited. For each of two crime major categories (property crime and vehicle crime), each of the twenty-eight ALOs assessed each of the forty-five dwelling locations as either vulnerable to that crime category or not. The data obtained from Force X composed of the following four offence types (predominately acquisitive crimes, which residential CPTED most commonly seeks to reduce). As shown in Table 3, these crime types were amalgamated into either: i) property crime or ii) vehicle crime. Vehicle crime was categorised in terms of dwelling proximity rather than dwelling location.

Table 3   Crime types used for analysis

Overarching crime type	Specific crime type
Property crime	Burglary dwelling
	Burglary other
Vehicle crime	Theft of motor vehicle
	Theft from motor vehicle

For each ALO, one has a set of locations defined as problematic and the number and placement of locations at which it is predicted that crime (property crime or vehicle crime) occurred. These locations were identified by each participant by freehand annotation of the site plan for Development X. Each ALO had a fresh identical site plan. So, the data comprised twenty-eight paper site plans with an ALO's annotations in coloured marker traces

(blue for property crime and green for vehicle crime). It is important to note that the participants were not asked to identify specific crime types per se (i.e. burglary dwelling or theft of motor vehicle). They were simply asked only to annotate areas they felt were vulnerable to 'property' crime and 'vehicle' crime. The justification for ensuring this was threefold. First, it would be unfair to penalise an ALO who identified a location as vulnerable to theft of motor vehicle, when the location did not experience theft of motor vehicle, but did experience theft from motor vehicle. The point being that the ALO correctly identified the location as vulnerable and that it was specifically vulnerable to a form of vehicle crime. Second, the overarching aim of this exercise was to examine the way in which plans were assessed and CPTED was applied. Therefore, the author did not wish to influence the interpretation of the plans and the developments crime risk in anyway, nor seek to encourage participants to consider one crime type over another. Third, when conducting the pilot, it became evident that this part of the interview was potentially very time consuming and encouraged the participant to consider crimes which they may not have ordinarily considered when assessing the plan.

The data collected from each of the 28 participants were entered into an Excel spreadsheet. Variables included the number of locations (defined as the nearest street address) deemed to be vulnerable and this judgement was made separately for each of the two crime types: i) property crime and ii) vehicle crime. The number of crimes of each type which were recorded during a four year period by the police force in which the site was located (Force X) was added. The analysis is presented in chapter three and seeks to address the following six questions:

i)   What was the distribution of locations chosen by individual ALOs?

ii)   Was there a consensus in the locations chosen?

iii)   Were the locations chosen by the most ALOs in fact those victimised?

iv)   What was the range of success rates for individual ALOs?

v)   How well did ALOs perform in distinguishing victimised from non-victimised locations?

vi)   What distinguished the approach of the best performing ALOs from their less skilful colleagues.

In summary, this part of the research seeks to identify whether ALOs are able to correctly assess and predict crime risk during the design and planning stage of new residential developments.

3.4 Rationale for Research Aim 2

Research aim 2 sought to:

Examine how designing out crime is delivered across Manchester by Greater Manchester Police Design for Security Consultancy (DFSC).

As research aim 2 composed of nine research questions, a number of different research methods were employed. Methods included: non-participant observations; semi-structured and unstructured interviews and case studies.

3.41 Non-participant observation

Throughout the duration of the writer's thesis work, non-participant observation of DFSC was conducted. Non-participant observation is whereby the researcher observes a situation, but does not participate in the social setting (Bryman, 2012). The aim of conducting the non-participant observation was to better understand the way in which designing out crime was delivered across Manchester and the processes through which this is achieved. DFSC was observed on approximately 40 separate occasions. This involved attending internal team meetings, presentations, undertaking site visits, observing meetings, observing how DFSC liaised with colleagues at GMP Headquarters and attending 'tour days' which were held annually and where the team would visit a number of the developments. Often, the method of non-participant observation is criticised owing to the effect the presence of the researcher may have on the behaviour of the participants. This is referred to as 'researcher effects' and as Matthews and Ross (2010) suggest "there can be no doubt that, if people know that their behaviour is being observed, then it will change" (p.259). Due to the number of observations made and the duration of time spent observing DFSC, one could argue that the impact of researcher effects diminished over time. Kraska and Neuman (2008) suggest that the longer the researcher spends in the field they focus their attention on key themes. However, Matthews and Ross (2010) warn that researchers can lose a sense of objectivity and that this is a limitation of non-participant observation. The purpose of conducting non-participant

observation throughout the course of the thesis was to observe first-hand how DFSC operated and this proved fruitful when considering and developing the following research methods and associated tools.

3.42   Semi-structured interviews

As the way in which DFSC deliver CPTED across Manchester has often been identified as atypical (Schneider & Kitchen, 2007; Wootton *et al,* 2009) semi-structured interviews were conducted with the five consultants. The semi-structured interviews (which formed part 1 of research aim 1) sought to examine: i) the background of each consultant; ii) the training they had received to undertake the role; iii) the way in which CPTED was delivered in their force; iv) their perception as to how the force views CPTED and v) how they engage with each of the LPAs. The interviews were transcribed verbatim and analysed thematically. Thematic analysis is a way of analysing qualitative data by interpreting and understanding the words, accounts and explanations of the research participants and categorizing these to yield an overall account of their views and perceptions (Matthews & Ross, 2010). Bryman (2012) defines thematic analysis as "…the analysis of qualitative data to refer to the extraction of key themes in one's data" (p. 717) but warns that thematic analysis lacks a specified series of procedures, therefore it is reliant upon the researcher to interpret and reflect upon the data, identify common themes or codes and identify linkages between them.

In addition to conducting semi-structured interviews, two unstructured interviews were conducted. One interview was conducted with the former Head of DFSC, who held strategic responsibility for designing out crime across Manchester and introduced the CIS. The second interview was conducted with the Head of Crime Prevention, responsible for managing DFSC. Unlike a semi-structured interview, an unstructured interview does not require an interview schedule. Matthews and Ross (2010) define an unstructured interview as one in which questions do not follow a guide and that allow the participant to discuss the research topic in their own way. Bryman (2012) suggests that unstructured interviews are a useful method when wanting to explore the interviewee's points of view as "…it gives insight into what the interviewee sees as relevant and important" (p. 470). These two unstructured interviews were recorded, transcribed, coded and analysed thematically.

In addition to conducting semi-structured interviews and unstructured interviews, a case study approach was also used to further elicit: i) what information is included within a CIS and ii) how and where is the CIS incorporated in the planning process. The case study approach also sought to examine how effective the CIS process is in identifying and communicating potential opportunities for crime and disorder to occur within the built environment and examine if developments that have been through the CIS process, experience crime and disorder. This methodology was adopted in an attempt to contribute knowledge to the field of CPTED (as no other research has been conducted on the CIS process from beginning to end) and to also examine how the processes involved in applying CPTED could be recorded as this has also been identified by Armitage (2013) as a gap in knowledge:

> …how do we measure the subtle impacts and changes such as the dissemination of knowledge between ALO/CPDA and architects, planners and developers? How do we measure the design decisions which were influenced at the pre-planning stage, and how do we measure the relationships established between key individuals and agencies (p. 209).

3.43   CIS case studies

Initially the thesis aimed to compare developments in Manchester which had gone through the CIS process with sites which had not. However, upon further examination, this was dismissed as being unfeasible for the following three reasons. First, after extensive discussions with DFSC and the supervisory team, concerns were expressed that the CIS' which were produced when the concept was initially formed was not an accurate reflection of the current delivery of the CIS and designing out crime across Manchester. Since its initial conception, there have been a number of attempts to revise the CIS and to improve the process of incorporating CPTED into the design of new developments. Second, it became clear that prior to the introduction of the CIS process, GMP had been delivering CPTED and providing crime prevention advice to planners and other built environment professionals (for example through the SBD scheme which preceded the introduction of the CIS). Thus, although a development may have been built without a CIS being prepared it may have still received some involvement from GMP. Third, the age of the developments would not be comparable as all developments over a certain size submitted to planning after 2006 required

a CIS. Finally, the tenure of the development would not be comparable as social housing would have been built to the principles of SBD. Thus, it was concluded that a comparison of CIS and non-CIS sites could not be undertaken.

A different methodology had to be adopted. Shortly after commencing the thesis, it became apparent that the CIS represented a process which led to the compilation of a document and that information presented in the CIS document itself may not include a complete account of all the discussions, negotiations and compromises made during the concept and design stages of the development. This became particularly evident during one observation of an ALO conducting a site visit. During the site visit the ALO was concerned about a proposed footpath which would run to the rear of the development. A note of this was made and upon returning to the office, the ALO contacted the client, explained their concerns and requested that the footpath be designed out. This was designed out, yet not documented in the resulting CIS (there was no need to refer to it as the plans had been amended accordingly). Thus, it was important to obtain a comprehensive audit trail of all the communications which were conducted between GMP and the client when compiling a CIS and a tool was designed to try and capture some of this data along with more nuanced data.

3.431   Diary of Activity Sheet

A 'diary of activity' sheet[41] was designed to capture the communications which were held between DFSC and the client and planner prior to the CIS being submitted as part of the planning application. The diary of activity sheet sought to elicit data such as: the reason for the communication; who initiated it and the form of the communication (e.g. email). This attempted to provide a comprehensive audit trail of the discussions held between DFSC and the client which resulted in the production of the CIS.

3.432   Sampling

When the diary of activity sheet exercise was introduced to DFSC, there were six ALOs. They were briefed as to the aims and objectives of the diary of activity sheets during one of their team meetings. They were each asked to track the next two CIS job requests for a residential development which came into DFSC and to which they were assigned to complete

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[41] Refer to Appendix 2.

the CIS. ALOs were requested to select just two residential applications to minimise any burden and to make the task less time consuming. Whilst the ALOs were receptive to the research being conducted, their participation was in addition to the work that they were required to complete daily. To limit effort required, the sampling strategy used to select the CIS sites to be tracked using the diary of activity sheets could be identified as convenience sampling. Like purposive sampling, convenience sampling is a form of non-probability sampling and relies upon available subjects or as Berg (2009) describes, subjects "who are close at hand or easily accessible" (p. 50). Using a convenience sample and tracking the next two residential CIS applications that came into DFSC, the ALOs were not self-selecting, or cherry picking, CIS' for inclusion in the thesis as at the time of selecting the CIS' the ALOs could not foresee the outcome of the process (whether positive or negative).

3.433   Conducting the Diary of Activity Sheet

Each of the six ALOs were asked to select two residential CIS' (totalling 12 sites) and using the diary of activity sheet, document *every* communication made relating to that development (i.e. site visits, telephone calls, emails, letters, attendance at meetings). Each ALO was provided with hard and electronic copies of the diary of activity sheet in an attempt to make the exercise less onerous for them. In addition, the ALOs were provided with a number of folders and a box file to assist with filing. When non-participant observation was undertaken, the ALOs were approached and asked about the progress of each scheme. The extent to which the ALOs mapped every communication is known to have varied. Some ALOs were very thorough and completed the sheets in detail and attached hard copies of any relevant information (e.g. emails, letters). Others were less thorough and in some instances failed to complete the diary of activity sheet and just included copies of the communication. Upon reflection, it may have been useful to remain in closer contact with the ALOs to reiterate the importance of completing the diary of activity sheets. Nevertheless, owing to the other CIS' that the ALOs had to compile during the course of tracking those selected for this thesis along with time and resource pressures, they may not have been able to complete this as thoroughly as was hoped. To try and mitigate the problem of incomplete information, data held on the DFSC portal was reviewed. The portal is a bespoke programme where information relating to each CIS application is stored. Each of the developments was also visited on at least two occasions.

Unfortunately, shortly after the exercise began, the UK recession heavily impacted upon the building and construction industry and consequently new development stalled. This impacted upon a number of the CIS developments which had been tracked, although they had, or were, going through the planning process they did not come to fruition. Some of the ALOs in an effort to help the researcher tracked other developments to compensate. These were predominantly commercial, which was outside the scope of this thesis. Therefore, in total four residential CIS developments were tracked which were successfully built and occupied.

3.434 Analysis

The first stage of the analysis involved reviewing all the documentation collected in the diary of activity sheets and any information held on the DFSC portal. The aim of this was to describe each site, to provide an overview of its characteristics and identify any of the proposed design features which were highlighted as a concern by the ALO. The second stage of the analysis involved reviewing the CIS compiled for the site to identify any of the proposed design features which were highlighted as a concern by the ALO and which were documented in the CIS. This may have included recommended design solutions to mitigate this risk. The third stage of analysis involved analysing police recorded crime data[42] for each site from the date the development was occupied until June 2014. Each recorded incident at the site (where the street name and house number could be confirmed) was analysed in detail and scrutinised to establish the location of the offence and whether the location in which the incident occurred coincided with the areas which the ALOs had initially outlined as an area of concern. Each site was also visited and photographs taken to assist with the visualisation of the site and to assist with analysis. Additional information and clarification was also sought from each of the LPAs planning websites. Fortunately, the online planning portal (1APP) had been introduced prior to the time these planning applications were submitted. This meant that any document the LPA received regarding the planning application, was logged and stored on their publically accessible planning portal. Reviewing this proved fruitful.

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[42] Recorded crime data for the crime types which are reviewed when compiling the CIS were requested and included: Burglary dwelling; burglary other; criminal damage; less serious wounding; miscellaneous thefts; robbery; serious wounding; theft from motor vehicle; theft from motor vehicle and theft of pedal cycle.

3.5   Rationale for Research Aim 3

Research aim 3 sought to:

> Elicit how representatives from the Local Planning Authorities (LPAs) view the services provided by DFSC.

Although there are a number of key stakeholders involved in the planning process (e.g. architects and developers) ultimately it is the responsibility of the planners to decide whether planning permission is granted. As planners are fundamental in shaping the development of their authority area it was imperative that their views on DFSC were sought. As outlined in chapter two, the conurbation of Manchester comprises 10 LPAs. These are: Bolton, Bury, Manchester City, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan. Although these LPAs are located within the same conurbation, the way in which they operate can vary considerably. It was therefore imperative that a representative from each of the 10 LPAs was contacted to elicit the importance placed on designing out crime and how they engage with DFSC.

3.51   Sampling and recruitment

Each of the 10 LPAs in Manchester was contacted, thus the sampling strategy employed can be described as purposive – each LPA was selected in a strategic manner. Initially, contact was made with the Chief Planning Officer at each LPA and this yielded a number of responses and interviews were conducted with two Chief Planning Officers. In some instances, the Chief Planning Officer suggested that they were perhaps too strategic to comment upon the processes of their LPA working with DFSC and provided the contact information for another member of their team whom they felt would be able to provide comment. Where this occurred, it could be suggested that although the sampling was predominately purposive, there was an element of snowball sampling - where an initial contact was used to establish contact with others (Bryman, 2012). Often, Chief Planning Officers forwarded the invitation to take part in the research to a Planning Officer or a Development Control Officer. In total, representatives from nine of the ten LPAs across Manchester were interviewed. Despite numerous attempts, it was not possible to interview a representative from one LPA.

3.52   Conducting the interviews

Of the nine participants interviewed, face-to-face semi-structured interviews were conducted at the LPA in eight cases. One interview was conducted over the telephone as the respondent was unable to meet because of time constraints. Participants were provided with an information sheet and the aims and objectives of the research and interview explained to them verbally. Participants were then asked to sign a consent form prior to commencing the interview. The interview sought to cover a number of key themes including: what importance the LPA placed on designing out crime; whether there was any reference to designing out crime in the authority's policy and planning documentation and any experience of working with DFSC. A copy of the interview schedule used can be found at Appendix 3. It is important to note that all of the interviews were conducted in January 2011 and prior to the introduction of the NPPF which saw significant changes to the planning system.

3.53   Analysis of interviews

The interviews were recorded, transcribed verbatim and uploaded onto the University of Huddersfield's secure network. Each interview was coded thematically and this was done by hand. Where relevant, content analysis was also used to help quantify references to designing out crime and DFSC in any of the LPAs documentation. Bryman (2012) defines content analysis as "…the analysis of documents and texts that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner" (p.289).

3.54   Limitations and reflective commentary

Although a representative from nine of the ten LPAs was interviewed, it could be argued that the comments and opinions elicited from these participants may not be shared by their colleagues. Although it was not possible to interview a number of planners from each LPA, perhaps this is something which could be considered in the future. This would assist in providing a more representative account of how the planners engage with DFSC. It would also provide an updated account as to how this is done in light of the significant changes to the planning system.

In conclusion to this chapter, and prior to outlining the importance of ethics in the social sciences, Table 4 presents each of the research aims and the methods employed to address them.

Table 4   Overview of the research aims and methods used

Research Aim	Method(s)
<u>Research Aim 1</u> Investigate whether ALOs are able to anticipate the locations at which crimes take place (according to police recorded crime figures) when reviewing the architectural plans for a residential development.	• Semi-structured interviews • Case study
<u>Research Aim 2</u> Examine how designing out crime is delivered across Manchester by GMP DFSC.	• Non-participant observation • Semi-structured interviews • Unstructured interviews • Case studies
<u>Research Aim 3</u> Elicit how representatives from the LPAs view the services provided by DFSC.	• Semi-structured interviews

3.6   Ethics in the social sciences

Ensuring that research is conducted in an ethical manner is imperative for the research participants and those conducting the research. As May (2001) states, ethics are concerned with "what is right or just, in the interests not only of the project, its sponsors or workers, but also others who are the participants in the research and the role of research in society" (p. 59). The research presented in this thesis was reviewed by the University of Huddersfield Social Research Ethics Panel (SREP) prior to any data being collected. The research adhered to the University's ethical guidelines and the code of ethics as outlined by the British Society of Criminology (2015).

3.61   Harm to participants

A fundamental ethical principle is that research participants are not subjected to any physical or emotional harm. As Kraska and Neuman (2008) state "researchers need to be aware of all potentials for harm and abuse and minimize them at all times" (p. 115). Prior to commencing

any interview, the participant was informed that they were able to terminate the interview at any time and without reason, thus providing the participant with the right to withdraw.

3.62   Confidentiality and anonymity

Confidentiality is a key ethical consideration and it is important to ensure that any information provided by a participant cannot be attributed to them. Berg (2009) defines confidentiality as an "active attempt to remove from the research any elements that might indicate the subjects' identities" (p. 90). All participants were informed at various stages of the research that the data provided by them would be treated as confidential. Indeed, it was noted that a small number of participants (approximately 6) sought to be reassured of this throughout their interview. Punch (2014) states that confidentiality and anonymity are linked and that any identifiable information from the data should be removed to ensure anonymity. Throughout this thesis all participants, case study locations, police forces[43] and LPAs are referred to by pseudonym to ensure that both participants and locations remain unidentified. No information on the annotated plans can be traced to an individual participant.

3.63   Informed consent

Prior to collecting any data, each participant was asked to read a project information sheet and to sign a consent form. Obtaining informed consent ensures that the participant is fully aware of the aims and objectives of the research and asks for their voluntary agreement to participate (Kraska & Neuman, 2008). Gray (2014) states that an information sheet should contain useful and meaningful information and avoids any unnecessary jargon. Each participant was provided with a short debrief and provided with the contact details of the researcher should they wish to withdraw from the study after they had participated in the interview. No participant requested that data was withdrawn. It was made clear on the informed consent form that the data collected during the interviews may be disseminated in research papers and conferences. No participant objected to this.

3.64   Storage of data

The data is stored in accordance with the Data Protection Act 1998. All electronic data is stored on the University of Huddersfield's secure network which is password protected. All

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[43] Aside from GMP.

digital audio recordings were deleted from the researcher's Dictaphone once uploaded onto the secure network. The network is backed up daily, therefore there is minimal risk that the data will be lost. Any hard copies of data (e.g. case study exercise annotations) are stored in a secure, locked cabinet in the researcher's office at the University of Huddersfield. Only one other member of staff shares the researcher's office and the office is locked when it is vacant. The data will be held for a period of 5 years after the submission of this thesis. After this, all data will be deleted and any hard copies of data will be disposed via the University's internal confidential waste paper disposal system.

3.65 Researcher safety

In addition to considering the impact the research may have on a participant, it is equally important to ensure the safety of the researcher conducting the fieldwork. A University risk assessment and management form was completed to list all possible risks and measures to be implemented to mitigate any risk. The researcher's Director of Studies was always informed when any fieldwork was being conducted and the expected duration of this. All fieldwork was undertaken with another individual and interviews were conducted in a place where others were present (e.g. LPA office).

This chapter has sought to outline the methodology and methods that have been employed to meet to aims and objectives of this thesis. Each ensuing chapter presents pertinent findings to examine the delivery and application of CPTED across England and Wales.

Chapter Four: Is it just a guessing game? Assessing how well ALOs anticipate crime locations

4.1　Introduction

Any profession claiming to exhibit skilled performance must be able to identify problems. For example in medicine, diagnosis involves assessing the symptoms presented by the patient and anticipating what may happen under a range of different treatments. The equivalent process for ALOs is to look at housing plans and anticipate the likely crime consequences.

A thorough examination of the relevant literature and queries to practitioners reveals that the capacity of ALOs to anticipate crime locations has not been formally tested. Until it is, the skill cannot be claimed, yet it is central to the process of building crime resistant housing and refining the relevant predictive skill. One person with whom the writer discussed this point said: "*You need to know whether ALOs are more like astronomers or astrologers*".

Attempting to establish whether ALOs are able to *predict* the locations of crime is, in principle, very simple. One way would be to elicit their predictions of crime from plans for homes that have yet to be built and wait for a considerable amount of time (perhaps a decade) to find out whether they were correct. To shortcut the process, one can provide ALOs with information about a development which has already been built and occupied, but with which they are unfamiliar. This approach was taken here. ALOs were shown the original plans and told nothing about the development itself, which is located in a different force area. They were asked to nominate the parts of the development they believe would prove problematic and experience incidents of crime and disorder, if built as planned. The approach was an attempt to simulate (as closely as possible) what their everyday task would be in commenting on proposed developments. The predicted and actual crime locations would then be compared, to test whether the predicted locations coincided with those which had suffered crime.

The point will be repeatedly stressed that the work reported in this chapter is original and as such, it is exploratory. The results are correspondingly tentative. A refined approach based on what is reported here, applied on a wider scale, is seen as fundamental to evidence-based progress towards crime reductive housing.

It was never thought that prediction of crime locations would be or could ever be perfect. Security is not the only determinant of victimisation. Who lives in the homes built and how they are maintained are among a host of variables pertinent to risk. This is an argument for a larger study of a number of developments some of which suffered a higher rate of crime than the development used here. However, for the present study, one would still wish for the victimised locations to be more often selected as vulnerable, if design contributes to risk.

The possible outcomes of the research reported in this chapter are:

i)   that the skill of anticipating crime locations is not evident in ALO judgements;

ii) that ALOs possess the skills to varying extents, implying the need for a research-based training enhancement;

iii) that ALOs possess the skill to a uniformly satisfactory extent.

Because this kind of exercise has not been attempted before, there were a number of issues which are documented throughout this chapter. If starting again, the approach taken would have been somewhat different. That said, the writer remains convinced, that this approach affords the best way of developing a valid and innovative method of testing and monitoring ALO skills, and that such assessment is absolutely essential for the task of building homes that are crime-resistant.

4.2   Data and respondents

The data available for analysis comprised the following: i) the site plan for one residential development (Development X) of forty-five dwellings and ii) the recruitment of twenty-eight ALOs. The twenty-eight ALOs comprised: ten retired police officers; eight police civilian staff; five serving police officers and five former built environment professionals. As stated in chapter three, the most experienced ALOs were recruited to undertake the exercise. The rationale for selecting the most experienced was that they had spent longer in post, had probably assessed a greater number of plans and therefore were likely to have experienced successes and learned from mistakes. Thus, they were those most likely to exhibit the relevant predictive skill. Nevertheless, the author is aware that this has potential weaknesses.

For two crime categories (property crime and vehicle crime), each of the twenty-eight ALOs assessed each of the forty-five dwelling locations for vulnerability to that specific crime type. Vehicle crime was located by reference to dwelling proximity. To clarify, each dwelling had an allocated car parking space. As vehicle crime data often fails to record the exact location where the vehicle was parked at the time of the offence, it is assumed that the vehicle was parked in its allocated space, unless stated otherwise.

For each ALO, one has a set of locations defined as problematic for property crime and vehicle crime and the number of locations at which it is predicted that crime may occur. These locations were identified by participants by freehand annotation of the site plan for Development X. Each ALO had a fresh and identical site plan. So, the data comprised twenty-eight paper site plans each with an ALO's annotations in coloured marker traces (blue indicating the location of possible property crime and green for possible vehicle crime). The participants were not asked to identify specific crimes within a type (e.g. burglary dwelling or theft of motor vehicle). They were simply asked to annotate areas they felt were vulnerable to 'property' crime and, separately to 'vehicle' crime. The justification was twofold. First, it was considered far too detailed to analyse the results for each specific crime type. A participant may have identified a location as vulnerable to burglary dwelling when it did not experience burglary dwelling, but it did experience burglary other. Therefore, they still identified the location as risky to that crime type they got the crime type correct (i.e. property crime) but not the specific crime type. Second, when conducting the pilot, it became evident that this part of the interview was potentially very time consuming. To specify that respondents identified locations to specific crime types would have unduly extended interview length.

4.21   Data analysis

In terms of analysis, the judgements made by the 28 ALOs were analysed against police recorded crime data from the force in which the site was located (Force X). The data obtained from Force X comprised the following four offence types (burglary dwelling, burglary other, theft of motor vehicle and theft of motor vehicle), which residential CPTED most commonly seeks to reduce. The data obtained were for a four year period (June 2006 to June 2010). The data types are displayed in Table 5.

Table 5   Data obtained from Force X

Aggregate crime type	Specific crime type
Property crime	1. Burglary dwelling
	2. Burglary other
Vehicle crime	3. Theft of motor vehicle
	4. Theft from motor vehicle

For the reasons stated above, analysis was performed using the aggregate crime type. Thus, in terms of property crime, crime data for burglary dwelling and burglary other were collapsed to form 'property crime'.

The data collected from the 28 participants were entered into a spreadsheet. Variables included the number of locations (defined as the nearest street address) deemed to be vulnerable and this judgement was made separately for i) property crime and ii) vehicle crime. The number and location of crimes of each type which were recorded during a four year period by Force X was added. The number of locations each ALO correctly identified from those they judged vulnerable was also included.

4.22   Development X

Development X comprises 41 individual properties and four blocks of flats. As shown in Figure 6, most housing in Development X is terraced with rear garden boundaries abutting public rights of way. Car parking provision was predominantly in the form of communal car parking with allocated spaces for residents and visitors. Each of the four blocks of flats consisted of twelve individual flats. Each block had two communal access points to the front and whilst there were no communal access points to the rear, each of the ground floor flats had an individual set of patio doors. No demarcation (i.e. a wall or fencing) existed between each of the four blocks of flats and similarly, there was no demarcation between the flats and the public rights of way serving the flats. This was apparent in the plan. Thus, the sides and rear of the flats provided both pedestrian and vehicular access along with access to the communal facilities (namely bicycle and waste storage). Development X was bounded by residential housing to the north, industrial property to the east and south and a main commuter road and residential housing to the west.

Figure 6   Ariel image of Development X

Although there were twelve flats within each of the four blocks (a total of 48 individual flats), each block rather than each individual flat was considered as the unit of analysis. This has obvious limitations but was unavoidable, this was to compensate for the fact that in some instances police recorded crime data relating to blocks of flats or apartments can lack detail. As Armitage *et al* (2011) found in their comprehensive evaluation of 2192 individual properties, often crimes cannot be attributed to an individual flat nor the apartment block in which the flat is located. Also, in the current study the plans provided for the study did not distinguish individual flats, so there was no alternative to treating the block of flats as a single address. Obviously, this has implications for analysis which will be set out in due course.

There are several questions addressed in the analysis which include:

i)   *What was the distribution of the number of locations chosen by individual ALOs? In other words, do respondents identify different numbers (and hence proportions) of the development as problematic. This is important because of the practicalities of the*

planning process. If an ALO chooses a large proportion of the locations as problematic, it is doubtful whether architects and planners will value the expertise of the ALO and make the proposed alterations to the development as recommended by the ALO. For example, if an ALO identifies the majority of locations as vulnerable, the scale of changes necessary to meet ALO concerns may be such as to dissuade planners from implementing them. An ALO who makes fewer identifications of vulnerable places is perhaps more likely to have advice considered.

ii)   *Was there consensus in the locations chosen by ALOs?* For example, were there locations that all ALOs deemed problematic? The extremes would be: complete consensus as to whether a location is vulnerable or random selection such that one ALO's judgement is unpredictable from another ALO's selection.

iii) *Were the locations chosen by most ALOs in fact those victimised*? This establishes whether ALOs *in the aggregate* can anticipate crime locations better than chance.

iv)   *What was the range of success rates for individual ALOs*? This indicates whether and how ALOs varied in their capacity to anticipate crime locations.

v)   *How well did ALOs perform in distinguishing victimised from non-victimised locations?* This is different from a comparison of success rates because it adjusts for the number of locations deemed problematic.

vi)   *To what extent did ALOs over predict locations as vulnerable, when they did not experience crime (false positive) and under predict locations as vulnerable, when they did experience crime (false negative).* This tests whether ALOs are either over-cautious or otherwise in their assessment of vulnerability. This may impact upon: i) the extent to which both necessary and unnecessary alterations might be advised before the build and ii) the subsequent impact on residents and police calls for service (should ALOs fail to identify victimised locations as vulnerable).

vii)   *What distinguished the approach of the best performing ALOs from their less skilful colleagues.* If there is a range of ALO performance, it is of practical importance to identify where the skills of the best performing practitioners lie.

Prior to presenting the findings, a summary of the types and number of offences recorded at Development X during the four year period of analysis is provided.

4.3   What crime was committed at Development X?

At the start of the interview each participant was asked to review the site plan for Development X and describe what they perceived to be the positive and negative aspects of its design and layout in relation to crime and disorder. At this point in the interview, the participants were unaware of any of the police crime data which had been recorded at Development X. Upon reviewing the site plan, all of the 28 participants predicted that vehicle crime, rather than property crime, would be the key issue at Development X. This proved to be the case, with only 8 property crimes[44] recorded over the four years of full occupancy from June 2006 to June 2010, whilst there were 57 vehicle crimes[45]. This incidentally confirmed the concerns raised by the ALO who was initially responsible for commenting on the planning application for Development X. This ALO was not part of the sample, but the ALO employed by Force X who was responsible for commenting on Development X when it was submitted as a planning application. His comments and concerns are included below, where relevant. The following section details the offences which were recorded by Force X at Development X from June 2006 to June 2010.

4.31   Burglary dwelling

In the four years when the development of 45 addresses was fully occupied, two burglaries were recorded at Development X, at two separate locations. This equates to an annualised rate of 1 per cent. The average annualised rate for police recorded crime for burglary dwelling in the local community safety partnership (CSP) area[46], of which Development X

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[44] For the purpose of this chapter, property crime refers to burglary other and burglary dwelling.

[45] For the purpose of this chapter, vehicle crime refers to theft of and theft from motor vehicle.

[46] The aggregate police recorded crime data for the CSP area, of which Development X was located, was provided to the author by Police Force X. The author was also provided with the aggregate data at the BCU level, but upon examination, the BCU data encompassed three BCU areas. Thus, it was

was located, was 1.2 per cent[47]. Thus, and fully aware that it is mistaken to say anything with such small numbers, the burglary rate on Development X was slightly lower than that for the surrounding CSP area. Of course, one could argue that new homes generally may have a lower rate of burglary victimisation and this warrants further research. The information obtained from the police recorded crime data for each incident is displayed in Table 6.

Table 6   Two recorded burglary dwelling offences at Development X

Incident number	Date of incident	*Modus operandi*
1	November 2004	*None recorded.*
2	June 2004	Smashes window of ground floor flat[48].

4.32   Burglary other

Seven burglary other offences were recorded between June 2006 and 2010. This equates to an annualised rate of four per cent. Six of the seven offences could be attributed to a specific property with the offences occurring at four separate locations (two locations experienced two burglary other offences). Unfortunately, it is not possible to compare this to the annualised rate for the CSP as these figures were unavailable. The information obtained from the police recorded crime data for each burglary other incident is displayed in Table 7.

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considered appropriate to use the CSP area as the unit of analysis, to ensure that a more local and accurate assessment of the pertinent crime trends could be made.

[47] It is also important to state that this figure includes attempted burglaries. It was not possible to separate successful burglaries from attempts.

[48] The crime data did not reveal which ground floor flat.

Table 7   Six recorded burglary other offences at Development X

Incident number	Date of incident	*Modus operandi*
1	October 2004	*None recorded.*
2	December 2004	
3	January 2006	Steal bike from communal entrance but no idea of how entrance gained.
4	May 2006	Use implement to break into shed after climbing 6ft fence.
5	August 2007	Unknown offenders approach cycle shed in premises of comps home and gain entry by u/k means and remove cycle and make off unseen unheard in U/K direction.
6	April 2010	Offenders approach secure shed in garden of house in city residential area and enter by unknown means and steal property from within.

In total over the four year period of analysis, a total of 6 locations experienced property crime.

Comments from the initial ALO[49] responsible for commenting on Development X when submitted as a planning application:

The ALO expressed concerns about the security of the rear of each dwelling. The ALO felt that many of the properties did not have sufficient defensible space and asked for this to be revised.

> *The perimeter of the site and all rear gardens should be secured with a robust fence…It is important that garden areas are clearly defined by fence or wall so as to create areas of defensible space. Gardens to the rear of* [some] *plots appear to be part open plan, thereby making it easy for the would be criminal to make access to all rear gardens with relative ease.*

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[49] It is important to reiterate that this ALO did not form part of the sample.

4.33   Theft from motor vehicle

Between June 2006 and June 2010 there were 48 theft from motor vehicle (hereinafter TFMV) offences recorded at Development X which equates to an annualised rate of 27 per cent. The average annualised rate for police recorded crime for TFMV in the CSP area over the four years was 2 per cent.

4.34   Theft of motor vehicle

There were 9 theft of motor vehicle (hereinafter TOMV) offences recorded at Development X over the four year period. This equates to an annualised rate of 5 per cent. The average annualised rate for police recorded crime in the CSP area over the four years was 0.5 per cent.

If one combines these vehicle-related theft offences (TFMV and TOMV), it equates to an annualised rate of 32 per cent. The average annualised rate for police recorded crime for vehicle-related theft offences in the CSP area over the four years was 2.5 per cent. Thus, the rate of recorded vehicle-related theft offences at Development X was over twelve times the rate for the CSP area, a difference unlikely to be accounted for by differences in the number of vehicles per dwelling.

It is important to note that although in total there were 57 vehicle offences (TFMV and TOMV) recorded at Development X; unfortunately only 39 of these offences could be assigned to a specific property. This comprised: 34 TFMV and 5 TOMV. The remainder of the crimes (18) did not contain any information relating to the exact location of the offence and thus could not be included in the analysis. A close examination of the property number and street address revealed that the 39 offences could be located to 22 different locations. The information obtained from the police recorded crime data relating to these offences are presented in Appendices 4 and 5.

Comments from initial ALO:

Vehicle crime was the main concern of the initial ALO. This was documented in communications to the LPA. The ALO was concerned that the use of car parking courtyards was excessive and that these areas did not provide adequate levels of surveillance over the car

parking areas. Overall, the ALO was concerned by the open plan nature of the development and therefore concluded that:

> *It is my professional opinion that there is the potential for this development to suffer from a high incidence of crime, particularly relating to vehicle crime.*

4.35   A word of warning

Prior to presenting any findings, it is important to make the reader aware of the following three points. First, the data used for this analysis was police recorded crime data for a four year period (July 2006-June 2010). Therefore, it might be the case that locations which have been identified by the ALOs as being vulnerable to crime may not have experienced crime during the period of analysis. However, this does not mean that the location has not experienced crime since 2010, or that it will not experience any crime during its lifetime.

Second, the language used in the following sections is perhaps over-pejorative. For reasons of brevity, the language of *correct* and *incorrect* predictions permeates the text, but this is unfair to the ALOs concerned for the following reasons:

i)   They were asked to identify vulnerability not the definite future occurrence of an offence.
ii) Other factors (e.g. residents whose lifestyle is conducive to victimisation) may lead to crime in homes whose location and design is not intrinsically vulnerable.

However, it remains the case that if ALO skills exist, they should be better than chance in anticipating crime vulnerability. How much better than chance is currently unknown and is lacking from the body of knowledge on CPTED. The present research is a first step towards establishing the extent of this. Third, some of the offences used for this analysis may have been committed through insecure doors and windows, by known acquaintances or where an opportunity has been clearly identified by a person with criminal intent. So to reiterate, whilst space and security are not the only determinants of victimisation, one would still wish for the victimised locations to be more often selected as vulnerable.

The analysis will be presented as follows. First, the locations identified as vulnerable to property and vehicle crime and the crime recorded at Development X during the four year period will be analysed in the aggregate. This attempts to show whether ALOs are able to identify locations as vulnerable to crime, irrespective of the crime type that location experienced. The analysis in the aggregate therefore asks whether the locations identified as vulnerable to either property or vehicle crime experienced any of these crime types. This will examine to what extent all of the 28 ALOs were able to identify the locations which were victimised. Following this, detailed analysis of how the ALOs performed in determining the locations of property crime and vehicle crime will be presented.

4.4   Crime in the aggregate

During the period of analysis, the following property and vehicle crime was recorded by Force X: i) two burglary dwelling; ii) six burglary other; iii) thirty-four theft from motor vehicle and iv) five theft of motor vehicle. These 47 offences occurred at 23 different locations. Therefore, on average half of the development experienced at least one crime during the four year period of analysis.

4.41   Number of locations identified as vulnerable to crime by ALO

The number of locations identified by the ALOs as vulnerable to crime[50] varied astonishingly, from nine to thirty-six (mean 23.9, standard deviation 8.2). As stated above, in the aggregate there were 23 different locations. As shown in Figure 7, two ALOs identified 9 locations as vulnerable; two ALOs identified between 10 and 14 locations as vulnerable; 3 identified between 15 and 19 locations; 7 identified between 20 and 24 locations vulnerable; 7 identified between 25 and 29 locations vulnerable; 4 identified 31 to 34 locations vulnerable and 3 identified between 35 and 36 locations vulnerable.

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[50] Throughout section 4.4, 'crime' refers to both property and vehicle crime.

Figure 7   Number of locations ALOs identified as vulnerable to crime
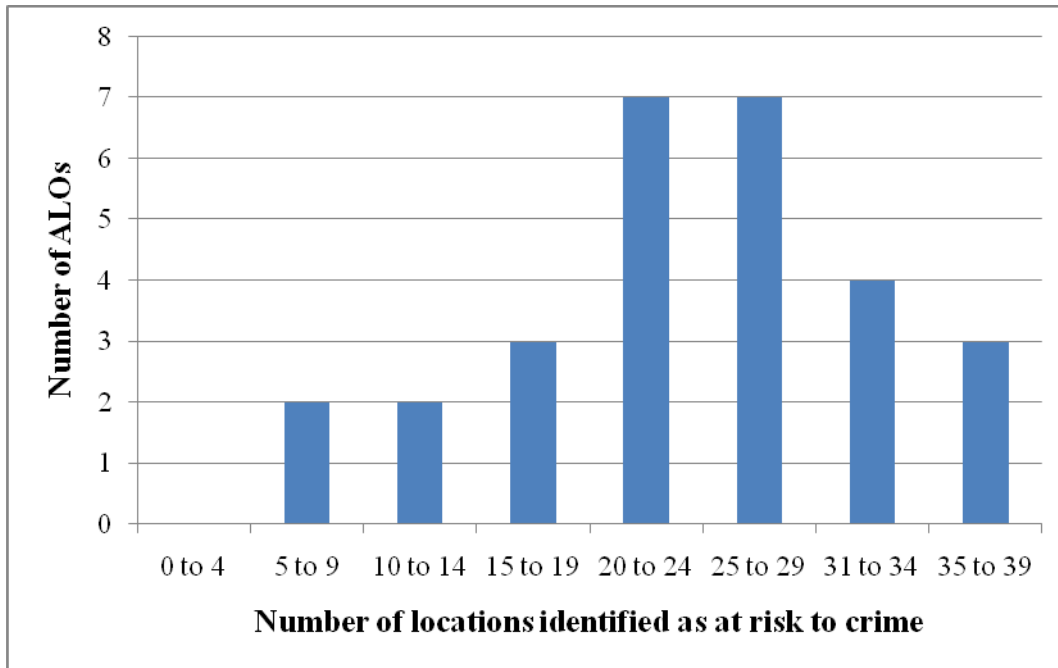
4.42   Number of locations identified as vulnerable by individual property

Figure 8 is a site map of Development X. The number on each property denotes the number of ALOs identifying that location as vulnerable to crime. The 23 locations which did experience crime during the four year period of analysis are identified with a blue asterisk. These locations comprised: i) the four blocks of flats; ii) 17 terraced houses (which were all readily accessible from the rear either from the public realm or a rear access footpath) and iii) two semi-detached houses. As shown in Figure 9, all 45 locations were identified as vulnerable to crime by at least one ALO. Each of the four flats was assessed as vulnerable by the majority of ALOs. Twenty-four ALOs deemed location D24[51] as vulnerable; 25 deemed D23 as vulnerable; 26 deemed D25 as vulnerable and all 28 ALOs deemed D22 as vulnerable. Each of these four locations did experience crime. It is interesting to note that whilst the majority of the 28 ALOs identified the flats as vulnerable to crime, a small proportion did not.

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[51] Each location is referred to by pseudonym – an individual dwelling identifier (e.g. D31).

