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BUILDING DESIGN FOR CRIME PREVENTION

by

N.R. GOODWIN

MASTER'S THESIS

Submitted in partial fulfilment of the requirements  
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N.R. GOODWIN - "BUILDING DESIGN FOR CRIME PREVENTION

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## ABSTRACT OF THESIS - "BUILDING DESIGN FOR CRIME PREVENTION"

N.R.Goodwin, June 1994

Crime prevention through building is not a new concept, but awareness of it has increased following the rising incidence of crime. This thesis is based on research conducted during the last two years, and from information and knowledge gained by the author from forty years of architectural practice.

The research began with a review of published material which mainly concentrated on social influences and "target hardening" methods but did not address the fundamental interface between building form and susceptibility to criminal attack. In parallel, interviews were conducted with a structured sample of people specially selected for their experience of crime against buildings; building owners, police officers, security experts, architects, researchers, insurers, victims of crime and inner city residents. A case study, made with the co-operation of Nottingham University and the West Midlands Police Authority, was based on an inner housing estate in Nottingham. This was part of an initiative aimed at introducing police architectural liaison officers to the design process so that their communication with architects might be more productive. This study enabled informal interviews with twenty residents to be conducted.

From the research the author has concluded that there is a strong conviction among experts that the potential for crime against buildings can be reduced at design stage, although this clearly cannot be conclusively proved.

It was also clear that architects, though generally in agreement, do not always consider security at early design stage, and that many of their clients do not require them to do so. Crime Prevention Officers have much to offer the architect, but are conscious of a lack of professional status. The author is convinced that recommendations on security need to be codified into regulations enforceable by law.

"An Architect, armed with some understanding of the structure of criminal encounter, can simply avoid creating the space which supports it."

Oscar Newman

## CHAPTER 1

### INTRODUCTION

## 1. INTRODUCTION

### 1.1 The Author

Rex Goodwin is a chartered architect with forty years experience in industry, local government and private practice. Whilst having specialized more recently in the health and educational building sectors, his experience embraces all building types for public, private and corporate clients.

He has worked abroad and was responsible for the gold medal winning British Government entry into the 20th Triennale di Milano, and for consultancy advice in connection with schools in Northern Italy and Germany.

As a member of the Council of the Leicestershire and Rutland Society of Architects, he was able to gauge the opinions of his professional colleagues on a wide range of matters including the subject of this dissertation.

He retired from full time practice in 1992.

## 1.2 Objective of the Study

Crime prevention is a term which can encompass any activity which is designed to frustrate those events defined as crimes by criminal law, or to reduce their frequency and rate of success. Within the overall concept of crime prevention would be included the work of the police, the courts, the prison and probation services, some kinds of social work, together with physical deterrents such as locks, bolts, alarms and other security devices.

Whilst this thesis has been concerned with a range of crime prevention issues, its principal aim is to examine the range of "pre-emptive" measures which avoid the need to invoke the law, and the extent to which such measures are being included in buildings at the earliest possible stage of design by architects who have been instructed in current crime prevention techniques. In addition, security design recommendations have been included.

This has involved the study of the correlation between crime and the physical configuration of buildings or groups of buildings, and the extent to which this aspect of crime prevention is currently being practised.

The role of the police architectural liaison service, which offers advice to architects by experienced officers is crucial to the concept, and much emphasis is now given to the principle of "situational" crime prevention. This approach recognises the importance to the potential criminal of "opportunity" (i.e. low-risk detection, simple entry and ample reward), and seeks to persuade architects, at early design stage, to be fully aware of the need to avoid "building in" such opportunity.

The situational approach to designing out crime will be described in later chapters together with check lists of action needed by designers dealing with the more common functional types of building at initial sketch planning stage.

In conducting this research, the author has drawn much information from his own personal experience as an architect in practice both in terms of the projects for which he was personally responsible, but also from close involvement with schemes designed by professional colleagues.

Many of the conclusions drawn, therefore, derive from this source. The author's personal experience of planning and designing all forms of building have led to an accumulation of knowledge of the whole design process in all of its many forms. Indeed, part of the motivation for conducting this research was to modify and publish this personal knowledge.

The flow diagram illustrates the sequence of activities based upon which the research was conducted.

### 1.3 Need for the Research

#### 1.3.1 Current statistics

Home Office statistics (29) reveal that recorded crime in England and Wales has increased by an average of 5% per annum since 1980, and in 1990 it rose by an unprecedented 17%. Figures for subsequent years are expected to show an increasing trend.

94% of these crimes were against property - which includes motor cars - and burglaries accounted for 22.1% of recorded crime.

In the last ten years burglary of non-residential buildings has increased by an average of 4% per year, but in 1990 it increased by 23% from 1989, representing 11.6% of all recorded crime.

Although it is generally acknowledged that the above figures for recorded crimes reflect the increase in the number of crimes being reported due to insurance claims (Home Secretary, BBC1 7 March 1993) it is clear that crime against property is currently increasing.

#### 1.3.2 Fear of Crime

In addition to the economic cost of burglaries and break-ins, the effect of such events on the lives of the victims is often traumatic. To many people, the threat of crime is as intimidating as crime itself. The elderly, the very young, and the handicapped are more vulnerable and suffer disproportionately from crime and the fear of crime. Any measures that can effectively improve their quality of life by the removal or elimination of such fear can do nothing but good.

#### 1.3.3 Present Initiatives

The Construction Industry Research and Information Association, recognised the fragmented and unco-ordinated approach to crime prevention, and the general lack of design guidance and has, with the financial support of the Property Services Agency,

commissioned a research programme aimed at producing design guidelines for the building industry and associated professionals for use when designing non-residential buildings.

The first phase of the programme was completed in June 1993, and comprises a review of existing design guidance literature and the identification of security problems related to different building types.

The literature review revealed that existing design guidance is focussed on target hardening measures with specific reference to security devices, locks and methods of access control.

Very little information on design strategies for the building as a whole was identified, and the final guidance document to be published by CIRIA will address these broader and potentially more far reaching aspects of crime prevention by design.

At the time of completing phase one of the CIRIA programme, the Association held a workshop in an attempt to obtain feedback from practising architects on their experience of security issues and use of existing guidance. The workshop demonstrated that at present security is not regarded as a key criterion at design stage, and is frequently not considered at all until after strategic design decisions have been made. Little use is made of such guidance as is available, with architects preferring to rely on their past experience, knowledge and imagination. This attitude is confirmed by the results of interviews conducted by the author when researching this study.

Other recent initiatives include the "Secured by Design" campaign, sponsored by the Home Office and police authorities, whereby awards are given to the developments which specifically incorporate crime-prevention measures recommended by the Police. (See Chapter 5.2)

#### 1.3.4 Insurance

The insurance industry, worried by the rapid increase in claims, is beginning to take an interest in crime prevention at design



stage whereby the level of insurance cover, or cost of premiums, will be assessed on the basis of the perceived vulnerability of the building to criminal attack.(30) In other words, discounted premiums are offered to those building owners who have installed security devices.

#### 1.3.5 Need for legislation

In the author's experience the design process is interactive and involves the balancing of conflicting elements in order to achieve a result which best satisfies the clients needs. The hierarchy of priorities which emerges from a thorough analysis of those needs is based often on the architect's subjective conclusions in the absence of specific guidance from the Client.

The importance that is given to each specific "need", and its consequent position in the league table of priorities is sometimes ill-considered and arbitrary, depending on either the emphasis given to it by the client or the need to satisfy statutory regulations. Those items which are subject to statutory control and inspection, e.g. planning, building regulations and health and safety matters are given greater weighting, whilst those which are only "advisory" such as crime prevention measures appear near the bottom of the list of priorities if they are included at all.

In the opinion of the author, therefore, the techniques of crime prevention, as applied to building design, layout and construction, require regulation and enforcement by statute. This could be achieved by the inclusion of a section on crime prevention within the Building Regulations so that all construction projects are vetted by local authorities, advised by crime prevention officers to ensure their compliance with published standards.

#### 1.3.6 Distribution of problem

The crime statistics appended to this thesis (Appendix 1) have been supplied by the West Sussex Police. They are of interest to the extent that in addition to supporting the evidence of an

increase in annual recorded crime, the rising incidence of crime is not confined to the metropolitan urban areas, but is now a significant problem in the more rural districts of a relatively prosperous region.

#### 1.3.7 Burglary

Burglary is a common crime since the burglar perceives private homes as soft targets, and that, as a general rule he knows that most houses will have those items which are attractive to thieves, i.e. televisions, video recorders, hi-fi sets, and in many cases, cash or valuable items of jewellery or watches. Some householders may attempt to hide valuables but the experienced criminal has an ability to unearth 'hidden' treasures.

According to the Home Office Crime Prevention Unit, more than 1 in 30 households is burgled each year, though mostly by opportunists and very few involve physical violence. 70% of burglars enter domestic property through a rear window or door, and the period between lunch time and early evening is the favoured time for attack. Occupants rarely confront the intruder and the shock of the aftermath of a burglary, i.e. personal belongings scattered about the floor is usually the first intimation that the property has been burgled.

#### 1.3.8 Public awareness

In spite of attempts by the Home Office and individual police authorities to educate the general public in basic crime prevention techniques, interviews conducted during this study tend to indicate that burglaries are perceived to be unfortunate events that affect "other people", and, generally speaking, few householders make any real attempt to improve the security of their property. Such efforts as are being made in this direction are mainly restricted to upgrading locks on the front and rear doors without concern for the strength of the door itself. A crime prevention officer who was involved in the seminar (Chapter 6) felt that most residential properties have doors which can easily be smashed, or which allow entry to be gained by removal of a glazed panel.

