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City Centre Crime

Cooling crime hotspots by design

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Abstract

City centres present particular challenges to the police. Crime prevention techniques that make the city centre safer would reduce the burden on the police. One such technique is Design Against Crime that uses effective design to prevent crime. The City Centre Crime project, initiated by the Manchester Crime and Disorder Reduction Partnership (CDRP), is a holistic, 'human-centred' investigation of the relationship between the urban environment and crime, with the aim to devise and implement practical design interventions to reduce crime and anti-social behaviour. An area of Manchester city centre was identified by the CDRP as containing a significant number of crime 'hot spots'. A design-led, top-down research approach was employed to understand the local context and to devise appropriate design interventions. This paper describes the research approach employed to generate targeted interventions to prevent crime, and discusses the advantages of this approach for place-based crime prevention analyses.

Key Words: design against crime, crime prevention, geography of crime, top-down research

Introduction

The recent economic regeneration of British city centres presents new challenges for police and urban managers. The multiple uses of retail, business, education, cultural and entertainment establishments result in a city centre that is a vibrant place twenty-four hours a day, seven days every a week. As a result, the population is variable and transient as people journey into and out of the city centre for these purposes. The high level of usage at certain times creates management issues for the police and local

authority. A staple in the regeneration of many British city centres, the latenight economy, ensures twenty-four use and economic viability of the city centre, but its concomitant crime and social issues are also of concern for the police and health services. The mix of uses and users means that the city centre is a consistent hotspot location for criminal activity.

Police authorities are increasingly interested in the role of location and its relation to crime incidence as a way to prevent crime. Crime mapping analysis - the ability to investigate the geographical location of crime occurrence - is now an important tool for strategic and tactical policing operations, crime prevention programmes and crime detection (McLauglin, 2006; Chainey and Thompson, 2008). Analyses of crime maps reveal crime hotspots - locations with the greatest occurrence of specific crime types - identifying places with the greatest need for crime prevention and reduction. Crime mapping analysis is so important that the ten local authorities in Greater Manchester have pooled all their crime and disorder data together into one large geographic database, called Greater Manchester Against Crime (GMAC), to enable crime mapping analyses of incidents and to improve the prevention and reduction of crime in the metropolitan area.

Design Against Crime

One way to prevent crime in city centres is to alter the environment in which it occurs - to 'design out' crime. Through initiatives such as Design Against Crime (DAC), European designers, manufacturers and developers are being encouraged to address crime, anti-social behaviour and related social issues within development projects. DAC emphasises the contribution of architecture, product, interior, graphic and other design disciplines to crime prevention. DAC seeks to broaden the thinking and practice of all design professionals to address crime issues (Design Council, 2003), and uses examples of good practice in crime prevention from both the private and public sectors. DAC holds that designers have an important role to play in place-based crime prevention, and that they have particular skills of value. Ken Pease (2001:27), a UK criminologist, has observed that:

Designers are trained to anticipate many things: the needs and desires of users, environmental impacts, ergonomics and so on. It is they who are best placed to anticipate the crime consequences of products and services, and to gain the upper hand in the technological race against crime.

The DAC literature argues that designers must consider the potential for their designs to be misused or abused. So they need to consider not only the user, but also the potential abuser or misuser. To achieve this, designers need to learn to 'think thief' - to anticipate potential offenders' actions, understand the tools, knowledge and skills they employ, and incorporate attack testing into the design process (Ekblom and Tilley, 2000; Design Council, 2003; Town et al., 2004). The aim is to out-think the

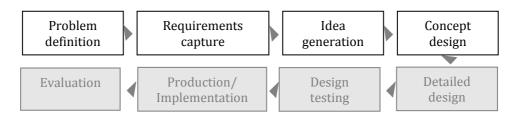
thief and develop design solutions that 'short-circuit' potential offenders' behaviour. Importantly, however, this must be achieved without reducing the design's value to legitimate users, increasing fear of crime, creating social problems, or causing the seriousness of the crime to escalate.