Figure 8 Map indicating number of locations identified as vulnerable to crime

The data are displayed in Figure 9 with the 23 victimised locations shown in red. Locations which were identified as vulnerable, but did not experience crime are shown in blue. This shows that all 45 locations were identified by at least one ALO. It is important to note that four of the victimised locations were identified as being vulnerable by the majority of the sample. Thus, 100% of the sample deemed D22 as vulnerable; 93% deemed D25 as vulnerable; 89% deemed D23 as vulnerable and 86% deemed D24 as vulnerable. It is encouraging to note that four of the victimised locations were identified by the majority of the sample which shows that there was some degree of consensus amongst the sample. Conversely however, many locations were deemed vulnerable by ALOs which did not experience crime during the period of analysis (i.e. D15).

4.43   Can ALOs in the aggregate predict the location of crime?

Whilst the data presented in Figure 9 shows the locations ALOs deemed to be most vulnerable to crime, it is important to identify the extent to which ALOs can identify the locations which had been victimised during the period of analysis. As shown in Figure 7, the sample of 28 ALOs deemed between 9 and 36 locations as vulnerable to crime. From these predictions, the ALOs were able to correctly predict between 5 and 21 of the 23 victimised locations. None of the 28 ALOs was able to predict all of the 23 victimised locations. One participant correctly predicted 21 locations; 3 participants correctly predicted 19 locations; 4 participants correctly predicted 18 locations; 1 participant correctly predicted 17 locations; 1 participant correctly predicted 16 locations; 5 participants correctly predicted 15 locations; 2 participants correctly predicted 14 locations; 2 participants correctly predicted 13 locations; 3 participants correctly predicted 12 locations and one participant predicted 11, 9, 8, 7, 6 and 5 locations. The data are displayed in Table 8. What this shows is that the majority of ALOs (n=22) were able to identify at least 12 of the victimised locations from those they deemed vulnerable.

Figure 9   Number of ALOs identifying locations as vulnerable to crime
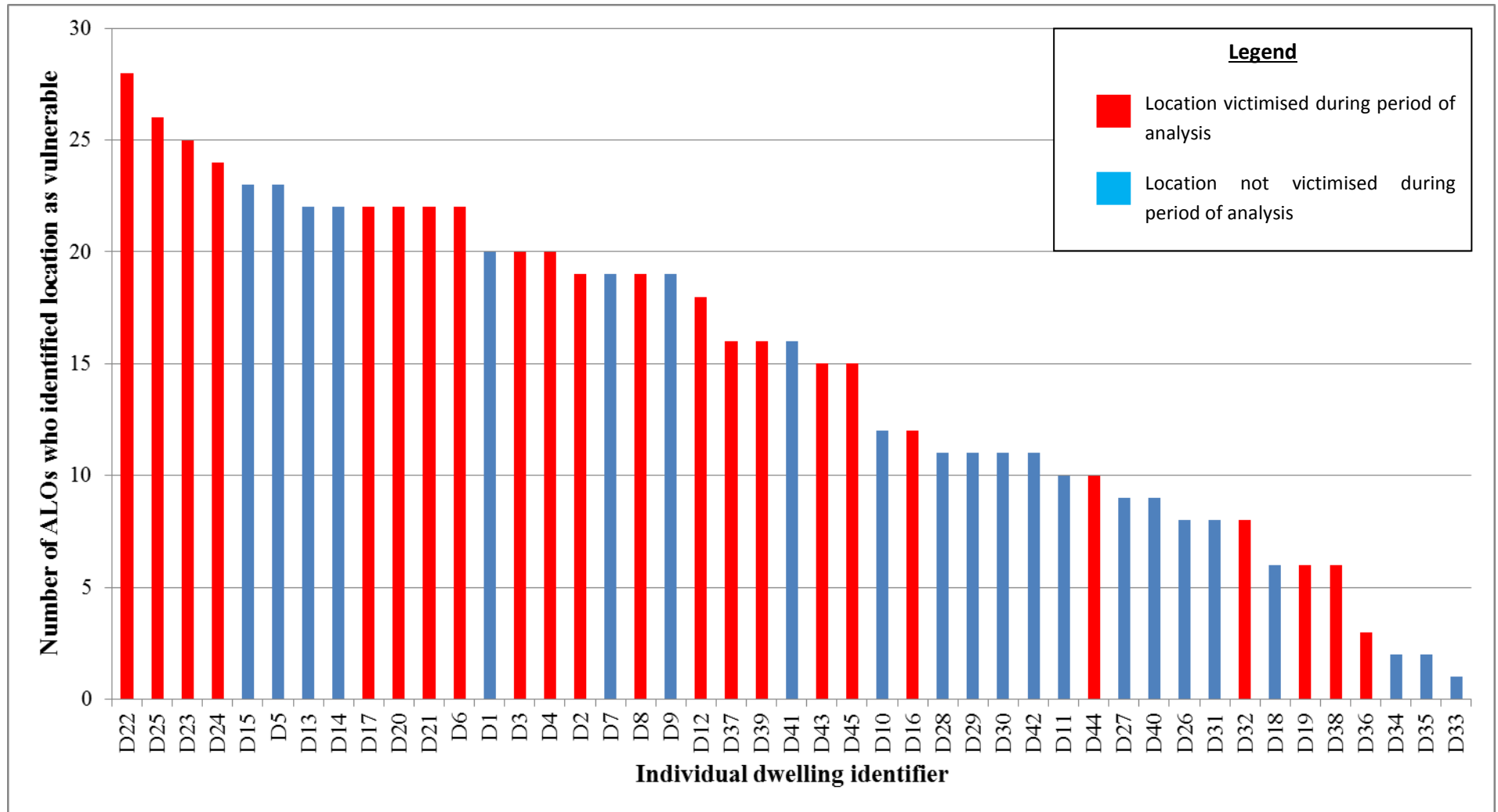
Table 8   Number of crime locations correctly identified as vulnerable by ALOs

Number of locations correctly identified as being vulnerable and were victimised	Number of ALOs identifying locations as vulnerable
21	1
19	3
18	4
17	1
16	1
15	5
14	2
13	2
12	3
11	1
9	1
8	1
7	1
6	1
5	1

In addition to identifying what proportion of ALOs correctly identified the victimised locations, it is important to examine the range of predictions made by the participants in the aggregate. In total 1,260 predictions (28x45[52]) were made to identify which locations were vulnerable to crime and which were not. These predictions are presented in Table 9. It shows that a total of 669 predictions were made identifying locations vulnerable to crime with 394 (59%) of these being correct (during the period of analysis the location was victimised). The remainder of predictions (n=275) identified locations which were deemed vulnerable but did not experience any incidents of crime during the period of analysis. When these findings are reviewed in isolation, they suggest that ALOs are able to accurately predict the locations of crimes and whilst they were over cautious in their assessment of vulnerability in 275 predictions, the majority of their predictions were correct. When one focuses upon those locations that did experience a crime, 394 predictions were correct in that a location identified by the ALO as being vulnerable had been victimised during the four-year period of analysis. Conversely, 250 predictions were made which indicated that locations were not vulnerable to crime, when in fact they had been targeted during the period of analysis. Therefore, of the total number of predictions about the locations which were victimised

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[52] The number of ALOs (n=28) multiplied by the number of locations at Development X (n=45).

during the period of analysis (n=644), 61 per cent of these were accurate (n=394) they did experience crime during the period of analysis. However, 39 per cent of the predictions (n=250) were not accurate as these locations were not identified as vulnerable but they did experience a crime during the period of analysis.

Table 9   Contingency table of total (i.e. an aggregate) of recorded crime and identification as vulnerable

	Identified as vulnerable	Not identified as vulnerable	TOTAL
Victimised	394	250	**644**
Not victimised	275	341	**616**
TOTAL	**669**	**591**	**1260**

Whilst it is important to elicit the proportion of ALOs correct in predicting the location of the 23 crimes, it is also essential to examine how many non-predictions were accurate (i.e. how many locations were not deemed vulnerable and did not experience crime during the period of analysis). This is important to ensure that ALOs are not over cautious in the advice and recommendations made. By excluding the predictions made for the 23 locations which were victimised, it was possible to identify locations which were not deemed vulnerable. As shown in Table 9, 341 predictions were made that locations were not vulnerable to crime and indeed these were not the location of any crime during the period of analysis. This suggests that the ALOs were able to correctly identify the locations which were not vulnerable and therefore did not require any alterations or target hardening.

When aggregating the predictions shown in Table 9 it suggests that ALOs were able to identify the locations of the victimised and non-victimised locations better than chance. A chi-square test was performed to examine the relationship between the predictions of vulnerability made by the ALOs. The relationship between these variables was significant, X^2 (1df, $N = 1260) = 34.574$, $p<0.05$.

In addition to assessing the overall performance of ALOs, it was important to assess individual ALO performance. This is useful in examining the way in which the best performers went about the task of assessing vulnerability and it is envisaged that this may

prove useful for the future direction of CPTED, CPTED related training and Continued Professional Development (CPD).

4.44   Individual ALO performance in predicting the location of crime

Looking at the *individual* performances of ALOs shows a range of results. Between 5 and 21 of the 23 locations were correctly identified by the ALOs, thus no participant identified all of the 23 locations. Whilst over three quarters of the sample (79%) were able to correctly predict at least 12 of the victimised locations, this does not consider the number of locations deemed vulnerable by the participant in relation to the total number of locations in Development X. For example, it could be argued that opposed to applying their skill and expertise, the participant merely adopted an all-encompassing, 'scatter-gun' approach deeming the entire development vulnerable, which would obviously include the selection of the victimised locations. Thus, it was important to examine the findings for each individual ALO in more detail before inferring accuracy. To do this, three forms of analysis were undertaken. Each of these forms of analysis will be outlined below and the findings presented. It is important to note that as the following sections focus upon individual ALO performances, the findings include the background of the participant and identifies if they are: i) a serving police officer; ii) a retired police officer; iii) police staff (a civilian with no operational policing experience) or iv) a former built environment professional.

First, a percentage was calculated for each ALO to examine what proportion of the locations they deemed vulnerable were in fact victimised during the period of analysis. In short, their success rates were calculated. As shown in Figure 10, this revealed a range of results from 80% to 50%. Table 10 displays further information about the three top scoring ALOs from this analysis: Participants 17, 23 and 28. Participant[53] 17 (a former built environment professional) deemed 10 locations to be vulnerable and eight of these locations experienced crime during the period of analysis, equating to a success rate of 80%. P23 (retired police officer) deemed 21 locations to be vulnerable and 15 of these locations experienced crime, a success rate of 71%. P28 (retired police officer) also had a success rate of 71% after correctly identifying 12 out of 17 locations as vulnerable.

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[53] Hereinafter, all references to individual participants will be marked 'P' with the corresponding participant number.

Figure 10   Proportion of locations correctly identified from those deemed vulnerable for each ALO
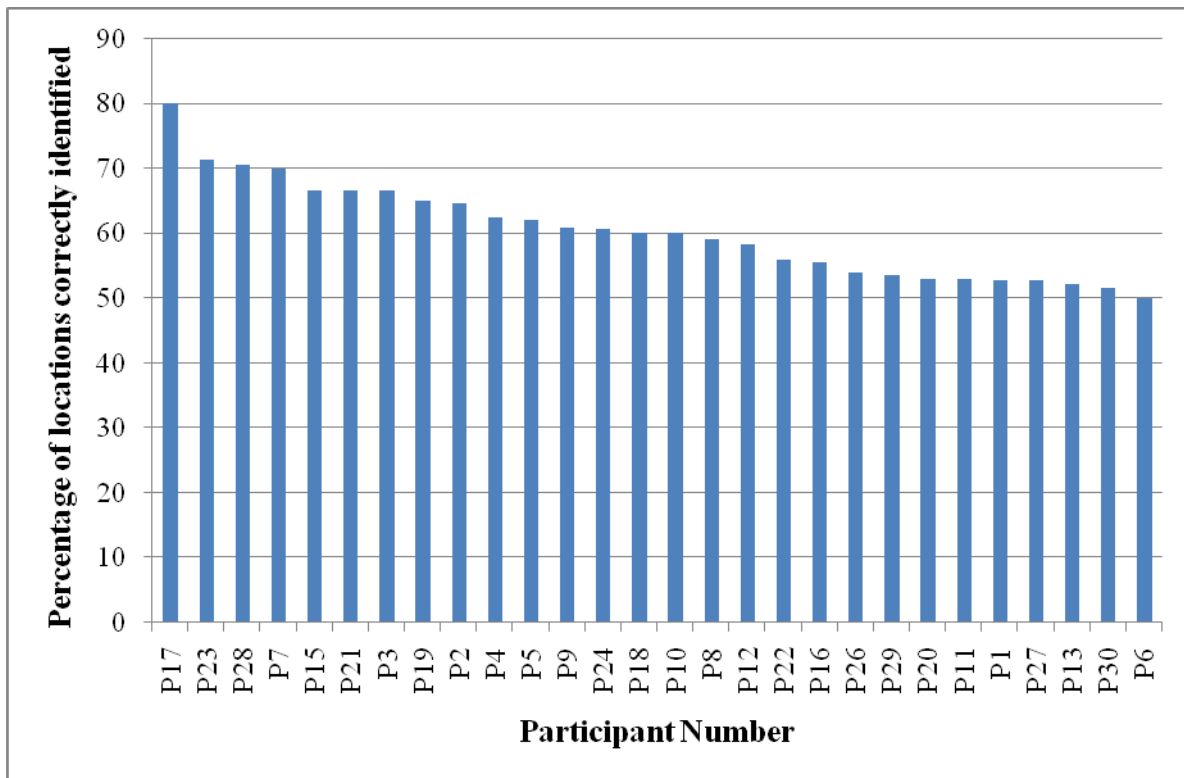
Table 10   ALOs who identified the most locations as vulnerable to crime

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Percentage score
17	Built environment	10	8	80%
23	Retired police officer	21	15	71%
28	Retired police officer	17	12	71%

Second, it was important to assess to what extent each ALO could have *performed better* in distinguishing victimised from non-victimised locations. This is different from a comparison of success rates as it adjusts for the number of locations deemed problematic. This was calculated using a hypergeometric distribution. A hypergeometric distribution involves analysing a selection of success and failures without replacement from a population. A hypergeometric distribution was deemed the most appropriate form of analysis for two

reasons.[54] First, it allows the number of successes and failures to be calculated as a proportion of the sample size and then compares this to the successes and failures in the population. In relation to this thesis, the population is the number of locations at Development X which is 45. The number of successes within the population is the number of elements which possess a certain attribute, in this case the number of locations which have been victimised (n=23). The sample size is the number of individual locations identified by a participant as being vulnerable to crime. A success is a location deemed as vulnerable and at which there is a police recorded crime during the period of analysis. This is displayed in Table 11 for clarification.

Table 11   Data used to calculate hypergeometric distribution

Population size	45 (number of locations at Development X)
Successes in population	23 (number of recorded crimes)
Sample size	Number of locations each individual ALO deemed vulnerable
Successes in sample	Number of locations ALO correctly identifies from the locations they deemed vulnerable

The hypergeometric distribution differs from the binomial distribution as it accounts for the non-replacement. Therefore, once a location is selected (whether a success or not), that location cannot be re-selected. The hypergeometric distribution for each participant was calculated. This included the probability of the participant getting the exact number of successes in the population correct. In addition to this, the cumulative distribution was calculated. This considers the probability of getting *less than* the number of successes correct. Therefore, we have two numbers: i) the probability of getting the precise number correct and ii) the probability of getting less than the number of successes correct. By subtracting these two probabilities from 1 indicates to what extent the participant could have performed better, by chance. The lower this probability, the better the ALO could anticipate crime locations.

The hypergeometric scores were calculated for each ALO. This revealed that for twelve of the 28 participants the probability of them performing better by chance was less than 0.05. This suggests some level of skill in identifying the victimised locations. Table 12 displays the results for the twelve best scoring ALOs using this approach. They identified between 10 and

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[54] The writer is very grateful to Professor Kate Bowers for advice on this approach.

36 locations as vulnerable and correctly identified between 7 and 21 of the victimised locations. Obviously, those participants who deemed more locations as vulnerable successfully identified more of the victimised locations. Participant 23 (police officer) identified 21 locations as vulnerable and correctly identified 15 of the 23 locations. Participants 15 (former built environment professional) and 21 (police officer) identified 27 locations as vulnerable to crime and correctly identified 18 locations. Owing to the number of locations they each deemed vulnerable and the number of locations they correctly identified, each of these three participants had a hypergeometric score of 0.002.

Table 12   ALOs with a probability less than 0.05 in performing better than chance when assessing the vulnerability of locations to crime

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Number of locations correctly identified, as a percentage of those deemed vulnerable	Probability of performing better than chance
23	Police officer	21	15	71%	0.002
15	Built environment	27	18	67%	0.002
21	Police officer	27	18	67%	0.002
17	Built environment	10	8	80%	0.006
28	Retired police	17	12	71%	0.009
12	Police staff	36	21	58%	0.009
5	Police officer	29	18	62%	0.010
19	Retired police	20	13	65%	0.024
24	Police staff	28	17	61%	0.024
4	Retired police	24	15	63%	0.026
2	Retired police	17	11	65%	0.041
7	Retired police	10	7	70%	0.042

As shown in Table 13, the remaining 16 participants had a probability greater than 0.05 (ranging from 0.050^{55} – 0.458). These participants deemed between 9 and 36 locations as vulnerable and correctly identified between 5 and 19 of the victimised locations.

Table 13   ALOs with a probability greater than 0.05 in performing better by chance when assessing the vulnerability of locations to crime

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Number of locations correctly identified, as a percentage of those deemed vulnerable	Probability of performing better by chance
9	Police staff	23	19	61%	0.050
18	Police officer	25	15	60%	0.051
22	Built environment	34	19	56%	0.070
3	Built environment	9	6	67%	0.077
10	Retired police	20	12	60%	0.085
8	Police staff	22	13	59%	0.089
1	Police officer	36	19	53%	0.207
27	Police staff	36	19	53%	0.207
20	Police staff	34	18	53%	0.219
26	Police officer	26	14	54%	0.233
29	Retired police	28	15	54%	0.233
16	Built environment	9	5	56%	0.252
11	Police staff	17	9	53%	0.309
13	Retired police	23	12	52%	0.329
30	Retired police	31	16	52%	0.337
6	Police staff	30	15	50%	0.458

The data presented in Tables 12 and 13 is displayed as a scatter-gram in Figure 11. This confirms that in the aggregate there is inconsistency in the way in which ALOs assess locations as being vulnerable to crime and the extent in which they are correct. As shown in Figure 11, there are two distinct clusters. First are the scores which cluster around the *y* axis. These predominantly comprise the scores for the individual ALOs who could not have performed much better by chance in identifying victimised locations from those they deemed as vulnerable. However, there are a small number of scores (n=6) which were greater than

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[55] This hypergeometric score was 0.0503.

0.05, but less than 0.1. This shows that whilst they could have performed better by chance, they were more accurate than those toward the right of the graph. The 'best performers' are the ALOs at the top left hand corner of the scatter gram.

Figure 11   Probability of individual ALOs performing better against the number of locations identified as vulnerable to crime
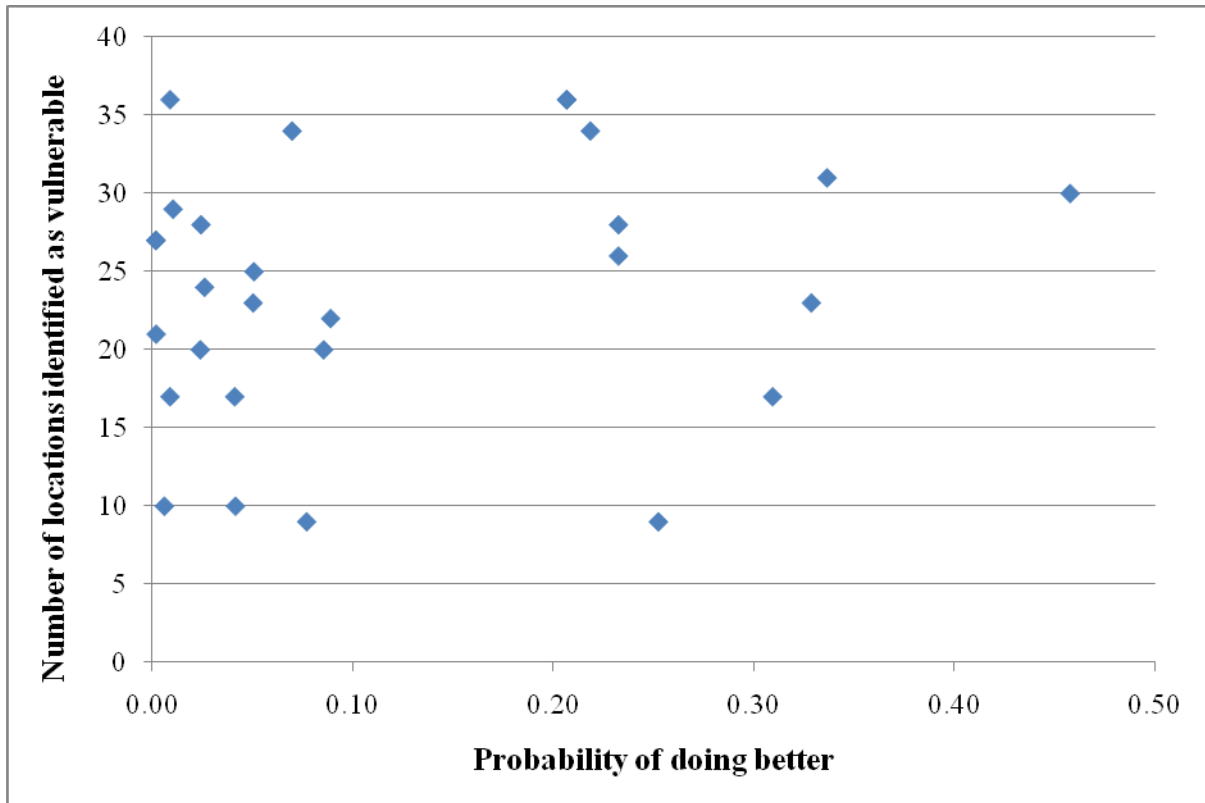
The third and final form of analysis was to examine the extent to which ALOs either over or under predicted locations as vulnerable. This tests whether ALOs are either over-cautious or otherwise in their assessment of vulnerability. It attempts to assess the trade-offs between false positive and false negatives. A false negative is where the ALO did not identify a location as vulnerable, but it did in fact experience crime during the period of analysis. A false positive is where the ALO predicted that crime would occur, but it did not (however, it is important to reiterate that a false positive may become a true positive during its lifetime). The analysis examines the extent to which false positives and false negatives were made.

As shown in Table 9, in the *aggregate* 250 false negative predictions were made and 275 false positive predictions were made. Further analysis was undertaken at an *individual* level

to try and examine varying success each ALO had with correctly identifying victimised locations from those they deemed vulnerable to crime. The number of false positives and false negatives were calculated for each ALO. Table 14 reports these for all 28 participants. The number of false predictions for each ALO was between 14 to 23. Analysis on these data showed that just over half of the ALOs (n=15) over predict the number of vulnerable locations (i.e. the number of locations identified as vulnerable and were not victimised – a false positive; were greater than those areas which were not identified as vulnerable, but did experience crime – a false negative). The analysis revealed that those from a built environment background seemed less likely to over predict but tended to under predict. A tentative suggestion is that those from a built environment background also had better hypergeometric scores.

Table 14   False positive and false negative predictions for each ALO for all crime

Participant number (P)	Background of participant	Number of false positives	Number of false negatives	Total number of false predictions	Hypergeometric score
1	Police officer	17	4	21	0.207
2	Retired police	6	12	18	0.041
3	Built environment	3	17	20	0.077
4	Retired police	9	8	17	0.026
5	Police officer	11	5	16	0.010
6	Police staff	15	8	23	0.458
7	Retired police	3	16	19	0.042
8	Police staff	9	10	19	0.089
9	Police staff	9	9	18	0.050
10	Retired police	8	11	19	0.085
11	Police staff	8	14	22	0.309
12	Police staff	15	2	17	0.009
13	Retired police	11	11	22	0.329
15	Built environment	9	5	14	0.002
16	Built environment	4	18	22	0.252
17	Built environment	2	15	17	0.006
18	Police officer	10	8	18	0.051
19	Retired police	7	10	17	0.024
20	Police staff	6	5	21	0.219
21	Police officer	9	5	14	0.002
22	Built environment	15	4	19	0.070
23	Retired police	6	8	14	0.002
24	Police staff	11	6	17	0.024
26	Police officer	12	9	21	0.233

Participant number (P)	Background of participant	Number of false positives	Number of false negatives	Total number of false predictions	Hypergeometric score
27	Police staff	17	4	21	0.207
28	Retired police	5	11	16	0.009
29	Retired police	13	8	21	0.233
30	Retired police	15	7	22	0.337

4.5   Burglary (dwelling and other)

During the period of concern, two burglary dwelling offences and six burglary other offences were recorded at Development X. These occurred at six separate locations.

4.51   Number of locations identified as vulnerable to burglary by ALO

The number of locations identified by the ALOs as vulnerable to burglary varied greatly, from three to thirty-four (mean 16.9, standard deviation 8.9). As shown in Figure 12, three ALOs identified three or four locations as vulnerable; five ALOs identified between 15 and 19 locations as vulnerable; six ALOs identified between 20 and 24 locations as vulnerable; four ALOs identified between 25 and 29 locations as vulnerable and two ALOs identified between 30 and 35 locations vulnerable.

Figure 12   Number of locations ALOs identified as vulnerable to burglary
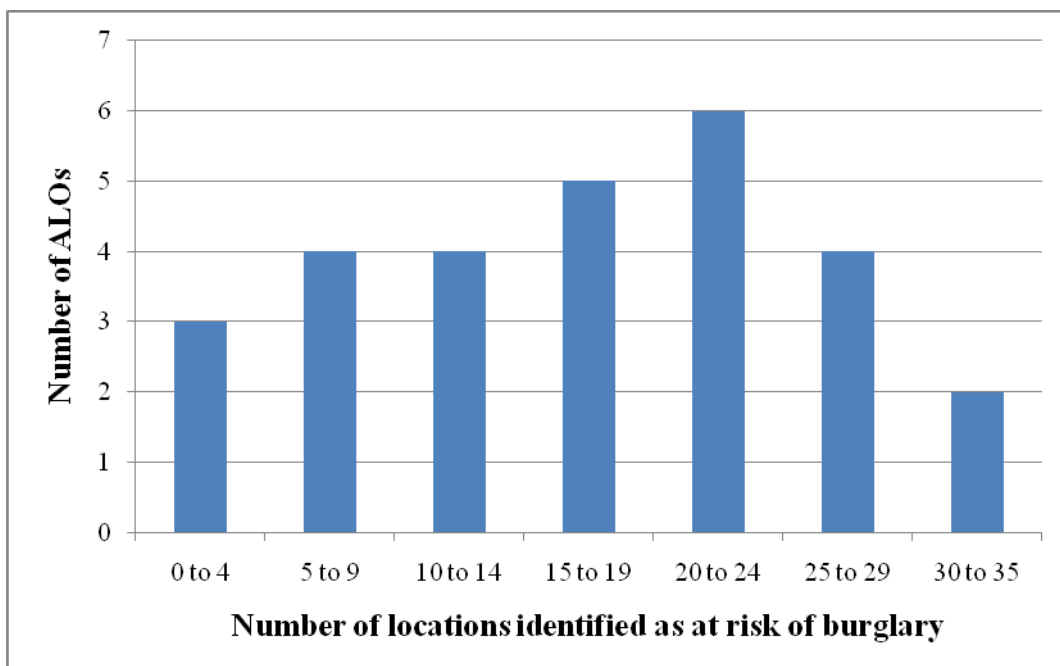
4.52   Number of locations identified as vulnerable by individual property

Figure 13 is a site map of Development X. The number on each property denotes the number of ALOs identifying that location as vulnerable to burglary. The six locations which were burgled are identified with a blue asterisk and comprised three terraced houses (all readily accessible from the rear) and three flats. It is interesting to note that no location was deemed vulnerable by all of the 28 participants, but that each of the 45 locations was identified as being vulnerable to burglary by someone. The one location that was deemed risky by the majority of the participants (n=20) did not experience burglary during the period at issue.

The data are displayed in Figure 14 with the six burgled properties shown in red. Properties which were deemed vulnerable but that did not experience burglary during the period of analysis are shown in blue. Figures 13 and 14 show each of the six burgled locations to have been judged vulnerable by at least 5 ALOs with 18 ALOs (64%) correctly identifying location D12 and 17 (61%) identifying location D23. 15 ALOs (54%) identified location D25; 12 (43%) identified location D8; 11 (39%) identified D24 and 5 (18%) identified location D19. What these data demonstrate is that ALOs lack consensus in their assessment of risk of burglary and ultimately this could impact upon the advice and the extent to which recommendations are made to the client or planning officer. Whilst it is important to note that each victimised location was identified as vulnerable by at least five ALOs, locations that did not experience any crime were also assessed as being risky. This would suggest that ALOs over-predict the risk in their assessment, which could prove potentially very costly for the client who may be required to alter the design of the development and install additional security which might delay the planning process. However, it is important to labour the following point. These findings are based upon police recorded crime data over a four year period. Thus, it might be the case that locations which have been identified by the ALOs as being vulnerable do actually experience crime in the future. However, this still would not address the disparity in which the ALOs identified each of the 45 locations as vulnerable.

Figure 13   Map indicating number of locations identified as vulnerable to burglary

Figure 14   Number of ALOs identifying locations as vulnerable to burglary
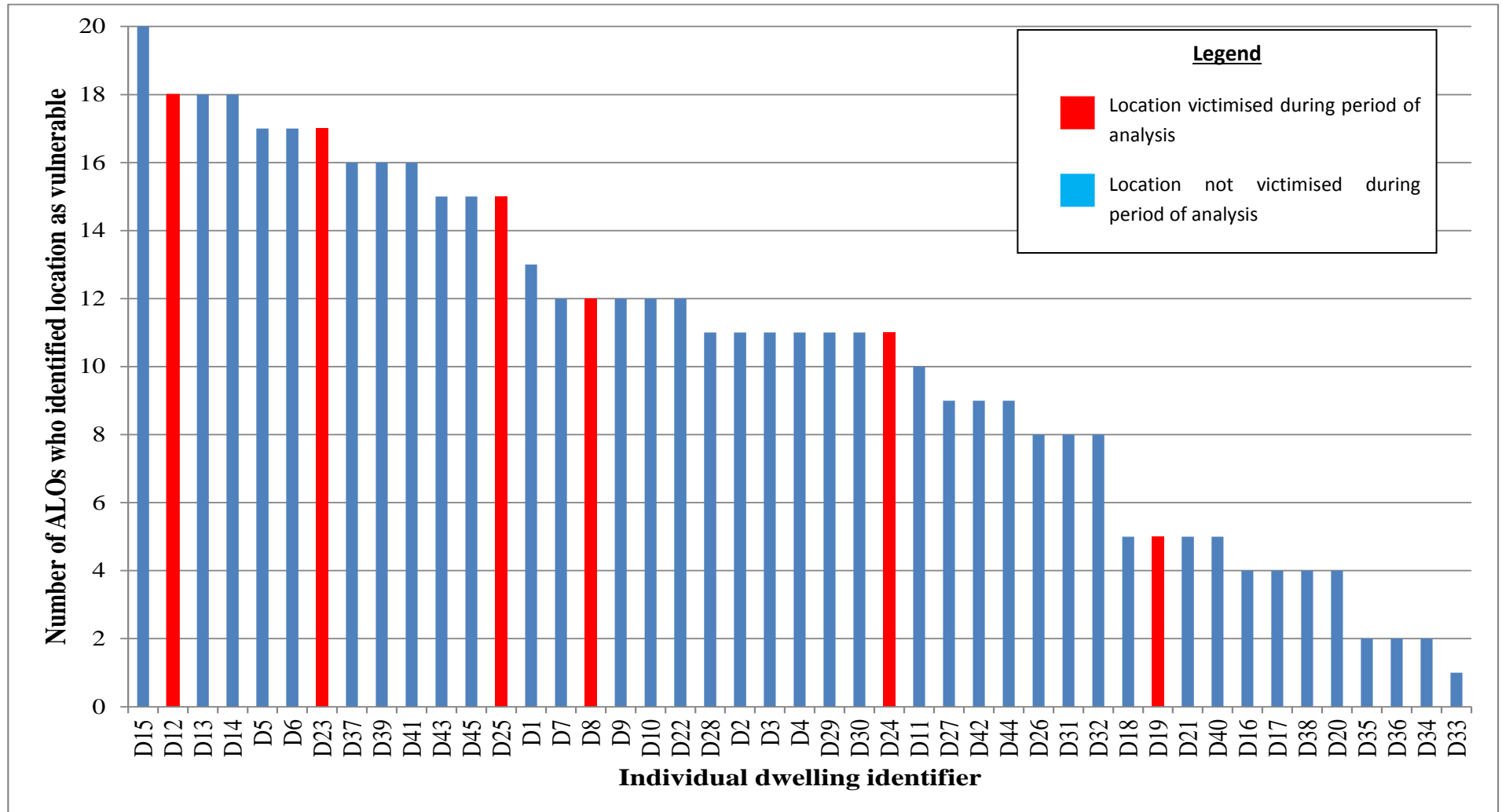
4.53   Can ALOs in the aggregate predict the location of burglary?

Whilst the data shows the locations which individual ALOs deemed to be most vulnerable to burglary, it is important to identify whether ALOs in the aggregate can predict the location of burglary. One participant correctly predicted all six locations for burglary; 2 participants correctly predicted five locations; 9 participants correctly predicted four locations; 3 participants correctly predicted three locations; 7 participants correctly predicted two locations and 3 participants correctly predicted one location. The data are displayed in Table 15. The remainder of participants (n=3) failed to identify any of the six locations. Thus, the majority of ALOs (89%) were able to identify at least one of the burgled properties.

Table 15   Number of burglary locations correctly identified as vulnerable by ALOs

Number of locations correctly identified as being vulnerable and were victimised	Number of ALOs identifying locations as vulnerable
6	1
5	2
4	9
3	3
2	7
1	3
0	3

In addition to identifying what proportion of ALOs correctly identified the locations of the burglaries, the range of predictions made by the participants in the aggregate was examined. In total 1,260 predictions (28x45) were made to identify which locations were vulnerable to burglary and which were not. These predictions are presented in Table 16. It shows that a total of 472 predictions were made identifying locations as vulnerable with 78 (17%) of these being correct, the remainder of predictions (n=394 or 83%) identified locations which were deemed vulnerable but did not experience any incidents of burglary during the period of analysis. When these findings are reviewed in isolation, they suggest that ALOs are over-cautious in their assessment of vulnerability, i.e. they prefer to over-predict locations as vulnerable, rather than to under-predict. However, when one focuses upon those locations which did experience a burglary, 78 predictions were correct in that a location identified by the ALO as being vulnerable had been victimised during the four-year period of analysis. Conversely, 90 predictions were made which indicated that locations were not vulnerable to burglary, when in fact they had been victimised during the period of analysis. Therefore, of

the total number of predictions about the locations which were burgled during (n=168), 78 (46%) were accurate; however, 90 predictions (54%) were not accurate. During the period of analysis, these locations did experience burglary but were not identified by the ALOs as vulnerable.

Table 16   Contingency table of recorded burglary and identification as vulnerable

	Identified as vulnerable	Not identified as vulnerable	TOTAL
Burgled	78	90	**168**
Not burgled	394	698	**1092**
TOTAL	**472**	**788**	**1260**

Whilst it is important to elicit the proportion of ALOs correct in predicting the location of the six burglaries, it is also essential to examine how many predictions of non-vulnerability were accurate (i.e. how many locations were not deemed vulnerable and did not experience burglary during the period of analysis). This is important to examine the extent to which ALOs are over-cautious (or not) in the advice and recommendations made. By excluding the predictions made for the six locations which were burgled, it was possible to identify locations which were not deemed vulnerable. As shown in Table 16, a total of 788 predictions were made that a location was not vulnerable to burglary. The majority of these (n=698) were accurate as the location was not deemed vulnerable and did not experience any burglary offences during the period of analysis. However, as previously mentioned, 90 predictions were made that the location was not vulnerable to burglary, when it did experience an incident during the period of analysis.

When aggregating the predictions for those locations identified as vulnerable and burgled, with those not identified as vulnerable and which were not burgled during the period of analysis[56], this suggests ALOs were able to identify the locations of the victimised and non-victimised locations rather better than chance. A chi-square test was performed to examine the relationship between the predictions made by the ALOs. The relationship between these variables (vulnerability and victimisation) was significant, X^2 (1df, $N = 1260$) = 6.65, $p<0.05$. ALOs were better than chance in identifying the burgled homes, but as the preceding text shows, the number of false positives (locations which were identified as vulnerable, but were

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[56] 78 plus 698.

not victimised during the period of analysis) means that a case could be made that performance falls short of the operationally useful *in the aggregate.*

4.54   Individual ALO performance in predicting the location of burglary

Looking at the *individual* performances of ALOs shows a range of results. As already stated and shown in Table 15, one participant correctly predicted all six of the burgled locations; 2 participants correctly predicted five locations; 9 participants correctly predicted four locations; 3 participants correctly predicted three locations; 7 participants correctly predicted two locations and 3 participants correctly predicted one location. The three remaining participants failed to identify any of the six locations. Whilst over half of the sample (54%) was able to correctly predict three or more of the locations, this does not consider the number of locations deemed vulnerable by the participant in relation to the total number of locations in Development X.

A percentage was calculated for each ALO to examine what proportion of the locations they deemed vulnerable were in fact burgled during the period of analysis. As shown in Figure 15, this revealed a range of results from 67% to 0%. Table 17 displays further information about the three top scoring ALOs from this analysis. Participants 2 (retired police officer) and 16 (a former built environment professional) deemed three locations to be vulnerable, two of which were the locations of a burglary, equating to a success rate of 67%. P7 (retired police officer) identified 7 locations as vulnerable and correctly identified three of these locations, a success rate of 43%. This shows that these ALOs correctly identified burgled locations from the small number of locations they deemed vulnerable.

Figure 15 Proportion of burglary locations correctly identified from those deemed vulnerable for each ALO
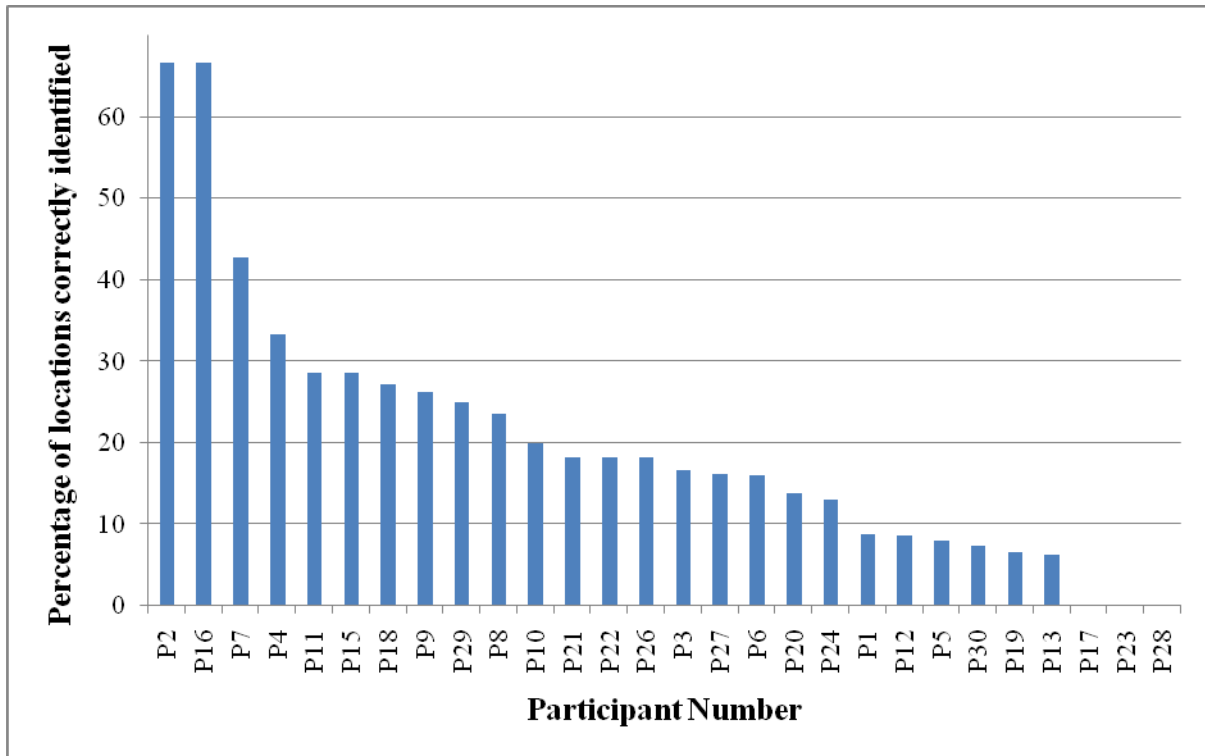
Table 17 ALOs who identified the most locations as vulnerable to burglary

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Percentage score
2	Retired police officer	3	2	67%
16	Built environment	3	2	67%
7	Retired police officer	7	3	43%

Using a hypergeometric distribution, it was important to assess to what extent each ALO could have performed better by chance. The hypergeometric scores were calculated for each ALO for burglary. This revealed that for ten of the 28 participants the probability of performing better by chance was less than 0.05. This suggests some level of skill in identifying the victimised locations from those they deemed as vulnerable. Table 18 displays the results for the ten ALOs with a probability of less than 0.05 of scoring better by chance. This shows they identified between 22 and 3 locations as vulnerable and correctly identified between 2 and 6 of the burgled locations. Participant 18 deemed 22 locations as vulnerable

and correctly identified all six locations (a success rate of 100% insofar as all of the six burgled locations were correctly identified). Participant 18's hypergeometric score was < 0.001. Participants 2 and 16 identified 3 locations as vulnerable to burglary and correctly identified 2 of the 6 locations. Thus, whilst these two participants did not correctly identify as many of the six burgled locations as Participant 18, they did not deem as much of Development X as vulnerable to burglary. Their hypergeometric score was 0.001. The way in which these three participants went about assessing the plan is reviewed in a following section.