According to another officer at the seminar, even those householders who have been burgled are not easily persuaded to replace undamaged doors with stronger ones.

There appears from discussions with police crime prevention officers, to be scope to address these problems at design or construction stage in new residential property, and it is in this field where the greater improvements in household security are possible.

#### 1.3.9 Social Factors

The author is aware that much effort has been and is being spent by researchers, criminologists, sociologists and others in order to find social or psychological explanations for the predisposition of some individuals habitually to offend. The experts appear to divide into two groups. The first comprises those who feel that those who offend do so for genetic reasons, i.e. they are born with criminal tendencies and need constantly to struggle against this instinct.

The second group is convinced that criminals are created by society and are freed into a life of crime by environmental influences and social deprivation of various kinds.

This study does not attempt to rationalise the desire or need to carry out acts of burglary or vandalism but simply accepts them as a fact of life and a problem to be dealt with pragmatically. In this context pragmatism involves the study of methods of protecting buildings and contents from criminal attack.

#### 1.4 Definitions

##### 1.4.1 Crime

The Home Office Crime Prevention Document "Preventative Policing" defines crime as "any unlawful or anti-social act or acts which give rise to public anxiety and which interfere with the quality of life and citizens". The OED defines crime as "a grave offence punishable by law; serious wrongdoing; sin; a very foolish deed".

##### 1.4.2 CPTED

Crime Prevention through Environmental Design is the creation, through design of a physical environment conducive to the overall security of the community. It is achieved through the establishment of a hierarchy of spaces from public through to private so that the citizen's area of territorial concern is clearly defined and can be supervised. The potential for community interaction and communal surveillance is increased.

##### 1.4.3 Defensible Space

The combination of real or symbolic barriers, defined areas of influence and improve opportunities for surveillance which, together, bring an environment under the control of its residents.

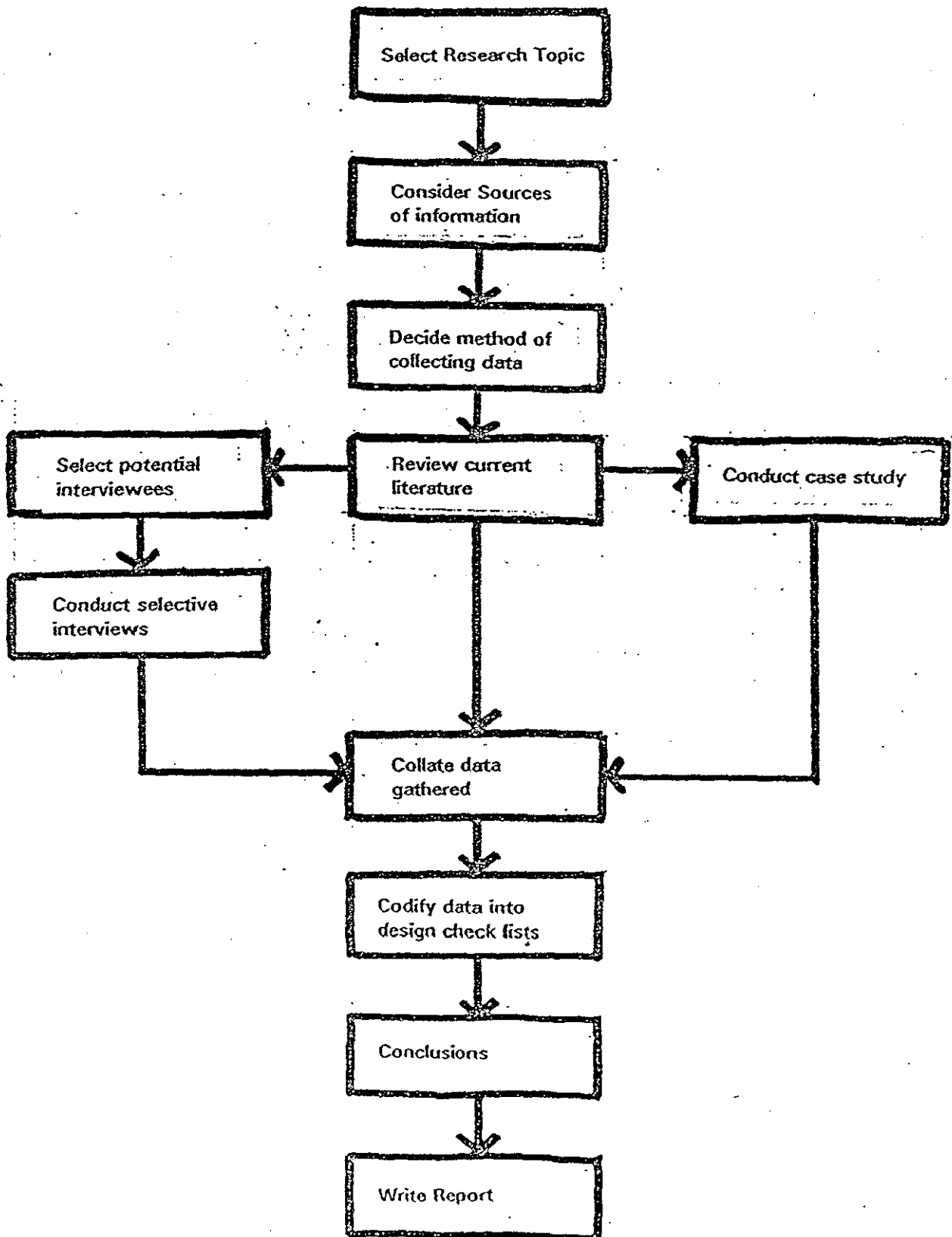
##### 1.4.4 Target Hardening

The practice of increasing the physical security of targets of theft through the use of locks, bolts, grilles, reinforced materials, immobilising devices and alarms.

#### 1.4.5 Displacement

One of the effects of successful "target hardening" is to turn the attention of the criminal to less protected targets, to employ a different "method" of committing crime, or to turn instead to some completely different form of illegal activity. This phenomenon is known as displacement.

# METHODOLOGY FLOW DIAGRAM



## 1.5 Structure of the thesis

The following synopsis of chapters is intended as a guide to the thesis as a whole and is complementary to the flow diagram at the end of this section.

Chapter 1 comprises a brief biographical note on the author and his qualifications for undertaking architectural research; defines the objective and emphasises the need for the research; explains the meaning of terms and abbreviations commonly used within the field of crime prevention; shows graphically the process followed by the author in producing the thesis.

Chapter 2 sets out the methods employed by the author in collecting the data necessary to achieve the objectives stated in Chapter 1.

Chapter 3 is a review of current literature on the subject in the form of books, design guides, manufacturers catalogues, published articles and research studies.

Chapter 4 comprises details of information obtained from interviews with a broad range of individuals and groups who are, or have been, exposed to the results of burglary, either as victim, potential victim, or professionals operating in the field of crime prevention.

Chapter 5 is a review of initiatives, and their objectives, currently being pursued by various agencies in an attempt to gain the support of the general public in their combined efforts to stem the rise in crime.

Chapter 6 describes the joint efforts being made by Nottingham University and the Home Office Crime Prevention Units to relate theoretical principles of crime prevention to an inner city residential estate.

Chapter 7 contains advice to designers and architects when considering the impact of crime prevention measures on their schemes and stresses the importance of obtaining security advice at the earliest possible stage.

Chapter 8 sets out the conclusion reached by the author as a result of having conducted this study, and emphasises the need for further co-ordinated research leading to statutory control of crime prevention measures.

#### References and Bibliography

Those sources of information studied by the author during the study, some of which are referred to in the text.

#### Acknowledgements

Appendices. Statistics, design check-lists, teaching syllabus, diagrams referred to in the text.



## CHAPTER 2

### RESEARCH METHODOLOGY

## 2. RESEARCH METHODOLOGY

### 2.1 Introduction

As stated in Chapter 1 the principal objectives which this project aims to achieve are two-fold. The first is to study whether and to what extent buildings can be made inherently more secure by measures incorporated at design stage. The second objective is to attempt to establish whether architects and designers are aware of, and following, the advice and guidance currently available to them in this regard. In addition, as a means of gauging the general attitude towards this subject by the general public, who are the 'originators' of building projects, various non-professionals were interviewed, i.e. building owners, householders and company executives.

Discussions with experts within the security industry, the police and insurers have identified factors which need to be taken into account by building designers. These appear as appendices at the end of this report.

### 2.2 Nature of Subject

In determining a framework upon which a system of information gathering, collating, recording, testing and describing can be constructed, it is necessary to understand that "design", in many ways, is an abstract concept. There is no absolute standard by which the success or effectiveness of the design of a building can be judged except to the extent that it achieves the stated basic functional requirements. Several different designers working independently will produce several different solutions to an identical brief. Each solution will have its individual character, style and form and each will elicit from the observer a different emotional response. There are few subjects that engender more heated debate than architecture, and the debate is never conclusive.

In almost every respect, all new buildings are also prototypes to the extent that they differ substantially from their predecessors. Such differences derive not only from the individual designer's aesthetic objectives, but also from site influences, client requirements, resources and the progress of technology

Objective comparison between different buildings is therefore not valid, and this proved to be a handicap when trying to verify the conclusions reached during this research programme.

In view of this the author reached the conclusion that useful information may best be obtained by concentrating on questioning individuals who had a tangible connection with crime prevention, albeit in some cases a slightly tenuous one. In this way the data collected was based upon informed opinion and detailed knowledge of the subject, and, consequently more reliable. A trawl of opinion from the public at large was not felt to be worthwhile, and numerically large sampling was therefore rejected.