Of course, it's not just about thinking 'thief', but about considering all types of criminal activity (Ekblom and Tilley, 2000; Design Council, 2003; Town et al., 2004). The Design Policy Partnership, UK Design Council and Home Office have published guides and case studies that demonstrate to designers that their design solutions can be both user-friendly and secure (Pease, 2001; Davey et al., 2002; Design Council, 2003). In addition, the joint Home Office and ODPM publication Safer Places (2004) describes ways in which the design and planning of the built environment can prevent crime and fear of crime, and contribute to the creation of safe and sustainable communities. The Architectural Liaison service, managed by the Association of Chief Police Officers (ACPO), provides best practice advice to architects, developers and local authority planners on 'designing out crime' during the planning (development control) process. Such advice is based on the ACPO Secured By Design accreditation scheme (ACPO, 1999).

Design-led crime prevention

The Design Against Crime Solution Centre at the University of Salford (where the authors work) concentrates on design-led crime prevention measures to prevent crime and fear of crime that employ the design of products, places, or systems. From this perspective, design refers to the process by which 'designs' are brought into being. There has been much written on the process of design (e.g. Cooper, 1979; Lawson, 1983; Cooper and Kleinschmidt, 1991; Cooper, 1994), but it can be practically conceptualised as a number of iterative activities, sometimes termed 'stages' (Cooper, 1994). To some extent the processes employed by designers will vary between individuals and their domains (Lawson, 1983). This paper employs a model of the design process from the field of threedimensional design (i.e. product design, interior design, architecture, etc.). This consists of a number of generic stages, including: problem definition; requirements capture; idea generation; concept design; detailed design; testing and validation; production/implementation; and evaluation. The City Centre Crime project focuses on the first four of these stages - from 'problem definition' to 'concept design' (see Figure 1).

Figure 1. Generic design process highlighting activities undertaken by City Centre Crime project



The design process seeks to meet user needs and requirements within project constraints (e.g. time and budget) through an understanding of human behaviour, attitudes, and emotions in relation to a particular design objective. Identifying and understanding project constraints, defining the problem domain and capturing stakeholder requirements are key to early (sometimes called 'front-end') stages of the design process. Good design is evidence-based, and research conducted in the field of new product development since the 1960s shows that effective front-end design activities are a key success factor (Cooper and Kleinschmidt, 1988).

DAC promotes a 'human-centred' approach to preventing crime and feelings of insecurity. Human-centred design focuses on the roles, requirements, abilities and perceptions of all the humans in the problem domain. The emphasis is on human agency in any design system, with the objective being to enhance human abilities, overcome human limitations and foster user acceptance (Rouse, 1991).

Good DAC solutions are tailored to their specific context and often address crime problems in innovative or subtle ways. The involvement of design expertise enables a move away from the simple retrofitting of security devices, such as locks, high fences, CCTV and alarms, to design solutions. DAC encourages a more empathetic and holistic approach that considers not only the potential misuse and abuse of products and environments, but aesthetics and human sensory experience (Town et al., 2004).

The City Centre Crime project

The City Centre Crime project was initiated by the Manchester Crime and Disorder Reduction Partnership (CDRP) and the Design Against Crime Solution Centre to investigate the relationship between the design and use of the urban environment and crime. From this, the goal was to devise practical design interventions to reduce crime and anti-social behaviour that might be implemented by the CDRP. An area of Manchester city centre was selected by the CDRP (see Figure 2) as it contained a significant number of crime 'hotspots'. According to the CDRP, while crime in the area was constant and without discernable pattern, the environmental design and use of the area was thought to contribute to crime occurrence.

This paper describes the design-led approach to crime prevention employed by the City Centre Crime project to holistically understand the relationship between crime and place, and details how this led to the creation of design interventions to reduce crime occurrence in Manchester city centre. Details of the design interventions themselves are not presented here, but will be published at a future date.

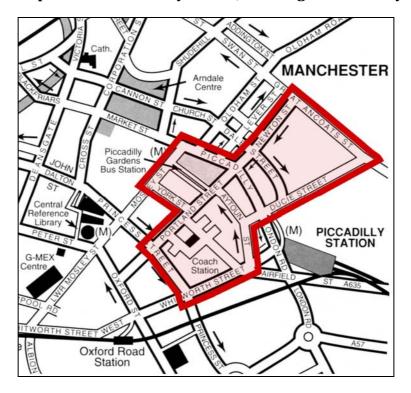


Figure 2. Map of Manchester city centre, showing area of study

Research methodology

Research structure – Summary

A top-down research structure was used to investigate the relationship between crime and place. The sample area of the city centre selected by the CDRP was considered by the researchers too large an area in which to investigate the micro-level interactions between the physical environment, use, and crime. In order to develop contextually-specific design interventions for the city centre, the researchers would need to identify 'focus areas' within the overall project area. This research approach would allow the researchers the ability to closely engage with the dataset to understand the links between the urban environment and crime in order to develop potential design interventions.