Table 18 ALOs with a probability less than 0.05 in performing better by chance when assessing the vulnerability of locations to burglary

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified (percentage of burgled locations)	Number of locations correctly identified, as a percentage of those deemed vulnerable	Probability of performing better by chance
18	Police officer	22	6	27%	0.000
2	Retired police officer	3	2	67%	0.001
16	Built environment	3	2	67%	0.001
7	Retired police officer	7	3	43%	0.003
9	Police staff	19	5	26%	0.003
11	Police staff	14	4	29%	0.008
15	Built environment	14	4	29%	0.008
29	Retired police	16	4	25%	0.017
8	Police officer	17	4	24%	0.023
4	Retired police	6	2	33%	0.024

As shown in Table 19, the remaining 18 participants had a probability greater than 0.05 (ranging from 0.084 – 0.854). These participants deemed between 4 and 31 locations as vulnerable to burglary.

Table 19   ALOs with a probability greater than 0.05 in performing better when assessing the vulnerability of locations to burglary

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Number of locations correctly identified, as a percentage of those deemed vulnerable	Probability of performing better by chance
22	Built environment	22	4	18%	0.084
21	Police officer	22	4	18%	0.084
26	Police officer	22	4	18%	0.084
27	Police staff	31	5	16%	0.090
10	Retired police	10	2	20%	0.113
6	Police staff	25	4	16%	0.152
3	Built environment	6	1	17%	0.175
20	Police staff	29	4	14%	0.292
24	Police staff	23	3	13%	0.354
17	Built environment	4	0	0%	0.448
23	Retired police	7	0	0%	0.661
19	Retired police	15	1	7%	0.665
12	Police staff	23	2	9%	0.689
13	Retired police	16	1	6%	0.708
5	Police officer	25	2	8%	0.769
28	Retired police	10	0	0%	0.801
30	Retired police	27	2	7%	0.837
1	Police officer	31	3	10%	0.854

The data presented in Tables 18 and 19 is displayed as a scatter-gram in Figure 16. This confirms that in the aggregate there is inconsistency in the way in which ALOs assess locations as being vulnerable to burglary and the extent in which ALOs are correct. The scores which cluster around the *y* axis are the scores for the individual ALOs who could not have performed much better by chance in identifying burgled locations.

Figure 16   Probability of individual ALOs performing better against the number of locations identified as vulnerable to burglary
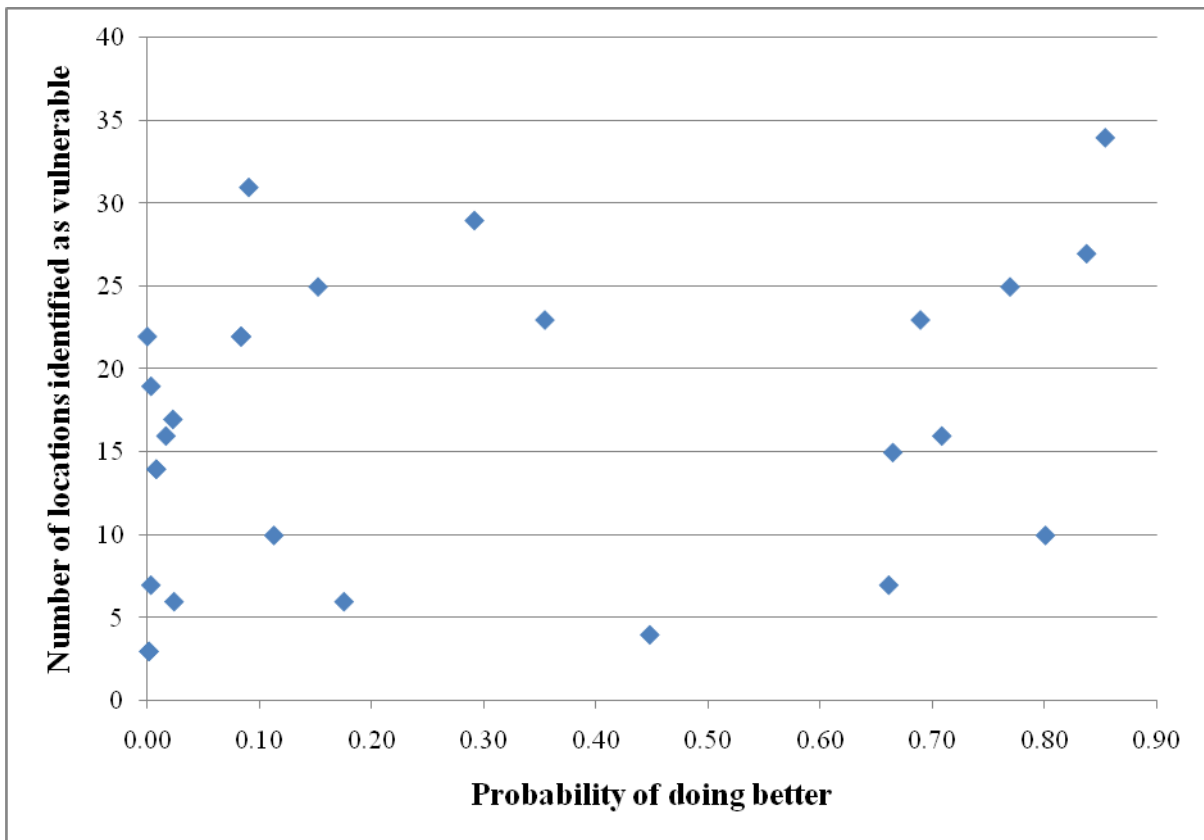
As shown in Table 16, in the *aggregate* 90 false negative predictions were made (i.e. where the ALO did not identify a location as vulnerable, but it did in fact experience burglary during the period of analysis). In terms of the false positives (i.e. where the ALO predicted that burglary would occur, but it did not) 394 predictions were made in the aggregate. Again, to reiterate a false positive is a judgement that a burgled home was not vulnerable. These locations may be victimised during the lifetime of Development X, but these locations did not experience any burglary during the period in question.

Further analysis was undertaken at an *individual* level to try and examine varying success each ALO had with correctly identifying victimised locations from those they deemed vulnerable to burglary. For each ALO, the number of false positives and negatives were calculated. Table 20 reports these for all 28 participants. The number of false predictions for each ALO was between 5 and 34. Analysis of this data showed that all but 5 ALOs over predict the number of vulnerable locations. The analysis revealed that those from a built

environment background seemed less likely to over predict but tended to under predict. A tentative suggestion is that those from a built environment background also had better hypergeometric scores.

Table 20   False positive and false negative predictions for each ALO for burglary

Participant number (P)	Background of participant	Number of false positives	Number of false negatives	Total number of false predictions	Hypergeometric score
1	Police officer	31	3	34	0.845
2	Retired police	1	4	5	0.001
3	Built environment	5	5	10	0.175
4	Retired police	4	4	8	0.024
5	Police officer	23	4	27	0.769
6	Police staff	21	2	23	0.152
7	Retired police	4	3	7	0.003
8	Police staff	13	2	15	0.023
9	Police staff	14	1	15	0.003
10	Retired police	8	4	12	0.113
11	Police staff	10	2	12	0.008
12	Police staff	21	4	25	0.689
13	Retired police	15	5	20	0.708
15	Built environment	10	2	12	0.008
16	Built environment	1	4	5	0.001
17	Built environment	4	6	10	0.448
18	Police officer	16	0	16	0.000
19	Retired police	14	5	19	0.665
20	Police staff	25	2	27	0.292
21	Police officer	18	2	20	0.084
22	Built environment	18	2	20	0.084
23	Retired police	7	6	13	0.661
24	Police staff	20	3	23	0.354
26	Police officer	18	2	20	0.084
27	Police staff	26	1	27	0.090
28	Retired police	10	6	16	0.801
29	Retired police	12	2	14	0.017
30	Retired police	25	4	29	0.837

The following section reports the way in which the three best performers (P18, P2 and P16) went about assessing the plan as vulnerable to burglary. In providing the following commentary, the writer listened to the audio recorded during the completion of the exercise and noted key processes.

4.541   Participant 18

Participant 18 was a serving police constable of 28 years. During their operational service they applied to become a CRO and then progressed into the ALO post. At the time of the interview, P18 had been an ALO for approximately 10 years and had therefore spent over one third of his policing career as an ALO. For the burglary analysis, P18 had a hypergeometric score of 0.000 and a total of 16 false predictions.

After the exercise was introduced and the site plan presented to P18, they spent approximately one minute assessing the initial layout of the development and outlining the positive elements of the scheme. These included the inclusion of (albeit limited) in-curtilage car parking and that some of the dwellings provided surveillance over the public open space. P18 stated that there were only a small number of positive features about the Development X and said '…*unfortunately, I am picking up more negatives than positives'*. Overall, P18 spent approximately 17 minutes reviewing the site plan and listing the areas of concern. In addition to reviewing the site plan, P18 spent time reviewing some of the elevations to assess whether there were blank gable ends and whether rooms were habitable or not. P18 was systematic in the way they assessed the plan and started from one side of the plan to the other. P18 noted and discussed any concerns as they emerged. Thus, P18 was not systematic in assessing the site plan as per the principles of CPTED.

Initially, the main concern raised by P18 was the location of the car parking to the rear of dwellings and how this may provide an opportunity for unauthorised access to the dwellings. As the following quotation demonstrates, P18 questioned whether it was practical to have car parking spaces located to the rear as to access their car, residents would have to leave their house via the rear and open their garden gate. P18 was therefore concerned that this would make the rear of each property vulnerable, which could then facilitate burglary offences. He stated:

The rear car parking spaces [are a problem]*, you're either going to have to have gated access out of each dwelling, which means to make it more secure you're going to have to have it lockable from both sides which doesn't happen on a lot of developments. That means that the residents have access into the rear of the gardens. We know that most burglaries take place through rear ground floor windows or doors so unless that's secured off you've got issues of when people leave in the morning they have got to lock the gate and people haven't got time.*

During the exercise, P18 stated that the task was difficult owing to the lack of information that had been provided. P18 said that ideally he would like to know where the development was located (either rural or urban) and what types of development surrounded the development. P18 stated that they would need more information on Development X prior to responding to the LPA. In particular, they would require information about lighting, boundary treatments, communal resources (such as the provision of bicycle and waste bin storage) and the elevations for each housing type. However, from assessing the site plan, P18 stated that they were concerned with the proposed layout:

[I'd]*...have to call the architect and query it... I'd need more information, but in general I'm not happy about the layout as a whole. The design is too open and there is no control for the residents.*

When presented with the figures for property crime over the four year period, P18 was surprised by the low figures. From these low figures, he surmised that Development X was located in a rural area and reiterated that knowing the context was important when trying to apply the principles of CPTED. He stated: '*that's* [burglary] *lower than I thought it would be, but it's dependent upon the area because we go back to context is everything*'.

When asked to identify the locations where they expected these burglaries to occur, P18 deliberated over the possible locations, but eventually identified the locations which had possible easy access through the rear via car parking areas. When annotating these areas on their site plan, P18 said: '*they could be here because of the rear access*'. P18 identified two

of the four blocks of flats as vulnerable to property crime. The two blocks which were selected were furthest away from the main road and therefore deemed more remote. Prior to identifying any locations as vulnerable to property crime, P18 warned that the crimes could have occurred anywhere on Development X if the property had been left insecure. P18 also stated that it was important to remember that CPTED attempts to prevent all crime, not just property crime.

4.542 Participant 2

Participant 2 was a retired police officer and completed the ALO training course in 1994. P2 completed 30 years' service in 2003 and retired as a Detective Constable. Prior to retiring from the police, P2 spent the last 9 years of his policing career working as the ALO and Crime Prevention Officer. Upon retiring, P2 applied for the ALO/CPO post and immediately returned to work to undertake the role in a civilian capacity. At the time of the interview (January 2014), P2 estimated that they had approximately 20 years' experience in ALO work, but this had always been alongside the CPO role. P2 stated that they attended the national annual ALO training event, maintained in regular contact with ALOs from neighbouring forces and attended the ACPO regional meetings. Thus, P2 felt that they were well trained to undertake the role and did not feel that there was a lack in training provision. P2 had spent their entire career at the same force and as such, felt that they had an adequate understanding of the local crime trends. For the burglary analysis, P2 had a hypergeometric score of 0.001 and had a total of 5 false predictions.

After the exercise was introduced and the site plan presented to P2, they spent approximately one minute assessing the initial layout of the development. They paid particular attention to the access points into the development (both pedestrian and vehicular) and began describing specific areas of the development they felt were vulnerable to crime and disorder. The main concerns raised by P2 were the large amount of car parking provision which was located to the rear of the dwellings and the overall lack of surveillance across the development. P2 stated that they perceived vehicle crime to be the key problem at Development X. Again, P2 assessed the plan systematically but did not assess it as per the principles of CPTED.

Overall, P2 spent approximately 18 minutes reviewing the site plan and listing the areas of concern. In addition to reviewing the site plan, P2 asked to review the landscaping plan and

also the elevations for each individual house type. P2 was particularly interested in reviewing the elevations for the individual housing types as this helped to clarify the locations of the doors and windows. Reviewing these plans confirmed P2's initial concern regarding the lack of opportunities for natural surveillance from neighbouring properties. Whilst P2 reviewed all of the available drawings, they stated that they would require more information to provide a more comprehensive response to the applicant and LPA. They also stated that they would arrange a visit to the proposed site with the architect and developer to discuss the plan in detail.

> *I would want to go to the said area with the architect, the developer and we would have to, at length, discuss this before I could make comment on it. I certainly could not be happy about this. I would be on the phone to arrange a site meeting straight away…I would want far more additional information than what I have got in front of me here. I would want to know about lighting, about the way into the development. I would want to know about the parking facilities fully, I would want to know the lighting fully. I would want to know if there were sheds. Are we making each garden a private area? I would want to know a lot of things.*

The author questions what added value this additional information would further improve P2's performance? Using the information provided, their assessment of Development X was effective and they were able to successfully identify the key areas which did experience crime and disorder. However, the request for further information from other key stakeholders may help to open a dialogue which may prove fruitful (i.e. establishing contacts for future developments and helping to inform other key stakeholders about CPTED).

After P2 assessed the risk at Development X, they were told the number of crimes recorded during the 4 year period. As the burglary data was presented to P2, he commented: *"I wonder whether it might be a house that's out of the way? Secluded?"* P2 predicted that three locations were vulnerable to burglary. This comprised three blocks of flats which were not overlooked from the front or the rear. Two of the three blocks of flats did experience burglary during the period of analysis. In his assessment of the flats, P2 said: *"They are out of the way.*

Anybody can have access into here can't they? I would say that this area is more vulnerable. Whilst P2 did correctly identify two of the six locations for burglary, P2 stated that it is difficult to predict where exactly the burglary may have occurred as it may be a result of the victim failing to secure their property correctly.

In concluding the exercise, P2 reiterated that they envisaged vehicle crime, opposed to burglary, being the key crime issue at Development X. They were concerned by the apparent lack of lighting throughout the development and the ease with which the car parking areas could be accessed. More generally, P2 stated that there was a lack of natural surveillance throughout the development with some properties lacking defensible space:

> *My main concerns are car parking, lighting, the approach to the car parking, the natural surveillance and the privacy to each individual property.*

P2 outlined that they would document their concerns in a letter to the LPA.

4.543 Participant 16

Participant 16 was a former built environment professional who had a background in landscape design. At the time the interview was conducted, P16 had nearly 6 years' experience as an ALO. They completed their ALO training course 6 months after they started in post. For the burglary analysis, P16 had a hypergeometric score of 0.001 and had a total of 5 false predictions.

Upon presenting P16 with the site plan, they began to outline the steps that they would take if this plan had received this plan and were asked to provide comment to the LPA. They stated that they would require more contextual information to elicit the area in which the development was proposed: '*I think one of the things that I would probably look at which you haven't got here is the context and what's around it*'. They outlined the importance of conducting a visit to the site to obtain a better understanding of the area which surrounds the development and how the development would connect to the surrounding areas: '*So I would want to know what's on these neighbouring plots and the physical links, roads, footpaths and boundaries…*'. P16 stated that they would use the site visit and their own local knowledge to

help corroborate any police recorded crime data and local intelligence from operational officers.

Whilst reviewing the plan, P16 stated that the development included certain design features which they felt were problematic in any scheme, regardless of whether they are located in a high or low crime area: *'there are certain elements of schemes which just don't work in any location and this seems to include some of those and if this was in a high crime area, this would be a nightmare'.* In particular, P16 stated that there were a number of *'fundamental issues'* with the site which included its openness and permeability. P16 was concerned at the lack of boundary treatments, particularly around each of the block of flats. In addition, P16 raised concerns about the lack of natural surveillance which overlooked communal areas. P16 described the car parking arrangements at Development X as *'atrocious'.* P16 noted that there was an excessive amount of planting throughout the development that would require careful management and maintenance.

P16 requested to review the elevations for each housing type to assess whether there were any blank gables and to identify what rooms overlooked the street scene and communal areas. The elevations were also used to assess access and egress points for each dwelling. Upon reviewing the elevations for the flats, P16 noted that access was via a communal entrance door to the front and French doors to the rear. P16 therefore concluded that the ground floor flats were vulnerable and that they lacked any form of privacy owing to the lack of defensible space. P16 spent a total of 41 minutes reviewing the site plan. They reviewed the plan in a detailed and systematic matter, but again did not specifically review the plan as per the principles of CPTED.

After P16 assessed the risk at Development X, they were told the number of crimes recorded during the 4 year period. They were surprised by the low levels of recorded property offences and identified three locations as vulnerable to burglary dwelling and burglary other.

4.6 Vehicle crime (TFMV and TOMV)

During the period of analysis, thirty-four TFMV offences and five TOMV were recorded at Development X. These occurred at twenty-two separate locations.

4.61   Number of locations identified as vulnerable to vehicle crime by ALO

The number of locations identified as vulnerable to vehicle crime varied from five to twenty-four (mean 14.1, standard deviation 6.3). As shown in Figure 17, ten ALOs identified between 5 and 9 locations as vulnerable; two ALOs identified between 10 and 14 locations as vulnerable; eleven ALOs identified between 15 and 20 locations as vulnerable and five identified between 21 and 25 locations as vulnerable. None of the 28 ALOs identified less than five locations as vulnerable. It is important to reiterate, that individual properties were used for this section of the analysis. The complexities of analysing motor vehicle data should also be noted at this juncture. By carefully reviewing the police recorded crime data and *modus operandi* data often one can glean the approximate location in which the targeted vehicle was parked. Where this is not possible, the address which was recorded by the police was used as the proxy for where the vehicle was parked. Whilst one appreciates that a vehicle may not have been parked in its allocated location (i.e. driveway, communal parking courtyard) at the time it was targeted, unless the crime report suggested otherwise it was assumed that the vehicle was parked in its allocated location which was attributed to an individual property.

Figure 17   Number of locations ALOs identified as vulnerable to vehicle crime

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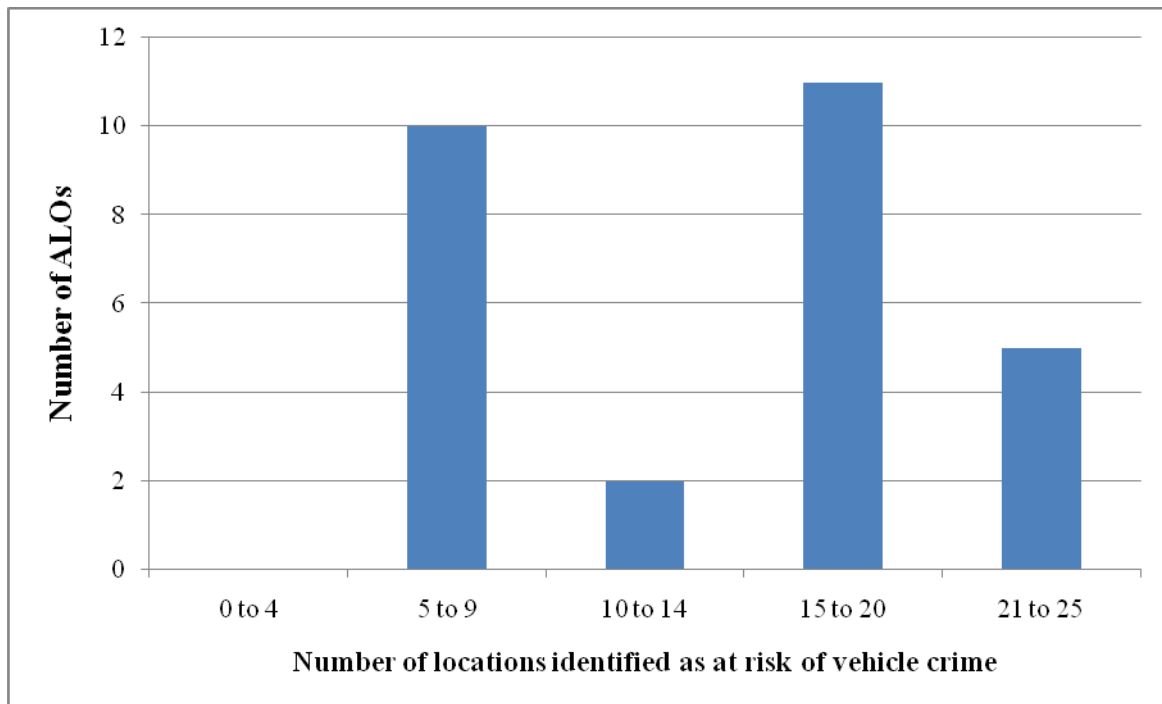
4.62   Number of locations identified as vulnerable to vehicle crime by individual property

Figure 18 is a site map of the development. The number on each property denotes the number of ALOs whom identified that location vulnerable to vehicle crime. The twenty-two locations which did experience vehicle crime are denoted by a blue asterisk. This data is also displayed in Figure 19 with the twenty-two locations shown in red. Locations which were identified as vulnerable, but did not experience vehicle crime during the period of analysis are shown in blue. Four of these locations were flats where car parking was provided in the way of rear communal parking courts; six houses had allocated parking to the rear of the property; seven properties had parking to the side of the property; one house had parking which was in front of the property (albeit not in curtilage) and parking for the remaining four properties was in-curtilage (however there was a lack of clear demarcation between the public and semi-private space).

As shown in Figure 19, the six locations which were identified by the greatest number of ALOs (D22, D25, D17, D20 D21 and D24) were victimised. Twenty-six ALOs identified D22; 22 ALOs identified D25, D17, D20, D21 and D24; 21 ALOs identified D6; nineteen ALOs identified D23 and D4; eighteen ALOs identified D2, D3 and D8; twelve ALOs identified D16 and two ALOs identified D38. Only one participant correctly identified D12, D36 and D44 as vulnerable (this was not the same participant). None of the ALOs identified D32, D37, D39, D43 or D45 as vulnerable when these locations did experience vehicle crime.

Similar to the results for property crime, this demonstrates that ALOs lack consensus in their assessment of risk. No ALO was able to correctly identify all of the 22 locations for vehicle crime. Whilst 12 locations were identified as vulnerable by over half of the sample (n=18), five locations were victimised, but were not identified as vulnerable.

Figure 18   Map indicating number of locations identified as vulnerable to vehicle crime

Figure 19   Number of ALOs identifying locations as vulnerable to vehicle crime
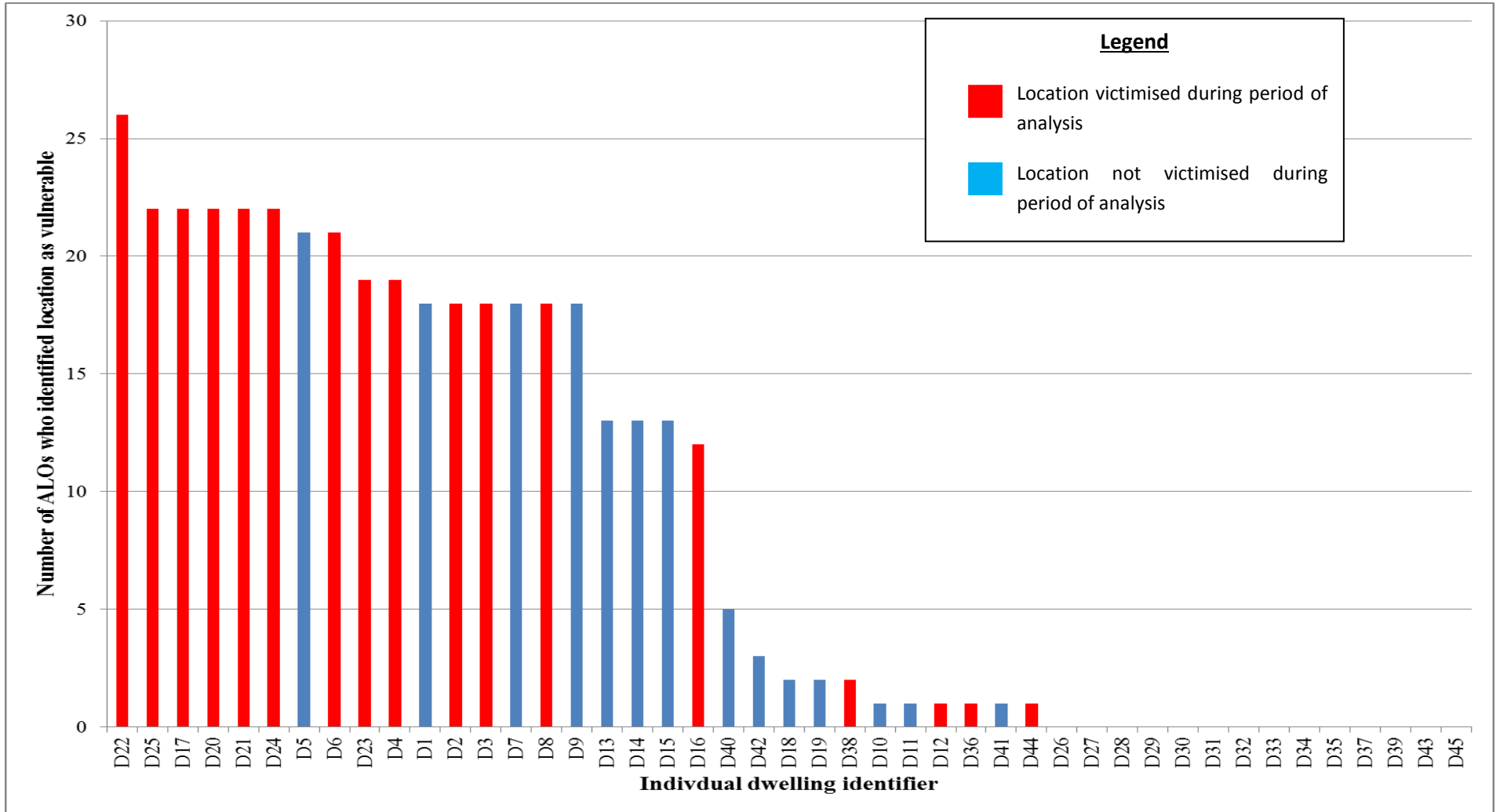
4.63   Can ALOs in the aggregate predict the location of vehicle crime?

None of the participants were able to correctly identify all of the twenty-two locations of vehicle crime. Two ALOs were able to identify 14 locations; six ALOs correctly identified 13 locations; four correctly identified 12 locations; three identified ten locations; one ALO identified nine locations; one ALO identified eight locations; six ALOs identified seven locations; two identified six locations; one identified five locations; one ALO identified three locations and one ALO identified two locations. This data is displayed in Table 21 and shows that 43% of sample (12 ALOs) were able to correctly predict the at least half of the victimised locations (between 12 and 14 locations). All of the ALOs were able to correctly identify at least two locations.

Table 21   Number of vehicle crime locations correctly identified as vulnerable by ALOs

Number of locations correctly identified as being vulnerable and were victimised	Number of ALOs identifying locations as vulnerable
14	2
13	6
12	4
11	0
10	3
9	1
8	1
7	6
6	2
5	1
4	0
3	1
2	1
1	0

As shown in Table 22, when assessing the predictions made in the aggregate, it can be seen that a total of 395 predictions were made identifying locations as vulnerable to vehicle crime. Of these predictions, 265 (67%) of the predictions were correct in that these locations were identified as vulnerable and were targeted during the period of analysis. The remainder of the predictions (n=130) identified locations that were identified as vulnerable, but that did not experience any vehicle crime during the period of analysis. When these findings are reviewed in isolation, it suggests that ALOs are fairly accurate in predicting locations which are vulnerable to vehicle crime and only over cautious (i.e. where they over-predicted vulnerability) in approximately one

third (33%) of their assessments. However, when one focuses upon those locations that did experience vehicle crime during the period of analysis, 265 predictions were correct – the location identified as vulnerable by the ALO had been victimised. Conversely, 351 predictions were made which indicated that locations were not vulnerable to vehicle crime, when in fact they had been targeted during the period of analysis. Therefore, in terms of correctly identifying the locations which had experienced crime during the period of analysis, only 43 per cent of these were accurate (n=265).

Table 22 Contingency table of recorded vehicle crime and identification as vulnerable

	Identified as vulnerable	Not identified as vulnerable	TOTAL
Location of crime	265	351	**616**
Not a location of crime	130	514	**644**
TOTAL	**395**	**865**	**1260**

As previously stated, whilst it is important to elicit what proportion of ALOs were correct in predicting the location of the 22 vehicle crimes, it is also essential to examine how many non-predictions were accurate (i.e. how many locations were not deemed vulnerable and did not experience vehicle crime during the period of analysis). By excluding the predictions made for the 22 locations which experienced vehicle crime, it was possible to identify locations which were not deemed vulnerable. As shown in Table 22, a total of 865 locations were identified as not being vulnerable. Of these, 514 (59%) predictions were made that locations were not vulnerable to vehicle crime and indeed these were not the location of any vehicle offences during the period of analysis. However, 351 predictions were made that a location was not vulnerable, when it had experienced at least one offence during the period of analysis. When aggregating the predictions for those locations identified as vulnerable and victimised with those locations not identified as vulnerable and which were not victimised this suggests ALOs were able to identify the locations of the victimised and non-victimised locations better than chance. A chi-square test was performed to examine the relationship between the predictions made by the ALOs. This indicated that the relationship between these variables was significant, X^2 (1df, $N = 1260$) = 76.27, p<0.001 with ALOs deciding that no location was victimised performing better.

4.64   Individual ALOs performance in predicting the location of vehicle crime

Reviewing the individual performances for each ALO in predicting the locations of vehicle crime shows a range of results. As previously stated, 43% of the sample was able to correctly identify over half of the locations for vehicle crime. A percentage was also calculated for each ALO to examine what proportion of the locations they deemed vulnerable were the actual location of vehicle crime. As shown in Figure 20, the success with which the ALOs were able to correctly identify victimised locations from those they deemed vulnerable ranged from 100% to 33%. Twelve ALOs had a success rate of 75% or over. Seven ALOs had a success rate of 100% - all of the locations that they identified as being vulnerable to vehicle crime did experience crime during the period of analysis. However, it must be reiterated that this success, in part, may be due to fact that this crime type was the most commonly experienced at Development X. Thus, the chances of the ALOs correctly identifying the areas victimised was increased by the number incidents which occurred. Owing to this rate of success, only those participants (n=12) who had a success rate of 75% or over are listed in Table 23. Five of these ALOs were retired police officers; three were police officers; three were police staff and one was a former built environment professional.

Figure 20   Proportion of locations correctly identified from those deemed vulnerable to vehicle crime for each ALO
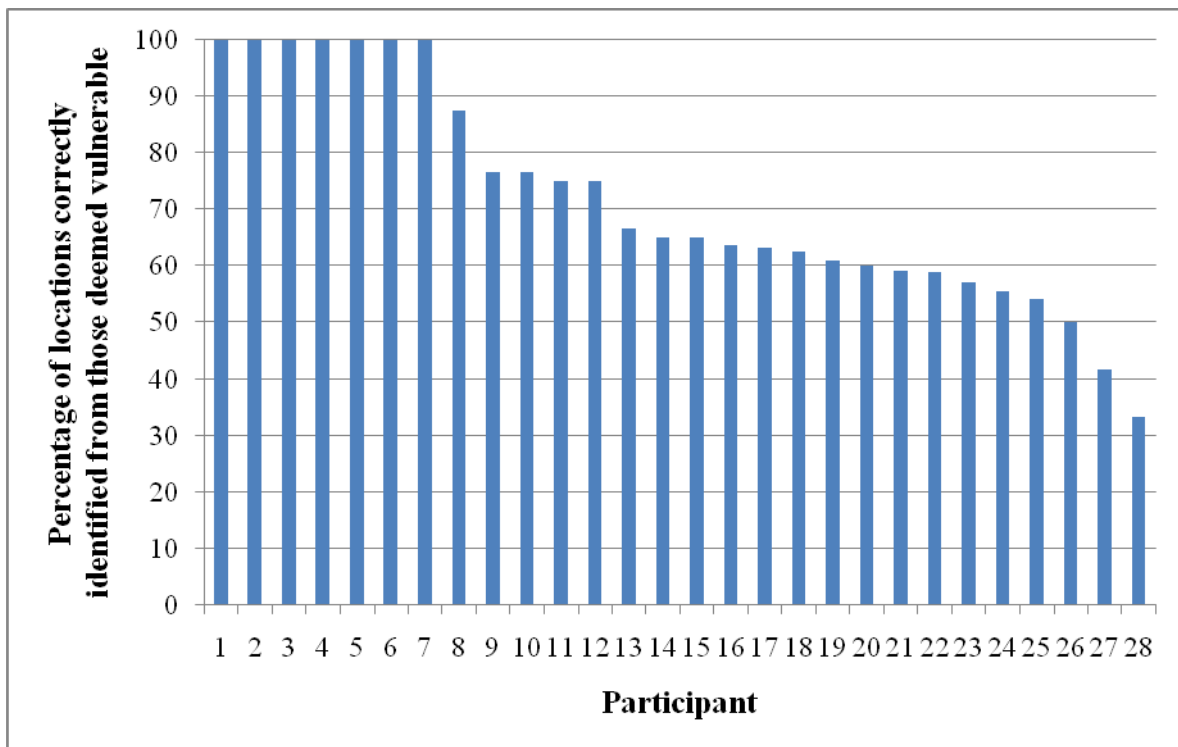
Table 23   ALOs who identified the most locations as vulnerable to vehicle crime

Participant number (P)	Background of participant	Number of properties deemed vulnerable	Number of locations correctly identified	Percentage score
19	Retired police	8	8	100%
26	Police officer	8	8	100%
6	Police staff	7	7	100%
7	Retired police	7	7	100%
13	Retired police	7	7	100%
5	Police officer	6	6	100%
28	Retired police	7	7	100%
17	Built environment	8	7	88%
12	Police staff	17	13	76%
23	Retired police	17	13	76%
1	Police officer	16	12	75%
20	Police staff	16	12	75%

A hypergeometric distribution revealed to what extent the participants could have performed better and this ranged from 0.000 to 0.646. Eighteen participants (64%) scored 0.050 or less suggesting that the locations they deemed vulnerable was a result of the skill of the ALO, rather than chance. As shown in Table 24, these participants selected between 6 locations (13% of the development) and 23 locations (51% of the development) as vulnerable. The seven best performers included four retired police officers (participants 19, 7, 13 and 28); two police officers (participants 5 and 26) and one police staff (participant 6).

Table 24   ALOs that had a probability of 0.050 or less in performing better by chance when assessing the vulnerability of locations to vehicle crime

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Number of locations correctly identified as a percentage of those deemed vulnerable	Probability of performing better by chance
19	Retired police	8	8	100%	0.000
6	Police staff	7	7	100%	0.000
7	Retired police	7	7	100%	0.000
13	Retired police	7	7	100%	0.000
28	Retired police	7	7	100%	0.000
5	Police officer	6	6	100%	0.000
26	Police officer	6	6	100%	0.000
17	Built environment	8	7	88%	0.001
12	Police staff	17	13	76%	0.001
23	Retired police	17	13	76%	0.001
20	Police staff	16	12	75%	0.001
1	Police officer	16	12	75%	0.001
24	Police staff	21	14	67%	0.005
21	Police officer	20	13	65%	0.005
9	Police staff	20	13	65%	0.005
22	Built environment	19	12	63%	0.026
4	Retired police	23	14	61%	0.025
2	Retired police	16	10	63%	0.047

The remaining ten participants had a probability greater than 0.050 (ranging from 0.050[57] – 0.646) suggesting that these ALOs could have performed better. Table 25 shows that these participants selected between 5 and 24 locations as vulnerable (between 11% and 53% of the development) which is a greater range when compared to those ALOs listed in Table 24.

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[57] This participant scored 0.053.

Table 25 ALOs with a probability greater than 0.05 in performing better when assessing the vulnerability of locations to vehicle crime

Participant number (P)	Background of participant	Number of locations deemed vulnerable	Number of locations correctly identified	Number of locations correctly identified, as a percentage of those deemed vulnerable	Probability of performing better by chance
18	Police officer	22	13	59%	0.050
10	Retired police	11	7	64%	0.070
8	Police officer	17	10	59%	0.089
29	Retired police	21	12	57%	0.091
27	Police staff	24	13	54%	0.146
15	Built environment	18	10	56%	0.150
3	Built environment	5	3	60%	0.159
30	Retired police	18	9	50%	0.335
11	Police staff	12	5	42%	0.597
16	Built environment	6	2	33%	0.646

The hypergeometric scores are plotted on the scatter graph in Figure 21. This shows that the majority of the scores cluster around the *y* axis as 64% of the sample had a probability of 0.050 or less. It also displays the hypergeometric scores for the ten ALOs which had a probability greater than 0.050. Nevertheless, whilst the data presented in Figure 21 can be interpreted as a positive finding (as the majority of the sample had a hypergeometric score of 0.050 or less), it must be reiterated that vehicle crime was the most commonly recorded crime at Development X during the period of analysis with 39 vehicle offences being recorded at 22 separate locations. Therefore, one would automatically assume that ALOs would be more successful in correctly identifying these locations when compared to other crime types, where there were fewer crimes at fewer locations.

Figure 21   Probability of individual ALOs performing better against the number of locations identified as vulnerable to vehicle crime
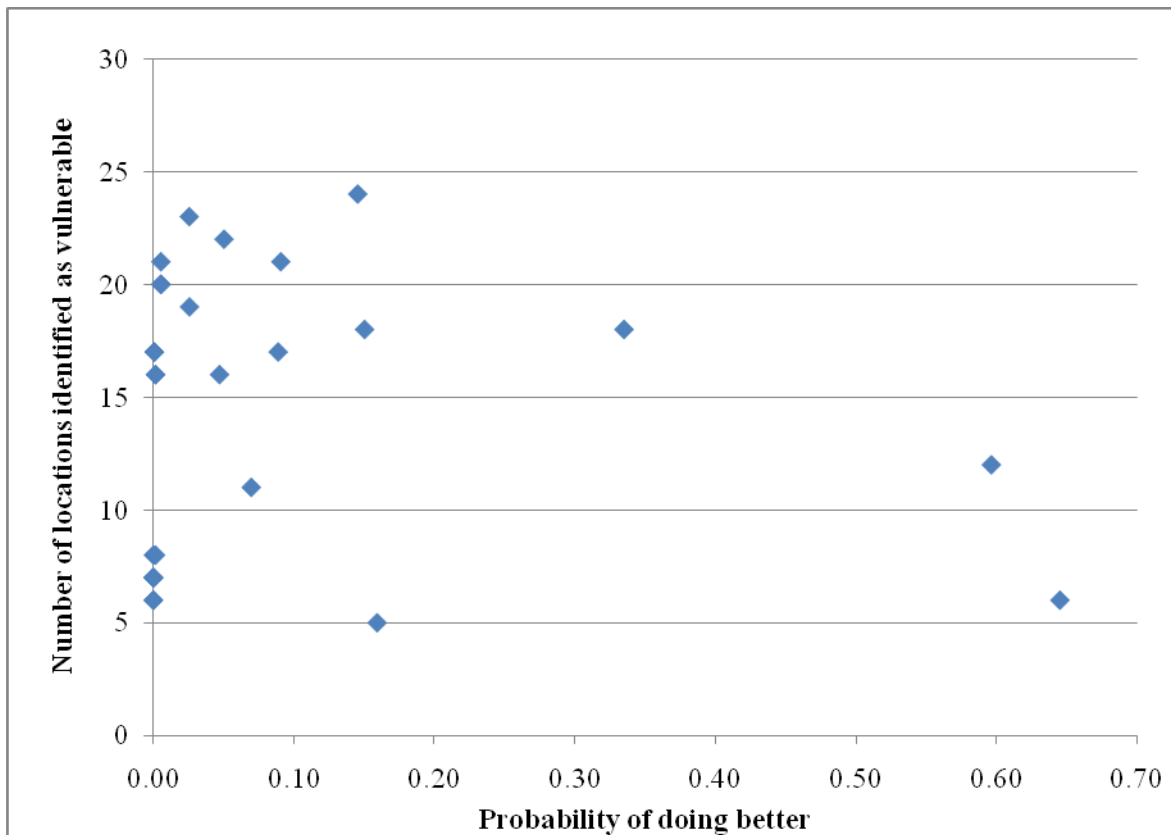
As shown in Table 24, eighteen of the 28 ALOs identified between 6 and 23 locations as vulnerable to vehicle crime and correctly identified between 6 and 14 of the victimised locations. This resulted in hypergeometric scores of 0.000 to 0.050. In terms of the top performers, seven ALOs were identified. These participants had a hypergeometric score of 0.000 and a success rate of 100% (i.e. all the locations they deemed vulnerable were victimised). Their results are displayed in Table 26.