## 2.3 Methods of obtaining information

2.3.1 Questionnaire. Attempts were made during the early stages of information gathering, to construct a questionnaire which would, by reason of its comprehensive nature, provide a vehicle for obtaining the information required from selected recipients whose views were perceived as crucial to the success of this project. Following many attempts to make such a questionnaire "all embracing" to the extent that the same document could be sent out to a range of people whose knowledge, experience and interest in the subject varied widely, the principle was abandoned for the following reasons:-

- a) From his experience as a recipient of many such documents from post-graduate students, the author knows that the accuracy of answers is inversely proportional to the length and complexity of the document : "the boredom factor".
- b) Questions regarding crime prevention techniques are sensitive and confidential and many people are, naturally, reluctant to divulge their tactics.
- c) It is often impossible to target the appropriate individual in a large organisation, i.e. the specific employee who is most knowledgeable on this particular subject.

- d) Senior executives and professionals cannot always find time to address a long questionnaire with the result that, if it is answered at all, the answers are given by an employee at a lower level, and their accuracy and relevance may consequently be suspect.
- e) The range of sources of information is too diverse for a questionnaire approach.

### 2.3.2 Structured Interviews

These were considered following the decision to abandon questionnaires and a few such interviews were conducted on an experimental basis. It soon became clear that such a technique did not lend itself to obtaining information from disparate groups since the structure of the interview needed to be adapted to suit the standpoint of the interviewee. The relatively large number of groups and the relatively small sample numbers in each group ruled out this approach which, it is felt, might also inhibit the free flow of discussion.

### 2.3.3 Informal discussions - the "long interview"

It was eventually decided to conduct informal discussions with individuals whose exposure to criminal activity was through personal experience, either as a professional involved with crime prevention or as a victim of crime and this proved to be reasonably successful. Some of the questions asked were common to more than one interest group, but the resulting discussions, often lengthy, produced much information. It is felt that the informality of a one to one encounter enabled interviewees to talk freely, without inhibition, which resulting in a more comprehensive trawl of opinion. McCracken (36) commends this technique as a most revealing form of obtaining information, particularly from specialists or other technically qualified participants.

In this connection the author's wide experience and diverse range of contacts established during a long career in architectural practice were of major importance in gaining access to the top echelons of management. Such experience and knowledge also enabled discussions to be conducted in a mature, expert and productive way.

#### 2.3.4 Sampling Range (See Appendix 8)

In order to gain the broadest possible range of informed opinion, the following categories of individual were interviewed:-

- i) managing directors of large manufacturing, distribution and retailing organisations.
- ii) security officer employed by one of the above companies.
- iii) managing director of a public transport undertaking.
- iv) criminologist.
- v) senior architects in local government.
- vi) senior partners in private architectural practice.
- vii) architect/senior lecturer at a University with a special interest in crime prevention.
- viii) detectives from a regional crime squad.
- ix) senior police officer responsible for training "architectural liaison" crime prevention officers.
- x) architectural liaison crime prevention officers.
- xi) principal research officers at the Building Research Station with special responsibility for researching the interface between crime and building design.
- xii) victims of burglary.
- xiii) circuit judge.
- xiv) residents of the North Sherwood Street Estate, Nottingham

The subject under investigation is complex and interactive, and detailed knowledge of it is confined to relatively few people. Most of these are to be found within the police service, the architectural profession, the security industry generally and the criminal fraternity.

Selection of individuals from whom to obtain opinions must therefore be carefully considered. The objective here was to invite selected professionals to talk freely and express their views on the relationship between building design and crime from their particular standpoint.

As part of the case study described in Chapter 6, random interviews were conducted with residents of North Sherwood Street estate, some of whom had been burgled, and all of whom were affected by fear of crime.

Each individual respondent has a different viewpoint so the information gained from each has a part to play in assessing the overall effectiveness of the concept of designing out crime. Although numerically limited the choice of the sample was conscious and deliberate since the subject is not one which can be proved by targetting large numbers of individuals who have no knowledge of the subject.

In addition the author's own personal exposure to client attitudes toward crime prevention at design stage and the general reluctance to take the subject seriously, has assisted in reaching the conclusions set out in Chapter 8.

Consideration was given to attempting to obtain the views of one or more successful burglars whose experience of building security - or lack of it - could be said to be the most valid of all. This approach was not followed up for two reasons - the difficulty in gaining access to them and the fact that most of the known burglars are in prison and could not, therefore, be classed as successful. In any case there is as much variety in the aspirations, motives and operating methods among burglars as there is amongst any other peer group. The casual offender will react to "opportunity cues" or other stimuli which are momentary and fleeting and he may experience these on a random and infrequent basis.(4)

#### 2.3.5 Objectives of discussion

The purpose of the interviews was to obtain information regarding the extent to which "designing out crime" was thought to be a valid principle, to establish how much was known about it among clients and architects, and, consequently, to what extent were the principles being followed, and, from the police, how effective are the principles in use. In addition, building owners were asked whether they considered any additional cost of crime prevention to be acceptable, and whether they could quantify any burglary losses sustained in financial terms.

Academics were questioned about the inclusion of crime prevention in the schools of architecture as a core subject, and researchers were asked to talk about their work in attempting to prove a correlation between the aesthetic and structural configuration of buildings and their vulnerability to attack. Other categories of interviewee were asked to talk freely about their personal experiences of the aftermath of burglary either as victim or investigator.

#### 2.4. The burden of proof

During the process of conducting interviews with those agencies who are at the "cutting edge" of crime detection and prevention it soon became apparent that a wide measure of support existed for the basic concept behind this study, i.e. that the designer of a building could increase the inherent security of that building at design stage. In order to enable him to do so, he would need information regarding the modus operandi of the typical burglar so far as this is influenced by the configuration or construction of the building. Such information is now available in the form of design guides produced by police authorities, insurance companies and such agencies as local authorities and statutory undertakings.

None of the experts interviewed was able to provide proof, in absolute terms, of the effectiveness of the crime prevention measures generally, though all were personally convinced that a criminal would be deterred when faced with security measures which would take longer to overcome and increase the time of risk of detection.

The Home Office Crime Prevention Centre could produce 'before and after' statistics which might indicate that implementation of their advice had been successful, particularly in a "target hardening" context, but their Director said - "I can produce statistics which would appear to support my conviction that the concept of CPTED (see 1.4.2) works in that the figures show a reduced level of crime in developments where CPTED principles have been incorporated at planning stage. By any common sense interpretation of these figures one must draw the conclusion that the security measures have been successful, but it could be that the individuals responsible for previous burglaries in the area have moved elsewhere."

In a report on the effectiveness of crime prevention on council estates (25), the researchers say - "Notwithstanding the claims which are made about the success of particular crime prevention initiatives we can never say with complete certainty that they work."

Following his research into the effectiveness of the "Secured by Design" (SBD) campaign, Pascoe (4) concluded that a direct comparison between a housing estate which had incorporated the SBD recommendations and one which had not was impossible since there were too many other variables, and that it was not feasible to establish a control group.

This study has reached the same conclusion. All new buildings are prototypes and all differ from each other to the extent that their occupants impose their own disparate personalities on their homes or places of work. Every household has different lifestyles, priorities, aspirations and resources, and every individual has his own perception of his vulnerability to criminal attack.

Harrington-Lynn (12), following a review of building design and security for the Building Research Establishment concludes that "the effectiveness of the current guidance on crime prevention for dwellings, although based on the best current practice and experience is largely unproven."

There is, therefore, no apparent method whereby the effectiveness of crime prevention measures can be conclusively and absolutely proved by experiment, calculation, testing against controls, or clinical trials. The author, has sought continuous advice, throughout the research



programme, from those professionals who are selected by the Home Office to advise architects on crime prevention at project design stage.

The Home Office recommendations set out in Appendix 2 have the support of trained crime prevention officers and form the basis of their guidance to project architects. They represent, in the form of design check lists, the latest views of the crime prevention specialists.

The Case Study described in Chapter 6 aims to relate the application of the design guidance for crime prevention to a live example, and exemplifies the extent to which crime prevention techniques can be applied to existing buildings. It is possible that a 'before and after' study of statistics relating to incidence of burglaries on the estate would be interesting, but since the rate of change of occupants of the area is high, and police records show that the majority of previous offenders had been living on the same estate when burgling their neighbours, the figures could not be relied upon.

## CHAPTER 3

### REVIEW OF PUBLISHED MATERIAL

### 3. REVIEW OF PUBLISHED MATERIAL

#### 3.1 Generally

There is a great deal of published material on crime prevention in general in the form of books, magazine articles, research papers, videos, design guides and manufacturer's literature (see Bibliography), together with British Standards Institution guidelines (17) and recommendations to building designers on specific aspects of security in buildings.

Studies of patterns of crime in specific locations at specific times are prolific, and the government agency responsible for crime prevention, the Home Office, initiates research programmes and publishes the results from time to time in the form of statistics, graphs and trends.. These studies are used as a basis for guidance on crime prevention techniques and recommendations issued to designers through the agency of local police authorities. The guidelines issued by the States of Jersey Crime Prevention panel (16) are particularly comprehensive.

Each police authority records all examples of crime reported to it under headings of type of offence, location and whether or not a conviction or prosecution ensues.

The Building Research Establishment has conducted studies which more specifically address the interface between crime and buildings (12, 13), but relatively few publications consider the more abstract aspects of designing out crime except where these concern the layout of housing estates. Most design guidance stresses the importance of "natural surveillance" whereby the configuration of housing layout enables individual properties to overlook one another, and the principle of limiting access points, but recommendations at a more specific level are generally confined to "target hardening" (5).