The physical design of the specific research area, its use, and the systems operating in the vicinity, were the main focus of the investigation. For this reason, comparisons across datasets with other regions in Manchester were not conducted. Instead, a case study methodology was adopted for the investigation of crime incidents in their specific location or 'crime in place'. The case study was selected as the most appropriate research approach for this study as it involves a holistic, in-depth exploration of a specific unit of analysis (Willig, 2001).

The research structure of the City Centre Crime project (see Figure 3) was implemented in two phases. A case study approach was used in both phases. In Phase One, the entire Manchester city centre study area, as

selected by the CDRP, was investigated (shown outlined in red in Figure 2). Data were gathered and analysed to learn as much as possible about this specific area of the city centre in its entirety. This led to the identification of three focus areas within the sample. In Phase Two, the project research focused on the three identified focus areas. Case study methodology was utilised for each focus area. Various methods were used to investigate the contextual factors of crime and place, resulting in several layers of data for each focus area (see Figure 3). Analysis across the various data layers provided a holistic understanding of how specific crimes related to their locations.

The following sections discuss the research undertaken in each of the phases of the project and the design-led approach in more detail.

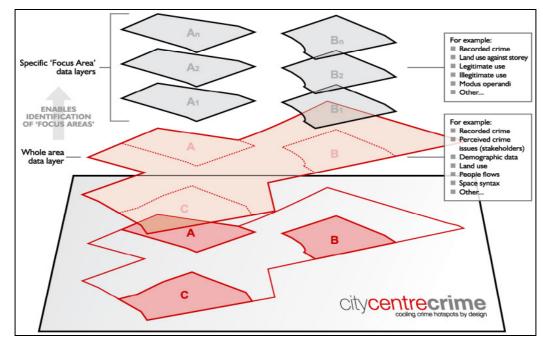


Figure 3. City Centre Crime research structure

[Note: The focus areas on the map do not represent the areas eventually selected for detailed study.]

Research structure - Phase 1

Top-down analysis of criminal activity, physical environment and its use began with an investigation of the whole Manchester city centre sample area. Semi-structured qualitative interviews were conducted with nineteen interviewees from the public and private sector. Their local knowledge of crime, its location, and how the use and design of the environment influenced these, were collected to better understand the relevant crime issues in context. Interviewees were drawn from four groups:

1. Those who determine the physical environment – City planners

- 2. Those who monitor/patrol, maintain, and secure the physical environment Fire and Rescue Service, Homeless and Begging Unit, parking attendants, street cleansing operatives, and street wardens.
- 3. Those who use and are a regularly present in the physical environment and are socially or economically involved City centre residents, users and businesses
- 4. Those who have the latest information on crime and anti-social behaviour in the physical environment Greater Manchester Police, the CDRP and GMAC.

All interviewees gave their consent to participate in the study, and interviews were recorded and transcribed. Thematic analysis of the transcripts identified the predominant crime and anti-social behaviour issues in the city centre study area. From the analysis, it became apparent that the sample area was comprised of four separate and distinct neighbourhoods: Piccadilly Gardens, the Gay Village, the Northern Quarter and the Rochdale Canal towpath. Each neighbourhood had distinct functional uses, types of users, physical environment and related crime and anti-social behaviour issues.

Crime mapping analysis was used to validate stakeholders' perceptions. Police recorded crime and incident data were collated for one full year from August 2006 to July 2007. Recorded crime classifications determined by the Home Office were used to analyse different crime types¹ (Nicholas at al., 2007, *Appendix 2*). Hotspot maps for each crime type were created using MapInfo Professional® software. Comparison of the individual hotspot maps identified specific regions within the sample area with a high occurrence of various crime types. Two consistent crime hotspots in the sample area were the Piccadilly and the Gay Village neighbourhoods.

The 'agreement' between stakeholder identified neighbourhoods and the results from the crime mapping analysis led to the selection of three focus areas: the Piccadilly area, the Gay Village and the Northern Quarter. These focus areas are shown in Figure 4. The surrounding buildings were included within the boundaries of each focus area to ensure that the design and use of buildings were considered in conjunction with the crime occurring in the area.