Table 26   Best performing ALOs for vehicle crime

Participant	Background	Hypergeometric score
5	Police officer	0.000
6	Police staff	0.000
7	Retired police	0.000
13	Retired police	0.000
19	Retired police	0.000
26	Police officer	0.000
28	Retired police	0.000

As shown in Table 22, in the *aggregate* 351 false negative predictions were made. In terms of the false positive, 130 predictions were made. It is interesting to note that the number of false negatives was higher than the number of false positives. This suggests that whilst all the ALOs identified that vehicle crime, opposed to property crime, would be the key issue at Development X, they failed to identify locations which had experienced vehicle crime during the period of analysis. Whilst the author is aware of the limitations of relying upon using the police recorded crime when attempting to determine the exact location the vehicle was parked when the offence occurred, it is interesting to note the relatively high number of false negatives. In terms of the number of false positives, it is important to reiterate that these locations may be victimised during the lifetime of Development X, but these locations did not experience any vehicle crime during the period of analysis.

Further analysis was undertaken at an *individual* level to try and examine varying success each ALO had with correctly identifying victimised locations from those they deemed vulnerable to vehicle crime. The number of false positives and false negatives they predicted were calculated for each ALO. Table 27 reports these for all 28 participants. The number of false predictions for each ALO was between 13 and 24. Analysis on this data showed that unlike the results for burglary, all but 3 ALOs under predict the number of vulnerable locations. The majority of the participants (n=25) predicted more false negatives than false positives. Analysis of this data found that there was no correlation between the types of errors made and the hypergeometric score, but revealed that those with a police staff background (i.e. had no operational policing background and no built environment background) over predicted the false negatives to a lesser extent than the other participants. On average, those with a police background scored better hypergeometric scores.

Table 27   The false positive and false negative predictions for each ALO for vehicle crime

Participant number (P)	Background of participant	Number of false positives	Number of false negatives	Total number of false predictions	Hypergeometric score
1	Police officer	4	10	14	0.002
2	Retired police	6	12	18	0.047
3	Built environment	2	19	21	0.159
4	Retired police	9	8	17	0.026
5	Police officer	0	16	16	0.000
6	Police staff	0	15	15	0.000
7	Retired police	0	15	15	0.000
8	Police staff	7	12	19	0.089
9	Police staff	7	9	16	0.005
10	Retired police	4	15	19	0.070
11	Police staff	7	17	24	0.597
12	Police staff	4	9	13	0.001
13	Retired police	0	15	15	0.000
15	Built environment	8	12	20	0.150
16	Built environment	4	20	24	0.646
17	Built environment	1	15	16	0.002
18	Police officer	9	9	18	0.050
19	Retired police	0	14	14	0.000
20	Police staff	4	10	14	0.002
21	Police officer	7	9	16	0.005
22	Built environment	7	10	17	0.026
23	Retired police	4	9	13	0.001
24	Police staff	7	8	15	0.005
26	Police officer	0	16	16	0.000
27	Police staff	11	9	20	0.146
28	Retired police	0	15	15	0.000
29	Retired police	9	10	19	0.091
30	Retired police	9	13	22	0.335

The following section reports the way in which the best performer went about assessing the plan as vulnerable to vehicle crime. Owing to the high number of ALOs that had a hypergeometric score of 0.000, the performance of only one ALO is reported here. This is the ALO what had a hypergeometric score of 0.000 and successfully identified the most number of locations as vulnerable to vehicle crime.

4.641 Participant 19

Participant 19 was a retired police officer and had been an ALO for approximately 13 years. P19 had been an ALO whilst being a serving officer and prior to being an ALO, P19 was a CRO. For the vehicle crime analysis, P19 had a hypergeometric score of 0.000 and had a total of 14 false predictions; all of these were false negatives. This ALO was not one of the best performers for burglary.

In total, P19 spent approximately 2 minutes reviewing the design and layout of Development X. Upon reviewing the plan, P19 described how they tended to systematically review a plan from one corner to another, assessing each specific aspect of the proposed design:

> *What you should do is you start in one corner and you go through each individual* [dwelling]. *It is the only way to do it properly. What does tend to happen is immediately you will see something that worries you and you then focus on that and you let the rest go for the time being in order to address a major issue.*

After reviewing the site plan, P19 stated that they were concerned with the design and layout in its current form and in particular, envisaged that vehicle crime and anti-social behaviour (ASB) would be the most frequently recorded crime at Development X. They did not feel that burglary would have been a problem at Development X as *'it doesn't lend itself to burglary'*.

P19 specifically identified the communal car parking to the side and rear of the four blocks of flats as being the most vulnerable to vehicle crime. P19 was concerned that these areas were too permeable to both vehicular and pedestrian traffic. P19 stated: *'...footpaths and car parking spaces should never be together'*. P19 was also concerned about the lack of natural surveillance overlooking this car parking, especially when he noted that parking spaces were allocated and in the main, spaces were located some distance from where the owner resided. Owing to concerns about permeability, surveillance and the lack of defensible space, P19 said that they would have to object to this planning application should it have been a real application. They also stated that they would try to arrange a meeting with both the architect and the planner to outline their concerns. P19 identified eight locations as vulnerable to vehicle crime. All of these locations did experience

vehicle crime during the period of analysis. Conversely, P19 stated that the remainder of the development was not as vulnerable to vehicle crime and identified the in-curtilage car parking as being the *'most positive'* form of car parking at the development. However, analysis of the crime data shows that four of the five dwellings which had in-curtilage car parking did experience vehicle crime. It is important to note that these spaces lacked any defensible space (i.e. walls or gating) and of course, the vehicle may not have been parked in its allocated space when the offence occurred, but the data available did not suggest otherwise.

P19 stated that they prefer to review any site plans as a hard copy (which is now less preferable by LPAs owing to 1APP and online planning) and that they would undertake a review of the police recorded crime and ASB data for the surrounding area. In addition, they would also review any demographical data. They would not necessarily undertake a site visit.

4.7 ALOs overall performance

Amalgamating the performances of each of the 28 ALOs across property and vehicle crime shows that overall, ALOs are able to correctly identify the locations which will and will not experience crime and disorder (see Table 28). When one amalgamates the best scenarios – the locations the ALO correctly identified as vulnerable for both property and vehicle crime (n=343) and those which were not identified as vulnerable and did not experience crime (n=1212), 62% of the total number of predictions were correct. This finding is statistically significant with ALOs deciding that no location was victimised performing better: X^2 (1df, *N = 2520*) = 44.04, p<0.001. This finding is described in detail.

As shown in Table 28, a total of 2520 predictions were made by each of the 28 ALOs (28x45x2[58]). This shows that the ALOs made a total of 867 predictions that locations were vulnerable to crime. Of these predictions, 343 (40%) were correct – the location identified by the ALO was the location of a crime during the period of analysis. Conversely, 524 predictions (60%) were made that a location was vulnerable, when no crime was reported at that location by Force X during the period of analysis. Whilst this finding could suggest that the ALOs were over-cautious

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[58] This is the number of ALOs (28) multiplied by the number of locations (45) multiplied by number of crime types analysed (2 – property and vehicle crime).

when predicting the locations for the offences, it might simply be the case that the location has yet to be victimised.

Table 28   Contingency table of recorded crime and identification as vulnerable in the aggregate

	Identified as vulnerable	Not identified as vulnerable	TOTAL
Location of crime	343	441	784
Not a location of crime	524	1212	1736
TOTAL	867	1653	2520

Over 1600 predictions (n=1653) were made that locations were not vulnerable to crime. Of these, 27% of the predictions were incorrect as the location was not deemed vulnerable, but it did experience crime during the period of analysis. However, 1212 predictions (73%) were accurate – the location was not identified as vulnerable by the ALOs and it did not experience crime during the period of analysis. This finding is important. Whilst it is essential that ALOs are able to correctly identify the potential locations for crime, it is equally important that they identify those locations which pose less risk and do not require any revisions. Thus, it is imperative that ALOs are realistic in their assessment of the risk posed and commensurate in the advice provided. As stated at the beginning of this chapter, identifying too many locations as vulnerable may dissuade planners from implementing any changes. In the aggregate, during the period of analysis ALOs predicted more false positives (n=524) than false negatives (n=441).

4.8   A note of caution

Whilst the data presented within this chapter are invaluable to examine the application of CPTED across England and Wales and the extent to which ALOs are able to predict future crime risk, it is important to document and reiterate some notes of caution. As outlined in chapter three whilst every effort was made to ensure that the exercise was as realistic as possible there, were some limitations.

First, the ALOs did not physically visit the site and the surrounding area, which is something that they may ordinarily do when assessing planning applications. The reason for this is that the development had been built. Usually when ALOs undertake site visits, the site is clear and

awaiting development, or the site is in the process of being cleared. Never would a site be built, unless the ALO was asked to offer target hardening advice. Second, the ALOs were not able to discuss the specific aspects of the application with other key stakeholders (such as planning officers, Highways, policing colleagues). The development had been built over 10 years before the exercise was completed. Third, participants were not aware of the location of Development X. This information was not shared with the participant to ensure that the location did not bias any of the advice/recommended suggestions made by the participant. During a number of the interviews, participants asked whether Development X was located within an urban or a rural area. This information was not provided to the participant. Thus, one could argue that the exercise failed to fully examine how the ALOs go about assessing plans and applying the principles of CPTED as information was not provided to ALOs when undertaking their assessment. However, as all ALOs in the sample were able to access the same information to inform their assessment, the writer is convinced that this was the best approach to adopt. Whilst the findings overall are positive, these findings represent the worst case scenario. Should the participants have been able to access additional data (such as police intelligence) their assessment of what locations were vulnerable to crime and disorder, perhaps may have been more accurate. Fourth, the writer appreciates that the findings from this chapter are derived from a small sample that assessed only one *residential* plan. It is therefore recommended that this exercise is completed with a larger number of ALOs with varying levels of time in post; that more than one development and more than one development type (i.e. mixed use and commercial) is assessed. It is also recommended that the exercise comprises a development which has experienced a greater number of crime and disorder incidents. However, whilst it is duly noted that the number of offences for some crimes (i.e. burglary) were low, one could argue that this is not disadvantageous and ensures that the precise skill of the ALO is tested. The following section of this chapter outlines what contribution this chapter has added to knowledge and how it can help shape the future direction of the delivery and application of CPTED.

4.9   Summary

The aim of this chapter was to assess whether ALOs have the skill to predict the location of crime when reviewing a site plan and comparing this to the police recorded crime data for a development which has been built and resided in. A key finding from this exercise is that in the aggregate, ALOs are able to correctly predict the location of crime somewhat better than chance

when reviewing the site plan for a proposed development. However, the success to which this is done by individual ALOs varies. Key findings are briefly summarised.

Upon reviewing the site plan, all of the ALOs were able to correctly predict the key crime issue to be experienced at Development X – vehicle crime. The police recorded crime figures reveal that the level of vehicle crime experienced at Development X during the period of analysis was above the average for the CSP. Whilst the analysis revealed that all of the ALOs could have performed somewhat better (i.e. no ALO deemed n number of locations as vulnerable the same n were victimised), the hypergeometric analysis revealed that ALOs are somewhat skilled in designing out crime mostly better than chance. Using the hypergeometric analysis, the better performers were identified and the way in which they went about assessing the vulnerability of Development X was examined. This revealed that ALOs do not review plans systematically using the principles of CPTED; rather they tended to review the plan by first systematically assessing the plan from one side of the development to the other (i.e. from left to right). They would also review the plan for any areas/design features which may stand out. The author likened this part of the process to undertaking a 'word search' as once a generic review of the plan was undertaken and initial concerns identified, the ALOs would then identify other issues as they appeared or 'jumped out'.

Whilst the findings from this chapter have confirmed that ALOs are to varying extents skilled in designing out crime, it has demonstrated a disparity in the readiness with which they assess vulnerability. Whereas some ALOs deemed only a small proportion of the development as vulnerable, others deemed larger areas vulnerable. This is evident upon reviewing Figures 12 and 17. The analysis revealed that the ALOs deemed between 3 and 35 locations vulnerable to burglary and between 5 and 25 locations vulnerable to vehicle crime. Thus, the application of CPTED by individual ALOs is inconsistent. This finding is confirmed when reviewing the total number of false predictions that were made. The analysis for all crime and burglary shows that the ALOs over predicted the number of false positives, whereas for vehicle crime the number of false negatives were over predicted. This could be because they intuitively put different relative values on false positives and negatives. For example, if security upgrading is inexpensive, false positives are not so much of a concern to ALOs. Conversely, the extent to which the crime is expensive to the victim and CJS, false negatives should be avoided. This is expanded upon in chapter six and identified as an area for future research.

As demonstrated in this chapter, ALOs are recruited from a range of different backgrounds and include: i) serving police officers; ii) retired police officers; iii) former built environment professionals and iv) police staff (i.e. individuals with neither an operational policing background, nor a built environment background). The findings presented in this chapter suggest that for all crime and burglary, built environment professionals had the better hypergeometric scores, but tended to under predict victimised locations, opposed to over predict. For vehicle crime, police officers had the better hypergeometric scores, but police staff tended to predict false negatives to a lesser extent than the rest of the sample. Whilst these findings are important, owing to the small sample size they should be interpreted tentatively and further research should be conducted to confirm or refute this initial finding.

In summary, there is a skill and developments which are reviewed by ALOs are likely to have potential future victimised locations identified and therefore mitigated against. Thus, the application of CPTED is not just a guessing game. However, the skills of individual ALOs vary, implying a research-based training enhancement.

Now that the skill of ALOs has been confirmed, the remainder of this thesis focuses upon how CPTED is delivered across one police force - Greater Manchester. The delivery of CPTED across Manchester is often identified as being atypical, compared to the rest of England and Wales.

Chapter Five: The delivery of CPTED across Manchester

5.1   Introduction

This chapter describes how CPTED is delivered across Manchester by GMP. It draws upon the key findings from semi-structured interviews conducted with existing and former DFSC staff and reports on a small sample of case studies which have been through the CIS process and have been built and are resided in. This chapter commences with a brief overview of DFSC. This is followed by a historical and reflective account by the former head of DFSC who was interviewed approximately 18 months after retiring from GMP. The findings from semi-structured interviews conducted with five GMP consultants and the head of the consultancy are provided along with four detailed case studies.

5.2   Greater Manchester Police Design for Security Consultancy

CPTED is delivered across Manchester by DFSC – a design led consultancy based within GMP. At the time of writing DFSC comprises five consultants[59] and is led by the force's Head of Crime Prevention. The Head of Crime Prevention and four of the five consultants were recruited from a built environment background. They have no operational policing experience. DFSC sits within the Neighbourhoods, Confidence and Equality team of GMP and its head (a civilian) reports to the Assistant Chief Constable. The consultants are co-located and based at GMP Headquarters. DFSC was previously referred to as GMP Architectural Liaison Unit (hereinafter GMP ALU) and were located at offices which were not part of the police estate, but were close to GMP's Headquarters.

As outlined in their aims and objectives (Design for Security, 2009) DFSC works with built environment professionals (e.g. architects, developers) at the design or concept stage of a development. They seek to highlight any areas of the proposed design which could facilitate crime and disorder once the development is built. DFSC states its key objectives are to:

- influence designers and developers to incorporate crime reduction measures into their projects;
- identify the risks to developments and respond by providing appropriate crime reduction advice; and
- promote and administer the ACPO SBD scheme.

(Design for Security, 2009)

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[59] DFSC has ceased using the term ALO, and now uses the term 'consultant'.

One way in which DFSC tries to meet these objectives is through the delivery of the CIS. The CIS represents both a process and a document. In theory, the process leads to the compilation of the document. Although a document is produced, it is the processes that are of importance. DFSC describes the CIS **process** as "identifying, predicting, evaluating and mitigating the crime and disorder effects of a development proposal early in the design process" (Design for Security, 2014). These may include reviewing architectural plans and liaising with relevant design personnel. It is envisaged that through these discussions, changes to the intended development can be made. The CIS **document** captures some of these processes, as well as including detailed information about local crime and disorder, crime risks and any areas of the development which still remain a concern. The compilation of the CIS comprises two parts i) CIS 'Preliminary' and ii) CIS 'Full'. Where a CIS is required by the LPA for an outline application, DFSC provides the CIS: Preliminary report. This provides a generic assessment of crime and disorder in the vicinity of the proposed development and outlines site-specific design considerations. Subsequent applications where layout is considered require the 'Preliminary' CIS to be expanded into a CIS 'Full' which is a complete appraisal of the application.

DFSC charges a fee for providing a CIS. The fee is calculated according to the size of the proposed development. For example, a CIS for a residential development is charged at £30 per dwelling and there is a minimum fee of £500 and a maximum fee of £10,000 per application. A similar charging structure is in place for commercial and mixed use proposals.

Each LPA across Manchester requires a CIS for any major planning application. This requirement is documented in the LPA's validation checklist. Validation checklists were introduced in 2005 by the ODPM and allow LPAs to list any additional information they require applicants to submit alongside their planning application. Information listed in the validation checklist must accompany the planning application to ensure that it is validated by the LPA. A planning application cannot be validated (and therefore processed) if information listed in the validation checklist has not been submitted to the LPA. The CIS is a local requirement in each of the LPAs validation checklists. In theory, a planning application cannot be validated if a CIS does not accompany the application.

It is also important to note that DFSC act as a consultee for each LPA. Thus, once a planning application has been submitted to the LPA, DFSC are then asked by the LPA to review the application and to provide their response to the LPA. Therefore, DFSC are involved at two key points in the design and planning process: i) before the planning application is submitted to the LPA (CIS process) and ii) after the planning application has been submitted (as a consultee).

Before discussing the findings from the semi-structured interviews conducted with the DFSC consultants, a historical and reflective account of DFSC from the individual responsible for the introduction of the CIS will be presented. The writer feels this to be important for two reasons. First, the account outlines the rationale for the introduction of the CIS and its associated charging structure as it is believed that this was the first attempt to charge for the delivery of CPTED in England and Wales. Second, it outlines the initial aims and objectives of DFSC and the concerns/risks envisaged as a result of introducing a fee-paying service.

5.3   DFSC: A historical and reflective account

An unstructured interview was conducted with the former head of DFSC - responsible for the development and introduction of the CIS process. The respondent will be referred to as Respondent Y.

5.31   Background

As outlined by Blyth (1994), since 1990 ALOs in GMP have been civilians with a background in the built environment. Respondent Y was a former surveyor who was employed by the then Head of GMP ALU - a former architect. After 18 months in post as an ALO, Respondent Y was promoted to Head of the ALU. Like his predecessors, Respondent Y continued to ensure that ALOs were recruited from the built environment profession and outlined that this was to ensure that ALOs were able to communicate with architects, planners and developers. Respondent Y stated that there were four key reasons why ALOs should be employed from a built environment background: i) they have experience in architecture and planning; ii) they know how to deal with built environment professionals; iii) are able to communicate in a similar (technical) language and iv) built environment professionals may have more confidence in the ALO owing to their background.

I've always been very pro the fact that you need to have some speciality in
building design or commerce around developments and building. You need to
know what makes the building, and the developers tick, because then you can
talk to them. If you don't know, then you've only got to be in their company a
couple of minutes, you open your mouth and they know you don't know what
you're talking about...

In some forces, warranted police officers undertake the ALO role. Respondent Y stated that in
their opinion, this was a waste of resources as warranted officers had been trained to detect and
apprehend offenders and the ALO role did not require this expertise: "…*you don't need to be a*
warranted officer. It's a gross waste of talent on this. It's not the best use of their resources".
When questioned whether those with a built environment background have the necessary
knowledge in crime prevention, Respondent Y suggested that sufficient knowledge can be accrued
through training and working alongside policing colleagues.

But what I maintain is that it's much more important to know how to approach
your clients, have background knowledge of what they do, what affects them and
makes them happy and makes them sad. You can pick up the crime prevention
stuff...

Although Respondent Y advocated employing built environment professionals, he stated that they
should remain employed by the police and located within the police estate. This was to help
ensure that they are able to liaise with policing colleagues and obtain any relevant police data or
intelligence which may be imperative when providing comment on a planning application.

I always said that you had to be a civilian within the police to do this. And I
think this, again, is important...because [Assistant Chief Constable] *said, "Do*
you want to run this as a separate organisation away from the police?" And I
said, "No, I don't, because the fact that I can walk into any police station and
flash that card means that people will talk to me and I'm not considered
suspicious" You're never, ever going to be a policeman there, because that's

sacrosanct...But you're the next best thing. And that's all you need, but you do need to be a part of it, otherwise they'll clam up on you.

Prior to the introduction of Section 17 of the Crime and Disorder Act 1998, Respondent Y stated that GMP engaged with the LPAs in Manchester on an ad hoc basis. In addition, GMP delivered presentations to built environment professionals to promote the SBD scheme as a free, police incentive which sought to design out opportunities for crime through design, layout and physical security. In addition, they sought to dispel common misconceptions relating to the SBD scheme. As stated in the quotation below, a common misconception was that SBD inferred that the development was experiencing high levels of crime.

Most of our time...was going round to architects, developers, builders and people, trying to promote SBD...Because left to their own devices they wouldn't use it, particularly, because there's no reason to do it. We used to say, "It's free. It's a police thing," and then we got the usual criticism that, "If we say it's SBD, it sounds as though we're inferring that the area is crime ridden." It was all that sort of PR and promotion to try and overcome that misconception. So a lot of the time it was presentations.

Respondent Y stated that the introduction of Section 17 was a *"catalyst"* and instrumental in helping GMP raise the profile of SBD and CPTED amongst LPAs. GMP used the introduction of Section 17 as the mechanism through which to engage with the LPAs and facilitate discussions as to how LPAs could execute this through the design and planning process.

...[Section 17] was the catalyst for the whole thing, because that was the first time there had been an admission that crime reduction and prevention wasn't just the responsibility of the police. That other people needed to become involved in how to do it...it also allowed us in our representations then to move to local authorities.

During the time that Section 17 was introduced, two developments (one residential and one commercial) were experiencing high levels of crime and disorder in Manchester City Centre and

the Head Planner of the LPA contacted Respondent Y to discuss these cases. The first, a residential development located in East Manchester, had initially received advice from GMP as the developers were seeking to achieve SBD accreditation. Upon its completion, the development experienced high levels of burglary and the LPA asked Respondent Y why this was the case when the development had aimed to achieve SBD accreditation. Although the developer initially sought the advice of GMP, the advised changes were not incorporated into the final design and build and the development did not achieve SBD accreditation.

The second development was built in phases. Whilst one unit had been completed and occupied by a commercial company, the remainder of the site was still being developed. The commercial company informed the LPA that they had experienced high levels of theft and was considering vacating the site. The LPA sought the advice of Respondent Y who suggested erecting a temporary security fence around the site whilst it was under construction. The council wanted the site to remain open plan. The advice was not heeded. The company experienced further victimisation and the advice of Respondent Y was sought. Respondent Y restated the advice initially provided and was asked by the LPA to document this in a report. As the LPA did not heed the advice initially provided, Respondent Y stated if the LPA required a report, they would be charged a fee. This was accepted by the Head Planner and GMP ALU compiled a report for £2,000. Respondent Y indicated that this figure (£2,000) was formulated in haste and *"on the back of a fag packet"* as this was the first time that GMP ALU would have received any funding for their services.

> *I said, "I've told you what you can do". He said, "Well, write me a report". So I said, "I'm going to have to charge you for this, because we've looked at this time and time again"…And I said I'll tell you for free what to do.…But he said "No. Do us a report. Charge us for it." This was the first time we charged. I'd given them free advice…before the thing even came out of the ground they'd had SBD advice which they just ignored. So I thought, "There's only one thing that will make these buggers actually come to the trough, and that's paying for it." So I charged them two grand for it.*

Respondent Y indicated that a combination of these events (the introduction of Section 17 and the lessons learnt from the two developments) resulted in a closer working relationship between GMP ALU and Manchester LPA. Consequently, the Manchester LPA started to advise all those submitting major planning applications to contact GMP ALU for crime prevention advice. Due to this, and coupled with the increase in work from other LPAs, GMP ALU required more staff. As GMP was unable to fund any additional posts, the LPA agreed to fund a post for a fixed term. When this funding came to an end, Respondent Y requested that this funding be provided by GMP. Although the Assistant Chief Constable agreed to fund the post, he warned that no additional posts would be funded in the future and advised Respondent Y to consider alternative funding options:

> *...He* [ACC] *said, "Don't come back for any more* [funding].*" So I said, "I might have to". So anyway, we went on for probably another nine, ten months and I was back again, saying, "I do need somebody. This is beginning to take off. Section 17 is biting and we are doing SBD". So, at that point, he said to me, "Look, you're going to have to think of some way of doing this because I just can't get you the funds...Go away and think about it".*

At the same time, the Head Planner for Manchester City Council and Respondent Y were in discussions as to how to ensure that crime prevention advice was sought early in the design process and integrated into the design and build of all developments. The Head Planner and Respondent Y began to draft the required content of a CIS. The aim of the CIS would be twofold: i) to increase the likelihood that a developer incorporated the advice into the design of the development (because it was paid for) and ii) to provide GMP ALU with an income stream to sustain the staffing levels.

As discussions regarding the content of the CIS progressed, it was decided that the CIS should consist of two parts: i) Part A (preliminary) which dealt with the outline planning application and ii) Part B which dealt with the detailed planning application. It was envisaged that this would ensure that GMP ALU was able to provide CPTED advice throughout the design and planning process. In addition, Respondent Y wanted the client to consult them wherever necessary throughout the design and planning process, should they require any information or clarification.

As the following quote highlights, Part A would include an appraisal of the outline application, the findings from a site visit and an analysis of the local crime and disorder issues. Part B would be a more comprehensive appraisal of the developed design which would then accompany the planning application. In addition, GMP ALU would offer on-going support advice throughout the process of compiling the CIS.

> *...I decided that we'd have a two part certificate. One that would allow us to visit the site with only the developer's ideas and concept in mind...We will visit the site, have a look at it. Look at the crime patterns in the areas and the site. We'll then write you a brief saying, "This is what's happening...Be careful of car theft, or burglary, or whatever....Then come back to us. If there's anything in the ensuing process that you want to talk about, you're paying for our expertise. We're at the end of a phone. You've got an officer on the case. We will talk to you, meet you, do whatever you need to do this for the coverall fee. Then when you've done it, we'll go back and sign it off for you.*

The Head Planner and the ACC were satisfied with the proposed format and process of the CIS and charging structure. Whilst the rationale for charging for the CIS was, as noted above, twofold, Respondent Y was adamant that GMP ALU had to be responsible to an ACC. The justification for this was that if anyone of lower rank were responsible for the unit there was a risk that they would only be in post for a short time before being promoted or moved into another role. Respondent Y was also concerned that if GMP ALU were to be directly responsible to an officer outside the Command Team, the strategic aims and objectives of GMP ALU would be lost and would risk becoming focused upon income generation.

> *I said that the deal in this is that this department has got to be responsible to an ACC. No Chief Inspectors, Superintendents, Chief Superintendents. It's got to be an ACC. I said, "I'll know what'll happen. It's alright while you've got one good Chief Super but they move like they're on castors and then they'll look at this as a cash cow and they'll all start to try and bloody milk it and we'll be the ones who are left hungry...I don't mind sharing what I've got with GMP but I'll*

take what we need to run our operation properly and then you can have the rest".

Respondent Y also stated that those wishing to develop in Greater Manchester had a social responsibility to ensure that they mitigated any design feature which could prove detrimental to the local area and its residents. Respondent Y questioned why GMP should fund a unit when its work consisted of assessing developments which had not yet been built and therefore did not require the assistance of operational police officers. Respondent Y suggested that it seemed logical to ask those wishing to build in Greater Manchester to pay for GMP to appraise their development in an attempt to reduce any future demands on policing:

> *…why should the ratepayers of Greater Manchester…why should they pay…for a police department to look through and consult with developers who are trying to put a development in their community which is a privilege that we're giving them…when it might start to be an absolute problem for them? The polluter should pay. They should be the ones who pay for the statement which says, 'We've done everything we possibly can to mitigate any affects that might come from in terms of crime and crime prevention'. It's only fair, isn't it?*

After the content of the CIS was confirmed and the charging structure agreed, discussions were then held to explore how the CIS could be embedded in the planning process. Both Respondent Y and the Head Planner deemed that the validation checklist was the most suitable mechanism through which to request the CIS. Although the requirement for a CIS was included in the validation checklist, there was no stipulation that it had to be compiled by the police. Whilst other individuals or organisations could attempt to submit a CIS, Respondent Y questioned whether others would be able to compile a CIS as cost effectively and provide an unbiased appraisal of the development.

> *…if private practice was doing it, they'd be charging a lot more. So surely we must be the logical answer, we are completely unbiased – we are not a builder, not a developer, we're the police. So nobody can say that we are in any way partisan to one developer or another.*

Once the CIS was included in the validation checklist, Respondent Y noted that a small number of CIS' which had not been authored by GMP ALU were being submitted to LPAs. These were being written by applicants themselves or private security consultants. CIS' which were not compiled by GMP were identified when GMP was reviewing the submitted planning application in its role as consultee. Respondent Y described the importance of reviewing and responding to the planning application once submitted to the LPA and likened it to a checking exercise. By reviewing the planning application GMP is able to identify: i) whether a CIS has been compiled; ii) who compiled it and iii) whether the advice provided in the CIS had been incorporated into the final version of the plans submitted to the LPA. Respondent Y contended that reviewing the full planning application is imperative and described how providing a response to planning applications is integral to the service which GMP provides.

> *It's a checking exercise really, we revisit it...I know developers and they're not above a smart trick or two, which is telling you one thing which is where you get a CIS and then altering it. So effectively, we're making sure that the CIS that accompanied the planning application was the correct one for those plans.*

Respondent Y felt that it was important to ensure that adequate numbers of staff are employed to deliver the service efficiently. He stated that it was unacceptable to have spent time engaging with the LPAs, embed the CIS into the validation checklist and for GMP to act as a consultee if they were then unable to deliver owing to staff shortages. Respondent Y warned the ACC that not having adequate numbers of dedicated staff could adversely affect the quality and speed with which GMP could compile CIS' and respond to planning applications.

> *…you start to lose quality or speed of response as well. Because that's the other thing you've got to understand – once you commit to it, you can't fall down on the job. And the other thing is, perhaps more importantly, that the planning officers have got to understand, they've got to trust that when they say that you've got to go to the police to get it [CIS], that they…will get it…it's got to be there in time for planning, otherwise they look mugs and they'll never touch you again.*

In conclusion, the unstructured interview conducted with Respondent Y provided an opportunity to explore the rationale underpinning the formation of DFSC and the introduction of the CIS. In particular, Respondent Y discussed the importance of: staff having a built environment background; the unit being directly responsible to an ACC; GMP being involved from the concept stage to ensure that the CIS is not simply written on a completed development and ensuring that GMP provide responses to planning applications promptly.

5.4   The views of the consultants

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5.5   A strategic view of the delivery of CPTED across Manchester

An unstructured interview was conducted with the Head of Crime Prevention at DFSC (hereinafter Respondent Z). At the time of writing, they were responsible for the management of the DFSC staff, along with the crime reduction staff who are tasked with reducing existing crime hotspots and emerging crime trends. Thus, the author was privy to information which related to both the operational and strategic delivery of DFSC and crime prevention more widely across the force. The interview helped to clarify points raised by each of the consultants and provide additional, strategic insight. The key themes are presented below. Prior to presenting these findings it is important to alert the reader to the following. The interviews conducted with the

consultants and Respondent Z were completed a number of months apart. This was purposeful so that could reflect upon the responses provided by the consultants. Therefore, some of the questions and concerns raised by the consultants were in the process of being, or even had been, addressed by the time Respondent Z was interviewed. This has proved extremely useful for this thesis and documents the resilient approach DFSC has taken to ensure that it is possible to design out crime during a period of austerity.

5.51   The role of the Head of DFSC

After the retirement of Respondent Y, Respondent Z was promoted to the Head of DFSC. During this time, Respondent Z outlined how they had spent considerable time undertaking strategic and management duties, many of which were imperative to ensure the smooth operation and longevity of DFSC. Such duties included formalising elements of the CIS process and liaising with GMP's legal and finance departments. Respondent Z outlined the importance of undertaking these duties as these had not been undertaken by their predecessor, but stated that this had taken a considerable amount of time.

> *I'd got it to this place and done all the validation work, been through legal, because none of that was done before...Now we've got the processes for payment sorted out and we have good links with our finance department on a daily basis, and all of that. It runs really, really well. We don't have any bad debtors anymore, because that used to be a nightmare, chasing bad debtors. So all of that, but it's just taken quite a while. It would have definitely moved forward quicker.*

Shortly after being promoted to the Head of DFSC, Respondent Z became the Head of Crime Prevention and the direct line manager of a total of 25 staff. Whilst this chapter is concerned with the delivery of DFSC, it is important to acknowledge the impact that this has had on Respondent Z's time and the significance of this. Respondent Z stated that whilst leading the crime reduction function had taken a significant amount of their time, it was imperative to streamline the delivery and impact of crime prevention and reduction across the force. However, Respondent Z acknowledged that this has meant that limited time has been spent overseeing the DFSC function which may have contributed to some of the concerns raised by the consultants.

5.52   The value of DFSC

Respondent Z described how the DFSC team are valued as an integral part of the force and that their work is recognised by those in senior management. In contrast to the comments made by the consultants, Respondent Z stated that the senior command team did not view DFSC solely as income generating. Respondent Z vehemently stated that those in management were keen to establish the extent to which DFSC impacts upon preventing crime across the force, as ultimately should the unit have little impact on preventing crime; the charging element to DFSC was futile. At the time the interview with Respondent Z was conducted, four additional members of staff had been recruited[60]. The rationale for recruiting additional staff will be outlined later in this chapter. However, Respondent Z used this as an example as to how the force valued the role of DFSC and the impact that it has on preventing crime across the force. Whilst other areas of the police[61] are reducing owing to impact of the CSR, DFSC has remained and has recently been able to expand. As Respondent Z stated: '[We're] *still there,* [We're] *not reducing* [We're] *growing. So it really is about the impact of crime prevention'.* However, Respondent Z was slightly dismayed by the fact that consultants felt they were not valued by the force. They reiterated the importance of their work and outlined ways in which this could be addressed.

> *I think what I need to do as well, as a manager, is show all of these roles, draw them all up and show how all of them are key to the delivery and how they feed into the force. So we don't actually need recognition. You can see where you fit…Because what you're doing is absolutely key and crucial because you're designing out tomorrow's problems.*

However, Respondent Z acknowledged at times DFSC has been understaffed to fulfil all aspects of the CIS process as they would have preferred. As outlined by the consultants, there have been concerns that DFSC has had too many CIS' to complete that they have been unable to service the planning application responses. Respondent Z was frank in their response and stated that owing to an increase in requests for CIS', the consultants were unfortunately unable to service all aspects of the CIS process and had become victims of their own success: '*…because what had happened was we weren't able to respond. As the economy was picking up, we weren't able to respond to it'.*

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[60] To reiterate, these members of staff had not been recruited when the interviews with the consultants were undertaken.

[61] Nationally as well as across GMP.

Nevertheless, Respondent Z was hopeful that the recruitment of the four additional staff would ensure that all aspects of the process could be fully serviced.

> *It's just the way that things happen, sadly. I think that has to be fed back to force to say that has impacted on the delivery of the service undoubtedly, and very frustrating for everybody because of that.*

It was evident that even though DFSC is income generating and self-funding, Respondent Z was unable to recruit additional staff immediately. The next section of this chapter discusses some of the challenges of trying to recruit staff during a period of austerity.

5.53   The recruitment of staff during a period of austerity

Respondent Z outlined that when they became the Head of DFSC the force were subsidising DFSC as the income generated did not cover all staffing costs:

> *[Previously] the force has had to subsidise. Obviously, when [Respondent Y] left…we weren't even at halfway funding the team, so now that's progressed.*

Shortly after Respondent Z was in post, DFSC became completely self-funded with the income generated from the CIS covering staff costs and any additional on-costs (such as office space and equipment). Any excess in funding generated was absorbed back into the force (as the police is a not-for-profit organisation). Respondent Z also described how they had used some of the funding to ensure that each of the Crime Scene Investigator vans were stocked with crime prevention information leaflets which the investigators could distribute to victims of crime. During the interview it was evident that Respondent Z took pride in this initiative and felt that it was a good way in which to disseminate crime prevention advice and help local communities:

> *There was also some money that I was able then to re-invest and stock CSI vans, for victims of crime. So that was, for me, that was giving back to the communities, and all CSI vans are now stocked to help with victims of crime.*

When the building sector was beginning to show signs of picking up after the recession, the police were facing the impact of the CSR which saw the policing budgets being significantly reduced.

Respondent Z stated that this impacted upon DFSC – as the requests for CIS' increased, it was not possible to recruit staff into DFSC. Respondent Z outlined that owing to the CSR, there was a freeze on recruiting staff into the organisation and any posts had to be considered as a redeployment opportunity in the first instance. As stated earlier in this chapter, since 1990 the ALO or consultant role at GMP has been undertaken by those with a built environment background and this has been a key factor in what differentiates the delivery of CPTED at GMP compared to other forces across England and Wales. Thus, the recruitment freeze and redeployment policy proved complex as it was imperative to ensure that any new staff had the appropriate skill sets. It was not until the recruitment freeze was lifted that DFSC could consider recruiting into roles externally. However, Respondent Z outlined that attempting to recruit staff was a complex and lengthy process which involved having to write a detailed business case which had to be supported by senior management and the finance department. Respondent Z stated that at times it was difficult to operate a business within the police owing to these restrictions.

> *There are lots of changes taking place because of the Comprehensive Spending Review and this has impacted on the recruitment of staff into the organisation. So there are a number of processes now, additional, that we would never have had to do previously. This has, literally, been brought about since the CSR. We would never have been in this situation before. Now we have to go out to redeployment straightaway. There are a number of business cases that we have to write now for different things. Then there's the recruitment freeze because, until the force knew where it was in the financial projections, there was just a full freeze on recruitment and that was for every department, but you were allowed to move people within the organisation into roles, but you couldn't actually recruit into those roles, externally. It's not ideal when you have a business within a large scale organisation.*

As stated previously, DFSC has been able to recruit four additional members of staff and these posts are funded by the income generated through the CIS. Whilst the majority of this income is now allocated to staff costs, any excess is to be used to train and further develop the skill sets of the DFSC team. Initially, training opportunities were limited and centralised owing to the impact of the CSR, however Respondent Z has recently been granted permission to reinvest any excess

funding into DFSC. As part of this, Respondent Z has commissioned an external marketing company to update the DFSC website, which is separate to the GMP website. This is an important resource to further promote the work of DFSC and where all CIS applications are made in the first instance.

5.54   The way forward in the delivery of CPTED across Manchester

As stated above and from the interviews that were conducted with the consultants, predominantly owing to staffing levels, it was apparent that the CIS process has not been being implemented to its full potential. This has been identified by Respondent Z who stated that it was timely to reassess the process and ensure that the service was further improved:

> *…right, okay, now I've got the staff in, now we can look at the bits that we knew we were struggling with before.*

Each part of the process will now be discussed in turn.

5.541   CIS

Respondent Z outlined that owing to an upturn in the building and development industry, DFSC were receiving an increased demand for CIS'. Whilst this is encouraging as it highlights that applicants are being directed to DFSC via the LPA and/or the validation checklist, CIS' were being completed quickly. In particular, Respondent Z felt that the CIS could be better informed by crime data along with other data and intelligence sources (e.g. ASB data). Respondent Z described how previously one consultant was responsible for compiling a Crime Pattern Analysis (CPA) for each CIS. The CPA would include a summary of all crime which was recorded by GMP in the 12 months prior to the date the CIS was requested, along with temporal and spatial analysis. The CPA would then be sent to the relevant consultant who may then spend some time reviewing the CPA for more detail. However, Respondent Z said that the recruitment of a new dedicated crime analyst would free up this consultant's time, so they could focus solely on writing CIS'. The dedicated crime analyst would be tasked with liaising with GMP colleagues and identifying sources of data across the force which could then help better inform the content of the CIS'.

Respondent Z stated that they were considering introducing a brief peer review system, or dip sampling, to ensure that CIS' are read by another member of the team before they are

disseminated. This would help to ensure consistency in the reports in terms of the style and formatting of the document itself:

> *…I think it's something we need to do, even if it's just a bit of dip sampling now and again not even necessarily signing off all jobs. But I think that needs to take place because it's very clear from the CIS' that I've looked at recently, that there is quite a difference in the delivery and the style, the formatting, the content and that needs to be picked up and checked now and again.*

5.542 *Planning application responses*

As stated in section 5.45, the consultants said that they had been unable to service planning application responses promptly owing to the increase in demand for CIS'. This has meant that DFSC have been unable to check the plans submitted by the applicant to confirm whether or not they were those which were reviewed for the CIS. To clarify, consultees have a 21 day period within which they are able to provide a formal response the planning application that is submitted. Reviewing a planning application can be time consuming as it requires a consultant to ensure that: i) a CIS was submitted with the planning application and ii) that the recommendations made in the CIS have been included in the application submitted to the LPA. Respondent Z confirmed that unfortunately, DFSC had been unable to respond to a number of these planning applications within the statutory 21 day period. To address this, Respondent Z has recruited two DFSC assistants tasked with reviewing and responding to all planning applications. They will check that a CIS has been completed and alert the LPA to any aspects of the design, layout and physical security which have not been revised as per the advice from the consultant. Respondent Z outlined the importance of ensuring a prompt and detailed response to planning applications, but stated that DFSC were unable to service this fully as previously there was a lack of capacity.

Respondent Z described how the new assistants were also in the process of devising templates to help ensure that a consistent response is being provided. As part of this, Respondent Z was considering whether it might be advantageous to refer to any strategies or policies which might be specific to the LPA. By aligning DFSC's response with the LPAs strategies may prove fruitful when explaining any limitations with the planning application.