At project level, i.e. the individual building on the drawing board, advice in written form is sparse, and this is almost certainly due to the infinite variety of building form. Different types of projects are

subject to different levels of risk, and the configuration of the finished building is a compromise between many conflicting influences of which crime prevention is but one. It is not feasible, or sensible, to elevate the importance of designing for security to a level above its perceived importance in the normal hierarchy of factors which influence the design of buildings, i.e. the "brief". In the case of banks or other high risk buildings, however, security would automatically have greater importance amongst the totality of requirements which make up the brief to the Architect.

The brief, moreover, should be a continuously evolving document, modified from time to time as a result of client/architect discussion in an attempt to resolve conflicting requirements, e.g. security and ease of escape in the event of fire. The resolution of these conflicts requires input from architect, client and specialist advisers if the most successful compromise is to be achieved. Design is a fluid process, able to change direction as necessary within the discipline of the basic concept.

Design guides therefore tend to be general rather than specific and are likely to take the form of check lists rather than illustrations of preferred building shapes. (See Appendix 2)

### 3.2 Influences on current policies

The basis of current thinking on crime prevention in building design is the concept of "defensible space" as expounded by Newman (2) following studies carried out in the USA in the seventies. Newman concluded that a strong correlation exists between the incidence of crime and the configuration of buildings, and, in particular, that crimes are more prevalent among communities who live in multi-storey apartment blocks. Whilst the statistics which support this conclusion cannot be disputed it is clear that a sociological dimension exists to the extent that the inhabitants of such areas are generally financially or racially disadvantaged and contain a high proportion of single parent families. Similarly, it has been shown by Heal and Laycock (8), that such estates contain larger numbers of children and young people, and that statistics which appear to relate crime incidence to building

form should take account of sampling differences and disproportionate ratios of an age-group which have been shown to be more likely to offend anyway.

Nevertheless the crime prevention agencies in the UK are convinced of the basic soundness of Newman's principles and Poyner (1) concludes that the basic premise of defensible space is still valid.

The single most important shortcoming in Newman's thinking is that his philosophy can only apply to residential buildings. Commercial, industrial, leisure, retail, educational and other communal buildings are usually occupied only during working hours and are often surrounded by other similar purpose groups. The concept of mutual surveillance by neighbours cannot apply on an industrial estate or a shopping mall, but, to some extent this can be achieved by electronic means with the increased use of surveillance cameras either on individual buildings or in shopping malls and town centres.

The results of Poyner's research (1) tend to support the main thrust of Newman's conclusions but Poyner questions the concept of "territoriality" to the extent that he perceives a shift towards "accessibility" and produces evidence to show that control of access to neighbourhoods can reduce crime. Similarly, Poyner believes that the limiting of access to the communal areas of apartment buildings and to the backs of houses has been shown to reduce burglary.

Clarke and Mayhew (25) have gathered together studies initiated by the Home Office and, as a result, modified their interpretation of the "situational" approach to crime prevention, which still forms the basis on which crime prevention advice is given by the police. Like Newman, though, they have concentrated their attention upon residential buildings in general, and high rise council estates in London in particular. The situational measures set out by Clarke and Mayhew are:-

- |    |                  |   |
|----|------------------|---|
| i) | Target hardening | - e.g. use of stronger locks and security hardware generally. |
|----|------------------|---|

- ii) Target removal - e.g. avoiding potential 'wage snatch' by paying employees by cheque.
- iii) Removing the means to crime - e.g. use of plastic glasses in pubs, - avoiding "glassing".
- iv) Reducing the pay-off - e.g. marking valuable property in the hope that this would deter.
- v) Formal surveillance - e.g. use of police or security personnel to guard property.
- vi) Natural surveillance - e.g. relying on the normal inquisitiveness of neighbours.
- vii) Surveillance by employees - e.g. doormen, caretakers or the equivalent of the French "concierge".
- viii) Environmental management - e.g. separation of opposing spectators at football matches and crowd control measures.

The above examples, although not all specific to building design, represent an approach to crime prevention which is the basis of the police approach to the subject. This follows the philosophy that if the pre-disposition of an individual to offend cannot be changed, then the "situational" approach aims to make it harder for him to do so.

Published material which specifically addresses the problem of criminal attacks on non-residential types of building, and which is based upon studies of the incidence of such attacks is sparse. Although those statistics which do exist indicate a steady rise in such attacks, relatively little work has been done by researchers in this particular field. Recognising this, the Construction Industry Research and Information Association (CIRIA) has commissioned a research programme with the specific aim of producing design guidance for architects and builders engaged in the non-residential construction sector. At the time of writing only the first part of the results of this study has been published.

Crowe (28) examines the whole subject of CPTED in considerable detail, ranging from the sociological factors which are thought by some criminologists to generate a desire to offend to practical examples of

building design and layout which he feels will deter all but the determined and persistent burglar. The emphasis, however, throughout the study is on the potential effectiveness of CPTED when applied correctly. Crowe is not able to offer conclusive proof of this and admits that too many variables exist to make direct comparisons between buildings which have incorporated CPTED recommendations and those which have not. Nevertheless his is a very comprehensive and useful aid to an architect wishing to "build in" sensible security measures at planning conception stage.

The value of surveillance by neighbours and passers by is examined by Shapland and Vagg (27) who conclude that there is a need to differentiate between 'neighbourhoods' and 'communities', the former often representing a convenient planning entity only, with no great sense of belonging while the latter represents a coherent social group, interdependent and mutually supportive. Shapland and Vagg feel that natural surveillance is more widespread in the 'community' group, the members of which, on the whole, are older and know each other better. Neighbourhoods may contain a more complex social mix, there is a greater rate of change of individuals and families and fewer incentives or opportunities to develop a community ethos. To the extent that natural surveillance is an inherent component of community life it is perceived by Shapland and Vagg to play a useful role in crime prevention. Their findings support one of Newman's (2) fundamental principles, i.e. that criminals are, to a degree, deterred by the fear of being overlooked, and, since the 'community ethos' is conspicuously absent in high rise housing, that such developments are prone to more burglaries than ground level houses.

Rosenbaum (6) reports an experiment in CPTED in Hartford Coun., Seattle and Portland (Oregon) in the late seventies where the concept was tested on both commercial and residential sites. In Hartford the narrowing of street entrances to a housing area and the creation of "symbolic" barriers (large flower planters) were employed in an attempt to reduce through traffic. These changes are fairly superficial but the researchers claimed to have evidence that the idea has worked to some extent.

The Portland experiment, involving a commercial area of that city, found that the single most effective measure was a significant upgrading of street lighting, followed by an increase in formal surveillance by security services. It is interesting to note, at this stage, that the principle of deterrence by fear of being seen is still a major factor in crime prevention.

The Home Office Crime Prevention Centre is responsible for selecting and training "architectural liaison officers", usually police officers currently working in a crime prevention role, to advise architects, at design stage, on crime prevention measures which should be designed into their projects. Its Handbook (11) is a comprehensive document which explains the principles of CPTED, advises ALO's on the correct way to deal with design professionals and includes design checklists for various building types (Chapter 7). Although textually useful, the document would benefit from more use of sketches and illustrations along the lines of the design handbook produced by the States of Jersey Police (16) which is a model publication and an example which other police authorities would do well to follow. Another Handbook produced by Collishaw and Severn (15) is useful but is principally concerned with target hardening and is not in a format which lends itself to use as a work of reference. Similarly, Leicestershire County Council (18) has made a serious attempt to produce guidance for those involved in the layout and design of housing. It is a well laid out, comprehensive and detailed reference work, well-illustrated and easy to read.

The Home Office from time to time issues handbooks (29) which are aimed at individual householders and small businesses and covers most types of criminal threat likely to be encountered in normal life. It is a comprehensive manual, well provided with photographs and illustrations, and intended to be delivered to all households. Whether such efforts can overcome the resolute refusal of the average citizen to recognize that he or she is as much a potential victim as his or her neighbour remains to be seen. Suffice it to say that the author has found



considerable public apathy during his interviews. This attitude may be an obstacle to any government sponsored crime prevention initiative. The impetus for change must be local and "community" based, since in a study carried out in 1980 (1) to find out whether press, poster and TV advertising campaigns change the extent to which car drivers lock their cars parked in the street, it was found that such campaigns had no effect whatever on the security-consciousness of drivers.

Coleman (3) claims to have established correlations between certain design features such as number of storeys, access points, overhead walkways and play areas and crime, and is highly critical of multi-storey apartments as a solution to housing needs. She recommends the building of no more such blocks, and large scale re-modelling of existing buildings to eliminate their "worst design features". A geographer by profession, she has now established the DICE Consultancy (Design Improvement Concern for the Environment) which offers advice to architects and others on designing out crime.

Not surprisingly, a work critical of architects (3) has generated considerable irritation among members of the architectural profession who responded by organising a conference on "Rehumanising Housing" in February 1987. Papers were written and presented by invitation and were subsequently published in a book of the same title as the conference.

Teymur, Markus and Wooley (42) and their contributors totally reject Coleman's theories and question the scientific basis of her research methodology. They do not, however, offer any clear alternatives other than to recommend further research, and to the author their main aim appears to be to discredit the work of someone they perceive as "anti-architect."

The security industry, perceiving sales opportunities, produce sales and technical literature in abundance, covering the whole range of security, including 'active' services such as patrols, guards, secure transport and dogs, and 'passive' measures from stronger locks to sophisticated electronic surveillance and access control systems. Architects are bombarded with catalogues and manuals, some technically comprehensive and useful, others blatantly sales orientated. Installers of burglar

alarms are proliferating, and each new entry to this lucrative field will target selected residential areas with leaflets describing introducing 'offers'.