The Piccadilly focus region (Focus Area 1 in Figure 4) includes Piccadilly Gardens (a large public open space), retail shops, offices, a bus station and tram stop. The footfall in this area is estimated to be 30 million pedestrian trips per annum (FootFall, 2005). Vehicular traffic in this area is restricted to public transportation only.

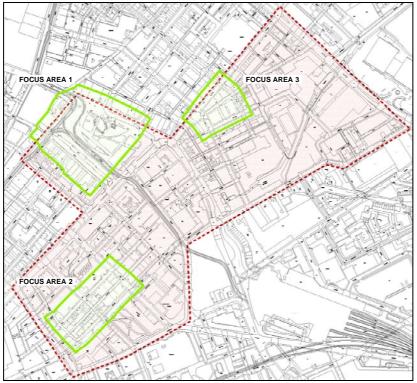
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¹ Exceptions to the British Crime Survey classifications are vehicle and theft offences. Theft from motor vehicle and theft of motor vehicle crimes were analysed separately. Theft from person and miscellaneous theft were the only theft offences analysed in the City Centre Crime project, both of which are analysed separately.

The Gay Village focus area (Focus Area 2 in Figure 4) has a high concentration of late night economy establishments - bars, restaurants, clubs, takeaways and minicab companies - that bring an estimated 10,000 people into the area each weekend. There is plentiful car parking in the Village, with surface car parks, on-street parking spaces and a multi-storey car park. Residential dwellings in the area are above ground floor level.

The Northern Quarter focus area (Focus Area 3 in Figure 4) is predominately offices and retail shops with plentiful on-street car parking. As the Northern Quarter area will undergo major redevelopment in the next five years, it was decided to select an area that was already established and unlikely to be redeveloped, thus maximising the longevity of any design interventions developed by the project.

Figure 4. City Centre Crime focus areas (in green) within the entire research study area (in red)



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To ensure that chosen focus areas captured a representative number of crimes and crime types, frequency analysis of crime occurrence was conducted for each focus area. The three focus areas encapsulated 53% of all recorded crimes in the sample area and 60% of all incidents of 'rowdy and inconsiderate behaviour'.

Research structure - Phase 2

As noted, a case study approach was used for each focus area. Criminal offences were investigated within their place of occurrence (i.e. focus area)

in order to holistically understand any relationships between crime, use, and the design of the urban environment. The crime types targeted for investigation in each focus area were selected as a result of integrating two data sources: stakeholder interviews and police recorded crime data. For each focus area, qualitative analysis of stakeholder interviews revealed priority crime issues, while frequency analyses of police recorded crime data revealed the crimes with the highest frequency of occurrence. Therefore, the crime types selected for investigation were:

- 1. Those identified in stakeholder interviews as issues of concern
- 2. Those with a high frequency of occurrence according to police recorded crime data, and not already identified from analysis of stakeholder interviews.

This was done to maximise the potential benefits of any design interventions developed by the City Centre Crime project. A total of 17 crime types were investigated (see Table 1).

Table 1. Recorded crime categories investigated in each focus area

	FOCUS AREA 1	FOCUS AREA 2	FOCUS AREA 3 Northern
CRIME TYPE	Piccadilly	The Gay Village	Quarter
Burglary		✓	✓
Criminal damage	✓		\checkmark
Drug dealing	✓		
Miscellaneous thefts	✓	✓	
Robbery	✓	✓	
Theft from motor vehicle		✓	✓
Theft from person	✓	✓	
Theft of motor vehicle		✓	
Violence against the person	✓	✓	
Water incidents*		✓	

^{*} Water incidents are incidents that occur in water that require attention of the Fire and Rescue Service and can result in serious injury or death. They are not a criminal offence.