It could be something that went in the response...when we're consulted at planning application stage to say that, "In line with your core strategy" and for each one of them, have a bit of a template, "The information within this refers back to that" or, "Relates to that." Maybe that might be... because that's direct into that planner to make them consider our response, isn't it?

In conclusion and reflecting upon the key findings from interviews conducted with both the consultants and the Head of Crime Prevention, it is fair to say that designing out crime during a period of austerity has been difficult. Nevertheless, during this time DFSC have managed to maintain in operation and have recently been able to expand the team to improve the level of service provided to preventing crime and disorder across Manchester.

5.6   Examining the CIS - four detailed case studies

In addition to examining the process through which CPTED is delivered across Manchester, case studies were used to help provide a detailed analysis of developments which had been through the CIS process, been built and occupied. As discussed in chapter three, each of the consultants was asked to complete a diary of activity sheet for two residential developments. The consultants were asked to document their involvement in the design and planning of the development by recording every communication (site visit, email, meeting etc). Since the completion of the diary of activity sheets, four of the developments have been built, are resided in and as such have experienced (or had the opportunity to experience) crime and disorder. What follows is a critical review of each of the four developments. These four CIS' were written by three different consultants. To ensure anonymity in the subsequent text, each consultant will be referred to as 'he'.

Each case study is described in turn. First, generic information is provided such as the date the initial CIS was requested, the number of individual dwellings of which it comprised and the content of the CIS. Second, a detailed discussion of the key concerns raised either during the CIS process or documented in the CIS is provided along with any revisions made to the design of the development as a result of the advice provided by DFS. Third, a detailed breakdown of the crime recorded by the police between 1st May 2012 and 30th April 2014 is provided along with information about the *modus operandi*. Fourth, the crime rate at each of the four case study sites is

compared to that within the beat area in which it is located[62]. Photographs will be used where relevant to complement the key findings.

5.61   CIS development 1

CIS development 1 (hereinafter CIS-1) consisted of 11 three-bedroomed terraced houses in LPA1[63]. Initially, the applicant submitted the planning application on 5th August 2010 but did not include a CIS. On 18th August 2010 the LPA wrote to the client to advise them that a CIS was required and the application could not be validated unless a CIS was submitted. On 25th August 2010, DFS received the instruction to compile a CIS from the applicant – a large social housing provider in the North West. Figure 25 is an image of the site layout plan which was sent to DFS on the basis of which to compile the CIS.

The site comprised a total of 11 dwellings in two terrace blocks (one with five dwellings, the other with six) and 14 car parking spaces. The site was located with roads to the north, south, east and west. As shown in Figure 22, the road to the rear of the development and in front of the former textile mill was narrow. At the time the CIS was written (2010) and when the writer conducted a site visit (2014), the mill still stood but appeared derelict.

A review of the Design and Access Statement (DAS) indicated that the client was seeking to achieve SBD accreditation from the outset. The DAS noted:

> *Part of our client's requirements is that the scheme requires SBD and so on-going consultation is taking place with the police regarding their thoughts regarding the layout, specification of the scheme and perimeter detailing etc.*

A review of the diary of activity sheets revealed that the CIS was completed and submitted to the client two days after it was requested. The CIS included findings from a recent site visit; a crime pattern analysis for 1km square around the site for the previous 12 months (August 2009-August 2010) and an appraisal of the design and layout and physical security.

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[62] The author is aware of the limitations of comparing the CIS development to crime recorded in the beat area.
[63] The LPA in which the development is located has been anonymised.

Figure 22   Layout of CIS-1
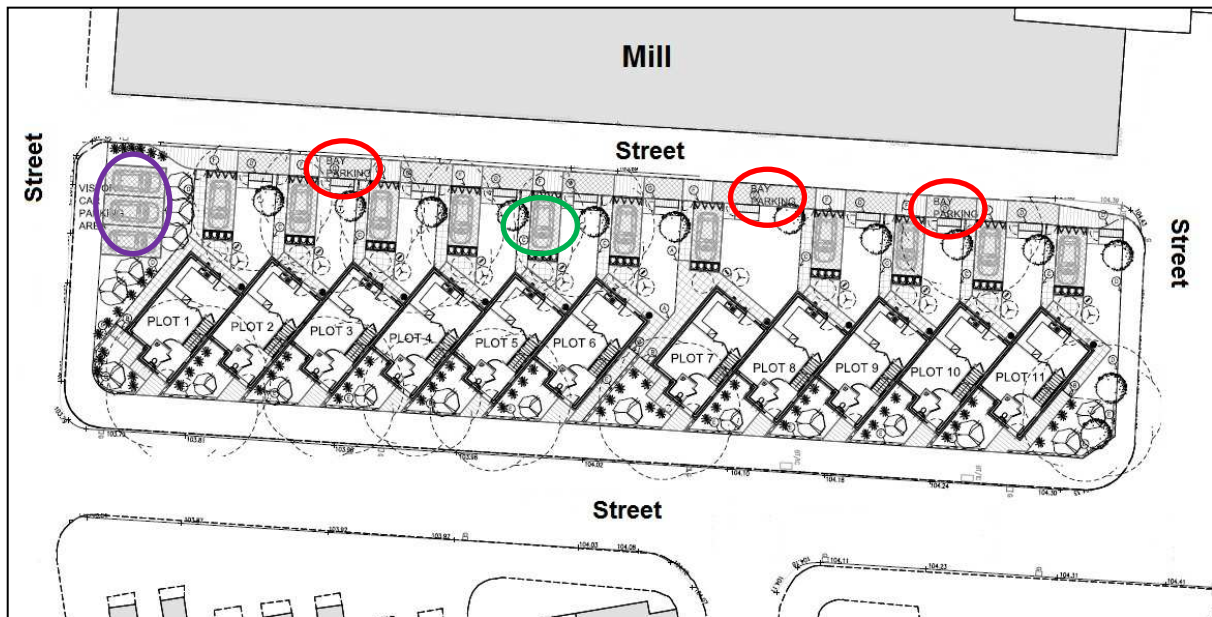
CIS-1 was written in 2010 and ran to 15 pages. As shown in the subsequent sections, the consultant was satisfied with the overall design and layout of the application, thus it did not require an extensive appraisal. The design layout and appraisal section of the CIS covered only half a page. As shown in Table 29, the remainder of the CIS comprised crime and visual audit data and advice on physical security.

5.611 Key issues highlighted in CIS-1

The consultant appeared satisfied with the design and layout of the proposed development and that it adhered to the principles of CPTED. Each dwelling faced onto the street and had one secure parking space located in curtilage and to the rear (indicated in green in Figure 22). The consultant was satisfied that these car parking spaces were adequately secure as the client had proposed to enclose this space with folding doors (which they did as shown in Figure 23).

However, the consultant had concerns regarding the proposed bay parking areas located to the rear of the development. These locations are marked in red in Figure 22. The consultant stated that the:

> *proposal is satisfactory in principle but minor changes are advised….I do have*
> *some concerns about the current scheme, particularly in relation to the parking*
> *arrangements proposed the rear* [of the development]. *If these concerns can be*

addressed, and the physical security measures within this report are incorporated, I am happy to support the development.

Table 29   Content of CIS-1

Section of CIS	Number of pages
Cover page	1
Executive summary (included overall appraisal of development & stated that proposal is satisfactory, but minor changes are advised).	1
Contents page	1
Visual audit data (including generic information about the location of the development). Included photographs.	2
Crime data analysis	4
Generic information about general security considerations & brief outline of key policy	0.5
Specific advice relating to the proposed design & layout of the development	0.5
Generic advice relating to the physical protection of the development (predominantly SBD advice)	2
Generic advice regarding site security during development	1
Contact register	1
Glossary	1

Figure 23   Doors installed to secure in-curtilage car parking space
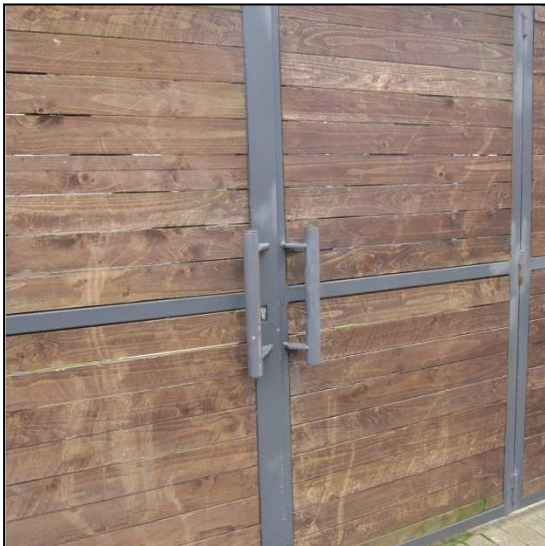
The consultant was concerned about this particular aspect of the development as the road to its rear was poorly lit and had limited surveillance from the mill, thus any vehicles parked in this area could be vulnerable. The consultant was also concerned that three parking spaces allocated to

visitors (highlighted in purple in Figure 22) also had limited natural surveillance. These three spaces were also raised as a concern by Highways in their planning response to the planning consultation. Highways suggested that the visitor parking was remote, lacked natural surveillance and was unlikely to be used.

An analysis of the police recorded crime data for a 1km square around the proposed development was used to inform the CIS. A review of the crime data for the 12 months prior to the completion of the CIS (August 2009-August 2010) revealed that the proposed development was in an area which experienced a high level of crime (higher than the average for authority area and Manchester as a whole). In particular, there were high incidences of: less serious wounding (n=140); criminal damage (n=125); miscellaneous thefts (n=87); theft from motor vehicle (n=50); burglary other (n=45) and burglary dwelling (n=44).

A review of the diary activity sheets revealed that the compilation of the CIS appeared straightforward. The CIS was requested and the consultant compiled the CIS within two days and drew upon data and photographs obtained from a site visit and a crime pattern analysis.

5.612   Planning application response

On the 11th August 2010, the LPA wrote to DFSC and invited a response to the planning application. On 1st September 2010, the consultant (who had also compiled the CIS) provided a response. The consultant stated that a CIS had been prepared and reiterated concerns about the bay parking spaces which were located to the rear and side of the development, which remained in the site plan that was submitted to the LPA. This was also raised a potential concern by Highways in their response.

5.613   SBD application

A review of the diary of activity sheets showed that the majority of the communication with the client commenced once the SBD application was submitted. On 21st January 2011, the client wrote to DFSC to apply for SBD accreditation and submitted a completed SBD application, checklist and associated plans. The diary of activity sheets revealed that the consultant discussed the application with three DFSC colleagues as the plans showed that the bay car parking spaces to the rear of the development had remained. Whilst these spaces had not been designed out, as per the initial advice provided by the consultant, DFSC agreed that the overall design and layout of

the development did meet SBD requirements. DFSC concluded that the bay parking spaces were unlikely to be used as a regular parking space; but used when unloading the vehicle before then parking the vehicle in its allocated car parking space.

On 26th January 2011, the consultant wrote to the client to acknowledge the SBD application. The consultant reiterated the initial concerns about the bay parking spaces, but commented that he was satisfied that each dwelling had one secure car parking space. In this letter, the consultant stated that the development should receive SBD accreditation if the client included all the relevant physical security measures specified in the CIS. Upon reviewing the plans that were submitted alongside the SBD application, the consultant specified that the height of the external fencing be increased:

> *All fencing and pedestrian/vehicular gates enclosing the sides/rears of the dwellings should be 2100mm high (rather than 1800mm high as shown). Sub-divisional fencing between plots may be 1500-1800mm high.*

Between April 2011 and the final SBD sign off (January 2012) there were a number of communications between DFSC and the client and/or contractors. An analysis of the diary of activity sheets revealed that this communication was predominantly by email with some telephone contact. These communications involved the client seeking clarification from DFSC regarding i) the re-location of the meter boxes from the front to the rear ii) certification of physical security products iii) external lighting specifications and iv) the height of external fencing.

Initially, it was proposed that meter boxes for each dwelling were located externally and to the front of the dwelling. This was welcomed by DFSC as this reduces the opportunity for bogus callers to gain access to a dwelling. However, in April 2011 the client informed DFSC that the meters would be re-located to the rear of the dwellings but would be accessed remotely. Whilst DFSC stated that it would prefer the boxes to be located at the front (where there was more opportunity for them to be overlooked) it agreed to support the request to have them moved to the rear as they would be accessed remotely.

In September 2011 there was a detailed email exchange between the client, developer and DFSC to confirm the specification of the external doors. Whilst it was important that the design of the external door complemented the overall design of the development, it also had to be SBD certified. DFSC requested to view the relevant certification from the manufacturer of the doorsets and confirmed that the doors satisfied SBD requirements.

In October 2011, there was another detailed email exchange between the client, the developer and DFSC about the type of external lighting proposed for the rear of the dwellings. The client sought confirmation that DFSC would accept Passive Infrared Sensor lighting (PIR) which had a photocell override as the client was aware that SBD did not accept PIR alone owing to the potential for false triggering. DFSC confirmed that it would prefer photocell lighting to PIR, but was happy with the photocell override function. DFSC reiterated that the external lighting to the front of the dwellings must be photocell only.

In November 2011, there were a number of emails and telephone calls between the client and DFSC to confirm the height of the fencing. As stated above, initially the height of the fencing was proposed as being 1.8m and DFSC had stated that this needed to be increased to 2.1m. The drawings that accompanied these communications in November 2011 indicated that the bi-fold gates would be 2.0m high. DFSC again referred to the initial advice provided in the CIS which stated that they should be increased to 2.1m high: *"Side rear boundaries should be formed by 2100mm high walls or robust close-boarded timber fencing"*. The height of the fence was increased to 2.1m. Upon the submission of all relevant documentation and a final site visit, the development was awarded SBD accreditation in January 2012.

In summary, throughout the CIS and SBD process a number of recommendations were made by DFSC. These have been tabulated in Table 30 and include: i) a summary of the recommendation made; ii) whether a recommendation was implemented; iii) what specific CPTED principle(s) this could be aligned to and iv) any additional comments.

Table 30 DFSC recommendations for CIS-1

CPTED principle	Concerns or Recommendations	Concerns addressed/ Recommendation implemented?	Comments
Defensible space & Surveillance	Concern regarding the vulnerability of bay car parking spaces as not within boundary of property.	Bay parking spaces remained in final design and development.	Narrow to deter long stay parking. Shown by the paved area in Figure 24.
Surveillance	Concern regarding the lack of surveillance over the three visitor car parking spaces.	Site visit revealed proposed visitor car parking not included in final development.	Space is unused and unmaintained - shown in Figure 25.
Defensible space	Recommendation that the height of the fencing should be increased from 1800mm to 2100mm.	Height of fencing increased to 2100mm as requested.	
Management & maintenance	Recommendation that meter boxes to be located to the front of dwellings to prevent bogus callers.	Meter boxes located to the rear but accessed remotely to prevent unauthorised access.	Compromise between client & DFSC.
Surveillance	Recommendation that photocell lighting should be used to the rear of dwellings.	Rear external lighting comprised Passive Infrared Sensor lighting with a photocell override.	Compromise between client & DFSC.

Figure 24 Bay parking spaces to rear of CIS-1

Figure 25   Proposed area for three visitor car parking spaces

5.614 Analysis of police recorded crime data

Police recorded crime data was requested for the period 1st May 2012 to 30th April 2014. During this period, no crime was recorded at any of the eleven dwellings which was fully occupied during the period of analysis. However, within the beat area (covering nearly 6,500 individual properties) during the same time period there were a total of 2,009 recorded calls for service. The majority of these calls (30%) related to less serious wounding; 16% criminal damage to property; 13% miscellaneous thefts; 12% theft from motor vehicle; 9% burglary other; 7% criminal damage to vehicles and 6% burglary dwelling. These figures are presented as a rate per 100[64] dwellings in Table 31.

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[64] The rate has been calculated per 100 dwellings owing to the relatively small size of the development.

Table 31   Beat crime rate per 100 dwellings for CIS-1

Crime type	Rate per 100 dwellings
Less serious wounding	9
Criminal damage to property	5
Miscellaneous thefts	4
Theft from motor vehicle	4
Burglary other	3
Burglary dwelling	2
Criminal damage to vehicles	2
Theft of motor vehicle	1

5.62   CIS development 2

CIS development 2 (hereinafter CIS-2) consisted of 30 three and four bedroomed semi-detached and detached houses for private sale with 60 off-road car parking spaces. Figure 26 is an image of the site layout plan for phase 1 which was sent to DFSC on the basis of which to compile the CIS. On 14th September 2009, DFSC received the instruction to compile a CIS from the architect.

The proposed site was part of a three phased development. CIS-2 comprised phase 1 and it was envisaged that phases 2 and 3 would follow the completion of the first phase. The site was bounded by playing fields to the south and west; land earmarked for phase 2 to the north and terraced housing to the east. A professional football club and a hospital were also in close proximity to the development. No reference to preventing crime and disorder was made in the DAS.

CIS-2 was written in 2009 and was 15 pages. It composed of a detailed appraisal of the design and layout of the development, along with detailed information about the recommended physical security. Table 32 shows the content of the CIS-2.

Figure 26   Layout of CIS-2
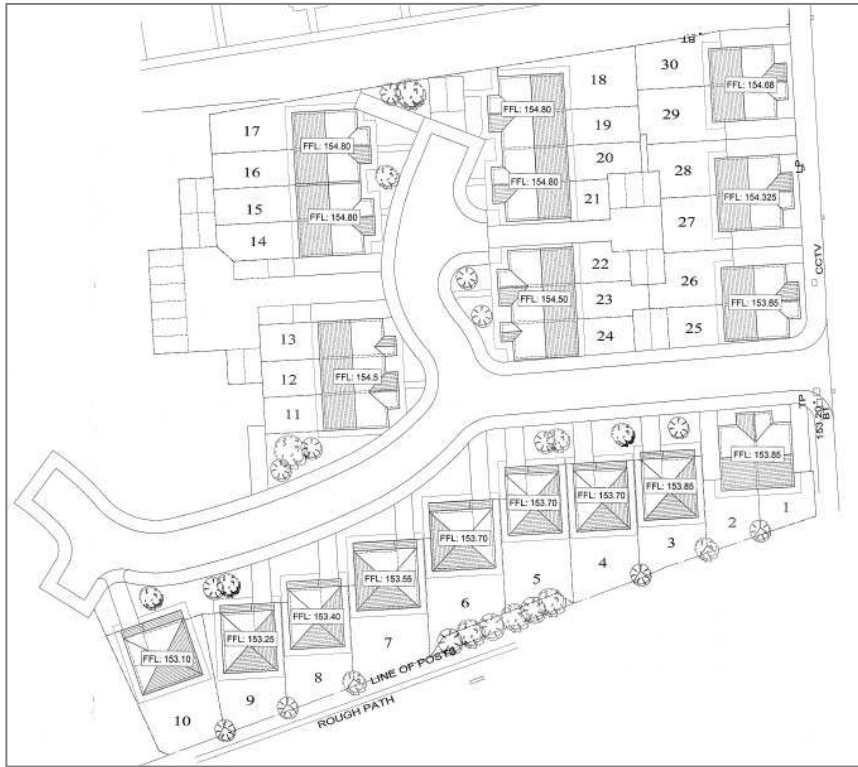
Table 32   Content of CIS-2

Section of CIS	Number of pages
Cover page	1
Contents page	1
Summary evaluation/contact and document register	1
Generic information about the aim of a CIS	1
Generic information about the location of the proposed development (including visual data)	1.5
Crime data analysis	1
Local intelligence from the CRO and general security considerations	0.5
Specific advice relating to the proposed design and layout of the development	2
Generic advice relating to the physical protection of the development (predominantly SBD advice)	3
Conclusion	1
Appendices	2

On 14th September 2009, the architect contacted DFSC to request the production of a CIS for phase 1 of the development. The architect stated that they already had outline planning permission, but now required reserved matters approval. On 25th September 2009, a completed

CIS was sent to the architect electronically. The CIS included findings from a recent visit to the site; a crime pattern analysis for 1km square around the site for the previous 12 months (September 2008 - 2009) and an appraisal of the design and layout and physical security.

5.621 Key issues highlighted in CIS-2

Whilst the consultant was satisfied that some aspects of the development were consistent with the principles of CPTED, a number of key concerns regarding the proposed design and layout of phase 1 were raised. These included concerns about the design and layout of the development, as well as the design of specific dwellings. Each of these concerns will be discussed in turn.

In terms of generic concerns, the consultant identified that there was a lack of defensible space throughout the development. The consultant suggested that front boundaries and driveways should be demarcated by low railings. The consultant advised that all boundary lines should be robust and approximately 2100mm high. The consultant stated that securing the boundary, particularly the northern boundary, was imperative owing to the phased nature of the development.

In terms of specific concerns, a number of areas were identified as posing potential issues from a crime and disorder perspective. First, the consultant had reservations relating to the orientation of plots 25-30 (outlined in red in Figure 27). As shown in Figure 28, these dwellings were located opposite existing, terraced housing. Whilst the consultant acknowledged that the orientation of plots 25-30 would provide surveillance over existing housing (depicted by the red arrows), there was concern that the existing housing would not provide any surveillance over the proposed new housing as the side elevations of the existing houses comprised blank gables. The consultant stated:

> *...the front elevations to plots 25-30 are overlooked only by blank gable ends meaning criminal acts against these plots could occur with a good chance that they* [offender] *won't be seen.*

Thus, the consultant advised that these dwellings would benefit from defensible space and their boundary clearly demarcated with low railings and a pedestrian gate. In particular, the consultant advised that driveways should be secured with lockable gates.

Figure 27   Annotated layout of CIS-2

Figure 28   Blank gable ends opposite plots 25-30

Second, the consultant suggested a number of recommendations for plots 24 and 25 (indicated in blue in Figure 27). The consultant identified that the side elevations to these plots were blank and

recommended that windows should be included to increase levels of surveillance over plots 1 to 5. It was also advised that the car parking spaces between plots 24 and 25 should have lockable gates to ensure that the vehicles were kept secure and that the plots would benefit from a defensible space buffer to their side elevations to ensure they did not directly abut the footpath.

Third, the consultant was concerned about the vulnerability of plot number 1 (corner plot indicated in green in Figure 27) as the parking space located to the side of the dwelling would be vulnerable owing to the blank gable on the side elevation. The consultant recommended a window be introduced into the gable so that the car parking space and adjacent footpath could be well overlooked. It was also recommended that the driveway be fully enclosed.

Fourth, the rears of plots 1 to 10 were identified as being potentially vulnerable as they abutted a large playing field (Figure 29) which could provide an offender with the opportunity of gaining access via the rear. These plots are depicted in Figure 27 with a dashed, orange line. It was recommended that each dwelling have robust boundary treatments:

> *Openly accessible playing fields can attract anti-social behaviour, and in this instance the land is not particularly overlooked. It is crucial that the proposal responds to the risk that the adjacent playing fields may pose, in terms of robust, hard-wearing boundary treatments, which make illegitimate access to the rears of the properties along the* [southern] *boundary difficult.*

In particular, the consultant advised that the boundary treatment should be a minimum of 2100mm and that the lower section of this boundary should be constructed from a brick or concrete panel, with the remainder of the fencing made from close boarded timber. This was to remove any opportunity for offenders to be able to easily climb over the wall.

Figure 29   Large playing field located behind CIS-2

Fifth, the consultant identified that the development comprised two rear parking courtyards (identified with a dashed, pink line in Figure 27). The consultant was concerned that vehicles would not be adequately surveilled by the surrounding properties and advised that the courtyards should be gated and operated by a key fob to hinder unauthorised access. There were also concerns that a number of rear gardens could be easily accessed via the parking courtyard (e.g. plots 20 and 15 for example). Finally, the parking space at plot 11 was identified as a concern. Situated behind and adjacent to the dwelling, the consultant was concerned that any vehicle parked there would not be well overlooked. It was advised that the car parking space be located directly adjacent to the side elevation and that a window be introduced into the lounge to provide some surveillance. The small green space located next to plot 11 lacked clarity in terms of ownership. Thus, it was recommended that if the space belongs to plot 11, it should be bounded by low railings.

Police recorded crime for a 1km square around the development was used to inform the advice provided in the CIS. A review of the crime data for the 12 months prior to the completion of the CIS (September 2008 – September 2009) revealed incidences of the following crime types: theft from motor vehicle (n=80); criminal damage (n=35); burglary dwelling (n=33); less serious wounding (n=32) and burglary other (n=24).

5.622 *Planning application response*

On 9th October 2009, the LPA wrote to DFS and invited it to respond to the planning application for CIS-2. On 30th October 2009, the consultant, who also compiled the CIS, provided a planning response. The consultant stated that whilst a CIS had been prepared, none of the recommendations had been incorporated into the final plans submitted to the LPA. The consultant reiterated the need for some of the changes (such as the addition of defensible space) to be made pre-planning so that it did not affect the appearance of the final scheme. Thus, in its current format the consultant did not support the application and requested that the measures included in the CIS were incorporated. On 18th November 2009, the planning officer emailed the consultant to state that the applicant had revised the layout of the proposal based upon the comments in the CIS. The revised layout is shown in Figure 30.

In response to the planning officer, the consultant expressed pleasure in seeing a number of significant revisions to the layout which included: i) the removal of the car parking courtyards and ii) clearer definition of boundaries. These are marked with a blue dotted line in Figure 30. However, the consultant re-stated a number of issues raised in the CIS. These included: i) the provision of defensible space to the gable of plot 24 and 25 (such as a low fence or defensible planting); ii) ensuring that the driveways of plots 1 and 25-30 were gated (although there was an appreciation that this might conflict with Highways advice) and iii) whilst the car parking spaces between plots 24 and 25 and behind plot 11 had been improved with the inclusion of railings to help promote surveillance over these spaces, the consultant reiterated that it would be preferable to see these spaces incorporated into the boundary of the dwelling, or located in a less secluded position. These outstanding concerns are depicted in red in Figure 30. The consultant informed the planning officer that these additional measures would be required, should the applicant wish to achieve SBD accreditation.

Figure 30 Revised layout for CIS-2

On 4th March 2010, the consultant retrieved the LPA committee report from the planning committee which met on 2nd December 2009. In the diary of activity sheet, the consultant noted that the application had been approved, but was disappointed to note that there was no specific reference to ensuring a good level of physical security in the planning approval. The committee report stated that a number of revisions made to the initial submission to overcome concerns raised by planning officers, Highways and the police over boundary treatments, car parking, access arrangements, property security and minor design issues. In terms of the outstanding issues raised by the police, the report noted that the applicant had investigated the possibility of defensible space to gables of Plots 24 and 25 and repositioning the parking spaces for Plots 11, 24 and 25 without success. It also stated that it was not feasible to provide gates to the driveways of Plots 1 and 25 to 30 as it would force vehicles to wait in the highway before accessing gated driveways, which would not be acceptable from a Highways perspective. The applicant did not seek to achieve SBD accreditation.

5.623   A note of caution regarding CIS-2

In total, CIS-2 should have comprised 30 individual dwellings. However, when monitoring this development, it was evident that not all of these dwellings would be built. Indeed, only 10 of the

30 dwellings were built and occupied. It must be reiterated at this juncture that the diary of activity exercise was conducted during the recession which saw development stall. The 10 dwellings built are depicted by the red line in Figure 31 and shown in Figure 32. The remaining 20 dwellings were not built and had not been built at the time of writing.

Figure 31   Site plan of CIS-2 depicting dwellings which were built

Figure 32   Dwellings which were built at CIS-2

Whilst only 10 of the 30 dwellings had been built and resided in, it was still considered important to analyse the CIS process. It was also considered important to assess whether there had been any crime recorded at the 10 dwellings. However, it must be noted that the development was not built in full as the consultant presumed. Therefore, when assessing the development in its entirety, the consultant may have been satisfied that it addressed the principles of CPTED. Any crime prevention afforded by the overall design and layout may have been negated by the incomplete build of the development. This should be considered when interpreting the ensuing findings. In summary, throughout the CIS process a number of recommendations were made by DFSC which specifically related to the 10 dwellings which were built and resided in. These have been tabulated in Table 33 and include: i) a summary of the recommendation made; ii) whether a recommendation was implemented; iii) what specific CPTED principle(s) this could be aligned to and iv) any additional comments.

Table 33   DFSC recommendations for CIS-2

CPTED principle	Concerns or Recommendations	Concerns addressed/ Recommendation implemented?	Comments
Defensible space	Concern regarding vulnerability of car parking space at Plot 1. Recommended driveway gated.	Driveway was not secured, as per the concerns from Highways.	Shown in Figure 33.
Defensible space	Concern regarding side boundary of Plot 1 as it abutted public highway. Recommended boundary was better defined/secured.	Revised plan suggested that boundary would comprise a 900mm high brick wall with 600mm high railing on top to further secure the boundary which abutted the public highway. Shown in Figure 33, this was not incorporated into the final build.	
Defensible space	Concern regarding rear boundary of the dwellings which abutted the large playing field.	The height of the boundary was increased and the materials used as per the advice of the consultant (2100mm high with a mixture of brick and close boarded timber).	Shown in Figure 34.
Surveillance	Concern regarding lack of surveillance over the car parking space at Plot 1. Recommended that a window be installed in the side elevation. This would increase surveillance over the public highway.	Window was not installed.	Shown in Figure 33.

Figure 33   Plot 1 at CIS-2

Image taken from Google Maps, 2015

Figure 34   Rear boundary at CIS-2

5.624   Analysis of police recorded crime data

Police recorded crime was analysed for a two year period after the development (10 dwellings) had been completed and fully resided in. As shown in Table 34, only one crime was recorded at CIS-2 - theft of a motor vehicle. The police recorded crime data fails to identify which one of the 10 dwellings this offence is attributed to. However, the *modus operandi (MO)* reveals that this offence was atypical - the offender was the complainant's son who had stolen the keys to the vehicle.

Table 34   Offences recorded at CIS-2 between 1st May 2012 and 30th April 2014

Date of incident	Crime	*Modus operandi*
April 2014	Theft of motor vehicle	Offender, who is complainant's son along with a friend, takes keys to his dad's work van and enters vehicle starting same, driving it down the street.

The beat area in which CIS-2 was located comprised 4,809 individual properties. A total of 1,756 calls for service were recorded between 1st May 2012 and 30th April 2014. The majority of these calls (35%) related to less serious wounding; 15% criminal damage to property; 11% miscellaneous thefts; 10% theft from motor vehicle; 9% criminal damage to vehicles; 7% burglary dwelling; 7% burglary other; 3% robbery and 2% theft of motor vehicle. These figures are presented as a rate per 100 dwellings in Table 35.

Table 35 Beat crime rate per 100 dwellings for CIS-2

Crime type	Rate per 100 dwellings
Less serious wounding	13
Criminal damage to property	6
Miscellaneous thefts	4
Theft from motor vehicle	4
Criminal damage to vehicles	3
Burglary dwelling	3
Burglary other	3
Robbery	1
Theft of motor vehicle	1

During the period of analysis, GMP responded to only one call for service at CIS-2. When calculated as a rate, this equates to 10 thefts of motor vehicle per 100 dwellings. Whilst this figure is higher than the rate for the beat, this offence was atypical and did not involve intrusion into the home or vehicle.

5.63 CIS development 3

CIS development 3 (hereinafter CIS-3) consisted of 12 two-bedroomed flats with associated car parking and landscaping. Figure 35 is an image of the site layout plan which was sent to DFS on the basis of which to compile the CIS.

The proposed site comprised 12 flats in two, two storey buildings and 12 car parking spaces. The proposed site was an open green space located at a road junction. Thus, two sides of the development abutted the public highway and the remaining two sides were adjacent to existing housing (semi-detached and terraced housing).

There was no specific reference to crime prevention in the DAS, however it did suggest that the development would offer adequate levels of natural surveillance and clearly define boundaries. No reference to SBD accreditation was made in the DAS, however it was expected that the applicant (a housing association) would be seeking to achieve SBD.

Figure 35 Layout of CIS-3

A review of the diary of activity sheets revealed that a CIS was requested on 12th February 2009 and the consultant began to undertake assessment of the site. During this time, the consultant received a telephone call from the architect who requested information regarding the CIS process. The consultant discussed the CIS process over the telephone and also emailed the architect to state that Part A of the CIS would be completed in the first instance and Part B would be completed when the detailed drawings had been received.

CIS-3 was written and ran to 21 pages. A detailed review of the CIS revealed that much of the content was descriptive and related to the aims of the CIS and the principles of CPTED. Four pages of the CIS contained advice relating to the specific design and layout of the proposal and its physical security. The various sections that comprised the CIS are listed in Table 36.

Table 36   Content of CIS-3

Section of CIS	Number of pages
Cover page	1
Purpose of a CIS (including definition of CPTED)	1
Description of site	1
Crime Pattern Analysis (including Vulnerable Localities Index)	2
Summary of the attributes of Safer Places	3
Specific advice about the design and layout of the development	1
Contact details for local CRO	1
Information about SBD	1
Assessment of the development	3
Glossary	7

5.631 Key issues highlighted in CIS-3

The consultant emailed the architect to express concerns about the layout and orientation of the development and identified specific areas of the proposed development that required revision. These included ensuring that the entrances to the flats were not located at the rear and that habitable rooms overlooked the entrance and car parking areas:

> *I am concerned about some of the details of the scheme you have submitted (i.e. entrances at the rear, a lack of habitable room windows to the front/side of the building adjacent to entrance doors and vehicle parking spaces). I would like to see these issues addressed before continuing with Part B of the CIS.*

In summary the consultant was asking for extensive alterations to be made to the plan as ultimately altering the orientation of the development would also mean that the internal layout of the development would have to be altered. The initial areas of concern are highlighted in green in Figure 35.

Upon receiving the initial comments and concerns from the consultant, the architect informed their client and sought to resolve the issues highlighted. The architect emailed the consultant to state that he was '*…looking at the issues…raised and discussing them with the client*'. One week later, the architect emailed the consultant stating that the plan had been amended to ensure that: i) all main entrances to the flats were accessed off the main road and ii) that additional windows had been incorporated to increase levels of surveillance over the side car parking areas and the

entrances. These alterations are highlighted in green in Figure 36. By comparing the highlighted areas in Figure 35 and 36, it is clear that significant alterations made to the plan. It is also important to note that the internal layout for two of the flats was also revised to ensure that the kitchen overlooked the front of the development and the lounge overlooked the rear of the development.

Figure 36   Revised plan for CIS-3

After reviewing the revised plans, the consultant completed Part B of the CIS. The complete CIS (Part A and Part B) included a crime pattern analysis for 1km square around the site for the previous 12 months (February 2008 - 2009) and observations made during the site visit. A review of the crime data revealed that the proposed development was in an area which experienced a high level of crime. In particular, there were high incidences of: criminal damage (n=233); less serious wounding (n=175) and burglary dwelling (n=84). It was noted within the CIS that the plans had already been revised as per the initial concerns raised by the consultant. In the CIS, the consultant recommended that the additional windows, which had been included in the side elevations, should be as large as possible in order to maximise surveillance over the car parking areas. The remainder of advice provided in the CIS related to the physical security of the development. It was

recommended that: i) the side and rear of the development should be defined as an area of private space; ii) any side gates should be secured to prevent unauthorised access and should be self-closing; iii) defensible space should be provided to the front of the blocks of flats; iv) rear car park should be accessed through automatic gates; v) all doors and windows meet specific security standards; vi) adequate lighting installed and that vii) all areas of the development are well managed and maintained to ensure that the landscaping does not over-grow and the parking gates operate efficiently. The CIS concluded with a statement from the consultant outlining that in principle, DFSC endorsed the development, subject to the inclusion of the physical measures. The CIS also stated that should the client incorporate these measures, it would achieve SBD accreditation. The CIS was submitted to the client on 9th March 2009.

5.632 *Planning application response*

On 18th March 2009, the LPA wrote to DFS and invited it to respond to the planning application. On 24th March 2009, the consultant wrote to the LPA and confirmed that a CIS had been compiled. The consultant stated that DFSC was happy to support the application only if the recommendations in Part B of the CIS (i.e. physical security measures) were included. Planning permission was granted on 18th May 2009. It is interesting to note that the CIS had been referred to within the planning conditions which stated that:

> *The development hereby approved shall be carried out in accordance with the following drawings and documents…Crime Impact Statement...to ensure that the development is carried out in accordance with the approved plans.*

In addition, the planning conditions also stated that the development must also achieve SBD accreditation:

> *No development shall commence until details of the measures to be incorporated into the development to demonstrate how SBD accreditation will be achieved have been submitted to and approved in writing to the LPA….to reduce the risk of crime pursuant of relevant policy.*

5.633 SBD application

A review of the diary of activity sheets suggested that there were more communications between DFSC and the architect to ensure that the development received SBD accreditation, than there were during the CIS and planning application process. During the SBD accreditation process the architect tended to contact DFSC via email and telephone to seek clarification about specific elements of the site. These communications are documented below.

On 5th January 2010 (nearly 8 months after the development received planning approval) DFSC received a completed SBD application. On 15th January 2010, DFSC wrote to the architect to acknowledge the receipt of the SBD application. Within this letter, DFSC reiterated the importance of ensuring that the perimeter is well defined and that any fencing is increased to 2100mm, opposed to the 1800mm the architect had proposed in the SBD application. This advice was provided in the CIS which was initially compiled for the architect. The consultant stated:

> *The timber fencing/gates running between the proposed buildings and to the perimeter of the site (enclosing the rear of the site as private space) should be 2100mm high rather than 1800mm as proposed...The sides/rear of the blocks should be defined and enclosed as private space by 2100mm high walls/railings/robust timber fencing. As stated in the CIS, the gates themselves should be self-closing and slam-to-lock.*

On 22nd February 2010, the architect telephoned the consultant to seek advice. The architect had been asked by the LPA to ensure the provision of a secure communal bin store. The consultant was surprised at this request as the flats were individual, not communal. However, he stated that the inclusion of a communal bin store would be acceptable as long as it was located to avoid any blind spots and hiding places. The remainder of the communications focused upon the height of perimeter fencing. On 19th August, the architect emailed the consultant to confirm the boundary heights to the rear and sides of the flats. The plans had been revised to show 2100mm high fencing between the blocks, but 1800mm fencing to the rear and sides of the adjacent properties. The DFSC consultant replied to state that *'if at all possible'* this fencing should also be increased to 2100mm (1800mm fencing with 300mm robust trellis). The architect telephoned the consultant to query the use of the terminology *'if at all possible'* as he was concerned that SBD accreditation

may not be achievable if the trellis was not installed. The consultant reassured the architect that he would still achieve SBD, but a 2100mm fence would be preferable. The trellis was not included in the final design as shown in Figure 37. Figure 37 also shows the chain link fencing which the consultant asked to be removed. The consultant was concerned that the chain link fencing could be used as a climbing aid and asked for this to be removed. The fencing was not removed; nevertheless the development was awarded SBD accreditation in July 2012.

Figure 37   Rear boundary with no trellis added and close up of chain link fencing

In conclusion, the consultant stated that CIS-3 was a good example of how the CIS process worked owing to the regular engagement between DFSC and the architect. In the main, the

architect made the majority of the alterations that were requested. Unfortunately, the chain link fence was not removed. These recommendations have been tabulated in Table 37 and include: i) a summary of the recommendation made; ii) whether a recommendation was implemented; iii) what specific CPTED principle(s) this could be aligned to and iv) any additional comments.

Table 37   DFSC recommendations for CIS-3

CPTED principle	Concerns or Recommendations	Concerns addressed/ Recommendation implemented?	Comments
Defensible space & movement control	Concern regarding initial design & layout as too many entrance points into the flats from rear. Recommended access to flats is from the front.	Access points to the rear of the development were removed.	Figure 38 - example of entrance point at front of development which overlooks the main street scene.
Natural surveillance	Concern regarding the lack of habitable room windows overlooking entrances & car parking areas.	Revised plan incorporated more windows into the front & side elevations & the internal layout of 2 flats revised to provide opportunities for surveillance.	
Defensible space	Recommended that side & rear boundaries of the development should clearly demarcated.	2100mm fencing erected to the side of the development & 1800mm high fencing to the rear. Additional 300mm of trellis was not installed.	
Defensible space	Recommended that there was some form of defensible space to front of development.	Space to front of development was demarcated through the use of fencing & planting.	Shown in Figure 39.
Movement control & physical security	Recommended that side gates were included & had a slam-lock installed.	Side gates & slam-locks installed.	Shown in Figure 40.
Physical security	Recommended that doors & windows met SBD standards.	Development received SBD award.	
Movement control	Recommended that automatic gates should be used to secure car parking area & prevent unauthorised access.	Automatic gates installed.	

CPTED principle	Concerns or Recommendations	Concerns addressed/ Recommendation implemented?	Comments
Management & maintenance	Recommended that landscaping should be well maintained & that automatic gates should be regularly checked to ensure that they operate correctly.	It is unknown what management & maintenance policy is in operation at this development.	

Figure 38   Entrance points at front of the development

Figure 39   Defensible space to the front of the development

Figure 40   Slam-to-lock on a side gate

5.634 *Analysis of police recorded crime data*

Police recorded crime was analysed for a two year period after the development (12 flats) had been completed and fully resided in. As shown in Table 38, only one crime was recorded at CIS-3 and this was criminal damage (other). The *modus operandi* states that young people have accessed the communal garden area and have defaced the communal washing line. It is unclear how the young people accessed the communal area, but the resident informed the police that young people are regularly accessing the communal area.

Table 38   Offences recorded at CIS-3 between 1st May 2012 and 30th April 2014

Date of incident	Crime	*Modus operandi*
February 2013	Other criminal damage	Resident confirmed that youths have got into communal garden area and uprooted a communal washing line damaging it beyond repair. Informant says it is occurring problems of youths causing annoyance.