### 3.3 Research Programmes

Much of the recent and current research into the subject of crime prevention through environmental design emanates from the Building Research Establishment or from research commissioned by them (12, 13 & 14). The author of this thesis has been permitted to study the results of much of this work and finds that, in general content, it accords with much of the published material. The nature of the subject is such that the BRE will not permit reproduction of its research methodology or findings in any other publication. Nevertheless it can be quoted as concluding that much more research is necessary to enable the information so produced to be codified in the form of either design guides, manuals, recommendations or, preferably, statutory regulations.

In the meantime Underwood and Shaw (13) report little current research activity in the United Kingdom. None is being undertaken at schools of architecture, though some academic institutions are constantly researching the social and criminological aspects of the subject. On a limited level, some authorities, local and health, produce guidance notes for their own architects who are working "in-house" but none of these was made available to the author of this thesis.

There is an apparent need, therefore, for a single, comprehensive manual which brings together the wealth of information now available in disparate form, to be produced and issued by H.M. Government, possibly initially as a consultative document preparatory to including within the Building Regulations.

The most comprehensive recent studies are those carried out by Harrington-Lynn (12) on behalf of the Building Research Establishment. He confirms the current practice of the adoption by Crime Prevention Officers of the "situational" approach to crime prevention in and around buildings. This policy assumes that the potential burglar is influenced by the layout and design of buildings and is afraid of being caught during the course of the crime. This philosophy is summarised by Harrington-Lynn as follows:-

- a) Deter )
- b) Detect )
- c) Delay )
- d) Detain (if possible) )

Harrington-Lynn concludes that crime prevention measures need the support of legislation and recommends the inclusion of such measures within the Building Regulations.

Most researchers agree that, if past trends continue, criminals will continue to diversify their activities and find new ways to overcome existing crime prevention techniques. It will be necessary, therefore, continuously to monitor developments in the modus operandi of burglars in order to devise appropriate counter measures and ensure the continued updating of any crime prevention measures, guidelines, police advice and any statutory regulations which may, in due course, be introduced.

#### 3.4 Conclusions

Current published material can be broadly categorised as follows:-

- a) Research findings
- b) Design guides
- c) "Target-hardening" recommendations

These works, though useful in their limited way, are far from comprehensive and do not address the basic principles of building design as a strategy. An architect, seeking guidance on the methods of increasing the inherent security of non-residential buildings at initial planning stage would not find the information he needs in a form helpful to him. The author is convinced that the necessary knowledge exists, but even those recommendations which are non-contentious, particularly for industrial and commercial buildings, need to be published as a comprehensive design guide with drawings and illustrations of good crime prevention practice.

## CHAPTER 4

DISCUSSIONS WITH BUILDING OWNERS  
DESIGNERS, CRIME PREVENTION OFFICERS  
AND OTHERS

## Chapter 4

### Discussions with Building Owners, Designers, Crime Prevention Officers, Insurers and Others

#### 4.1 Selection of Interviewees

In selecting the occupational categories of those interviewed, the principal objective was to obtain as wide a spectrum of opinion as possible from those who are affected by crime against buildings, those who seek to prevent it, those who investigate it and those who are involved with the design of new buildings and can thereby contribute to prevention of crime. It was felt that by casting the net as wide as possible and relying on an informal, unstructured interviewing technique, the information gained, though mostly subjective, would provide an accurate indication of whether crime can be reduced by attention to building design. In addition, the extent to which 'designing out crime' is understood, or practised by construction professionals can more easily be assessed in this way. It should, perhaps, be re-emphasised at this point that designing a building is a complex, interactive, intellectual process, involving the resolution of conflicting priorities, accommodation of inputs from many sources, thinking in three dimensions and constantly bearing in mind the disciplines of aesthetics, time and cost.

The representatives from industry (MD1 - MD4) were chosen because their companies were responsible for manufacturing, distribution and retailing. They faced the problems of burglaries in different building types and locations and were large enough to employ 'in-house' design teams and security staff. The nature of the main product of one company was attractive to burglars, and dangerous if misused, and therefore subject to stringent regulation of storage security.

The next group of interviewees can be said to have experienced various forms of crime, or the aftermath of it, on a more personal level, either as victims, investigators, academics teaching criminology, or, in one case, as a circuit judge sitting in a Crown Court.

Scientists engaged in pure research into the crime/building interface work make up the third group. Their work is carried out on behalf of the Building Research Establishment, and they have direct links with the Home Office, Universities in the U.K. and overseas, the security industry and the British Standards Institution. Their computer database on the subject is very comprehensive and proved to be a useful source of material during this study.

Finally, the building professionals were selected, architects and designers from private and public offices responsible for all types of building design, residential, commercial, industrial, retail, health, education and leisure. In addition, one architect with a specific interest in crime prevention who is currently teaching full time at university, and who organises instruction courses for crime prevention officers wishing to be appointed "Architectural Liaison Officers for their police authority".

#### 4.2 The Interviewing Format

Although interviews were conducted informally, in order to obtain the desired information the Author evolved a list of 'core questions' which were put to all interviewees except the professionals, (see Appendix 3) and the residents of North Sherwood Street. (Chapter 6)

Interviews conducted at North Sherwood Street (Chapter 6) were specific to their circumstances and the willingness (or otherwise) of the residents to speak freely on this subject.

The replies to the questions were not expected to be clear and concise and such proved to be the case. Although the interviewees are educated and articulate individuals, their lack of familiarity with the nature of the design process became apparent when discussing questions 5, 8 and 9. The author knows from personal experience that building users adapt easily to an existing building, but are less able to relate to hypothetical and abstract possibilities.

#### 4.3 The Response

(For Key to references see Appendix 8

Because of the varied opinions expressed by those interviewed, the information gained, though invaluable, cannot be translated into tabular or graphic form. Also, in an attempt to adhere to the original premise of this study, i.e. that consideration given to the form of the building at design stage can, in itself, increase its security, the use of "add-on" security systems such as electronic alarms was not discussed in detail.

The information gained from interviews is set out in narrative form, reflecting the process by which it was obtained.

#### 4.4 The Commercial Sector

In the commercial sector, the motives for crime against buildings, so far as they can be identified, involve theft of goods or money rather than vandalism for its own sake. According to the police officers interviewed (ALO 3 & 5) the modus operandi will be normally by entry through a window or door at the rear of the premises, or by a more direct approach using a vehicle to smash a display window or roller shutter to gain entry. In these cases of "ram raiding", according to the police, the same vehicle is often used for carrying away the stolen goods.

Two large commercial firms (MD1 & MD2) were at pains to point out that their major concern was to ensure adequate protection to their main computer from either deliberate sabotage, which would be a disaster for their business or from "hacking" or other esoteric forms of computer crime. This type of risk is comparable with that to which banks, building societies and post offices are prone, and special measures which, due to their secrecy, are outside the scope of this research, are employed to protect such installations.

It should be emphasised, at this stage, that the subject of security is highly sensitive, particularly in commercial and industrial applications, and interviewees from such organisations were naturally, somewhat guarded and reticent in supplying information. Even so the general impression gained from many discussions with senior personnel was a distinct scepticism regarding the principle of reducing crime by building design. The retailers in particular seemed to prefer to rely on "state of the art" electronic protection coupled with out of hours security surveillance by foot patrols or dogs. In the case of one large organisation comprising manufacturing, warehousing, distribution and retailing, the "in-house" design teams received no briefing on security but on completion of new buildings a team of security experts moved in and installed such electronic equipment as they felt necessary. The fact that this approach led to insecure and unsightly surface wiring appeared to be accepted by the management in spite of reservations expressed by the design teams (MD1). One director (MD2) advanced the view that the designers were employed simply to provide the maximum sales area for the minimum capital outlay, and that any attempt to build in security planning might jeopardise that principle and would not be acceptable to the company. He did not perceive his architects as professionals with a contribution to make in the field of crime prevention:- "Security matters are best left to the experts", was his opinion, the 'experts' in this context meaning the security industry.

This "add-on" policy towards security arises in part from the perception of their in-house design teams as support facilities who have no part to play in broad strategic planning. Architects and designers are unlikely to attain main board status in manufacturing organisations and have little opportunity to influence security policy. In addition, commercial and industrial firms in the author's experience tend to look toward the alarm systems manufacturers and installers for advice on security rather than to the design professions or even the police. Consequently, security policy tends to concentrate on "target hardening", using a myriad of sophisticated electronic devices, rather than looking at the problem from first principles, in conjunction with their designers and the police crime prevention service.



#### 4.5 The Public Sector

By contrast, the attitudes expressed by all of the senior architects in the public sector (LGA1 - LGA4) appeared far more positive and forward looking. In every case the responsibility for co-ordinating crime prevention measures in their department had been allocated to a senior professional who has a continuing dialogue with the local police. The crime prevention officers are called in to examine building proposals at sketch plan stage when recommendations can be more easily incorporated into the building layout or siting without compromising the overall performance of the scene, or adding unnecessarily to its cost. In one case a standing 'risk committee' had been set up to meet on a frequent basis and discuss crime prevention at project level as necessary.

Seminars and workshops are arranged by the authorities on a regular basis to ensure that designers and architects remain conversant with improvements in crime prevention measures as criminals become ever more sophisticated in their methods of attack. A greater understanding of the current methods of criminal attack leads to more success in pin-pointing and eliminating specific areas of vulnerability in a building whilst still at design stage.

Many local authorities are now producing design guides for use by their architects at planning stage. Such guides may be produced by the police crime prevention service, or by the design office staff based on recommendations and advice from the "architectural liaison officer" who is usually a policeman with specific training in reading architects drawings and in elementary building construction.

In view of the rising incidence of crime against property, the minds of large property owners, such as local authorities, have been concentrated of late by the insurance industry. Ever conscious of increasing claims following break-ins, theft and arson, insurers are taking a greater interest in crime prevention, and, in particular, what steps are being taken by property owners to protect their own

property. There is little doubt that the increasing levels of insurance premium will encourage building owners to give greater attention to crime prevention, and, in the absence of statutory legislation to perform a similar function, this form of "encouragement" may well be effective.