Crime data analysis

Recorded crime in the focus areas was analysed in several ways to understand the context of the crime and the behaviour and strategies of the offender. Temporal analysis was conducted to understand variation in crime occurrence over time. The hours of the day were divided into two twelve-hour periods: the first period covering daytime working hours (between 07:00 until 18:59) and the second period covering the night time/early morning hours (between 19:00 and 06:59). To ensure temporal analysis of crime was consistent with the usage of the city, it was decided to define the daytime and night time hours in the same way as previous research into the use of Manchester (GMTU, 2006). Days of the week were

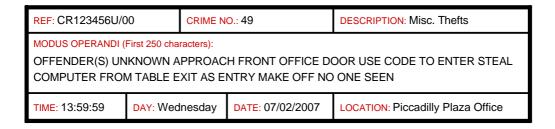
classified as being either a weekday or the weekend. The weekday is defined as occurring between 07:00 on a Monday morning to 18:59 on a Friday, and the weekend from 19:00 on a Friday to 06:59 on a Monday morning. (This designation is consistent with the Home Office definition of the weekend time period (Smith, 2003).)

Demographic information frequencies for the victims and suspected offenders for each crime type were analysed from police recorded crime data. Demographic information of victims included age, gender, occupation, ethnicity, and residence. For suspected offenders, demographic information on age, gender, birthplace, ethnicity and residence were analysed. Information on suspects' occupation was not supplied. Home Office age categorizations (Smith, 2003) were used to analyse the ages of both suspects and victims.

The modus operandi (MO) employed by offenders was investigated to identify the ways offenders exploit the design of the urban space, items within it and victim behaviour to engage in crime.

A 'Multiple card sort methodology' (Canter, Brown and Groat, 1985) was implemented to classify illegitimate behaviours of crimes in each focus area. A card was made for every recorded crime of the type being analysed in each focus area. Data on the card included the crime reference number, the description of the crime (e.g. theft from motor vehicle), the MO, time, day, date and location of occurrence (see Figure 5). The Q-sort technique was used, whereby the researchers sorted crimes into pre-determined categories. Each crime type within a focus area was first sorted temporally by day of the week and time of day (as described above), and then sorted by MO, items stolen, means of access, and location of occurrence. Analysis was organised, when applicable and possible, into categories identified in previous crime research. The MO approach types (of the offender to the victim) were based upon Home Office categories (Smith, 2003). Items stolen were organized using the categories used by Clarke (1999). In other cases, crimes were classified based on the information provided within the dataset.

Figure 5. Example data card used in Multiple Card Sort



Use of urban space

The flow of people has a significant influence on crime patterns. The presence or absence of individuals can be a causal or preventative factor, depending on the crime type and specific context (Ekblom and Tilley,

2000). To determine how legitimate users negotiate the urban environment of the three focus areas, non-participatory observational methods were employed. Time-lapse public realm surveillance footage, obtained from Manchester City Council's CCTV control room, was used for the observational study. Public surveillance footage is a useful and accurate way to identify the ways in which legitimate users traverse and use the public realm, as it is unobtrusive and can be analysed multiple times (Zeisel, 2005).

CCTV surveillance footage of the public realm for an entire 24-hour period on a Wednesday and Saturday in February 2008 was analysed. The sample days were chosen to allow comparisons with a previously conducted footfall study of the Piccadilly Gardens area (Footfall, 2005). Time periods for observing the CCTV footage were selected by analysing the high frequency times of crime occurrence in the three focus areas (see Figure 6). This was done to ensure that the observational study of legitimate user behaviour could be understood in relation to criminal activities. Five time periods were selected for the collection of real-time surveillance footage on both the Wednesday and the Saturday (these are shown in Figure 6).

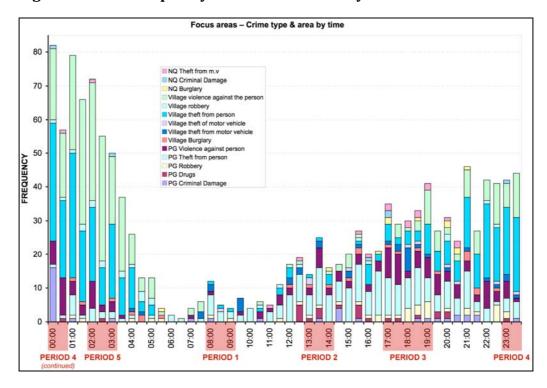


Figure 6. Crime frequency in each focus area by time

Time-sampling observations were made every 15 minutes for each hour of the identified time period (Ittelson et al., 1976), resulting in five sample observations per selected hour. For example, for Period 1 observations were taken at 08:00, 08:15, 08:30, 08:45 and 09:00.