However, within the beat area in which CIS-3 is located, during the same time period, which comprised 2,100 individual properties, there was a total of 635 recorded calls for service. The majority of these calls (41%) related to less serious wounding; 18% burglary dwelling; 14% criminal damage to a dwelling; 8% criminal damage to vehicles; 5% miscellaneous thefts; 4% burglary other; 3% theft from motor vehicle; 3% robbery and 2% theft of motor vehicle. These figures are presented as a rate per 100 dwellings in Table 39.

Table 39   Beat crime rate per 100 dwellings for CIS-3

Crime type	Rate per 100 dwellings
Less serious wounding	12.3
Burglary dwelling	5.4
Criminal damage to property	4.3
Criminal damage to vehicles	2.5
Miscellaneous thefts	1.6
Burglary other	1.3
Theft from motor vehicle	1.0
Robbery	0.8
Theft of motor vehicle	0.6

During the period of analysis, only one offence was recorded at CIS-3. When calculated as a rate, this equates to 8.3 other criminal damage incidents per 100 dwellings. It is not possible to compare this to the rate for the beat (as data on other criminal data was not provided), but when compared to the rate for criminal damage to property, the criminal damage rate at CIS-3 is higher. However, it should be noted that CIS-3 is a small development comprising of 12 flats. Unfortunately, the *modus operandi* does not indicate how the young people gained access to the development. Whilst it is important not to speculate, the young people could have gained access if the external car parking gates were left open or were broken. Owing to the *modus operandi* stating that young people regularly gain access into the communal area, it is recommended that DFSC revisit CIS-3 to try and examine to what extent the design and layout of the development may be facilitating this access and meet with the housing association responsible for the management of the development. Of course, it may also be the case that the young people lived within the development.

5.64   CIS development 4

CIS development 4 (hereinafter CIS-4) consisted of 42 two, three and four bedroomed houses. The development comprised affordable housing and was mixed tenure. It included: 9 shared ownership; 32 rented and one supported housing unit. The application was made by a social housing provider. This development proposed 65 car parking spaces with the majority of these located to the front of the dwellings. An existing gas main ran through the development, thus the design and layout of some of the dwellings had to accommodate this.

CIS-4 was formerly a green field site. It was bounded by a commuter road to the south; a bridleway to the west; housing and recreational grounds to the north and recreational grounds to the east. Figure 41 is an image of the site layout plan for CIS-4 which was sent to DFSC on the basis of which to compile the CIS. The bridleway is depicted with a red dashed line. On 3rd November 2009, DFSC received the instruction to compile a CIS from the social housing provider.

A DAS was compiled and stated that the architect had been (and was in the process of) liaising with DFSC and that they were seeking to achieve SBD accreditation. The DAS also referred to the

following, which related to CPTED and also the design brief which had to be considered by the consultant:

i)   that planning officers highlighted the importance of providing active frontages and opportunities for natural surveillance over the main road and

ii)   a potential future cycle route was planned to pass through the development to connect the east of the site to the bridleway. This was at the request of LPA1 and Highways.

CIS-4 was written in 2009 and ran to 29 pages. Much of the content was descriptive and related to the principles of CPTED. Three pages of the CIS contained advice relating to the design and layout of the proposed development. This section included positive aspects of the proposed design from the consultant's perspective, along with points to consider. Three pages of the CIS related to the physical protection of the development, however this predominantly appeared to be SBD advice. The sections that comprised the CIS are listed in Table 40.

Figure 41   Initial layout of CIS-4

Table 40   Content of CIS-4

Section of CIS	Number of pages
Cover page	2
Contents page	1
Contact & document register	1
Generic information about the aim of a CIS	1
Generic information about the proposal	1
Generic information about the location of the proposed development	1
Crime data analysis (including visual data)	4
Generic information about general security considerations	1
Generic information outlining the principles of CPTED (i.e. commentary on physical protection, surveillance etc).	7
Description of the proposed development (i.e. number of dwellings & car parking spaces)	1
Specific advice relating to the proposed design & layout of the development (including photographs of the site)	3
Generic advice relating to the physical protection of the development (predominantly SBD advice)	3
Conclusion	1
Glossary	2

The key issues highlighted by the consultant in relation to CIS-4 are presented below. It is important to note at this juncture that unfortunately, it is evident that diary of activity sheets were not completed for all communications.

5.641 Key issues highlighted in CIS-4

A review of the diary of activity sheets shows that prior to compiling the CIS, the consultant met with and discussed a number of concerns with the architect. Unfortunately, the diary of activity sheets fails to provide a detailed summary of all the key issues that were discussed at this meeting. Nevertheless, a review of subsequent email correspondence between the architect and DFSC suggests that the consultant had two main concerns with the initial design and layout of the development. First, the consultant was concerned about the inclusion of a cycle route through the development (highlighted in yellow in Figure 41). The architect stated that he would be unable to remove the cycle path from the development as it was an *'over-*

riding priority' and a requirement by both the LPA and Highways. Owing to the requirement for the cycle route, the architect asked for advice about the design and maintenance of the path which might mitigate the consultant's concerns (such as additional lighting and maintaining a minimum width). Second, the consultant was concerned with the height of the boundary fencing toward the east of the development (shown in orange in Figure 41) and recommended that the height of the fencing be increased to 1800mm high (the original fencing height was not noted) and was made from mesh. The architect stated that he was concerned that an 1800mm high mesh fence may not be aesthetically pleasing and that it would make that area of the development *'prison like'.*

One week after this meeting, the CIS was compiled. After outlining the positive aspects of the development from a crime prevention perspective, the consultant outlined four key areas which were of concern from a crime prevention perspective. Each concern will now be discussed.

First, the consultant reiterated concerns about the inclusion of the cycle path through the development and outlined how increased permeability can increase levels of crime and disorder. The consultant was also concerned that the location of the proposed cycle path exposed the sides of two properties, one of which was the supported housing unit. The consultant recommended that the existing bridleway (red dotted line in Figure 41) was upgraded to provide a user-friendly route for both pedestrians and cyclists and that the proposed cycle route be rerouted. Second, the consultant recommended that high fencing be erected in the north-eastern corner of the development to prevent any access into the development from the neighbouring playing fields. Third, the consultant requested that the open green space located in the south-western part of the development (depicted in blue in Figure 41) was reviewed so that defensible planting was included to protect the boundary of the supported housing. In addition, he also suggested that a more direct route be included through the open space to ensure that pedestrians and cyclists do not create desire lines (unofficial footpaths that have been created by pedestrians). The final concern raised by the consultant was the access path between two dwellings (purple dotted line in Figure 41). It was suggested that lockable gates should be installed to prevent unauthorised access to the properties. Whilst four key areas of concern were highlighted, a review of the diary of

activity sheets reveals that the remainder of the communications focused upon i) the cycle path and ii) the height of the perimeter fencing.

In concluding the CIS, the consultant stated that he was satisfied with the use of the site for residential purposes. However, the consultant expressed concern about the inclusion of the cycle path and the height of the perimeter fencing in the north-eastern corner of the development. The consultant warned that should these areas not be addressed, the security of the development would be compromised and an application for SBD accreditation would be unsuccessful. Whilst the consultant raised four key areas of concern, ultimately it was the inclusion of the cycle path and the height of perimeter fencing that appeared to dominate the discussions between the consultant, the architect and the LPA.

An analysis of the police recorded crime for a 1km squared around the development was used to inform the advice provided in the CIS. A review of the crime data for the 12 months prior to the completion of the CIS (November 2008 – November 2009) revealed that the police recorded crime was relatively low, but in part this could be attributed to the low density housing and large areas of open space. Nevertheless, within the 1km there were incidences of the following crime types: criminal damage (n=42) and vehicle crime, including theft of pedal cycle (n=33).

5.642   *Planning application response*

The LPA invited DFSC to comment on the planning application. On 6th January 2009, the consultant responded and stated that he was concerned about the cycle path and the height of the boundary fencing to the north-eastern part of the development. These concerns were not addressed prior to the CIS being completed and submitted to the LPA. The consultant stated that he had suggested design changes, that these were included within the CIS and had been conveyed to the architect.

Owing to the concerns raised by the consultant, the architect proposed that the cycle path should be relocated to the north-western part of the development, highlighted in yellow in Figure 42. The consultant stated that the proposed revision still posed significant problems and in their email correspondence to the architect, stated that the proposed new location of

the cycle path was of more concern than the original location. The consultant reiterated that he would prefer that the cycle path was aligned to the bridleway. The consultant stated:

> *My preference remains that the cycle way follows the bridle path and that the bridle path is upgraded accordingly. Of the two options on the cycle route through the scheme, I prefer the original route – better surveillance, doesn't expose as much of the development to potential offenders and less likely to be a gathering point for youths.*

In conclusion, the consultant stated that implementing either option would mean that the development would not achieve full SBD accreditation.

Figure 42 Revised location of cycle path

Subsequent communications were had between the consultant and the architect to further discuss the cycle path and the fencing. These are presented in Table 41. The architect modified the fencing as requested by the consultant. However, the consultant was still concerned about the positioning of the cycle path and owing to this, stated that the development could not achieve full SBD accreditation. Within the email correspondence to the architect, the consultant stated that whilst he was unable to support the planning application, it would be possible for the development to receive Part 2 SBD accreditation (physical security), but not Part 1 (design and layout).

On 4th March 2010, the planning application was discussed by the planning committee. The consultant was not present at this meeting and upon reading the planning officer's report the consultant wrote to the LPA to again outline his concerns about the proposed location of the cycle path. The consultant felt that the committee report included inaccurate information and inferred that DFSC was satisfied with the location of the cycle path. The report stated:

> *The proposed location of the cycle path has been amended in light of comments from the Architectural Liaison Officer from GMP. The cycle path link now benefits from more natural surveillance from plots 7 and 8 which overlook the link.*

In their letter to the LPA, the consultant reiterated that he was unhappy about the inclusion of the cycle path and requested that members of the committee be made aware of GMP's concerns about the cycle path. Owing to this, the architect arranged a meeting for the consultant, the planner and a representative from Highways to seek approval for the inclusion of the cycle path. The consultant noted that no concession could be given and that the scheme would not achieve full SBD accreditation unless the cycle path was removed. The development did not receive full SBD approval, only Part 2 accreditation in September 2011.

As stated above, unfortunately a number of communications were not documented using the diary of activity sheet for this development. It is unclear why this was the case, but the author suspects that this was a time and resource issue. Nevertheless, it was evident that various communications were had between the consultant and other key stakeholders (such as the

architect, the LPA and Highways) throughout the design and planning process. These communications comprised emails, letters, telephone calls and attendance at meetings. It is interesting to note that the advice of the consultant was not included in the final design and build as the cycle path was a requirement by the LPA and Highways and seen as a greater priority.

Table 41   DFSC recommendations for CIS-4

CPTED principle	Concerns or Recommendations	Concerns addressed/ Recommendation implemented?
Defensible space & movement control	Concern regarding initial design & layout of development, particularly the inclusion of a proposed cycle path throughout the development. Recommended existing bridleway is extended & cycle path rerouted.	Recommendation not implemented. Cycle path was deemed an over-riding requirement by the LPA & Highways. Cycle path was also repositioned in a location that was not preferable.
Defensible space	Recommended that perimeter fencing at the north-east of the development should be increased to prevent desire lines & an access/egress point into the playing fields.	Height of perimeter fencing increased to the satisfaction of the consultant.
Defensible space	Recommended that defensible planting used to clearly demarcate supported housing.	Space to front of the development was demarcated through the use of fencing & planting.
Physical security	Recommended that all doors & windows met SBD standards.	Development received Part 2 SBD award.

5.643 *Analysis of police recorded crime data*

Police recorded crime was analysed for a two year period after the development had been completed and fully resided in. Table 42 shows that eight crimes were recorded at CIS-4. These comprised: one criminal damage to a dwelling; one criminal damage to a vehicle; one miscellaneous theft; three common assaults and two actual bodily harm offences. Upon reviewing the detailed crime data along with the *modus operandi,* five of the offences appear to be domestic, with four of these offences occurring at one address. The miscellaneous theft related to theft from a taxi that was collecting passengers from the development. The criminal damage to a dwelling occurred at the same address which experienced domestic violence assaults. This dwelling is located on a corner plot. The police recorded crime data states that the offender smashed a front ground floor double glazed window causing it to smash. The

offender then made their escape in an unknown direction. The exact location of the criminal damage to a vehicle is unknown as this was not recorded in the police data. The vehicle was said to be parked to the rear of the victim's address and that the wing mirror was damaged. Approximately 13 dwellings had car parking spaces located to the rear of the property. As stated above, to some extent the initial design and layout of CIS-4 was determined by the existing gas main which ran through the development.

Table 42   Offences recorded at CIS-4 between 1st May 2012 and 30th April 2014

Date of incident	Crime	*Modus operandi*
November 2011	Criminal damage to a dwelling	Unknown offender approaches front of property from an unknown direction & using an unknown implement strikes the front ground floor double glazed window several times causing it to smash. Offender makes good their escape in an unknown direction.
June 2013	Criminal damage to a vehicle	Appellant leaves vehicle parked & secured on road outside rear of his address. Unknown offender approaches vehicle & causes 2cm scratch to the nearside wing mirror housing by unknown means. Offender makes off in unknown direction.

The beat area in which CIS-4 is located comprised 980 individual properties. A total of 195 offences were recorded within the beat area during the period of analysis. The majority of these calls (26%) related to burglary other; 18% burglary dwelling; 14% less serious wounding; 13% miscellaneous thefts; 10% theft from motor vehicle; 9% criminal damage to property; 4% theft of motor vehicle; 4% criminal damage to motor vehicles and 3% robbery. These figures are presented as a rate per 100 dwellings in Table 43.

Table 43   Beat crime rate per 100 dwellings for CIS-4

Crime type	Rate per 100 dwellings
Burglary other	5.1
Burglary dwelling	3.6
Less serious wounding	2.9
Miscellaneous thefts	2.6
Theft from motor vehicle	1.9
Criminal damage to property	1.7
Criminal damage to vehicles	0.8
Theft of motor vehicle	0.8
Robbery	0.5

During the period of analysis, eight offences were recorded at CIS-4. As stated above, the majority of these appeared to be domestic incidents which occurred at one address. In terms of the criminal damage to property offence, when calculated as a rate this equates to 2.4 criminal damage incidents per 100 dwellings. This is also the rate for criminal damage to vehicles. Whilst these rates are higher than those for the beat areas, it is important to reiterate that the size of the development is small and that further analysis should be undertaken at a later date. It is however encouraging to note that within the beat area, burglary other and burglary dwelling appear to be the key crime issues within the locality and that no burglary was recorded at CIS-4 during the period of analysis.

5.7   Summary

The detailed analysis of the four case studies that had been through the CIS process, been built and resided in revealed variation in the process and also in the way in which the CIS was compiled by different consultants. What follows is a summary of the key points from this analysis. Where appropriate, Table 44 will be referred to as this amalgamates and documents key information from each CIS analysed.

In terms of the content of the CIS, the four CIS' that were analysed were compiled in either 2009 or 2010 by three different consultants[65]. As shown in Table 44, the length of the CIS varied between 15 and 29 pages. Analysis showed substantial differences in content covered. CIS were structured differently and included different types of information. For example, in

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[65] To reiterate, one consultant compiled two of the CIS' reviewed.

CIS-4 detailed text described the aims and principles of CPTED, absent in the remaining three CIS'. Three of the four CIS' outlined the purpose of the CIS, one did not. The structure and format of the two CIS' that were compiled by the same consultant also varied.

CIS' were predominantly text based. Whilst photographs were often used to help describe the location of the proposed development, the appraisal of the design, layout and the physical security measures were textual and did not include photographs or sketches to help communicate any design concerns or suggested design alterations. Text relies upon the client or planner spending time reading the report in its entirety and deciphering, locating and extracting relevant comments/suggested revisions to be made. The relative importance attached to suggested changes were often unclear. CIS-1 included a concise executive summary which clearly indicated that DFSC would support the application should minor amendments be made, but did not state within the executive summary what these amendments were. Others did not include an executive summary.

It was also unclear for whom the CIS was being compiled – the client (i.e. the person submitting the planning application to the LPA), the planning officer or both. For example, each CIS had a summary description of the proposed development including its location, the number of units and car parking spaces. Such information would already be known to the client and the LPA would be informed about the size of the development as this information is required in the planning application. Additionally, within each of the CIS' the consultant discussed elements of the proposed design and layout which required amendments prior to its submission to the LPA - this is more applicable to the client than the planner. However, it could be argued that this is also useful for the planner to determine the extent to which the advice provided by DFSC has been incorporated into the plan submitted to the LPA. This relies upon the planner reading the CIS in full and comparing this to the plans that are submitted, which is unlikely.

Whilst the CIS' included references to national planning policy (such as Safer Places), they did not contain any reference to *local* planning guidance. This was also noted in the planning response letters that were written by DFSC and submitted to the LPA. The planning responses tended to be brief and either stated that the consultant was satisfied with the

application as submitted (i.e. it had been revised in accordance with the advice provided by DFSC) or the response would reiterate specific changes which the consultant had recommended.

In terms of the CIS process, security was mentioned in two of the four DAS'. It was interesting to note that all of the four developments appeared to follow the CIS process in that a CIS was submitted with each planning application and that DFSC was consulted throughout the design and planning process. In relation to CIS-1, the LPA informed the client that a CIS was required to validate the planning application. This shows that through their internal processes, this LPA was able to recognise that the application could not be validated owing to the missing CIS.

Table 44 shows where advice was offered by DFSC was implemented (denoted by a ✓). It also shows where advice provided by DFSC was not implemented (denoted by ✗) which may have been because the advice conflicted with the requirements set out by another agency (e.g. Highways) or the client failed to heed the advice provided. As shown in Table 44, the developments which were seeking to achieve SBD accreditation appeared to incorporate the majority of recommendations provided by DFSC.

No burglary dwelling or burglary other was recorded at any of the four developments during the period of analysis (1st May 2012 to 30th April 2014). No crime was recorded at CIS-1; one theft of a motor vehicle was recorded at CIS-2 (the offender was the complainant's son); one other criminal damage was recorded at CIS-3 and eight offences were recorded at CIS-4. An examination of the crimes recorded at CIS-4 revealed that the majority of the offences could be attributed to domestic violence at one specific dwelling. It is encouraging to note that no burglary offences were recorded by GMP during the period of analysis.

The next chapter reports key findings from semi-structured interviews that were conducted with representatives from nine of the ten LPAs across Manchester.

Table 44   Summary of CIS analysis

CIS	Year CIS written	Crime mentioned in Design & Access Statement?	Total length of CIS in pages	Number of pages of specific design advice	What instigated communication?	Summary of compromises (✓ indicates DFSC recommendation implemented, ✘ indicates that it was not)	SBD?	Number of police recorded crimes between 1st May 2012 & 30th April 2014
CIS-1	2010	✓ Yes	15	0.5	LPA reminding client about need to submit a CIS to validate planning application	✓ Height of perimeter fence increased. ✓ Visitor car parking was not included in final development (however space unused and unmaintained). ✓ Compromise regarding access to meter boxes. ✓ Compromise regarding external lighting. ✘ Narrow, unloading bay car parking spaces remained, although consultant deemed unlikely these would be used as car parking spaces.	Yes	0
CIS-2	2009	✘ No	15	5 (3 of these were SBD advice)	CIS process	✓ Height of perimeter fence increased. ✘ Defensible space at Plot 1 not included. ✘ Window not included in gable.	No	1 (although review of *MO* indicates that this was a domestic incident).

CIS	Year CIS written	Crime mentioned in Design & Access Statement?	Total length of CIS in pages	Number of pages of specific design advice	What instigated communication?	Summary of compromises (✓ indicates DFSC recommendation implemented, ✗ indicates that it was not)	SBD?	Number of police recorded crimes between 1st May 2012 & 30th April 2014
CIS-3	2009	✗ No	21	4	CIS process	✓ Number of entry points reduced and located to front of development. ✓ Additional windows added to increase opportunity for surveillance. ✓ Perimeter fencing erected to demarcate development. ✓ Slam-lock gates installed to prevent unauthorised access to rear ✓ Automatic gates installed to prevent unauthorised pedestrian and vehicular access. ✗ Trellis was not added to fencing as recommended.	Yes	2
CIS-4	2009	✓ Yes	29	6 (3 of these were SBD advice)	CIS process	✓ Height of perimeter fence increased. ✓ Defensible space included. ✓ SBD physical security. ✗ Cycle path remained, not re-routed.	Part 2 only	8 (although many of these were domestic violence offences)

Chapter Six: Planning for Crime Prevention - The Planner's Perspective

6.1   Introduction

The aim of this chapter is to understand how representatives from each of the ten LPAs across Manchester, view the services provided to them by DFSC. In particular, this chapter aims to elicit: i) the importance LPAs place on designing out crime; ii) how the LPAs engage with DFSC iii) their views on the CIS and iv) the advantages and disadvantages of working with DFSC. Chapter three outlines the methodology employed to obtain the data presented in this chapter. To reprise, semi-structured face-to-face interviews were conducted with representatives of eight LPAs, and a telephone interview was conducted with one. Despite numerous attempts, it was not possible to interview a representative from one LPA. Interviews were conducted in January 2011.

As discussed in chapter two, over the course of research for this thesis, there have been significant changes to the planning process in England and Wales. A host of planning policy and guidance has been discarded and the NPPF introduced. It is important to note that these interviews were conducted *prior to* these significant changes. One could therefore argue that the data collected has subsequently become less relevant. However, the NPPF states the importance of ensuring the development of safe environments. Thus, the data obtained from these interviews remain a valuable resource in assessing whether crime prevention is perceived to be important in the planning process.

Both thematic analysis and content analysis were used to analyse the data obtained. Thematic analysis was used to identify key themes emerging from the interviews and content analysis to help quantify the frequency of similar responses to a question.

6.2   Aims and objectives of DFSC from the planner's perspective

Planners were first asked to describe how designing out crime is delivered across Manchester to establish the extent to which participants understood the aims and objectives of DFSC. Overall, the planners' views of the aims and objectives of DFSC were largely consistent. All nine participants described the fundamental aim of DFSC as assessing and commenting upon planning applications and highlighting aspects of the design which may be problematic from a crime and disorder perspective. The detail in which the participants provided their response varied. For example, seven participants were able briefly to describe the overarching aims

and objectives of DFSC, whereas two were able to provide a more detailed and comprehensive answer and made reference to some principles of CPTED (e.g. natural surveillance). The following quotations from LPA 8 and LPA 5 highlight the differences between the responses provided. The quotation from LPA 8 illustrates the former i.e. a basic understanding of the aims of DFSC, whereas the quotation provided by LPA 5 shows that the respondent not only understood the aims and objectives of DFSC, but was able to provide the principles and rationale behind the aims.

> *Mostly their remit is to comment upon...applications with a view to amending proposals to design out aspects of them which could encourage or facilitate crime and anti-social behaviour* (Development Control Manager - LPA 8).

> *It's about their being involved in Designing out Crime, so minimising the potential for crime and disorder to occur by ensuring that new developments are designed in such a way that they mitigate the potential for...crime to be introduced to that development.... there's lots of things that you can do in terms of designing layouts of streets and natural surveillance, avoiding recessed areas, avoiding high walls that people can hide behind, generally giving out guidance to developers and local planning authorities that ensure that development which has then gone to planning permission, then hopefully it takes place in the future, minimises the potential to introduced crime and disorder within that development.* (Development Control Manager - LPA 5)

As discussed in chapter three, in the first instance Chief Planning Officers at each LPA was contacted and invited to take part in the research. In instances where the Chief Planning Officer was unable to take part in the research, they were asked to nominate another representative from within their team who would be willing to be interviewed. Consequently, two Chief Planning Officers; four Development Control Managers and three Planning Officers were interviewed (Table 45). Whether this delegation is as an indication of the relatively low priority given to designing out crime cannot be determined.

Table 45   Participants' job titles by LPA

LPA	Job title of participant
1	Development Control Manager
2	Planning Officer
3	Chief Planning Officer
4	Planning Officer
5	Development Control Manager
6	Development Control Manager
7	Planning Officer
8	Development Control Manager
9	Chief Planning Officer

A Chief Planner is primarily involved at a strategic level taking overall responsibility for the development of appropriate planning policies and strategies. Development Control Managers generally hold responsibility for the throughput of planning applications, design quality, planning appeals and breaches of planning control as well as the management of planning officers who carry out these functions. Planning Officers may be involved in development management/control (i.e. deal with planning applications and planning appeals). The job title may not be distinct from that of other Planning Officers who work in devising planning policies, and drawing up and monitoring the development plans as introduced by the Chief Planning Officer. Interviewing participants from a range of different roles within the LPA proved interesting for the following two reasons.

First, it was evident that those who had been in post for a longer period of time had witnessed both the inception and progression of DFSC and were therefore able to reflect upon how the aims and objectives of DFSC had changed over time. As one Chief Planning Officer commented, they had observed the service provided by DFSC shift from one which could be described as 'reactive' to more 'proactive':

> ...*I think they have grown over time...in that they started off as being a fairly reactive team that responded when people came to them and asked them for their views about schemes, but over time they have built up into a much more proactive team, so not only do they very actively deal with advising local planning authorities on schemes that they are considering giving planning permission for, but they give advice to developers in a very positive and helpful way* (Chief Planning Officer - LPA 9).

Similarly, another participant described how they had witnessed the progression of the DFSC and suggested that during this time, DFSC had evolved:

> *I've been working in development control for 20 years, so as a result of that, I've seen its inception, its growth, its change to its present day. I think certainly they are learning by experience* (Development Control Manager - LPA 1).

Second, it was apparent that those Planning Officers who had responsibility for assessing planning applications on a daily basis (e.g. from LPA 2, 4 and 7) and who had not been involved in the strategic decision making, were less able to comment upon the historical context of DFSC and less informed about the aims and objectives of DFSC. This may be explained when considering with whom DFSC initially liaised when attempting to initiate a relationship with the LPA. In response to the introduction of Section 17 of the Crime and Disorder Act 1998, DFSC held strategy discussions with Chief Planning Officers to try and embed CPTED into planning policy. Whereas the Chief Planning Officers and other senior personnel may have been aware of the fundamental principles underpinning the relationship with DFSC, this may not have been cascaded down to other members of the planning team. However, it is questionable whether it is important for the entire planning team to be aware of this information. Although the Chief Planning Officers appeared to be better informed about the aims and objectives of DFSC, they were less informed about how these aims and objectives translated into actions at an operational level.

6.3   LPAs' role in designing out crime

The participants were asked what importance they felt their own LPA placed upon the concept of designing out crime. The reasons for this were twofold. First, it aimed to examine whether designing out crime was viewed more of a priority in some LPAs compared to others and, if so, to understand why this may be the case. Second, it sought to elicit whether each LPA perceived designing out crime to be a fundamental consideration when assessing proposed planning applications, or whether it was simply one of a number of subsidiary considerations, which may affect their view of DFSC.

It was apparent that the importance placed on designing out crime varied across the LPAs. Some participants described how they viewed designing out crime as an integral component

of the planning process. For example, the participant from LPA 3 described how designing out crime is an important consideration as it is viewed as an opportunity for the LPA to try and prevent crime in the future.

> *I certainly see it as crime prevention and saving costs into the future...each house is an opportunity to reduce crime. I just think it is a complete and utter no brainer!* (Chief Planning Officer - LPA 3).

The emphasis placed upon designing out crime by LPA 3 warrants further examination. During the course of the interview, the participant described two developments which, upon reflection, may have been pivotal in indicating why the LPA now considers designing out crime to be an important consideration. The advice of DFSC was sought during the initial design of the two schemes[66]; however their recommendations were not incorporated into the final design of the development. Once built, the schemes experienced high levels of crime and disorder and consequently DFSC was asked to provide retrospective crime prevention advice. These schemes seem to have brought home to the respondents the importance of considering designing out crime and instigated discussions between the LPA and DFSC to identify how similar problems could be avoided in the future.

One participant (Chief Planning Officer – LPA 9) outlined how he always viewed designing out crime as a factor which should be routinely considered by the planning department and integrated into the planning process. This respondent also appreciated that crime and disorder is commonly cited by members of the public as an area of concern and therefore warranted consideration by planners when reviewing planning applications. Thus, upon being appointed as the Chief Planning Officer at LPA 9, the importance of designing out crime was communicated throughout the LPA's team.

> *...it* [designing out crime] *is important. When I came here I felt that it was important and I transmitted that view through to the team. I mean we are not as rigorous as perhaps we might be, but nevertheless there is still recognition right across the service that it is an important thing that we are doing and designing out crime is important because time and time again if*

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[66] These are the two same developments discussed by Respondent Y in chapter five.

you ask people what are the main issues they have got about the physical
environment in which they live – crime is important (Chief Planning Officer
- LPA 9).

The findings from the interviews highlighted that although designing out crime is a consideration across the LPAs, ultimately it is the responsibility of the planners to assess whether designing out crime takes precedence over other competing factors. As discussed in chapter two, there are concerns relating to the abundance of policies, guidance and standards currently in existence and the sometimes contradictory advice which they provide. Although the introduction of the NPPF has sought to streamline planning policy and guidance, planners are responsible for critically examining planning applications, assessing competing factors and deciding which factors need to take precedence. Owing to this, a number of participants described their role as a 'balancing act' where the planner, presented with evidence from a number of relevant parties, must assess the evidence and decide which factor(s) take priority. The issue of having to balance designing out crime with other factors is illustrated in the quotations below from LPA 2 and LPA 6.

It's just one factor amongst a lot that we have to consider. I think planning
is quite a balancing act of many different opposing issues that we have to
look at (Planning Officer - LPA 2).

The difficultly we have occasionally is that in planning terms we're always
dealing with a balance of a number of considerations and the issue is that,
let's say somebody wants a three metre high palisade fence and that's great
for security purposes, but let's say it's in a conservation area, then it's that
balance and that judgement that we have to take as ultimate arbiters in
terms of well let's balance those crime considerations against the harm
potentially that will do in visual terms...I mean there's always a balance in
planning to be honest... (Development Control Manager - LPA 6).

Although the participants from LPA 2 and LPA 6 suggest that designing out crime is an important consideration, others seemed more candid in their response. As the participant from LPA 5 stated, whilst designing out crime is considered it is not viewed as a priority as there

are more pressing issues for the local authority to address such as attempting to tackle high levels of unemployment and deprivation.

> *I think it's one of them, but it's not, I have to be honest, I don't think it's the most important.* (Development Control Manager - LPA 5).

The interviews revealed that although designing out crime is a key consideration for each LPA, the level of importance they each placed on designing out crime varied. LPA 3 placed more emphasis on designing out crime compared to other LPAs. This may because they have experience of ignoring crime prevention advice which resulted in high crime levels associated with poor design and the need to seek retrospective advice. The remaining LPAs appeared to view designing out crime as one of a number of important considerations they must take into account when deciding whether to grant planning permission. In some instances, designing out crime advice may be negated if other aspects of the design (e.g. sustainability) were considered to take precedence. However, as outlined above, although the findings from the interviews suggested that LPAs placed varying levels of emphasis on the importance of designing out crime, it is, at least, a consideration across each of the LPAs.

6.4   How LPAs' engage with DFSC

It was important to understand what policy (both national and local) drives, or encourages, the engagement between a LPA and DFSC. As outlined in chapter two, Section 17 of the Crime and Disorder Act (1998) is often cited as the key driver which encourages local authorities to consider their role in preventing crime and disorder. The following sections present the participants' comments on Section 17 and how this legislation is translated and incorporated into local planning policy.

6.41   Section 17 - Crime and Disorder Act (1998)

A key theme which emerged from the interviews related to Section 17 of the Crime and Disorder Act (1998) and specifically, how this legislative requirement historically forced LPAs to consider what role they have in attempting to prevent crime and disorder. Section 17 placed a duty on local authorities to consider the implications of their decisions on crime and

disorder and although not specifically directed at LPAs, it is often stated as the key piece of legislation underpinning the engagement between the police and LPA.

During the interviews, the planners referred specifically to Section 17 and suggested that it initiated the relationship between the LPA and DFSC and increased the importance of having to consider designing out crime:

> *Our discussions with them* [DFSC] *started on the basis of within the authority we were all challenged, each service, saying 'well what can we contribute under Section 17 of the Crime and Disorder Act?'* (Chief Planning Officer - LPA 3).

> *I think planning over the passage of time has changed quite a lot because I think design generally and crime issues weren't necessarily at the forefront of the agenda. I think with a local authority hat on, Section 17 of the responsibilities are quite important* (Development Control Manager - LPA, 6).

> *...it is a requirement isn't it under Section 17 that in making a decision we have to think about crime and disorder issues* (Chief Planning Officer - LPA 9).

Although Section 17 of the Crime and Disorder Act (1998) stated that Local Authorities had a statutory duty to consider what impact their decisions may have on crime and disorder, it failed to offer any practical guidance on how this could be translated and delivered in practice. As the following quote highlights, in an attempt to satisfy the requirements of Section 17, LPA 3 initially consulted with DFSC on a number of proposed planning applications but did not incorporate the advice provided by DFSC into the scheme. Thus, although Section 17 facilitated the engagement of the police and LPA, it failed to provide the tools and mechanism for ensuring that designing out crime was not just considered, but actually implemented by those submitting applications.

> *So what we did, our relationship started off with them* [DFSC] *with basically having a range of schemes that we would consult them on. So for*

a while we did that and thought 'what's the point?' because...we would consult them and the comments would come back and we would give them to the developer – well what was it achieving? Not a great deal because developers don't always tend to take on board what is said to them. By the time you get from a planning application, through to decision, a lot happens and that bit of paper with those recommendations on just disappears and we were finding that we would consult people and actually things weren't being built into schemes in terms of reducing incidents of crime and disorder (Chief Planning Officer - LPA 3).

Owing to the number of developers failing to incorporate the advice provided by DFSC, LPA 3 attempted to strengthen the requirement for the developer to consult with DFSC by attempting to make SBD a planning condition. A planning condition is a stipulation which is set by the LPA and which the applicant must agree to incorporate into the scheme otherwise planning permission will be refused. Initially, the condition required the applicant to 'seek to achieve' SBD, but developers still failed to seek the advice of DFSC early in the design process.

So what we then looked at was putting a condition on planning applications to make developers 'seek to achieve' SBD and we thought that was pretty ground-breaking at the time because some people said that we shouldn't be doing it because it was illegal, but we went ahead because we thought it was absolutely the right thing to do. But then we still found out that developers were still not doing what they should do at the beginning of the design process... (LPA 3).

In summary, four of the nine participants referred to Section 17 of the Crime and Disorder Act (1998) and the responsibility it placed upon the LPA to consider the impact their decisions may have on crime and disorder. Although it was used to initiate dialogue between the police and LPAs, it failed to provide any guidance on how this should be delivered on the ground. Thus, although there was a statutory requirement for LPAs to consider the impact of their decisions on crime and disorder and various planning policy and guidance, there lacked

both a robust mechanism and tool to ensure that designing out crime was implemented in practice.

The next section of this chapter discusses the mechanism through which designing out crime is delivered across Manchester – through the validation checklist, and how this stipulates that the applicant must submit a CIS (the tool) to validate the application.

6.42   Validation checklists

As discussed above, although the importance of designing out crime gained impetus through Section 17 and the publication of national and local policy and guidance, currently there lacks both the tool and mechanism for ensuring its practical application. As alluded to in the preceding sections of this thesis, the validation checklist is the mechanism through which a LPA stipulates what documentation must support a planning application. This section of the chapter explores the introduction of the validation checklist, how it was identified as a suitable mechanism through which designing out crime could be embedded, how each LPA refers to designing out crime in their validation checklist and their perspectives on this.

To summarise, a validation checklist outlines the documentation which must accompany the planning application to ensure that it is validated by the LPA. In addition to outlining national and compulsory requirements, the validation checklist allows LPAs to list any local requirements which may be specific to the local area. If the applicant fails to provide information specified in the validation checklist (whether a national or a local requirement) the LPA may invalidate the application. As discussed earlier, it is often bemoaned that a mechanism for embedding designing out crime into the planning process is lacking. Thus, individual police forces who obviously have a vested interest in attempting to reduce any opportunity for crime and disorder, are attempting to identify mechanisms through which designing out crime can be considered on the ground. The local requirements section of the validation checklist was therefore considered a suitable mechanism through which the CIS could be delivered. The interviews revealed that when the CIS was initially developed by DFSC in 2006, most LPAs were apprehensive about stipulating its requirement in their local validation checklist. In 2006, a CIS was only required by one LPA - Manchester City Council. Although initially apprehensive[67], each of the remaining nine LPAs across

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[67] This was also reiterated by the interviews conducted with the former Head of DFSC and DFSC consultants.

Manchester now stipulate that a CIS must accompany every major planning application, whether residential, commercial or mixed use. Within each validation checklist, the purpose of the CIS is explained. For example, Oldham's validation checklist provides a detailed account of the aims and objectives of a CIS when it states:

> Where proposed development has the potential to have a significant impact on crime and disorder, additional information will be required in the form of a CIS. CIS' should consider existing crime and disorder issues in the vicinity of the site, assess the likely impact of the development and identify design solutions to reduce the development's vulnerability to crime (Oldham Council, 2011 p.17).

In one instance (Manchester City Council) reference is made to the relevant planning guidance document which underpins the requirement for a CIS:

> As outlined within the City Council's 'Guide to Development in Manchester SPD/SPG', any submission will require an assessment of how crime and safety issues will be addressed through the development. (Manchester City Council, 2010 p. 3).

All of the ten LPAs state in their validation checklists that a CIS is required to accompany all major planning applications (see Appendix 6). The term 'major planning application' is synonymous with how the DCLG defines major developments. An application is categorised as a major development if it comprises 10 or more dwellings for residential developments, or a floor space greater than 1,000 square metres for commercial developments. In addition to requesting a CIS for all major applications as defined by the DCLG (2012), seven of the LPAs also specially request that a CIS accompany applications for other types of development such as ATMs and takeaways. Rochdale's validation checklist currently only states that a CIS is required for major applications, but informs the applicant to note "…the intention to widen this requirement to a range of smaller developments, including certain changes of use" (Rochdale Borough Council, 2010 p.5). One LPA (Stockport) states that a CIS is required for all major applications and may be requested for other development types,

but that this will be assessed on a case by case basis. It could be argued that in practice, it is clearer explicitly to state the types of development which require a CIS (as is the case in nine out of the ten LPAs) as opposed to the rather ambiguous terminology used by Stockport. Requesting a CIS on a case by case basis may prove confusing for the applicant if they have not been asked to provide a CIS when applying for planning permission previously. It is also unclear as to the criteria according to which the LPA will assess whether a CIS is required. This could be by development type, location of the proposed development or a combination of the two.

In addition to reviewing each LPA's validation checklist to identify i) whether the LPA stipulates that a CIS is required and ii) the types of application which need to be accompanied with a CIS, each validation checklist was reviewed to examine whether it made reference to DFSC. The findings from this review proved interesting. Two of the LPAs (Bury and Bolton) make no reference to DFSC in their validation checklist. Four LPAs (Manchester, Stockport, Tameside and Wigan) have attempted to direct applicants to DFSC by providing the contact details for DFSC (e.g. link to website), however they do not state, nor recommend that DFSC should author the CIS. Two LPAs 'suggest' (Oldham) and 'strongly advise' (Trafford) that DFSC should author the CIS. The remaining two LPAs (Rochdale and Salford) stipulate that DFSC must author the CIS. In Rochdale's validation checklist, it states that "Crime Impact Statements must be prepared by Manchester Police Design for Security" (Rochdale Borough Council, 2010 p. 5). In Salford's validation checklist, it states that CIS' compiled by any other individual or organisation will not be accepted. In addition, three LPAs (Oldham, Salford and Trafford) outline key requirements or competencies that the author of the CIS must hold. They state that the author of the report must be a third party, have access to crime data and in the case of Salford, be accredited through the National Police Improvement Agency (NPIA), now the College of Policing. These findings are tabulated in Table 46.

Table 46   Reference to DFSC in each LPAs validation checklist

LPA	Reference to DFSC?	Outlines competencies of author of CIS?
Bolton	None	No
Bury	None	No
Manchester	Yes - criteria required to produce a CIS is available from www.designforsecurity.org	No
Oldham	Yes - This should be prepared by DFSC.	Yes – DFSC has complete data, necessary skills and experience to undertake such assessments.
Rochdale	Yes – CIS' must be prepared by DFSC.	No
Salford	Yes - Required to contact Design For Security, who are part of GMP who must [author] the CIS. CIS' produced by any other person or organisation will not be accepted.	Yes - It will be essential that the author of the report has access to up to date raw crime data material pertinent to the proposed scheme (e.g. individual site analysis). Furthermore, it is recommended that the Author: • Be accredited through the NPIA; • Have sufficient amount of hours of relevant crime prevention experience; • Contact appropriate police departments when producing the CIS e.g. Design for Security, GMP emergency planning, GMP counter terrorism unit; and • Have a record of continuing crime prevention Compulsory Professional Development (CPD).
Stockport	Yes – Contact DFSC.	No
Tameside	Yes – Contact DFSC.	No
Trafford	Yes - Applicants are strongly advised to discuss proposals with DFSC.	Yes - CIS' should be provided by a third party that is able to offer an impartial and objective view.
Wigan	Yes – provides link to DFSC's website.	No

The validation process is an administrative process, whereby a member of clerical staff acknowledges that the required documentation to support the planning application has been submitted. The validation process does not assess the quality of the material submitted by the applicant. Thus, if an inadequate CIS were to be submitted with a planning application that

application would still be validated, as a document representing a CIS has been submitted. One participant stated that the LPA tries to encourage applicants to liaise with DFSC and ensure that they author the CIS as they believe that the police are best placed to comment on crime.