Two local authorities interviewed (LG2 & LGA4) were attempting to assess the nature and level of risk at all of their buildings and prepare a long term programme for the security upgrading of their existing building stock. Some examples of their school buildings are of lightweight construction with much glazing, flat roofs and of complicated plan shape with many concealed areas ideal for unobserved criminal activity. This applies particularly to schools built in the 1960 - 1980 period and such buildings are difficult to make significantly more secure without massive expenditure. Inevitably, since the building exist, the measures to be taken will fall within the "target hardening" category, but, by assessing the apparent weaknesses in the building, vital feed-back to design teams can take place so that similar "soft-spots" can be avoided on future projects. With less use of "system" type construction much of the inherent insecurity can be avoided since 'traditional' construction techniques are, by their very nature, more resistant to criminal attack. Brickwork and concrete are stronger than light cladding materials.

The attitude of these local authorities towards crime prevention in their own buildings is encouraging and a similar level of enlightenment would not be inappropriate in the private sector. Large commercial organisations are less likely to be influenced by rising levels of insurance premium since, unlike public authorities, they can simply pass the additional cost on to their customers.

The general feeling amongst all "in-house" architects interviewed was that crime prevention should be introduced into the curricula of schools of architecture as a subject equally important with fire prevention and energy conservation, and that companies should initiate training programmes for all personnel.

Until the large corporate trading and manufacturing organisations in the private sector adopt a similarly enlightened view on the co-relation between building design and crime, and allow their professional designers to become involved in policy making, opportunities for "designing out" crime in factories, warehouses, shops and hotels will remain limited. It is also for the building professionals to emphasise, at every opportunity, that if they are encouraged to use their skills and training, buildings can be designed to counter the activities of all but the professional burglar at no significant additional cost, and without aesthetic compromise.

#### 4.6 Private Architectural Practice

In the field of private architectural practice, the level of attention given to crime prevention was not found to be as high in the public sector. The general level of awareness of crime prevention through environmental design varied enormously from practice to practice and from individual to individual in the same practice.

Few firms had a conscious policy of applying crime prevention techniques to all buildings, few understood the level of risk and none of the practices interviewed had developed or issued guidance to their staff for use at early planning stage.

Some offices carried out design work on a regular basis for local authorities or public authorities and those responsible for this type of work were considerably better informed. In these cases the design firms were responding to the requirements of their clients rather than initiating the policy themselves, with the consequent increase in their understanding of crime prevention.

None of the practices interviewed (PA1-PA3) had considered the appointment of staff to promote the philosophy of crime prevention within the office and to co-ordinate its application to specific projects. The need to acquire knowledge of security techniques as part of continuing professional education did not appear to be a priority. Few architects had attended seminars or courses on the subject, and none of these interviewed had any plans to do so.

Most practices were aware of the existence of crime prevention officers within the local constabulary, and some had made use of the advisory services offered by them on specific projects. Where such advice had been sought it was felt to have been informative and useful, but so long as it remains optional and advisory rather than compulsory, the benefits which could ensue may not be realised. Local authorities are now required to notify the Crime Prevention Officer of planning applications received to enable the police to initiate a dialogue with the architects concerned.

#### 4.7 Results of Interviews

On the whole the impression gained from the interviews was that

- a) Architects could perceive a correlation between crime, building design and construction, but lay clients were less convinced.
- b) Architects felt that the subject should be given a higher priority in design offices and become a core subject in schools of architecture.
- c) A general feeling amongst some architects was that the job, i.e. architecture, was sufficiently difficult and constrained by existing legislation and interference from statutory agencies, and that, whilst accepting the need for crime prevention regulations they hoped these would not be introduced in their professional lifetime. The author has some sympathy with this view, but felt that it was not put forward as a serious objection to the generally accepted view that designing out crime was both desirable and achievable.
- d) Knowledge of crime prevention techniques was, in general, limited to "target hardening" measures, i.e. locks, lighting and intruder alarms.
- e) Clients, excluding public authorities, were not generally convinced that crime prevention measures in general were cost effective. None was able to quantify the cost to them of losses sustained as a result of burglary as opposed to pilfering and shoplifting, and seemed to regard such losses as an acceptable overhead.

- f) Some retailers could not reconcile the idea of security shutters to protect their display windows. "Display windows are for displaying goods" (MD1).
- g) Planning authorities were often unhelpful to the extent that they refused to approve the use of grilles and shutters to shop windows if they regarded the location as being within an "environmentally attractive area".

#### 4.7.1 Criminologist's View

The Criminologist (C) interviewed confirmed the existence of a link between crime and building design, but, in the case of 1960's type housing estates, research tends to show that the method of managing the estates is a significant factor too. He indicated that the results of surveys carried out in some London Boroughs suggested that when physical alterations to apartment blocks gave the residents more control over entrances, or reduced the number of escape routes open to intruders, crime was reduced. Similarly, when rearrangement of internal spaces produced greater opportunities for surveillance by residents the fear of identification tended to deter potential burglars.

Whilst the criminologist appeared to accept the fundamental principles of reducing crime by design, he was quick to point out that such an approach may not always produce the intended result. It has been observed that a frequent result of target hardening is to divert the effort of the criminal toward what he may perceive as a softer target nearby, or to a more promising location. This effect is known as displacement. Alternatively, his frustration may lead him to commit a more violent form of crime, e.g. armed robbery

He pointed out that examples of this phenomenon are on record whereby following the upgrading of security in public libraries by installing electronic checking-out of books, theft of books is made more difficult, resulting in their being vandalised by the frustrated thief.

Although he supported the idea generally of planning out crime at design stage, the criminologist emphasised the complexity of the subject, and pointed out that many other factors within society need to be studied alongside the crime/building interface if worthwhile progress in crime reduction is to be achieved. These include estate management techniques which give householders more involvement and control over their domestic environment and the means of access to it.

#### 4.7.2 The Police

As would be expected, the various departments of police authorities which deal with crime and the prevention and detection of it expressed enthusiasm with the principles of designing out crime. Although a minority of police forces (approx. 40% in England and Wales) contribute to the design phase of building projects, the concept is gaining ground but more work is needed to publicise and encourage wider adoption of the principles. The author feels that commercial and industrial firms are, on the whole, reluctant to call upon the skill and experience on the part of the police, that their input was either being ignored, or worse still, not being asked for in the first place.

The police representatives (AL01-AL05) were keen to re-emphasise the nature of the service they offer, which, briefly is as follows:

- a) To provide information on site selection by means of a crime profile for the area under consideration.
- b) To provide advice at briefing stage on all aspects of crime prevention, including any analysis of risk specific to the building type.
- c) To provide a security report based on a check of the architect's preliminary drawings.
- d) To advise on appropriate types of security hardware, alarms, fencing,.

#### 4.7.3 Victims of Burglary (V1-V4)

This group consisted of people whose homes had been broken into at some time in the past, but who had, to a large extent, overcome the trauma which initially, and sometimes permanently, affects victims of burglary. Their views were therefore more detached than if the event had occurred recently, but it was clear that their lives had been changed by the experience and that "things will never be the same again". Some householders were not insured when burgled, but did not feel that they were in any way to blame, preferring to transfer responsibility to "the authorities" for not affording them sufficient protection. Only 50% of those interviewed had made any substantial improvements to the security of their home in spite of patient persuasion by the crime prevention officers, and their attitude seemed to reflect the hope and belief that "lightning never strikes twice in the same place". There are many, however, who could testify to the fallibility of that premise.

The overriding impression gained was one of resignation or apathy. "If they want to get in they'll get in whatever we do" (V2), was a frequent comment. A feeling of resentment towards "them" - the collective for the government, the police, architects, insurers, builders - who it was felt had somehow failed to protect them from criminal attack (V4). Much needs to be done to convince the ordinary citizen that there are cost effective measures that he can use to improve the security of his home.

#### 4.8 Conclusions

Though many of the interviewees consider building security a problem, relatively few of the designers consider security factors formally during the building design process, although they acknowledge the value of 'building in' such measures as are appropriate to the risk.

The range of security design measures relevant to site layout; site perimeter; building envelope; building interior and access control, is extensive but there is no information available to assess objectively their efficiency either singly or in combination.

Specifiers currently rely upon subjective views and professional opinions, based on past case experience.

The author is aware that only a small minority of schools of architecture conduct any formal teaching on security aspects of design. Those that do so, do so briefly. The police sometimes participate as visiting lecturers, but some feel that their resources may be better employed as participants in practical designs (ALO3).

Although nearly 70% of the individuals those interviewed expressed the attitude that more could be done on security design in future, almost a quarter thought this would not be worthwhile or cost effective.

#### 4.9 Recommendations

There are many areas of uncertainty and further research is needed, for example, to reconcile the needs of security with those of escape in case of fire; to ascertain the relative effectiveness of different security measures; to ascertain the deterrent effects of measures; and many more. Resource requirements to conduct the research will be very high and the time scales very long, so priorities need to be carefully identified. Indeed the limited research resources available might well be better aimed at stimulating a reappraisal of attitudes to design for security by increasing awareness and providing guidance to specifiers and designers based on existing professional views, opinions and knowledge.

More training for crime prevention officers who advise architects is needed, together with the award of a formal degree or other qualification to candidates successfully completing such a course.

Many Crime Prevention officers feel that they lack 'professional' status when advising construction professionals and suggest that a degree or diploma would give them more confidence and more authority.