Behaviour was observed at each sample time for a two-minute duration (i.e. from 08:00 to 08:02; Walmsley and Lewis, 1989).

Behavioural mapping was used to capture the observational data. Behavioural mapping is a structured observational technique in which observed behaviours and use of a physical space are recorded in location on a map. This technique allows for the documentation of behaviour from a large number of people in a given space, traversed routes through that space (Hill, 1984; Gehl and Gemzoe, 2004), and the change of behaviour over time (Bell et al., 2001; PPS, 2005). Ordnance Survey (OS) maps of the public realm was used as the recording tool. Viewing the CCTV footage, the number of pedestrians, vehicles, cyclists, and representatives of city systems (e.g. street wardens, police, refuse collectors), along with behaviours such as standing, sitting and pedestrian routes, were recorded on the OS maps.

Analysis of the data was conducted to obtain pedestrian footfall numbers throughout the day. A multiplication factor was applied to the observed numbers of pedestrians to obtain footfall numbers for an entire hour (Gehl and Gemoze, 2004). The four, two-minute time-sample observations for one entire hour were added together and multiplied by 7.5 to obtain the footfall number for the entire hour. The formula for footfall in an observed hour is $(w + x + y + z) \times 7.5$. The fifth time sample, at the end of the time period (e.g. 9:00 to 09:02), was multiplied by 30 to generate an estimated footfall for the hour following the time period (e.g. 9:00 to 10:00). The formula for this 'follow-on' hour is therefore e x 30.

Graphs illustrating the estimated pedestrian footfall for an entire Wednesday and Saturday for one street in the Gay Village with a CCTV camera were produced (see Figure 7 and Figure 8). The observed footfall numbers obtained during the five sample time periods are plotted in black. Estimates of pedestrian footfall between the observed time periods were indicated by 'connecting the dots' between observations; these are shown as dotted red lines in the graphs.

Pedestrian footfall data in the Gay Village focus area illustrates how an understanding of the use of an environment can contribute to an understanding of crime occurrence. For example, while pedestrian traffic in The Village during the weekday is low (see Figure 7), use of the area is greatly increased on a weekend night (see Figure 8). The number of pedestrians per hour does not go over 1,000 for the entire day on a Wednesday, whereas footfall between the late night economy hours of 23:00 to 04:00 on a Saturday is comparable to the footfall for the entire Wednesday.

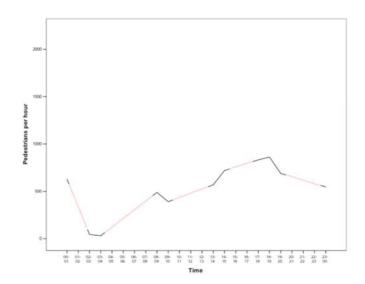
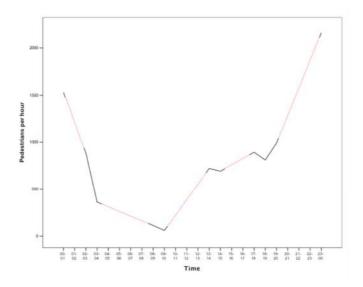


Figure 7. Wednesday pedestrian footfall on Sackville Street

Figure 8. Saturday pedestrian footfall on Sackville Street



Problem profiles

All statistical and place-based contextual data for each specific crime were collated into documents developed to communicate detailed information to designers on crime, legitimate use and location factors. These documents are termed Problem Profiles.

The structure of the Problem Profile draws on the Crime Lifecycle Model (Wootton and Davey, 2003), which identifies the various casual factors that result in the occurrence of crime. The Crime Lifecycle is derived from the causal framework developed by Paul Ekblom at the UK Home Office (Ekblom, 2001). Ekblom's framework has been adapted and extended to create the DAC Crime Lifecycle Model, intended for use by

designers during concept design development. The Model is comprised of six pre-crime issues that are a prerequisite to crime occurrence, and four post-crime issues that relate to the period after a crime has taken place (see Figure 9). Developed as an aid for design professionals, the Crime Lifecycle Model suggests that all six pre-crime issues (Phases 1 to 6) are prerequisite to a crime event occurring. Therefore, by comprehensively addressing any one of these issues, the crime event can effectively be prevented from occurring. Designers do not have to tackle all of the pre-crime issues, but can choose to concentrate on the ones that they can most effectively address.