> *...there's nothing in our* [validation] *checklist which says that they should use anyone other than GMP...we've got the DFS website, email addresses, all the rest of it, so we don't do anything but encourage people down a particular path. But if the question is asked of us, well could we get somebody else to do it and like I say, we'll say well really we think you should be using the police, they're the best people, they've got the most accurate information, why get somebody else to write it, why not get the police to write it, because effectively when you submit that with your planning application, it's a guarantee that the police won't object to your scheme. But you know, we won't invalidate without one...as long as we've got a CIS, if it's written by the police, great, but if it's not...we wouldn't invalidate it. But we may then object to its contents at a later stage ...what we're not able to do is invalidate, it's a validation requirement we get a CIS, not that we have one done by the police...*(Development Control Manager - LPA 5).

The Development Control Manager from LPA1 also confirmed that they would not be able to invalidate an application should a CIS not authored by DFSC be submitted.

> *We can't insist that it's done by DFSC. Until something is enshrined in law, our perspective is - one has to be done to validate an application, it doesn't necessarily have to be DFSC* (Development Control Manager - LPA 1).

This section of the chapter has sought to explore planners' perceptions relating to the *mechanism* (validation checklist) through which designing out crime is embedded into the planning process delivered across the LPAs in Manchester. The subsequent section discusses the *tool* (CIS) which is used to ensure that designing out crime is considered and implemented.

6.43 CIS

This section presents the planners' perceptions of the CIS. It was important to gather their views on how the CIS works in practice and to identify any aspects of the CIS which, from their perspective, could be revised to improve the delivery of designing out crime across Manchester.

Initially, the concept of the CIS was developed by the former head of DFSC and the Head Planner from LPA 3 in response to on-going concerns about the failure of developers to implement designing out crime advice. The aim of the CIS is twofold – to ensure that designing out crime is considered early in the design process and that any advice provided by DFSC is incorporated into the scheme (or at least brought to the attention of the relevant planner). The participant from LPA 3 describes the rationale for developing the CIS in the following quotation:

> *I think this was when GMP were thinking well how can we make sure that you build security in at the very earliest time to make sure that it has a chance of getting on to site, and so that was when the CIS was being looked at. I think our view was that it was absolutely right that you do this at the beginning...if you don't design things in at that early stage there is a propensity that they won't happen* (Chief Planning Officer - LPA 3).

This section of the chapter aims to present how planners across Manchester view the CIS in terms of: i) what they perceive to be its purpose; ii) who is responsible for compiling it and iii) the charge levied.

As is outlined in chapter five, the aim of a CIS is to assess proposed planning applications and identify and mitigate any in-built opportunities for crime and disorder to occur. LPA 3 was the first LPA in Manchester to introduce the requirement for CIS' to accompany all major planning applications and to stipulate this in their validation checklist. During the ensuing years, the remaining nine LPAs have also introduced the requirement for a CIS into their validation checklist. The following section presents the participants' views of the value of the CIS.

6.431   General views of the CIS process

All of the nine participants said that they felt that they understood the purpose of the CIS. They each outlined how it aims to encourage applicants to consider the impact their proposed application may have on crime and disorder and, where necessary, amend their plans accordingly, if feasible. The majority (eight out of nine) said the CIS was a valuable tool in helping the LPA assess whether a proposed planning application presented any problems from a crime and disorder perspective. As one participant stated:

> *I do think they are incredibly useful to us, to talk through the main issues and indeed help us as assessors if you like, what the issues are and looking at potential problems with a scheme, looking at future proofing* (Development Control Manager - LPA 6).

However, the participant from LPA 7 (a planning officer) indicated that they are *'not a fan'* of the CIS and whilst they do not wish to design *in* opportunities for crime and disorder to occur, they questioned the value of the CIS. The participant also said that owing to the relatively low levels of crime and disorder within the authority area, often the requirement for a CIS seems unnecessary. The Planning Officer described many of the CIS' they had reviewed as following a *'standard script'*. LPA 7 also indicated that many of the principles of designing out crime and presented in the CIS often contradicted other agencies' guidance (e.g. Highways) and that DFSC was too dogmatic to ensure that their advice took precedence which may result in potentially delaying the planning process.

6.432   Who authors the CIS?

As discussed above, initially the concept of a CIS was developed by DFSC. DFSC argue that *it* is the most appropriate organisation to compile a CIS, being i) independent of the planning process ii) expert in analysing and interpreting crime and disorder data and iii) having direct access to other forms of intelligence (such as Neighbourhood Policing Teams) on which they can draw. Nevertheless, a number of planners opined that although DFSC staff are generally the main authors of CIS', there have been a number of instances where other organisations (such as an independent crime consultant; a representative of the developer or the developer themselves) have compiled and submitted a CIS equivalent. This section of the chapter presents participants' views of who is best placed to compile a CIS.

It was apparent that between them, the participants had experience of viewing only a handful[68] of CIS' compiled by independent consultants or developers[69]. In the main, the majority of CIS' the participants had viewed were compiled by DFSC. Where participants had experience of receiving and reviewing CIS' which were not authored by DFSC, they were asked to reflect upon the different versions.

The participant from LPA 3 had not personally viewed any CIS authored by an organisation other than DFSC. Upon answering the question, this participant relayed comments made by colleagues in the planning team, referred to them as *'laughable'* and stated that they felt that DFSC were the experts in providing designing out crime advice and consequently they should be the sole authors of the reports:

> *From what I understand they* [CIS' not authored by DFSC] *are laughable in terms of content. They just don't know what they are doing!...what do they know about the area, what do they know about the profile in terms of crime? I think the big worry is that Design for Security, to us, is really the only place that you can get a CIS and those recommended safety measures. They have got all the stats about the sort of crimes in the area and essentially, I think that they are the only ones that can really do it. I mean we know that architects have tried to do it and failed miserably and I think what we try and do is to just make sure that people are just guided to go to Design for Security because they are the people that can do it...they are the experts as far as we are concerned* (Chief Planning Officer - LPA 3).

The participant from LPA 2 echoed these comments and said that a CIS compiled by DFSC was much more detailed than those compiled by others:

> *I think that the GMP ones are a lot more detailed and they use crime statistics...so I think that there's definitely a level of difference, definitely* (Planning Officer - LPA 2).

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[68] The participants did not indicate how many.
[69] Referred to in chapter five as 'homemade CIS'.

Although LPA 2 appeared to appreciate the detailed content of a CIS, this was not echoed by the participant from LPA 1 who felt that the CIS document was too long and that it contained an excessive amount of irrelevant data. Referring to an example of a recent CIS which the participant had brought into the interview, he proceeded to peruse the document and made the following observations:

> *...ok, so we've got Table of Contents, in terms of Visual Audit, two pages, we've got a Crime Statistic Analysis, there's a further six pages, then we get to page ten, Design Layout Appraisal, one side of A4, Physical Security, External Features, three pages, four pages. So there's an awful lot of what I would consider to be unnecessary preamble that I don't need to know. It's that part, the Design Layout Appraisal onwards I'm interested in and if I was an Architect, having paid for something like this, I'd be sitting down with the DFS Team, well what's wrong with my scheme, how can it be improved and that's the bit that I'd be interested in* (Development Control Manager - LPA 1).

The participant suggested that there was still *'a lot of room for improvement'*. At the time of interviewing, LPA 9 had no experience of seeing any CIS' compiled by anyone other than DFSC. When asked for thoughts about organisations other than DFSC compiling the reports, he questioned whether they would have the relevant credentials to do this effectively.

> *I suppose until it happens it is hard to know. I suppose the interesting point is, is that we know that if there is a Crime Impact Assessment which is compiled by the Design for Security team, we know that it is going to cut the mustard. We know that it is going to be adequate for purpose. I suppose the first question that we would ask if it was done by anyone else are you fit and proper people to actually do this assessment?* (Chief Planning Officer – LPA 9).

When participants were asked to discuss who compiles the CIS, they described how DFSC also acts as a consultee. The role of DFSC warrants further examination here as it closely relates to the issues raised above regarding who compiles the CIS.

6.433 DFSC as a statutory consultee

Although nationally, the police are not named as a statutory consultee, across Manchester all major planning applications which are submitted to the LPA are forwarded to DFSC for comment. Therefore, in theory DFSC should be engaged in the planning process at two key points; first, at the pre-planning stage to advise the developer of any aspects of the proposed design prior to them submitting the planning application, and second, when the planning application has been received by the LPA and DFSC is asked to comment upon the application once submitted. This is depicted in Figure 43 with the involvement of DFSC at points 2 and 4.

The participants held mixed views about DFSC both authoring a CIS *and* then consulting on the planning application submitted. Three participants felt that the involvement of DFSC at these two distinct stages in the planning process, proved beneficial as it ensured that they were able to review the planning application submitted to the LPA and verify that the plans submitted were the same as those reviewed when compiling the CIS. Thus, it provides DFSC another opportunity to comment on the application.

> *even though the police do the CIS, I will consult them on the application.*
> *So if they come back and say oh hang on a minute, we didn't assess that,*
> *then it red flags it. Equally if they pick up on something else afterwards,*
> *well that's good that process* (Development Control Manager – LPA 1).

An interesting comment was made by the participant from LPA 9 who said that he would consult with DFSC at point 4, even if it had authored the CIS at point 2. Obviously, the consultant reviewing the application at point 4 may not be the same consultant who authored the CIS. So although the participant viewed the involvement of DFSC at two distinct points in the process, he did query whether the comments made by the consultee may differ or disagree with the advice initially provided in the CIS – *'it would be interesting to see whether there was a mismatch in ideas'* (Chief Planning Officer - LPA 9).

Figure 43 Review of the planning process outlining the stages where DFSC engage with client and LPA

1. • Developer wishes to submit planning application and requires a CIS to satisfy validation requirements.

2. • Developer contacts and liaises with DFSC to compile CIS.

3. • Developer submits planning application to relevant LPA along with CIS compiled by DFSC.

4. • LPA invites DFSC to consult upon planning application submitted and review CIS.
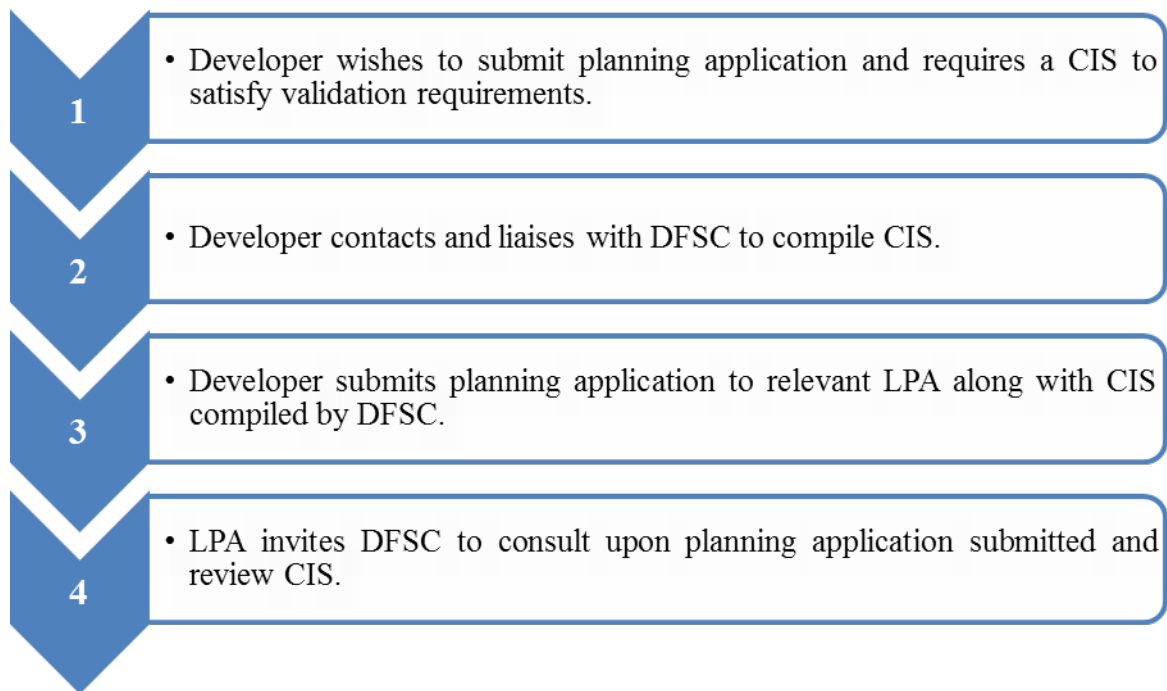
Participants took the view that if the CIS was not authored by DFSC, DFSC would then only be engaged in the planning process as a consultee (point 4). In the role of consultee, DFSC would be responsible for reviewing CIS' authored by other organisations to establish whether the content of the CIS (or equivalent) is fit for purpose. The participant from LPA 6 reiterated the importance of the role of the police as consultee.

> *That's where I become reliant on them as a consultee. I mean they might say we know this wasn't prepared by us and it doesn't have figures, which is fine, but it's the next step that I'm looking for as the Local Authority, for them to actually say well this is what's wrong with it, it doesn't have regard to x, y and z and the scheme fails for the following reasons. And then, as the LPA, we can then take a view, look at it and say yeah, we agree that it fails in the following regards and either we'll negotiate or indeed we'll refuse planning permission* (Development Control Manager – LPA 6).

Conversely, two participants expressed concerns regarding the lack of independence if the organisation compiling the CIS is the same organisation responsible for reviewing the

planning application (including the CIS which it may have authored). The participant from LPA 2 described the involvement of DFSC as a consultee in the planning process as:

> *...a bit of a strange situation. ...when we get a CIS in, then we consult, they're our consultee – so they have written it and then they're commenting on it* (Planning Officer - LPA 2).

Although the participant from LPA 8 suggested that engaging DFSC in the planning process at points two and four appeared logical, the participant questioned whether DFSC commenting on their own documentation could represent a conflict of interest:

> *with a major planning application, we do ask for these statements and who else to ask about the appropriateness or the content of it, who better to ask than the police and if they've produced them themselves, then they comment on them, it does appear to be a slight conflict of interest there...if we wanted say a Heritage Statement on the heritage issues of a site to be considered as part of the application submission, I've never yet seen English Heritage produce a Statement for somebody, which they would then be consulted on* (Development Control Manager - LPA 8).

The remaining four participants did not make any comment on DFSC as both the author of the CIS and the organisation which consults on it.

6.434 *Charging element of CIS*

DFSC charges a fee to compile a CIS. Although it is the client, not the LPA, who must pay this fee, the planners were asked their opinion on whether DFSC should charge for this service. The interviews revealed that the participants were in agreement that DFSC should charge a fee to compile a CIS, owing to the volume of work included in consulting with the client and preparing the CIS to accompany the planning application. The participants from LPA 1, LPA 2 and LPA 9 indicated that costs are incurred as a result of other professionals compiling reports and questioned why the police should not also charge a fee.

> *if we expect them* [the applicant] *to put in, I don't know, a Tree Survey...then they understand they would have to go out to a specialist to*

pay for these things and it's just another specialist area, so I can't see that there's any difference between that and other things that we ask for (Development Control Manager - LPA 1).

The applicant would expect to pay for a specialist survey so why would they not expect to pay for a specialist report done by the police? (Planning Officer - LPA 2).

I understand that any piece of work that's undertaken by a developer costs them money and they can't expect to have something like this done without having to pay for it whether it is done by the police or not – one just accepts that that is the case. I can't see why the police should provide it as a free of charge service....I don't have an issue with people having to pay for a Crime Impact Statement if they are going to have to submit it as part of the planning application (Chief Planning Officer - LPA 9).

The participant from LPA 4 was unaware that DFSC charged a fee for compiling the CIS until this was raised during the interview. The participant was not surprised that the police charged a fee and perceived this as a viable means of providing and maintaining a service.

Well they've got to get paid somehow haven't they, so why not, I mean these developers are paying somebody to do their Site Contamination Report and somebody to provide their Transport Assessment and all that other, sort somebody out to go and see if there's any bats floating around in all the trees or whatever, I mean why not pay for this as well (Planning Officer - LPA 4).

Although DFSC started charging for the CIS in 2006, the interviews with the planners were conducted shortly after the twenty per cent reduction in the policing budget was announced by the Government in the CSR (HM Treasury, 2010). The participants said that they felt it was logical for DFSC to charge for the service it provided in light of the austerity measures.

I can't see why the police should provide it as a free of charge service and particularly in current economic circumstances, there is no way the police are going to do that (Chief Planning Officer - LPA 9).

DFSC has a detailed charging structure in place for compiling residential, commercial and mixed use CIS'. The participant from LPA 1 indicated that they did not find it unreasonable that DFSC charged a fee for compiling a CIS as the charges, compared to the overall planning application costs were negligible.

I understand it to be five per cent of the planning fee. I think that's what the developer pays to the police, I don't think that's unreasonable (Development Control Manager - LPA 1).

In addition to commenting on whether they felt DFSC should charge for the service that they provide, two participants (a Planning Officer and a Chief Planning Officer) reflected more generally on the cost of preventing crime. These participants felt that the amount charged to compile a CIS was offset by the potential cost saved to the police in terms of having to respond to incidents.

I mean it's always better to sort of prevent all these things isn't it, I mean if you have better locks and stuff, that helps you not getting burgled, which cuts down on police time later, so the sort of preventative stuff is always better (Planning Officer - LPA 4).

…from what I understand, what they charge and what they prevent in terms of crime – there is a really good payback there that I don't think is actually understood by a number of people who ought to be able to understand that by putting in these safety measures, these security measures it must mean that if crime does go down over a period of time in particular areas that is a reduction in terms of the cost of policing or it's certainly not an increase (Chief Planning Officer - LPA 3).

All of the participants agreed that DFSC should charge a fee for their service and questioned why they should not charge when it is common for the developer to pay for consultations to be undertaken by other professionals. The participants indicated that the income received from the CIS could help to ensure the longevity of DFSC and ensure that it is not affected by the reductions in the policing budget. Others reflected more widely on the cost of DFSC and suggested that designing out opportunities for crime and disorder from the outset, may save the police money in the long-term.

6.5 Advantages and disadvantages of engaging with DFSC

This section of the chapter aims to reflect upon what the planners perceived to be the main advantages and disadvantages of working with DFSC, what the benefits of engaging with them are and what would be the effect if the LPAs were not to engage with them.

6.51 Advantages

The participants indicated two key advantages of engaging with DFSC. These included the professional background of the staff employed at DFSC and the proactive approach they take in trying to design out opportunities for crime and disorder to occur by engaging early in the design process. One participant described how the service provided by DFSC had helped to raise awareness of the importance of considering CPTED in the design of new developments. As this participant commented:

> *I think it is very encouraging that we have got a service at GMP that are so good at this and really are very proactive...So the awareness that they have raised and the approach they bring to bear on it is really important* (Chief Planning Officer - LPA 9).

As discussed in chapter two, those employed at DFSC are civilian staff who have been recruited from a built environment profession and this has been the case since 1990 (Blyth, 1994). They do not have any policing experience, but have immediate access to policing colleagues and policing systems. During the interviews, representatives from each LPA were asked whether they knew that the staff employed at DFSC was from a built environment background and whether they thought this was advantageous. All participants described how they thought it was advantageous to have a built environment background owing to their

understanding and knowledge of design concepts and being able to communicate this effectively:

> *I think it's helpful that they're not* [police], *what they really are is they're somebody, they're people that sit in the police and have access to the police information, but really they're experts in design, landscape, those sorts of things, so that's useful. I think probably its more helpful for the developer, it gives them more credibility when they're negotiation with an architect or developer at pre-app stage to be able to say well actually I'm not a police person, I'm a built-environment professional* (Development Control Manager - LPA 5).

> *I think not withstanding whichever way you do it, both need to have an understanding of each other's discipline in terms of the built form and built environment.... but it must help* [to have a background in the built environment]*, it has to help in terms of understanding of just talking about principles of layout, the siting of units, of the space around the buildings. I think that can only help to be honest* (Development Control Manager - LPA 6).

It was evident that the majority of the respondents were receptive to the DFSC consultants being recruited from a built environment profession and the quotations above depict common answers provided by the participants. Although not warranted or retired police officers, the participants described that they have a good working knowledge of design and are able to communicate on a technical level with planners and developers, whilst having access to data and intelligence from their policing colleagues. One participant stated that although it is an advantage that the consultants are from a built environment background, it may be a disadvantage if the consultants do not have access to police training.

> *The only disadvantage is if they haven't got police or crime training* (Planning Officer - LPA 2).

The participants also spoke positively about DFSC being involved early in the design process to work with the client prior to them submitting their application to reduce any opportunities for crime and disorder to occur. Through the use of the validation checklist a client is informed about what they are required to submit to the LPA to ensure that an application is validated. One of the local validation requirements is that a CIS must accompany a planning application. The CIS (particularly the process of compiling the CIS document) aims to inform the applicant of potential areas of their proposal which, from a police perspective, would not be supported if the application were to be submitted. Owing to designing out crime advice being provided throughout the entire design process, DFSC is able to work with the applicant to revise their design to ensure that the planning application is not criticised by DFSC when consulted about it. ALOs in other forces tend to view planning applications once they are submitted to the LPA (Wootton *et al*, 2009) and when the opportunity for designing out crime has been minimised. As the participant from LPA 5 suggested, engaging with DFSC early potentially helps a smoother transition through the planning process, saving time and cost for both the client and the LPA:

> *I think the role of the police is a general one about improving the design, but equally the purpose of DFSC and the process that's involved in GMP is to get these things sorted out as soon as possible because there's no point the developer incurring lots of costs, employing an architect to design up a scheme that's not going to get planning permission. So getting these things agreed up front is the best way and it saves us time as an authority, because we're having to spend less time processing and negotiating with an applicant, because it's all agreed up front...I think it works well,... it gets these issues addressed at the earliest possible stage* (Development Control Manager - LPA 5).

6.52   Disadvantages

When asked whether there were any disadvantages of engaging with DFSC, the main disadvantage, or concern, related to who authors the CIS. Although all of the LPAs stipulate that a CIS must accompany any major planning application, there was reluctance by some LPAs to stipulate that the CIS must be authored by DFSC. As shown in Table 46, the majority of the LPAs either direct the applicant to DFSC or advise that they should be

authored by them. Salford has stipulated that a CIS which is not authored by DFSC will not be accepted. Other LPAs are less willing to make this statement as many are concerned that by doing this, DFSC would be monopolising the market.

> *I just think the negative for me is that they are seen as a monopoly...there is a general concern that the police want CIS' to be done by them and only them and we have developers who are doing their own because they feel the police charge too much and my concern is that there's a monopoly and almost we're encouraging people to use a monopoly...* (Development Control Manager - LPA 5).

> *We can't specify that an application is invalid if it doesn't come in from GMP, because that's monopolising and until that is resolved, we say that one is necessary. So it ranges from having one done by the police to one done by an architect that just sits in an office and just talks through the scheme. It varies, so yeah, it's integral, yes we do consult on it and we don't insist that it's the police, but we do strongly advise that they currently hold information that isn't available to the public that might be useful* (Development Control Manager - LPA 1).

The role of DFSC as both the author of CIS' and an organisation which is consulted by the LPA proved interesting. Although there is reluctance vehemently to state that DFSC must author the CIS (except in the case of Salford), there is an expectation that it will provide comment as a consultee. Thus, should a CIS be authored by the architect and be limited in its critique, or fail comprehensively to assess the risk of the proposed development, DFSC in its consultee capacity, would be expected to provide this information to the LPA. One participant suggested that DFSC is often perturbed if it has not authored the CIS and that this is often raised during the consultation process:

> *I mean it does tend to result in having to have a conversation with the police when we consult them, because they'll say well we didn't do it* [CIS]*, but we've read through it and we think that this, that and the other is good,*

bad or indifferent about it. So I try and get them to focus on responding as a consultee rather than you didn't do the thing and that's more important. At the end of the day, we're all trying to get a good scheme together.

Although the ultimate aim of the planning process is to ensure that any new major development is designed to its best potential, ensuring that DFSC author the CIS subsequently means that it will receive payment for this. By only providing comment as a consultee, DFSC is providing its advice free.

Although the participants valued the work of DFSC, the majority (six) inferred that their remit was too narrow and that sometimes this led to frustration. As mentioned previously, it is the responsibly of the planner to balance the competing factors of the planning application and thus sometimes some of the comments made by DFSC are not implemented.

It is a very narrow remit focus, there are other aspects to consider within a development. But that's, I mean it's perfectly natural, we consult with other bodies also, English Heritage, they're looking solely at the heritage aspects of it, Natural England, looking solely at the ecological aspects of it and with the police, it's solely the crime aspects and so sometimes the suggestions they come back with and the comments they make aren't always acted upon because it's just that narrow remit. There are aspects, if they had their way, the whole place would look like Fort Knox..nobody would get in and out of anywhere (Development Control Manager – LPA 8).

6.6   Summary

This chapter has presented the views and opinions from representatives from nine of the ten LPAs across Manchester on whether they view designing out crime as an important consideration. In addition it sought to obtain their perspective on how this is delivered within their LPAs.

In summarising the findings from conducting semi-structured interviews with these representatives, it is clear that designing out crime is viewed as an important consideration

for each LPA. One participant spoke vociferously about the importance his LPA now placed on designing out crime having experienced the consequences of ignoring the advice and recommendations provided by DFSC previously. Nevertheless, although the participants said they felt designing out crime was an important consideration; the majority indicated that it is not *the* most important consideration and one which must be balanced against other factors when assessing planning applications. The participants suggested that commenting upon a proposed planning application solely through a designing out crime lens is too narrow and fails to consider other factors which are also integral to the overall sustainability and longevity of the development. Thus, in addition to the applicant's responsibility to consider opportunities to design out crime, it is equally important for those advising on designing out crime to think more holistically about how their recommendations can be incorporated innovatively so as not to hinder design creativity.

Each of the nine participants identified relevant planning policy and guidance which referred to designing out crime. Six of the ten LPAs had referenced designing out crime in and amongst more generic policy documentation. By amalgamating designing out crime advice into general policy documentation, it could be argued that the principles of designing out crime become more apparent to those reading the documents, who may have not originally contemplated the concept of designing out crime, nor how they could incorporate it into their design. In addition, amalgamating designing out crime advice throughout a generic document provides an opportunity for those from a designing out crime field to consider its application more holistically and less prescriptively.

In their validation checklist, each of the ten LPAs stipulate that a CIS must be submitted with every major planning application. Unlike Salford and Rochdale, two of the LPAs state that the CIS 'should' or 'could' be compiled by DFSC, four direct the applicant to DFSC and in the remaining two, no mention of the preferred author of the CIS is made. The findings suggested that the main reason why LPAs do not stipulate that DFSC must author a CIS is a concern that this would then monopolise the market. However, DFSC has access to intelligence which may not be in the public domain and which may prove useful when responding to the application. Thus, on commenting on crime and disorder issues across Manchester, GMP is the most resourceful owing to the data readily available to them and at their disposal. In addition, DFSC is independent of the development and planning process, it

does not have a vested interest in whether the development is built or not, but are concerned if the force receives a large number of calls for service to that development once built.

The development of the CIS process has sought to provide a mechanism through which designing out crime is delivered on the ground by GMP across each of the ten LPAs in Manchester. As examined above, there are two key points where DFSC can become involved in the planning process. First, they are able to comment on the initial planning proposals prior to the application being submitted to the LPA. Second, they are consulted once the application has been submitted to the LPA, providing DFSC the opportunity to verify that the plans it initially commented upon are those which form the application. Although the views are mixed as to whether DFSC should be considered as a consultee, it appears a sensible approach to ensure that key aspects of the design have not been amended after the CIS was compiled. It also proves beneficial should DFSC not be the author of the CIS submitted with the planning application. It allows them the opportunity to review the CIS and to make any recommendations. Thus, the consultee status afforded to DFSC is instrumental.

The interviews conducted with representatives from each LPA suggest that there are strengths in the professional background of the DFSC consultants. They expressed the view that having a background as a built environment professional allowed them to be more appreciative of the planning process and planning terminology. Charging for the CIS was considered reasonable by the participants.

Chapter Seven: Discussion

7.1   Introduction

To the author's knowledge, this thesis marks the first comprehensive review of the application of CPTED across England and Wales. It is also the first time that a comprehensive and longitudinal evaluation of the processes involved in delivering CPTED across Manchester, or indeed any specific location, has been undertaken. The author therefore believes that this marks a significant contribution to knowledge.

This chapter sets out key findings from each of the three preceding chapters and discusses their possible implications for policy and practice. It is structured as follows. Key findings from each of the three research aims will be presented and discussed in relation to the literature. Recommendations will be made and methodological limitations identified. Potential areas for future research will be discussed. First, key literature and policy will be reprised.

7.2   Brief review of key literature, policy and legislation

CPTED seeks to reduce crime through the planning, design and manipulation of the built environment. The key principles of CPTED (as outlined by Armitage, 2013) include i) physical security; ii) surveillance; iii) movement control; iv) management and maintenance and v) defensible space. Whilst there are on-going debates in the literature about the need to provide clear definitions of the principles, the author argues that to date, little research has been undertaken to examine how those responsible for applying CPTED (i.e. practitioners) go about the task and this should be considered so that any re-defining of the principles is inductive and of use to practitioners.

Evaluations of CPTED tend to focus upon assessing whether initiatives have shown crime reductive effects. For example, evaluations of SBD have shown that developments built to the standards experience less crime and disorder than those that have not (Armitage, 2000; Teedon *et al,* 2010; Armitage & Monchuk, 2011). However, there is a paucity of studies concerning *how* those responsible for designing out crime in England and Wales (ALOs) assess planning applications; *how* they go about applying CPTED; whether they are able to anticipate the locations of crime and the mechanisms through which they become involved in

the design and planning process. This is also noted by Minnery and Lim (2005) who state that:

> ...the assumptions and processes underlying CPTED are poorly tested. If CPTED is going to be more widely accepted, its proponents need to be able to demonstrate its effectiveness (p. 331).

This has also been confirmed by Colquhoun (2004), Schneider and Kitchen (2007) and Armitage (2013) who states that the process through which CPTED is applied is an "unexplored area" (p. 210).

Section 17 of the Crime and Disorder Act 1998 placed a statutory requirement on the police and local authorities to work in partnership. In particular, it required local authorities to do all that they reasonably can to prevent crime and disorder. In terms of CPTED, it helped ALOs to engage with LPAs and ensure that crime and disorder was a consideration when assessing planning applications and granting planning (or withholding) permission. In terms of policy, the importance of creating safe environments, through design and layout, has also been noted in key Government publications such as the NPPF (DCLG, 2012), however little guidance is provided on the mechanisms through which this should be achieved. Thus, a good working relationship between the ALO and the LPA is important.

In England and Wales, ALOs are responsible for the application of CPTED when assessing planning applications. However, practitioners have recently criticised the inconsistency with which CPTED is applied and suggested that the advice provided varies according to the individual ALO involved (Local Housing Development Group, 2012). This thesis examines the extent to which this is the case and the impact that this may have on its delivery.

7.3   Key findings and so what?

This thesis has sought to address the following three research questions:

1) Are ALOs able to anticipate the locations at which crimes take place (according to police recorded crime figures) when reviewing the architectural plans for a residential development;

2) How is designing out crime delivered across Manchester by Greater Manchester Police Design for Security Consultancy and

3) How do representatives from LPAs view the services provided by DFSC.

Key findings are presented and the author reflects on what these findings mean for the future of CPTED in England and Wales.

7.31   Key findings from research aim 1

Research aim 1 was addressed through a detailed assessment exercise that required a sample of 28 ALOs to review the architectural plans for one residential development which comprised 41 individual properties and 4 blocks of flats. The development had been built, fully occupied. Four years' crime data were available for analysis. ALOs assessed only the plans and remained blind as to the crime suffered. The key purpose of this exercise was to examine the extent to which the application of CPTED by ALOs is just a guessing game, or whether ALOs are skilled in their assessment of identifying risk in proposed developments. It should be stressed that what this research exercise offered was a methodology whose wider use would provide a crucial aid to the identification of current skills and training needs of ALOs. This was a time-intensive pilot exercise.

Using only the site layout plan (and individual dwelling elevations, if requested), ALOs were asked to identify areas of the development, which they considered to be vulnerable to victimisation. The key findings revealed that ALOs *do* to varying degrees possess a skill and upon reviewing a site plan for a residential development, showed themselves able to predict the main crime type from which the development went onto suffer. All ALOs stated that vehicle crime would be the main crime to be recorded at Development X and this proved to be so. Over the period of analysis a total of 57 vehicle offences were recorded. The development also experienced property crime, but to a much lesser extent with a total of 8 offences recorded.

As set out in previous chapters, the analysis revealed that in the *aggregate* ALOs were, to some degree, able to identify specific locations that had experienced crime during the period

of analysis. When analysing the data for *individual* ALOs, it was evident that there were varying levels of success and a disparity in the readiness with which they assess vulnerability. When asked to identify the places at which crimes had taken place on a development of 45 properties, some ALOs selected a small number of locations as vulnerable, whereas others selected a large proportion of the development as vulnerable. For example, in terms of burglary analysis, ALOs identified between 3 and 31 locations. One could argue that this inconsistency is because in reality ALOs are located across the country and therefore regularly assess developments that are located in very different areas that have very different crime risks and levels of crime. Thus, unknowingly, it is possible that the participants assessed the development as if it was located within their own force area. For example, one ALO commenting on a proposal for a block of flats in Birmingham may assess the risk to be greater than if the same proposal were for a development in leafy Wiltshire. As Cozens (2014) notes, CPTED is a local phenomenon. It is highly unlikely that the exact advice would ever be provided by all ALOs across the country owing to the different levels of risk posed at the local level. Nonetheless, the rationale behind providing the 28 most experienced ALOs across England and Wales with the *same* residential development and with the *same* generic information (i.e. the number of individual dwellings) was to elicit the extent of this variation. Whilst the exercise revealed that the justification for identifying potential areas of risk was generally consistent (i.e. to avoid rear communal car parking courtyards) the level of detail provided in *applying* the advice/principles and identifying specific locations as at risk from crime was not consistent. Thus, the findings do align with the concerns raised by the Local Housing Development Group (2012) – that the application of CPTED is inconsistent depending upon the individual ALO involved.

It could be argued that it is more important to ensure that the ALOs, in reviewing the planning application, select all the potentially victimised sites, no matter how much of the site they deem vulnerable. However, if the application of CPTED is merely about adopting a risk-averse, over-cautious approach to the design of new residential developments one must then ask the following key questions. First, if taking a risk averse approach why does the plan need to be reviewed by a professional whose job it is to accurately predict future risk in the design of new developments? One could assume risk across entire developments and this would not require the skill of a professional. Second, if dedicated roles (e.g. ALOs) exist to

try and predict risk, one needs to examine what makes these professionals skilled in assessing risk commensurate with predicted future risk. What qualities, experience and training have they undergone allowing them to perform this role adequately? There is no skill in someone assessing an entire development as risky, and by assuming risk across entire developments it is highly likely that there will be a conflict with other key policies and agendas which are of equal importance to LPAs and stakeholders. However, there is skill in being able to draw upon knowledge and intelligence and undertake a comprehensive assessment to help make specific and targeted recommendations which are commensurate with the presenting risk. In short, the key skill is in *differential* risk assessment.

The approach adopted by some of the participants demonstrates a lack of confidence in their predictive skill owing to the variation in the numbers of locations deemed vulnerable. For example, in the burglary analysis, participants identified thirty-one locations (69% of the total development) as vulnerable. It is highly likely that their over cautious approach relates to a fear about any repercussions should they not have pre-empted any potential crime and disorder issues.

The locations predicted as vulnerable but had not experienced crime during the period of analysis, are referred to as a false positive. Locations that were not predicted as vulnerable, but had experienced crime during the period of analysis, are referred to as a false negative. The findings revealed that for total crime and burglary offences ALOs over predicted risk (false positives), whereas for vehicle crime they were under predicting and false negatives predominated. This could be because they intuitively place different values on false positives and false negatives. Of crucial importance here, and something which warrants further research, is the extent to which there is a trade-off between the types of error made. In decision tasks, you cannot choose to be right all the time, thus it is the balance of types of errors one makes which matters. So if an ALO deems all homes vulnerable, the ALO will make only false positive errors. If an ALO deems no home vulnerable, all the errors made will be false negatives. In between, there will be a mixture of error types. The crucial question is then, which errors is it important not to make? If making places less vulnerable is cheap and easy, it is better to have more false positive errors. If making places less vulnerable is expensive, difficult and adversely impacts upon the relationship between the ALO and

other built environment professionals, false negatives are arguably more acceptable. Further research is required to assess this balance.

Owing to this inconsistency, further research is also required to examine the feasibility of developing an assessment tool, or predictive algorithm, to assist with the application of CPTED. This should provide a generic framework in which the ALO can consider the size and nature of the development, the local environment alongside local and national crime levels. This would help the ALO in predicting an expected crime rate and using this, the ALO can prioritise and hone in on specific design features and suggest viable design solutions. Such a tool would help to finesse the skill of an ALO.

Whilst there is a skill, the findings reported in this thesis imply the need for a research-based training enhancement. ALOs are initially trained by the College of Policing over a two week period and are then provided the opportunity to attend an annual training event organised by SBD, however attendance at the event is not compulsory. To the author's knowledge, these are the only forms of training and CPD available to ALOs throughout their career. Based upon the variation in assessment across ALOs, it is recommended that more CPD is developed and provided at regular intervals. It is recommended that both the College of Policing and SBD explore the possibility of this. CPD should include both informational and practical elements.

In terms of information, regular briefings or forums could be co-ordinated to ensure that ALOs are kept abreast of national crime trends to ensure that any advice that they provide is commensurate with both national *and* local crime rates. Forums should also include updates on relevant research findings (so that ALOs are up-to-date with evidence on the effectiveness of CPTED) and also changes in key policy and guidance which will ultimately impact upon their role and the advice they provide and their relationship with the LPA.

In terms of practical CPD elements, ALOs should be provided with the opportunity to meet so that individual development scenarios and case studies can be appraised[70] and synergies and discrepancies in the advice provided by ALOs can be discussed and clarified. In addition,

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[70] Similar to the approach adopted in this thesis.

the author recommends that ALOs are required to undertake a detailed review (perhaps using diary of activity sheets) of a small number of developments that they commented on annually, with the added knowledge of crime suffered on these developments. These case studies can then be used to help ALOs systematically document advice provided and any compromises/conflicts. These data would be invaluable in identifying whether there are any specific, and recurring, areas of conflict between CPTED advocates and other agendas. Case studies will also be a useful resource in helping to brief senior management or operational policing colleagues.

Owing to the fact that ALOs are located across England and Wales, it is unfeasible to suggest that they all meet regularly and in person. This would be impractical. It is suggested that training is delivered through a number of different forums, such as webinars, online training, Computer Aided Design (CAD) or Virtual Reality (VR). This training should be provided by the College of Policing (as ultimately it is responsible for the delivery of initial CPTED training) or SBD, as ALOs are responsible for delivering their accreditation scheme. However, it is important that the design of any future training of CPD is not undertaken hastily without first further examining what the training should focus upon and how this could be delivered. ALOs should self-evidently be consulted about what training is needed. The author is adamant that training (and mentoring for newer ALOs) is imperative to ensure that the application is CPTED is finessed and the role professionalised.

Whilst the above discussion suggests the need for developing the skills of ALOs to help reduce the inconsistent or inappropriate application of CPTED, the following must not be overlooked. There is a skill to designing out crime. During the exercise, all participants correctly anticipated that high levels of vehicle crime would be experienced at Development X. Thus, should the advice of these ALOs have been sought and incorporated into the final design and build, crime would have been prevented. Of course, this was not the case in reality as the comments made by the ALO initially involved were ignored. However, Armitage (2013) states that effective relationships are essential to the success of designing out crime. Therefore, if an LPA has experience of working with an ALO who is over-cautious (resulting in many false positives) and fails to consider the importance of competing agendas and ultimately risks delaying the planning process, the LPA is likely to be less willing to engage

with the ALO in the future. Armitage (2013) states that designing out crime relies upon "communication, compromise and common-sense" (p.210). The author would add that it is imperative to ensure that it is also *commensurate* with the national and local crime risk and other important competing agendas. By being over-cautious and deeming an entire development as vulnerable to crime the assessment is not commensurate with the presenting risk. The means through which this risk is communicated (and at what stage in the process) is also crucial in continuing effective working relationships.

The analysis also examined the background of the 28 ALOs. The ALOs comprised 10 retired police officers; 5 serving police officers; 8 police civilian staff and 5 former built environment professionals. Therefore the majority of the sample 54% were from a police background. There have been many debates in the literature about who is best placed to advise on CPTED. Schneider and Kitchen (2007) suggest that CPTED should be delivered by those with a policing background (i.e. serving or retired police officers) as they will add kudos to the role because they have first-hand experience of attending burglaries. They warn against the civilisation of the role (i.e. employing built environment professionals and other civilian staff). Conversely, Minton (2009) argues that involving the police in the design of new developments can lead to over fortification as the police are too risk adverse. One could argue that there are benefits and limitations to employing those with a policing background and those with a built environment background. For example, those from a policing background may assess a development and instinctively identify specific areas of vulnerability from their experience responding to calls for service and attending burglaries. Thus, they have always had an instinct to assess for vulnerability and then be firm in their decision making. However, those from a built environment profession are perhaps more aware of the number of competing agendas that permeate the design and planning arena and are more receptive to compromise. Built environment professionals are less likely to over analyse risk, but rather to assess the sustainability and the function of the development in its entirety.

This research suggests that for all crime and for property crime considered separately, built environment professionals had the better hypergeometric scores (i.e. they could successfully anticipate crime locations from those they deemed vulnerable). However, for all crime and

burglary considered separately, built environment professionals tended to under-predict risk. There are two key explanations for this. First, owing to their experience, built environment professionals are likely to appreciate the need for balance and compromise. They will be aware that crime prevention is only one of a number of considerations for the LPA and are likely to comment on the most pertinent issues. Second, it is highly likely that built environment professionals will not have physically attended any burglaries and witnessed the impact that burglary can have on its victims. This might impact upon their judgement. Thus, whilst they are able to appraise a design and layout and understand the technicalities of site plans and elevations, they will not have first-hand experience of attending scenes of crime. One could therefore argue that the judgements that they make are calculated, opposed to emotional. Whilst built environment professionals are located within a police environment and have access to operational policing colleagues and intelligence, it is recommended that they observe crime scene investigators and visit scenes of crimes to help add to their knowledge base. The analysis also revealed that those with a policing background tended to identify more false positives. It is therefore recommended that ALOs from a policing background are afforded more training in design and increase their awareness about other key agendas.