The work being carried out at the Home Office Crime Prevention Centre at Stafford is a beginning. Their course structure and curriculum (Appendix 6) is well considered and broadly based and exposes the



police officers to other building professionals. But it must be seen as a beginning of an effort to achieve a formalised, acceptable, respected course leading to a formal professional qualification.

## CHAPTER 5

### CRIME PREVENTION - THE CURRENT SITUATION

## Chapter 5

### Crime Prevention - The Current Situation

#### 5.1 Introduction

In an attempt to control the ever-increasing incidence of burglary and other crime against buildings, a number of initiatives have been introduced by the police, Home Office and other interested parties including the insurance industry in recent years.

The main thrust of these initiatives is to seek to involve the community as a whole in crime prevention, and to 'reward' developers who employ crime prevention techniques in the design of their housing schemes.

This chapter describes some of these initiatives and their aims, but insufficient data has been published to enable their effectiveness to be assessed. In addition the responsibility for monitoring their performance as positive contributions to crime prevention is fragmented and unco-ordinated. It is doubtful, in the author's view, whether an assessment of their effectiveness would be possible in terms of statistics or any other scientific testing procedure. (See Chapter 2.4)

## 5.2 THE "SECURED BY DESIGN" SCHEME (SBD)

### 5.2.1 The Concept

The objective of the 'SECURED BY DESIGN' campaign is to encourage the housebuilding industry to adopt recommended crime prevention guidelines in both home and estate design and thus gain an entitlement to use an official police-approved home security logo in their marketing of new homes.

'SECURED BY DESIGN' has been created by Senior Crime Prevention Officers. This campaign, launched at Guildhall, City of London on 7th June 1989 is supported by a number of local events. Concerted campaigns are being mounted throughout the UK by each of the participating police forces.

The Association of Chief Police Officers and the Home Office Crime Prevention Unit fully support the campaign. The Home Office Minister of State responsible for crime prevention has been a firm ministerial sponsor of the scheme since its inception.

### 5.2.2 Active Liaison

Many police forces in the UK have now established facilities for close liaison with architects, building developers and local authority building departments as a means of extending crime prevention measures throughout the construction industry, and with particular reference to the risk to life and property of the occupants of new homes.

Housebuilders have a reputation for adopting new criteria for excellence and they have been provided with important guidelines on the security of buildings against crime through British Standard 8220 (17), together with recommendations prepared by the National House-Building Council. These guidelines can therefore provide reassurance for new home occupiers as violent crime and outrages against property continue to increase. But up to now security has not been regarded generally in the housebuilding industry as having a promotional value in the competitive business of selling new homes.

The publication: 'NHBC Guidance on how the security of new homes can be improved', is a major source document for the 'SECURED BY DESIGN' campaign. Therefore applications of the 'SECURED BY DESIGN'

criteria would, by implication, meet the NHBC minimum standards.

#### 5.2.3 Strategy Planned

Representatives from police crime prevention units have proposed a strategy for a major police initiative to stimulate the adoption by housebuilders of both the BS 8220, NHBC guidelines and well-proven crime reducing guidelines including estate design and lighting. The representatives established that the campaign should actively promote standards covering: estate design, such as defensible space, landscaping and natural surveillance; physical security such as the design of and security requirements for doors and windows; security lighting; smoke detectors and the installation of integral basic wiring for intruder alarms.

It was agreed that the campaign would be more manageable if first introduced on a regional basis in the South East rather than attempting immediately to launch a national initiative involving all police forces. It was also agreed that the necessary funding for the project would require the participation of commercial interests. This campaign, entitled 'SECURED BY DESIGN' was to be the first crime prevention project jointly addressed by the Police Service in recognition that a combined initiative enabled them to be much more ambitious in their continuing fight against crime.

#### 5.2.4 Literature & Video Film

Thousands of 'SECURED BY DESIGN' literature packs have been produced for individual distribution by crime prevention officers to homebuilders, architects, planners and local authorities as part of a continuing programme of local presentations following the main launch.

It was also decided to produce a 'SECURED BY DESIGN' video film, with copies to be made available to the participating police forces for local presentations. The video - which helpfully summarises the main features of the design criteria - was specially commissioned by the Association of British Insurers (ABI): the major association representing insurance companies.

In 1989, ABI members met claims for theft under household policies totalling £276.4 million.

ABI has been involved in crime prevention activities for many years and has worked with the Home Office as well as police forces and crime prevention panels nationwide.

#### 5.2.5 Home Office Recommendation

Home Office Circular 44/1990 (39) states that, "in recent years it has been recognised that measures to reduce crime or the fear of crime cannot be left entirely to the police and the criminal justice system....But the most significant advance has been the widespread adoption of the partnership model - the inter-agency approach to crime prevention."

The 'SECURED BY DESIGN' campaign fully exemplifies the Home Office viewpoint by drawing together in one co-ordinated project: the participating police forces, suppliers, the construction industry, architects, insurance companies, local authorities (through planning officers), and members of the public (new home buyers).

The scale of this co-operation should make a major impact on both the fear of crime affecting new residential areas, thus improving the quality of life for many years to come of those the campaign is designed to benefit.

#### 5.2.6 Guidelines to Builders

The objective of the 'SECURED BY DESIGN' campaign is to encourage the housebuilding industry to comply with recommended crime prevention guidelines and thus qualify for the free use of the new logo.

The conditions and procedures for approval are as follows:

1. Two copies of each house-type plan are submitted to a designated police officer together with an application form.
2. The designated officer then prepares a list of recommendations - which invariably reflect NHBC guidelines, current British Standards, and The Architectural Liaison Manual advice. The officer may liaise with the appropriate manager in the company applying.
3. Once approved, the designs are allocated an Approved Design reference number and details held on a central data base. This means that only one application is made for any one design unless, of course, there are subsequent design alterations

affecting security.

4. One copy of the plans of an Approved Design, following any necessary amendments, is returned to the developer. The allocated number should be used together with the design title in further correspondence with any of the participating police forces.
5. Where a development consists of three or less houses of an Approved Design the developer is free to use the 'SECURED BY DESIGN' logo in advertising to denote police approval of the degree of security incorporated in the premises.
6. Should a development comprise four or more houses and the developer wishes to indicate police approval of his project by use of the logo, then the designated police officer for the area in which the development is to be located is consulted in advance.
7. Recommendations on estate design do NOT involve a reduction in the number of units. They are concerned with such environmental characteristics as defensible space including landscaping and natural surveillance.
8. : The police recommendations will take note of local authority planning strategies to avoid any conflict of views while incorporating the best practices in environmental design. Once the recommendations are accepted, advertising of the entire development can be supported by use of the 'SECURED BY DESIGN' logo.
9. All recommendations provided by a designated police officer will be in accordance with statutory provisions, for example both fire and planning regulations. Should any conflict arise in this area, then the statutory provisions will prevail and the officer will amend his recommendations accordingly. The police will retain the right of access for inspection of Approved Design from commencement of building work to completion of sale.

#### 5.2.7 Qualifying Designs : Publicity Opportunities & Restrictions

A company that receives approval for a qualifying residential building design from a designated police officer is presented with a major publicity opportunity through the free use of the official

'SECURED BY DESIGN' logo in its promotional material.

#### 5.2.8 Effectiveness of "SECURED BY DESIGN"

Pascoe (4) argues that the concept and original ideas of SBD were good to the extent that the scheme was originally perceived by designers as a functional model to be applied in ways appropriate to each case. Thus, each new development, whilst incorporating crime prevention measure recommended through the SBD initiative, retained its individual character. This is clearly the correct approach since there are factors other than crime prevention which determine the configuration of buildings or groups of buildings. For example, site topography, density planning constraints, economics and climate are influences which appear higher than crime prevention in the hierarchy of importance when planning an estate layout.

In the author's view the "blanket approach" identified by Pascoe in his research, involving the use of a common template for 'cul de sac' solutions to all new estate layouts is too crude. Solutions to the problem of crime prevention must be 'site specific' whereby the individual characteristics of each development must be retained with crime prevention techniques carefully 'woven in' to the fabric of each scheme.

Insufficient evidence exists to enable the statistical effectiveness of the SBD initiative to be ascertained, and more research is necessary. Such information as is available, however, encourages the police authorities to continue to promote the concept and to extend its coverage. Guide notes are now available for refurbishment works, car parks, and commercial premises. There is a need for further work to enable similar guidelines to be published for schools, colleges, leisure buildings and hotels.

Any scheme which not only draws attention to the need for crime prevention, but offers advice on ways to achieve it must be commended. What is still lacking is the will on the part of the construction industry as a whole to embrace the concept in all new housing schemes voluntarily until future legislation compels them to do so.



Crime prevention through environmental design acknowledges that the built environment can influence criminal behaviour for good or ill. It can also influence the citizen's ability to exercise control over his surroundings.

Defensible space is concerned with enhancing those design features which support community interaction and good surveillance, whilst simultaneously denying the criminal anonymity, unhindered access towards targets and easy escape routes.

The principles of defensible space have the advantage that they can be applied to existing housing areas and to developments at the planning stage.

Many architectural and planning decisions have been taken without reference to this philosophy and, in some cases, in direct conflict with it, and in consequence have contributed to the neighbourhood deterioration phenomenon - a state where uncontrolled crime opportunities have resulted in a breakdown of the collective response of the public, residential abandonment of environmental use and responsibility and an increase in the fear of crime.

Some of the contributory causes have been the mass rehousing schemes of old stable communities, the introduction of cross town traffic routes through housing areas and the development of impersonal architectural styles, which militate against the principles of defensible space. (2).

Greater care needs to be taken to make use of design concepts which nurture and extend the community's potential for territorial concern and its collective as well as individual responsibility and control.

There is also a need to encourage balanced development of an area, and to avoid introducing generators of crime and those design features which increase the fear of crime.