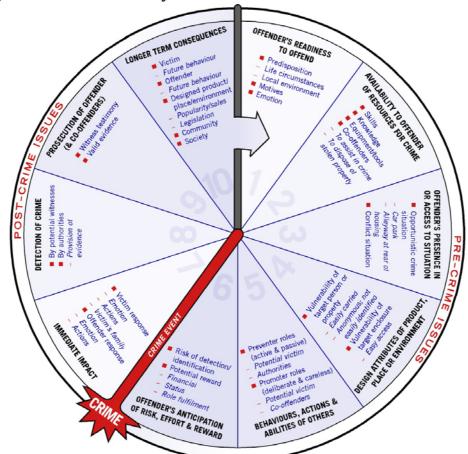


Figure 9. The Crime Lifecycle Model

Source: Wootton and Davey (2003)

Structuring the Problem Profiles around the Crime Lifecycle Model allowed each of the documents to be used as a form of design brief. The information in the Problem Profiles was used to encourage creative thinking and facilitate design innovation and concept generation activities to 'design against crime'.

Problem Profiles were developed for each specific crime type relating to a specific environmental context. In response, design

intervention concepts aimed at reducing the occurrence and impact of crime were then developed for each crime type. These intervention concepts vary in complexity and scale, from product designs to broader concepts for the modification of city systems and stakeholder work practices.

To date, eighteen design intervention ideas have been developed. These have been validated and refined through workshop activities with key stakeholders. The prototyping, implementation and evaluation of the interventions are being discussed with Manchester CDRP and relevant city agencies and stakeholders. The researchers will publish details of the interventions in the near future, as they are developed, implemented and evaluated.

Discussion and conclusions

The City Centre Crime project has developed and tested a design-led research methodology for the development of targeted interventions to tackle crime in Manchester city centre. The relatively small geographic scale of this project allowed researchers to engage intimately with the dataset, to focus down on specific components relating to particular crimes. and to investigate the relationships between crime, the built environment, urban systems and the behaviour of victims and other users. This research approach enabled the development of design interventions that are tailored to the specific crime and context. Design interventions that are grounded in evidence identifying the relationship between a crime type, the local context and use of an environment will be more successful in preventing crime (ODPM, 2004). Furthermore, an evidence-based human-centred design is less likely to cause problems for legitimate users of the city centre. The outcomes of the City Centre Crime project have implications for urban managers and partnership working between local authority and city management agencies and the police. The footfall data on the use of the city centre shows how intelligence regarding how the city is being used is of vital importance in understanding where and when to allocate resources. Currently, the focus of Manchester city centre appears to be the daytime, retail shopping hours. Indeed, too often the city is envisaged as simply a retail and commercial environment. As an example, a footfall study undertaken in Piccadilly Gardens (Footfall, 2005) only investigated the use of the area between the hours of seven in the morning to nine at night. In addition, automatic footfall counters of the city centre are currently only located on the main pedestrianised retail streets. This economic tunnel vision provides a one-sided view of the city centre and may result in biased urban management policies that fail to consider the late night economy use of the city - and the potential crime and disorder issues that flow from this. The design-led approach of the City Centre Crime project, and consequent user- and human-centred focus, highlighted key gaps in management understanding about how the city is actually used - and how this changes

throughout the day, the week and the year. The project focus on understanding the user and use of the urban environment revealed the paucity of information available on this.

Analysis undertaken by the City Centre Crime project revealed that the predominate use of certain areas of the city centre is during the late night economy hours on a weekend, and that the footfall for a weekend night out was greater than at any time during the entire weekday. To improve the safety of British city centres, CDRPs should seek evidence and understanding of the twenty-four hour weekday and weekend use of the city centre, and relate this usage to the allocation of city management systems (e.g. police, CCTV, street cleaners) in order to identify the areas of over-saturation and of understaffing. The research suggests that an evidence-based and city user-focused approach to the management of city centres would lead to better performance management of the city twenty-four hours a day, seven days a week.

Future DAC research would be to investigate another city centre in Britain and discern if the City Centre Crime methodology and the interventions generated in Manchester might be adapted and applied in this new environment. Currently, the design interventions developed by the City Centre Crime project are context and crime specific. A comparison study in another urban environment would establish whether the interventions are transferable, and if so, might develop some best-practice principles for designing out crime in British city centres.

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