For vehicle crime, police officers tended to have the better hypergeometric scores (i.e. they could successfully anticipate crime locations from those they deemed vulnerable). As stated earlier, vehicle crime was the predominant crime at Development X. However, it was police staff who tended to predict false negatives (locations that were not identified as vulnerable, but did experience crime) to a lesser extent. Thus, the author suggests that one background is not preferable over another and to conclude this from a small study would not be appropriate. However, it does raise the following question - in times of austerity where policing budgets are being gravely stretched, should warranted police officers (who are more expensive to employ than civilian staff) be servicing the ALO role, when evidence suggests that other professionals are equally capable of effectively assessing risk?

Undertaking the exercise raised two key questions that should be explored in future research. First, what is the optimal time period over which the skill of an ALO should be assessed? When can one confirm that a false positive is exactly that? Is it a decade or over the complete

lifetime of a development, and what does this mean for those trying to evaluate the success of CPTED? Second, the exercise was undertaken with a sample of the most experienced ALOs in England and Wales and further research should be undertaken with those with less experience and who are relatively new in post. This would help to examine whether the level of disparity increases (owing to their limited practical experience) or, conversely, whether they are more aware about the crime decline and the need for compromise and negation and therefore able to assess the risk more conservatively.

In addition, it is important to state that the author appreciates the limitations with the methodology adopted in chapter four. The sample of ALOs who completed the exercise was relatively small (n=28) and they were asked to review only one plan – a residential development. Should the exercise be repeated, the author would recommend: i) that a larger sample of ALOs is recruited with varying degrees of experience; ii) a larger residential development is used and iii) ALOs are asked to assess residential, commercial and mixed use developments.

7.32   Key findings from research aim 2

Research aim 2 was to examine how designing out crime is delivered across Manchester by DFSC. Whilst previous research has suggested that the delivery of CPTED across Manchester is atypical (Schneider & Kitchen, 2007; Wootton *et al,* 2009; Monchuk, 2011), none has undertaken a comprehensive evaluation of this unique process. CPTED is delivered by former built environment professionals across the 10 Manchester LPAs. DFSC aims to work alongside the client as early as possible in the design and planning process to ensure that any risk is mitigated and design solutions offered. It is argued that if CPTED is considered at the outset, it can be seamlessly and aesthetically embedded into the design of a development (Schneider & Kitchen, 2007), reducing the need for the installation of retrospective target hardening measures. Within each of the LPAs validation checklists, it states that anyone wanting to develop in Manchester must submit a CIS alongside their planning application. The CIS is ultimately a process that leads to the compilation of a document.

This research shows that whilst the mechanism is in place to request that a CIS accompanies every major planning application, the CIS process is not working as effectively as envisaged

as it is often viewed by clients as a 'tick box' exercise. Thus, the emphasis is merely on obtaining the CIS document to validate the planning application, rather than consulting with DFSC early and throughout the design and planning process. Whilst the process and delivery of CPTED across Manchester is unique, during the period of analysis it was not being delivered as was anticipated or suggested at the outset. It is recommended that DFSC review its marketing and communication strategy to ensure that the requirement for a CIS is advertised to the wider industry. The rationale for this recommendation is that a client with little or no prior experience of seeking planning permission across Manchester is likely to be unaware of the CIS requirement, until they are about to submit their application (i.e. once they have reviewed the validation checklist). By this stage in the process, it is highly likely that the client's plans are already well advanced and therefore they are reluctant to amend them as this can cause both time and cost implications. Further research should be conducted with a sample of clients who requested a CIS immediately prior to submitting their planning application to examine the reasons for this.

However, whilst the consultants stated that often they were not engaged early enough in the process, they had witnessed an increase in the number of CIS' requested owing to the improvement in the housing market. Servicing the large number of CIS' has left little or no time to respond to planning applications. Whilst the CIS process attempts to design out opportunities for crime and disorder before the planning application is submitted, DFSC acts as a non-statutory consultee and are responsible for reviewing planning applications that have submitted to the LPA. This provides DFSC with an opportunity to comment on the plans submitted and communicate directly with the relevant planning officer. Servicing this requirement helps to maintain effective relationships with each of the LPAs. As highlighted by Wootton *et al* (2009) and Armitage (2013), good working relationships are essential when trying to design out crime, as often it requires stakeholders to compromise. During the period of analysis, the participants stated that servicing the CIS had been prioritised over the need to respond to planning applications. Responding to planning applications is important. It allows named consultees (such as DFSC) to review applications submitted to the LPA and ensure that the plans submitted to the LPA were the same plans that were appraised by DFSC. It therefore provides DFSC with the opportunity to confirm that they are satisfied with the plans submitted and provide any further recommendations. By failing to respond to planning applications, DFSC is missing a key opportunity to further mitigate risk.

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The participants stated that all aspects of the service could not be delivered owing to a lack of resources. As the housing market has improved and the request for CIS' increased, this did not coincide with an increase in staff employed to deliver all aspects of the CIS process. DFSC is governed by GMP. Whilst this is advantageous, as access to policing colleagues and crime recording systems is readily available, being part of the police family has proven difficult when trying to recruit additional staff. Owing to the impact of the CSR and the significant cuts that have been and continue to be made to the policing budget, recruitment into the force across all functions has been limited and during the course of completing this thesis there was a freeze on recruitment across GMP. This raises issues regarding the operational feasibility and governance of having what constitutes a commercial entity, dependent upon business to business interaction, being located within a public service. Should such functions remain within the police, they should be viewed differently to other policing functions and exempt from the impact of the CSR, particularly when DFSC is income generating. Alternatively, perhaps DFSC should be placed outside, yet still attached to the police – for example through the Office for the Police and Crime Commissioner.

Shortly after the interviews were conducted, DFSC were able to recruit three additional staff, an increase of 60%. It is therefore recommended that further research is conducted to reflect upon the impact of these staff on service delivery both at an operational and strategic level. It is also recommended that further research is undertaken with representatives from each LPA to gauge their views on what impact this level of service delivery had upon incorporating designing out crime.

The CIS was also prioritised to ensure that CPTED was considered as early as possible in the design and planning process. By dismissing the CIS process to focus upon responding to planning applications would be a backward step. CPTED would be being considered too late in the process and any recommendations made by an ALO at this stage could delay the planning application – something which the CIS seeks to avoid. In addition, the inclusion of the CIS in each of the LPAs validation checklist has been a lengthy process and to not deliver on this aspect of the process could render the requirement void and impact upon the working relationship with each LPA.

A detailed review of four residential CIS' written by three consultants was undertaken. This is an important contribution to knowledge as whilst Manchester's delivery of CPTED is often

said to be atypical (Schneider & Kitchen, 2007; Wootton *et al,* 2009; Monchuk, 2011; Armitage, 2013) this is the first time developments have been tracked from their initial concept, through to their design and build and occupation. The findings revealed variation and inconsistencies between the CIS'. For example, the length of the CIS' varied from between 15 and 29 pages and the content differed. Whereas one CIS included the aims and principles of CPTED, others did not. Ensuring that a standardised template is used to structure the content of the CIS will be helpful ensure that the CIS' produced across DFSC allow for more consistency and ultimately a more corporate product. This would also reduce any opportunity for client dissatisfaction should a client simultaneously receive different CIS'. The review of the CIS' revealed that it is effective in trying to get the client to consider CPTED early in the process. The analysis reveals that discussions were had between the stakeholders and DFSC to mitigate the risks identified. Whilst some amendments were made to satisfy the consultant's requirements, in other cases other agendas dominated and the CPTED advice was not implemented.

The review of the four CIS' also revealed that the majority of the document was text based, with few mock-ups of proposed design solutions. Text is reliant upon the client or the planning officer reading the document in its entirety and identifying recommendations and suggested alterations. It is therefore recommended that a standardised template is formulated. Within it, recommendations can be tabulated and suggested alterations are ranked in order or priority, so that the reader (whether that is the client or a planning officer) can easily identify what aspects of the design DFSC would prefer to be amended and what emphasis it placed on this amendment. A peer review process should also be introduced if time and resources allow, ensuring that a professional and corporate product is being produced and errors minimised. More generally, it is important that each ALO tracks a number of their developments on a regular basis after their occupation. For example, details could be kept for documenting key communications (as was done by the diary of activity sheets) and the development visited at regular intervals (i.e. every month) during its build. The date that the development begins to be occupied should be noted and the development should be visited in the initial 3 - 6 months to identify any snagging issues from a crime prevention perspective (i.e. doors failing to close properly). By doing this, practitioners would be able to self-examine developments to see what aspects worked and what did not. It will also help them to identify any nuances in the way the development was finally built, which may impact upon the overall security of the

development. Tracking developments through the planning process, its build and during its handover to residents would provide practitioners, such as planners and urban designers, with additional knowledge which can then be applied to future developments. It would also highlight where further liaison with planners and clients is required, for example where there is a conflict between CPTED and another agenda (i.e. Highways).

In addition to evaluating the CIS process, analysis also included a review of police recorded crime data recorded at four CIS developments. Whilst the author appreciates that the sample size is small and no real inference can nor should be made, the methodology used and the findings contribute to knowledge. Whilst the author initially sought to have a larger sample of CIS developments, the recession impacted upon the development sector and therefore a number of potential CIS developments did not come to fruition because they were never built. As Shaftoe (2004) states, CPTED does not yield quick results and whilst this is often a frustration senior police officers who are interested in quick results, this is difficult for those wanting to evaluate CPTED, especially when this involves undertaking a process evaluation which is dependent upon the development obtaining planning approval, being built and resided in.

During the period of analysis no burglary or burglary other offences were recorded at any of the four developments. Whilst this is encouraging, further analysis over a longer period of time should be undertaken to examine whether these developments experience lower levels of crime and disorder than the area in which they are located. It is important that any future evaluations examine the changes that have been made to the area surrounding the CIS development. It could be that crime attractors and generators (e.g. shops, public houses) have been built after the CIS development and compromises the security of the development. In addition, any future evaluation should seek to assess the perceptions of those residing in the developments.

7.33   Key findings from research aim 3

Research aim 3 sought to elicit how representatives from the LPAs view the services provided by DFSC. Semi-structured interviews were conducted with representatives from nine of the ten LPAs across Manchester.

The key findings from the interviews were that designing out crime is an important consideration for planners when deciding whether to grant planning permission and is noted throughout each of the LPAs policy documentation and validation checklists. This is an interesting finding when compared with the key findings from Morton and Kitchen's work (2005). Morton and Kitchen (2005) concluded that whilst the importance of designing out crime is noted in key policy, rarely does it translate into practice. However, Morton's and Kitchen's work was published approximately six years before the interviews with planners were conducted. Thus, one could argue that the inclusion of crime prevention in each of the LPAs validation checklists is one example of policy permeating practice.

Whilst crime prevention is an important consideration, it is not the only consideration for LPAs. The participants outlined how they must also assess the relevance and importance of other factors (such as ensuring the safety of the Highway) which can take precedence, yet conflict with the advice provided by DFSC. This finding is consistent with concerns raised nationally by the Local Housing Development Group (2012) who suggest that some of the principles of CPTED contradict urban design guidance. Thus, participants stated that it is imperative that designing out crime is not viewed in isolation. This is important and reiterates the need for further research to examine the extent to which ALOs consider wider planning agendas in their assessment and appraisal. Whilst built environment professionals are likely to be more appreciative of the need for planners to consider a plethora of different agendas, there still remained a concern amongst planners that consultants were too dogmatic in their assessment.

As suggested by Wootton *et al* (2009) it is typical for ALOs to be engaged in the planning process once the plans have been submitted to the LPA. Authors such as Colquhoun (2004), Schneider and Kitchen (2007) and Armitage (2013) suggest that this is too late in the process as it is difficult to request that any substantial changes are made to the development as this may delay the submission of the application. Thus, academics and practitioners alike have claimed that it is advantageous to try and incorporate CPTED at the initial concept and design stage. The CIS is a mechanism through which DFSC tries to ensure that anyone wanting to submit a major planning application to the LPA contacts and liaises with DFSC. All of the ten LPAs across Manchester state that it is a requirement that all major planning applications are submitted alongside a CIS. However, only two of these LPAs specifically state that the

CIS *must* be compiled by DFSC. Participants from the remaining seven LPAs interviewed stated that whilst they acknowledge that DFSC is best placed to advise on matters relating to crime and its prevention, there is a concern that by stipulating that it must author *all* CIS' would monopolise the market. The participants unanimously stated that they appreciate that the police are best placed to produce the CIS', as they have access to data and intelligence that would help justify the advice provided. However, they could not reject a CIS that had not been authored by DFSC. Further research is required to examine the content of CIS' that are not compiled by DSFSC, as it raises the following questions:

i)   are they independent from the planning process or do they have a vested interested in ensuring that the planning application is approved? Clients may be biased as they would not want to critique their own development and private security consultants may also produce a biased and uncritical CIS so as to secure further requests for work from the client and

ii)   what data (if any) are used to compile the CIS? Whilst public access to crime data is becoming more readily available through sources such as www.police.uk, this is not as detailed as data held by the police and fails to include local intelligence.

There were some concerns raised about DFSC writing the CIS and then acting as a non-statutory consultee once the planning application had been submitted. Whilst some participants viewed this as an effective checking mechanism, others viewed it as a conflict of interest.

All participants were of the view that it is advantageous that the DFSC consultants are recruited from a built environment background. They stated that they felt they were more appreciative of the planning process and were able to communicate using the relevant planning and design terminology. The only disadvantage noted, was that it was highly likely that they were not as skilled in in assessing opportunities for crime to occur (i.e. thinking from the offenders perspective) as they did not have any first-hand experience of attending crime scenes. This finding is in contrast to what Schneider and Kitchen (2007) propose, when they suggest that ALOs should be recruited from a policing background.

The participants agreed that DFSC should charge a fee for compiling the CIS. They stated that other consultants (such as environmental consultants) charge a fee for their services and questioned why the police should not. Charging for the CIS was deemed appropriate, particularly owing to the fact that policing budgets are continually being reduced. As one respondent stated, part of his rational for introducing the charging element was that those responsible for creating potential opportunities for crime (i.e. the developers) should be required to pay for a consultative service that attempts to mitigate this risk. This is consistent with Roman and Farrell's (2002) "crime as pollution" principle (p. 53).

It is important to reiterate that the interviews were conducted in 2011 and since then there have been a number of significant changes to the planning system (such as the introduction of the NPPF). In addition, at the time the interviews were conducted, DFSC were able to service both CIS' and planning applications. Thus, further research should be conducted to examine the extent to which the introduction of the NPPF and the introduction of Part Q have affected the way in which CPTED is considered by LPAs. Further research should also examine what impact, if any, DFSC being unable to service planning applications had on the LPAs. Whilst the author feels that it is perhaps timely to conduct further interviews with representatives from each of the LPAs, the interviews conducted in 2011 yielded important findings which, the author believes has not only contributed to knowledge, but also assisted DFSC to reflect upon the service they deliver. During the completion of the thesis, the author has provided DFSC with key findings and these have been considered and used to amend the content of the CIS in an attempt to make it more serviceable to LPAs.

Prior to concluding this chapter, it must be noted that the views of those requesting CIS' were not gathered. This is an area of work that should be undertaken in the future. This would be useful in helping to identify any areas of the CIS (process and the document) require amendment to further improve the service. Ultimately, those requesting CIS' are customers and so it is important to obtain customer feedback.

7.4   So what? Implications for policy and practice

This thesis has contributed to knowledge by: i) assessing the practical application of CPTED by ALOs across England and Wales and ii) providing a comprehensive and longitudinal evaluation of the delivery of CPTED across GMP.

This research has confirmed that there is a skill to designing out crime at the planning stage. Whilst there is scope for the skill to be improved, the author believes that designing out crime and the role of ALOs must be afforded more attention, especially at a time when policing budgets are being significantly reduced, yet the housing market is increasing. The evidence presented in this thesis suggests that by reviewing the plans for a residential development, ALOs are likely to identify future crime risk, thus making places safer in the long term. However, what this thesis does confirm is that the assessment of risk is inconsistent across ALOs and the author concludes and recommends that training should be enhanced. The question is: who is responsible for this and to what extent is this feasible? Currently, the College of Policing deliver an initial two week ALO training course for all new ALO recruits. The cost of this course is £2336 which is payable by the force in which the ALO is employed. In addition, forces are required to pay for ALOs attending the national annual training event (approximately £250). The author questions the extent to which forces would support any additional requests for expenditure to attend further training and development. There are two key reasons for this. First, crime prevention is often not viewed by the police as a core function and second, police funding is continually being reduced as an on-going result of the CSR.

Crime prevention is not a quick fix. The benefits of crime prevention, and especially CPTED, can take years to be acknowledged and this is in tension with the character of an organisation that is driven by requiring immediate and quick results. The police service is also a predominantly hierarchical organisation with many officers keen to secure their next promotion quickly. It is common that warranted police officers who are often recruited to manage ALOs will only stay in post for a short amount of time, before moving onto their next promotion. This then means that CPTED cannot flourish. As Olasky (2004) states this lack of support then means that efforts are "…poorly conceived, underfunded, and haphazardly implemented, delaying the widespread development of CPTED" (p. 330). In addition, policing budgets continue to be reduced significantly and owing to CPTED being a more long-term approach to crime prevention, it is often identified as a function that can be reduced or disbanded. As a result, the numbers of ALOs in post are diminishing as the role becomes increasingly viewed as one which can be dispensed with (from 305 in 2009 to approximately 190 in 2014). This is concerning as this thesis has confirmed that ALOs can,

to varying degrees of success, predict future crime risk and in the long term developments of the future are highly likely to be safer and require less policing.

Whilst the number of ALOs appears to be decreasing nationally, numbers have not decreased in Manchester. Whilst delivering the CIS has been difficult owing to the impact of the CSR, DFSC has managed to maintain staffing levels and recently recruit new staff. Unlike other forces, DFSC charge the client (not the LPA) for their consultancy service. Whilst this approach is often described as being atypical, perhaps it warrants further attention and should be considered as a way forward in delivering CPTED across England and Wales.

It is common for consultants involved in the design and planning process to charge for their services. An example would include an environmental consultant. Why then can the police not charge too as ultimately should a poor development be built, it is the police that will be tasked to attend to the crimes and try to deal with the consequences. The police do charge for their services in other aspects of policing, for example policing football matches or festivals. Recently, Bedfordshire's Police and Crime Commissioner proposed selling advertising space on its police cars to generate income. Is delivery of CPTED something that could also be charged for? Charging for the delivery of CPTED to help subsidise ALO expenditure may prove fruitful as the funding could be used to help design and deliver regular training and CPD. This would help to professionalise the role and reduce concerns relating to the inconsistency in which CPTED is delivered and applied. However, the author warns that should forces introduce a charging structure, it is *imperative* that income generation remains *incidental* to the central purpose of crime reduction.

In theory, the process through which DFSC engages with the LPAs appears to be an example of a model which warrants further examination by forces seeking to embed designing out crime into the planning system. The author proclaims that this is an effective model for delivery, particularly during a period of austerity. Many of the LPAs across England and Wales do refer to designing out crime in their planning policy and guidance, yet fail to translate this in practice consistently. By outlining that a report prepared by the police in each of the validation checklists would help to provide a mechanism through which designing out crime is implemented. However, to embed CPTED firmly into the planning process it is

imperative that there are sufficient numbers of adequately trained professionals in post to deliver the service.

Laycock (2015) recently stated that the CJS cannot be relied upon to deal with crime and stated that prevention needs to be prioritised. The author agrees with this statement and asserts that more attention is provided to ALOs to help them successfully apply the principles of CPTED in an attempt to design out future crime.

In this discussion, the writer has sought to detail the implications of what has been found together with some personal observations. The topic is important and the worst fate for CPTED would be its relegation to the periphery of the crime reduction arena. It needs prioritisation and mid to long term planning to protect future generations from living in homes and environments unnecessarily vulnerable to crime.

Chapter Eight: Conclusion

This thesis is about improvement, not criticism. It has examined the processes through with CPTED is applied across England and Wales and how it is delivered across Manchester. I believe that the findings from the thesis have made a contribution to knowledge in the field and tried to develop a methodology to enable incremental improvement in CPTED delivery.

While previous research has sought to evaluate the effectiveness of housing developments built to the principles of CPTED, this thesis has focused upon those responsible for its delivery. It has demonstrated that when presented with a set of plans, ALOs are able to some varying extent, identify locations which have a higher probability of experiencing crime and disorder, as inferred from the fact of their later victimisation. To stress the point, the skill does vary and this raises concerns about the inconsistency with which CPTED is realised nationally. However, this finding does not suggest that the role of the ALOs is dispensable. To infer this would be seriously to misrepresent the work reported here. Designing out crime is not an exact science and many downstream factors, notably resident characteristics can affect its effectiveness, but ALOs are the exclusive gatekeepers of inbuilt home security. Whilst the recent introduction of Part Q into building regulations is a step in the right direction to ensure good physical security of new homes, the requirements do not relate to the design and layout of the development's street network. Thus, it is even more important that the skills of the ALO are honed and constantly developed to render their input maximally useful.

A conclusion section can hopefully include conclusions reached as a result of lengthy immersion in a topic. In that spirit I conclude that ALOs are not afforded any serious attention by senior police personnel or politicians and until they are, designing out crime cannot flourish. ALOs should be given the space, support, resources and training they require to help professionalise the role and finesse their existing skill and ensure that they exhibit it to a consistently high level. By helping to professionalise the role, concerns regarding the inconsistent levels of delivery will help to facilitate relationships with planners, urban designers and other key stakeholders. One way in which this could be achieved is to adopt an approach similar to that at GMP, especially when policing budgets are continuing to be reduced. However, should this be the case it is important to recognise that it is a specialised

function and responsive to the demands of the housing market. It is also imperative that income generation remains incidental to the central purpose of crime reduction.

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Appendix 1   Interview schedule with ALOs

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Ensure the informed consent is completed before commencing the interview

> **Name of interviewee:**
>
> **Force:**
>
> **Date of interview:**

1) How long you have been an ALO/CPDA?

2) What is your professional background? Police (warranted/retired) / Police staff?

   a. *Are you 100% ALO or dual role?*
   b. *Approximately many ALOs are in this Force?*
   c. *Do you cover the Force Area or specific LPAs?*

3) At what point in your career did you find out about the ALO role?

   a. *How did you get into the role? Did you apply or were you moved into the role?*

4) In terms of line management, please could you show the levels of line management between yourself and the Command Team?

5) Thinking about the ALO role specifically, how do you think the police service view this role?

6) What training/CPD have you received within the police service to undertake this role?

   a. *Have you attended any additional courses/seminars?*
   b. *Do you subscribe to any forums, newsletters etc to keep up-to-date with developments?*

7) At what stage in the planning process do you usually become involved? *Pre-plan etc.*

Move onto Section 2 of the interview – review of site layout…

Exercise *(this text is to be read to the participant as stated below. This will ensure that the participants are not guided in anyway by the researcher):*

> *The aim of this exercise is to obtain data from a number of ALOs/CPDAs across the country to add to the evidence base in this field. In particular, this exercise aims to further elicit how opportunities for crime can be identified early in the planning process.*
>
> *The exercise will focus on one residential housing estate. This housing estate comprises of 90 dwellings – a mixture of two and three bedroom houses and two bedroom flats. There are approximately 112 car parking spaces and there is cycle storage provision. This estate was built in 2001/2002 and has been fully occupied since 2003.*
>
> *Here is the site layout plan for the development. Please take a couple of minutes to take a look at this plan.* Please take your time. *Hand participant site plan*

8) From looking at the site plan, what initially do you <u>like</u> about the site plan from a crime prevention perspective? Why?

   - *Ask for further explanation re: principles*

9) What <u>don't you like</u> about the site plan from a crime prevention perspective? Please annotate these areas on the plan using the **red pen.**

   a. *Why don't you like these areas?*
   - *Ask for further information re: principles*

10) Let's imagine that this is a real planning application which has just landed on your desk. This plan is the only plan which has been sent by the LPA.

   Please could you talk me through the process of how you would go about providing a response to the LPA and outline anything which you would like to know about the

site and/or any additional information you would like to review which would help you in doing this?

So, for example indicate whether you might telephone or email anyone to request additional information.

If participant outlines information, ask why this would be important? Eg: If participant requests specific elevations, landscape plans etc provide them with this information and again elicit why this particular resource is important to aid their decision making.

As previously mentioned, this estate has been built and lived in. As such, there have been a number of recorded offences. I am unaware of the exact nature and location of these offences.
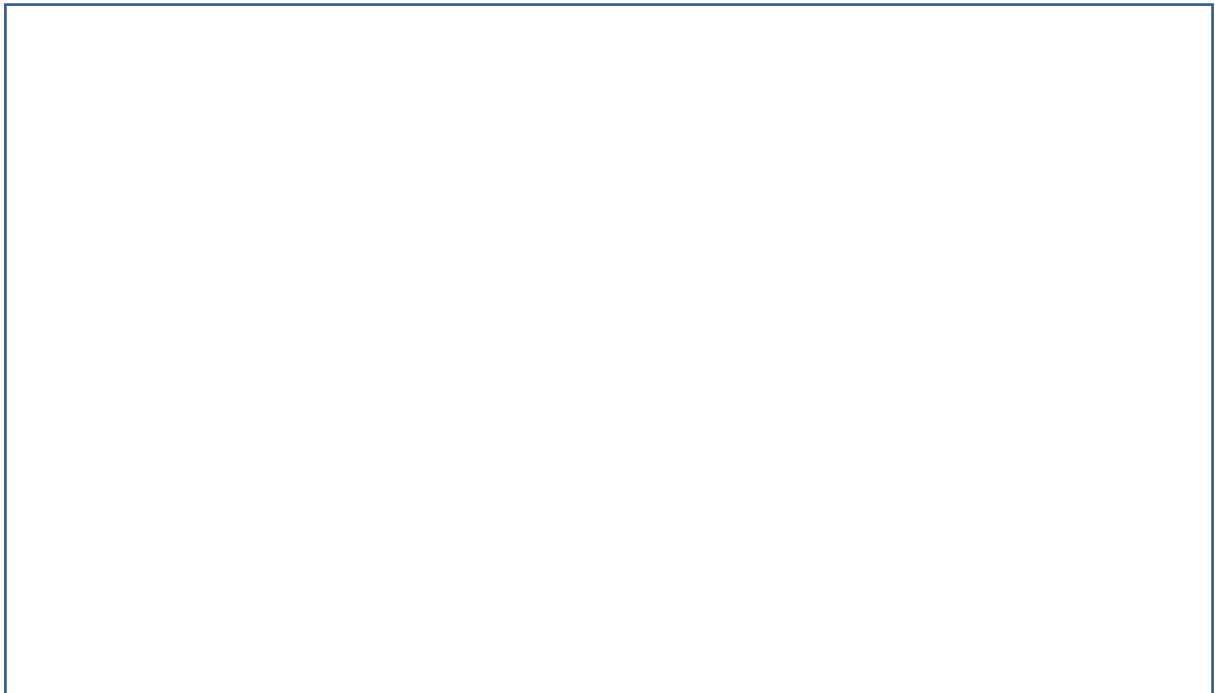
For the remainder of this interview, our discussion will be focused on i) property crime and ii) vehicle crime.

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11) **Property crime –** in terms of the recorded incidents of property crime, between July 2006 and July 2010 there were: 2 burglary dwellings and 7 burglaries in a building other than a dwelling.
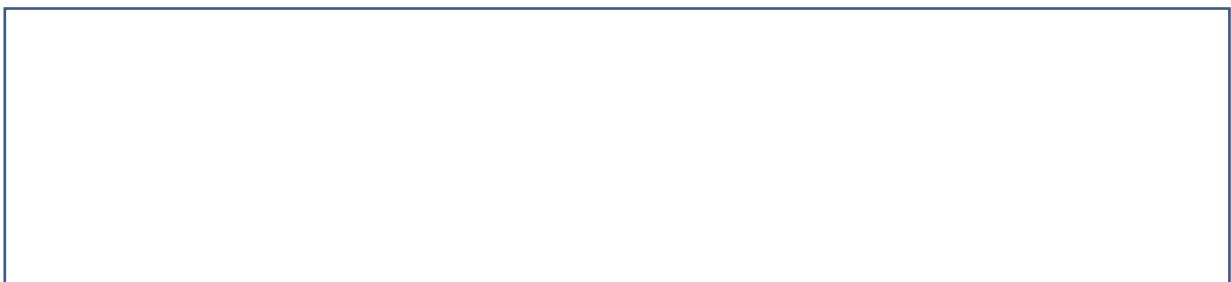
    a. What are your thoughts on this level of recorded crime? *Below expected? Above expected?*
    b. In your expert opinion, in which areas of this development would you expect these to occur?
    c. Please annotate the areas you think are problematic on the site plan. *Ask the participant to indicate these areas using a **blue** marker pen.*
    d. What is your reasoning for identifying this/these locations as problematic?

12) **Vehicle crime –** in terms of recorded incidents of vehicle crime between July 2006 and July 2010 there were: 48 thefts from motor vehicle (TFMV); 9 theft or unauthorised taking of motor vehicle (TOMV) and 23 criminal damage to vehicle.

   a. What are your thoughts on this level of recorded crime? *Below expected? Above expected?*
   b. In your expert opinion, in which areas of this development would you expect these to occur?
   c. Please annotate the areas you think are problematic on the site plan. *Ask the participant to indicate these areas using a green marker pen.*
   d. What is your reasoning for identifying this/these locations as problematic?

13) This concludes the interview. Is there anything that you would like to add?

Appendix 2   Diary of Activity Sheet

Diary of Activity

Name of ALO:……………………………………………………………...

Job: ………………………………………………………………………

		ALO Comments
1. Date of communication	Date:	
2. Time of communication	Time:	
3.Name of person communicated with	Name:	
4. Job title of person communicated with *(eg: planner; architect)*	Job title:	
5. Organisation where they work *(eg: Manchester City Council)*		
6. Did **you** contact the person named above or did they contact you?	*(Delete as appropriate)* I contacted them/they contacted me	
7. What was the format of the communication?	*Please select one of the following:* a) letter b) e-mail c) receipt of plans d) fax e) telephone call f) attendance at a meeting g) site visit h) discussion with another GMP ALO i) other (please state)	
8. Where relevant, has a hard copy of any relevant materials regarding this communication	Yes/No	

(eg: emails sent/emails received/letters sent etc) been printed off and put into the job folder?		
9. If no, is this information on GMALS?	Yes/No	
10. If information regarding this communication is on GMALS, please state any reference numbers		

11. Please provide as much information as possible describing the communication:

(Eg: was the purpose of the communication to arrange a date for a site visit? To discuss an element of the CIS? Etc)

Appendix 3   Interview schedule for planners

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Interview Schedule: Planners

Ensure the informed consent is completed before commencing the interview

Name of interviewee:
Organisation:
Date of interview:
Time of interview:

Q1. Can you tell me a little about your role including your title, main duties, how long you have worked in this role?

The following questions relate to the Greater Manchester Police (GMP) Design for Security (DFS) team and how you engage with them.

Q2. Are you aware of the Greater Manchester Police (GMP) Design for Security (DFS) team? Tell me what you know about it? What does it mean to you? In house crime prevention consultancy/production of Crime Impact Statement document (CIS).

Q3. Are you aware that the staff at DFS have a background in the built environment, rather than a police background?

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Q4. What do you think the advantages/disadvantages to this are?

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Q5. Please can you talk me through the process of how I would submit a planning application if I wanted to build a residential development in this area? Identify each stage (not just those relevant to Designing out Crime). What is required on the validation checklist.

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> **The following question is specific to the importance your planning authority places on designing out crime.**

Q6. In terms of Local Authority Policy Documents, what requirements does this local authority have regarding designing out crime? Elicit the importance the LPA place on Designing out Crime.

[Can you provide details of relevant policy documents/provide copies of documents?]

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Q7. Does this local authority area have a specific policy relating to fee-paying consultation service provided by DFS? *For example, do you stipulate that developers must consult with DFS at the pre-planning stage?* [If YES go to Q8 , if NO go to Q10]

Q8. If yes, in what document(s) is this requirement referenced? Would it be possible for you to provide a copy?

Q9. If yes, what prompted this local authority to stipulate that developers use the fee-paying consultation service?

Q10. If no, are there any reasons why your local authority has not introduced the requirement to use the fee-paying consultation service?

Q11. Do you think that the process of consulting with DFS helps your planning authority to imbed crime prevention into the planning process?

Q12. Thinking about the document that is produced by DFS, the Crime Impact Statement (CIS), do you read the content of it?

Q13. Has the requirement to consult with DFS affected the service that your department delivers?
If so, how?

Q14. Has the requirement to consult with DFS had any implications for your workload?

Q15. Has the requirement to consult with DFS had any cost/resource implications for your department?

Q16. Has the requirement to consult with DFS had any implications for your department regarding training?

Q17. Do you think that the consultation process and the CIS document produced offers value for money?

Q18. How do you think the fee-paying service offered by DFS (the consultation and the CIS document) might be improved?

Q19. Thinking about architects/developers that you deal with, have you received any feedback regarding the service offered by DFS?

Q20. If you have received feedback, what benefits do they feel that the service offers?

Q21. If you have received feedback, what weaknesses do they feel exist within the service?

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Q22.   If you have received feedback, do service users have any views on the cost of the service and whether this offers value for money?

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The following questions relate to the advice provided by the DFS Consultants and the implementation of this advice into the scheme.

Q23.   Are the recommendations made by the DFS Consultant e.g. standards of windows and doors conditioned upon planning approval? If yes, how is this done and who undertakes the final site inspections? If no, why are the recommendations not conditioned?

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Q24.   Would you consider developments to be enhanced or improved using the service provided by DFS?

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Q25.   Do you encourage applicants to return to DFS to obtain the Secured by Design accreditation?

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To conclude the interview

I would like to know..

Q26.   What do you see as the main benefits provided by the DFS?

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Q27. What do you see as the main weaknesses of the service provided by DFS?

Q28. Do you know that DFS offer CPTED Continued Professional Development training?

Q29. Do you have any further comments that you feel might help the research?

Thank you for your time

Appendix 4   Thirty-four recorded TFMV offences at Development X

Incident number & crime type	Date of incident	Modus operandi
1	September 2004	
2	September 2004	
3	October 2004	
4	October 2004	
5	October 2004	
6	November 2004	
7	February 2005	
8	April 2005	*None recorded.*
9	June 2005	
10	January 2006	
11	January 2006	
12	June 2006	
13	July 2006	
14	July 2006	
15	September 2006	Unknown Person(s) approach secure vehicle situated at kerbside within quiet residential area\Using an unknown implement offender(s) smashes passenger door window to gain entry to vehicle.
16	September 2006	Unknown Offender/S Approach Vehicle Whilst Parked In Allocated Car Parking Space Outside Flat\Gain Entry Via Passenger Door By Using Unknown To Implement To Remove Lock\Door Damaged In Process\Offenders Enter.
17	October 2006	Unknown Offenders Approach Insecure Vehicle. Offenders Then Taken Golfing Items From The Rear Of The Vehicle And Make Off Over Waste Land At The Rear Of The Comps Property.
18	March 2007	Incidental Damage Value 50pounds\Offender Unknown Approaches Comps Unattended Secure Vehicle And Smashes Rear Offside Window In Order To Gain Entry\Untidy Search Made Within\No Property Removed\Offenders Make Good Escape.

19	March 2007	Unknown Offender Approaches Securely Parked Renault Clio Parked On Driveway\Offender Smashes The Rear Offside Window\Enters The Vehicle And Removes A Laptop Computer From Inside\Offender Then Makes Escape.
20	May 2007	Unknown offender approaches vehicle parked on driveway\force rear lock on vehicle\enter vehicle and remove items\make off unseen and unheard\incidental damage incurred to rear of vehicle.
21	June 2007	Comp parks vehicle up secure\comp returns to vehicle to go to work and upon examination realises vehicle has been broken into and property stolen\including damage value 220pds to lock.
22	June 2007	U/k offender/s approach comps vehicle parked in designated area adjacent to home address\force o/s front door lock\enter vehicle\untidy search but nothing believed removed\offenders make off in u/k direction unseen and unheard.
23	August 2007	Unknown offenders approach secure unattended Peugeot partner van at comps home and force lock on rear door of van to gain entry\take items from within and make off unseen.
24	August 2007	Offender/s approach secure van Peugeot partner parked in city residential area\force open rear door to gain entry\side doors also opened by unknown means\vehicle entered and property stolen.
25	August 2007	Offenders approach car parked in area outside block of flats in city residential area\enter car possibly via boot using unknown method to gain access and steal property from within and take same away.
26	September 2007	Comp leaves vehicle unlocked with doors closed outside works premises as he is collecting work tools to load into van\on his return to the vehicle comps work colleague notices vehicle doors have been [incomplete *MO* recorded]
27	October 2007	Between material times\u/k offender approaches secure

		locked silver ford and uses u/k implement to break nearside front window\entering veh conducts search of veh\before getting out of veh without taken anything.
28	April 2008	Unknown offender approaches comps red motorcar parked secure to the rear of comps home address\offender proceeds to bend back passenger side door to gain entry to vehicle\untidy search made\bank card taken.
29	May 2008	Unknown persons damage passenger side lock to car by jimmying it out gain entry to car and search and remove leather jacket car stereo and a ruck sack and make off unseen and unheard.
30	August 2008	Unknown offender approaches secure works van parked on driveway of mid terraced house smashes fns window unlocks central locking and gains access through the passenger door untidy search made throughout and hand tools and electrical tools removed.
31	September 2008	Unknown offender uses unknown implement to force a hole through the driver's side lock and open the car door. Once inside the glove box is opened but the car is practically empty. Offender takes a pair of white trainers from under the passenger seat and makes off.
32	October 2008	Unknown offenders approach attacked vehicle and by unknown means shatters the passenger side window\unknown offender then removes sat nav system from glove box and cash from within the vehicle before making good their escape with the items.
33	December 2008	Offender removes registration plate from front of land rover Freelander by unknown means before making off undetected.
34	July 2009	Unknown offenders approach car parked on street and by unknown means bend door back gaining entry taking stereos from within before making off unseen and unheard.

Appendix 5   Five recorded TOMV offences at Development X

Incident number	Date of incident	*Modus operandi*
35	March 2005	*None recorded.*
36	May 2005	
37	October 2005	
38	September 2006	Unknown Offender/S Approach Dwelling And Using Unknown Means Open Secure Garden Gate Causing No Damage And Approaches Secure Vehicle Red Suzuki Scooter Secured With Combination Lock In Front Garden Before Making Off.
39	January 2008	Unknown offenders have entered rear garden of comps property/offender has then removed insecure moped from garden and made off in an unknown direction\vehicle taken without keys.

Appendix 6   Types of development applications which require a CIS by LPA

LPA	Types of development applications which require a CIS
Bolton	Required for all major applications and for crime sensitive developments e.g. ATM's, CCTV's, car parks for more than 20 cars.
Bury	All major planning applications including: • Residential developments of 10 units or more; • Student accommodation of 6 units of more; • Supported housing (e.g. nursing homes & hostels); • Office, industrial or warehousing where 500sqm or more of floor space is created; • Retail where 500sqm or more of floor space is created; • Community facilities (e.g. schools, health facilities etc); • Leisure/recreation (e.g. new hotels, licensed premises) and • Transport infrastructure.
Manchester	For all major applications, a Crime Impact Statement must accompany the submission.

Oldham	All major development proposals including: • Residential developments of 10 units or more; • Student accommodation of 6 units of more; • Supported housing (e.g. nursing homes & hostels); • Office, industrial or warehousing where 500sqm or more of floor space is created; • Retail where 500sqm or more of floor space is created; • Community facilities (e.g. schools, health facilities etc); • Leisure/recreation (e.g. new hotels, licensed premises) and • Transport infrastructure.
Rochdale	A statement should be provided for all Major Developments as defined by law including 10 or more residential units or 1,000 square metres of floor-space.
Salford	All major development proposals including: • Residential developments of 10 units or more; • Student accommodation of 6 units of more; • Supported housing (e.g. nursing homes & hostels); • Office, industrial or warehousing where 500sqm or more of floor space is created; • Retail where 500sqm or more of floor space is created; • Community facilities (e.g. schools, health facilities etc); • Leisure/recreation facilities (e.g. stadia); • Other commercials (e.g. drinking establishments/hotels); • Transport infrastructure and • Other – any other new builds or change of use applications which may be considered to have a detrimental effect on crime levels in the area.
Stockport	For all major development applications defined by law a CIS must be submitted whilst other application categories will be assessed on a case by case basis. Major development includes the erection of 10 dwellings or more, 1,000 square metres or more floor-space.

Tameside	• All 'major' planning applications; • Applications for crime sensitive developments (e.g. ATM's); • All applications involving car parking for more than 20 vehicles and any other developments if specified in pre-application advice.
Trafford	• Residential developments where 10 or more units are created (including changes of use); • All other developments where 1000 sq m gross or more of floorspace is proposed; • All cash machines located within or outside a building in public space; • All applications for new hotel, schools, health care facilities, community centres, places of worship and day nurseries; • All applications for new or significant extensions to recreation or leisure facilities; and • All late night pubs/bars/takeaways.
Wigan	• Residential Development greater than 10 units; • Student accommodation of 6 units of more; • proposals involving B1 (light industrial), B2 (general industrial) B8 or A1 use greater than 500 square metres of floor space; • community facilities, Stadia, Public Open Space and • proposals involving A3 (restaurants and cafes) A4 (drinking establishments) or A5 (hot food takeaways) uses greater than 150 square metres.