At this stage it will be helpful to provide definitions of the central tenets of the environmental approach to the subject.

Crime prevention through environmental design is the creation through design of a physical environment conducive to the overall security of the community. It is achieved through the establishment of 'defensible space' by extending the citizens' area of territorial concern from private through to public space and includes the potential for community interaction and natural surveillance.

### 5.3.2 Defensible Space

Defensible space is the combination of real or symbolic barriers, defined areas of influence and improved opportunities for surveillance which, together, bring an environment under the control of its residents. Four levels of space are recognised - private, semi-private, semi-public, public.

- a) Private Space is the area of space under the total control of the occupant and not visually or physically accessible to the public, e.g. the inside of a home or private office.
- b) Semi-Private Space is that area of space under the control of the occupant, but is visually and physically accessible to the public, e.g. the garden of a house.
- c) Semi-Public Space is that area of space under the control or within the area of responsibility of a specific group of occupants and is accessible to the public, e.g. hallways and lobbies of multi-occupancy flats, common recreation and parking areas of multiple housing complexes.
- d) Public Space is that area of space to which the public has access by right, e.g. a road.

### 5.3.3 Defined Areas of Influence (territoriality)

As a general rule the degree of influence exercised by an individual over the environment is very high in the private and semi-private areas, but diminishes proportionately towards the semi-public and public space end of the spectrum.

It follows that, in order to increase this beneficial influence,

there are advantages in creating semi-public areas from public areas and semi-private ones from semi-public.

How can this be achieved? A good example of changing semi-public to semi-private is the use of voice entry phones in the entrance halls of multi-storey flats. Another is extending a garden area around a house or flat thereby minimising the adjacent semi-public area.

Similarly public areas can be changed into semi-public by symbolic closure of streets using paved areas, portals and narrowing of entrances. The object of the exercise is to enhance the feelings of territoriality in the residents.

Each of us has territorial needs, space over which we have a sense of control and for which we are willing to show concern. This basic need becomes evident in the emotions we feel when someone occupies space over which we have staked a claim - our favourite chair, our usual place at the dinner table, our regular parking place at work. A stranger parked for a lengthy period outside of our house is usually cause for a higher level of reaction - curiosity, suspicion, concern and possibly action, are typical responses to this kind of violation of our defined space. It is the capacity of our physical environment to create areas of territorial influence that is referred to as territoriality.

#### 5.3.4 Community Interaction

Community Interaction is a term used to describe the process of people getting to know their neighbours and being concerned about them.

Many urban districts consist of multi-occupancy houses and high rise flats, which create vast areas of anonymity.

These designs reduce the potential for resident communication and interaction. They also have the effect of reducing the resident's level of concern beyond his own private space.

In single family houses it is not uncommon for neighbours to enjoy a caring relationship, which can be used to advantage. Conversely in some high rise flats it is not uncommon for residents not to know neighbours on the same floor.

It is in the areas of anonymity, i.e. community areas, lifts, stairs, entrances, lobbies, that the criminal finds the protection required for freedom of movement towards easy targets.

#### 5.3.5 Natural Surveillance

However interested residents are in the welfare of their neighbours, there is small chance of their being able to reduce the criminals' opportunities, unless they have a clear and unobstructed view of the neighbour's house.

It is possible to create, by design, an atmosphere in which the criminal feels uncomfortable and exposed.

A simple example is the country village. If a stranger walks down the main street he may be aware that many eyes are upon him.

Creating that village atmosphere in an urban area can be achieved by clustering houses using square configurations and culs-de-sac, or by offsetting houses so that they can be more easily observed, or by creating semi-private areas by the use of shrubs and landscaping.

#### 5.3.6 Target Hardening

Target Hardening is the term used to describe the increasing of the physical security of a potential crime target by installing locks, alarms, fencing, lighting and other devices in order to build a resistance to crime.

This process can be thought of as an integral part of crime prevention through environmental design. For example, it is far better to prevent access to the rear of a house by siting gates and fencing than to allow unhindered access to the criminal. Furthermore it is an example of creating a private area from a semi-private thus increasing the owner's feelings of territoriality. Good lighting, too, creates a feeling of vulnerability in the mind

of the criminal and is to be recommended. But if the principles of target hardening are developed to the exclusion of other preventive strategies, there is a danger of producing a fortress society where the public retreat behind their defences and become less interested in the safety of their neighbours.

#### 5.3.7 The Wider Implications of Crime Prevention Through Environmental Design

Whilst the concept of crime prevention through environmental design can be applied to housing, it has a wider application as it relates to the planning decisions for whole areas.

Planning Authorities have a responsibility for ensuring the balanced development of an area, so avoiding the problems that can be generated by providing facilities disproportionate to the needs of the community.

Planning Authorities have to take into account the requirements for housing, education, shopping, employment, recreation facilities, community facilities and road access.

Many of these decisions have a direct bearing on the crime generators. Much could be achieved by the crime prevention practitioner intervening at the planning stage and offering advice as to the potential for crime reduction by adopting certain courses of action in environmental design. What does this entail and how can it be tackled?

In dealing with the relationship between opportunity crimes and the physical environment, the neighbourhood is the natural geographic and social unit to deal with it. It is the area where the residents know one another and where they might be prepared to co-operate with one another. It is also a natural extension of the territoriality which begins at home.

The neighbourhood is also the scale at which the opportunity for crimes can be denied to the criminal. Newman (2) says that, if crime cannot be controlled at the neighbourhood level, it can eventually undermine the city.

In order to identify the causes of neighbourhood crime, it is

necessary to first determine what characterises a successful neighbourhood, and then see how the characteristics have been eroded allowing crime to flourish.

The characteristics as defined by the police (ALO's) might include:-

- a) A place where the individual can exercise certain rights including control over his house and its immediate surroundings.
- b) A place where standards of acceptable community behaviour are upheld and maintained by informal social control.
- c) The existence of essential support services, e.g. schools, shops, libraries and health centres.
- d) A sense of belonging, resulting from physical boundaries to the area.
- e) Pride of home and neighbourhood, which may be expressed in the maintenance of private property.
- f) Investment in a home or business.
- g) A sense of security, which is part of the notion of home being a safe place.

Home Office research (22) suggests that in a crime ridden area some or all of these characteristics have broken down.

The development of suburbia, the mass movement of communities from traditional neighbourhoods, the provision of impersonal environments where the residents do not know one another, the use of hitherto semi-private streets as cross town traffic routes, the development of neighbourhood schools and shopping areas into regional facilities to cater for a wider population, lead to uncontrolled use of, and movement through, the area and competition for the use of residential streets.

This leads to a breakdown of the semi-private nature of an area and the group standards of behaviour that have been developed. It also provides opportunity for potential offenders to come and go unquestioned, resulting in opportunities for offenders to commit crimes. Consequently residents are unable to distinguish between neighbour and non resident, and they can begin to feel isolated and afraid. These conditions have a multiplier effect, the more

offences are committed, the more the victim becomes isolated from his neighbours, resulting in him giving up the use of the streets and causing him to retreat behind locked doors. The abandonment of the streets to the offenders provides the opportunity not only for street crimes, but for property crimes also.

The residents lack of responsibility for their area expresses itself in a disinterest in property maintenance, property investment, pride of ownership and eventual movement from the area. In consequence it is possible to see, for example, some areas where it is impossible to let publicly rented housing because the people are too frightened to live there. Because the units cannot be let, the revenue decreases so that the Local Authority cannot afford to carry out necessary repairs.

The area takes on an uncared for appearance, encouraging further vandalism. Those people who remain in the area become increasingly fearful of crime, they lose all pride in the area and are concerned only for their own safety. The streets are left to the criminals. In order to avoid these possible developments, there is a need for a comprehensive planning process which takes into account the needs of the community, recognises the significance of neighbourhoods, provides balanced support services, discourages the use of residential streets as traffic through routes, provides adequate policing, encourages resident participation in crime prevention, makes use of design concepts which enhance territoriality and provides adequate security for the buildings.

#### 5.3.8 Situational Approaches

One method of tackling the problem is to adopt a situational approach. In other words, a specific problem is identified and the physical environment at that place is altered to make it less easy for the criminal to operate. Examples of this philosophy are set out in Chapter 3, Section 3.2.

This is considered by crime prevention officers as a legitimate means of tackling the problem and can be extremely effective in the sort of circumstances described, but it is sometimes necessary to

take a broader approach to the problem, for example:-

- a) Why is it that crime is more prevalent in one area than another? To discover the answer, it is first necessary to identify the patterns of crime and to determine who is responsible for committing them.
- b) For example, do the offenders and the victims live in the area or are they from outside?
- c) Are they neighbour to neighbour crimes?

It is only when these questions have been answered that consideration can be given to possible solution.

#### 5.3.9 Crime Generators

There is a need then to identify those types of location and building which can generate opportunities for crime.

There are four crime generators and they can be categorised as follows:

- a) Known crime generators - hot spots, or areas at which crime is known to occur frequently, for example, known offender hang-outs such as pubs and clubs.
- b) Service generators - facilities which attract potential victims as well as potential offenders, for example, open spaces or hospitals.
- c) Movement generators - circulation systems which attract conflicting user traffic, for example, subway systems, bus stop and pedestrian walkways.
- d) Fear generators - elements which provoke fear of crime, for example, alleys and large unmanned parking areas.

#### 5.3.10 Environmental Balance

In order to create a relatively crime-free residential area there is a need for environmental balance. If there is imbalance, competition for use and conflict can result, and can reduce the possibility of territoriality being achieved.

Some examples of imbalance identified by crime prevention officers are:-



- a) Out of scale support system - a neighbourhood street has been redesigned to carry cross town traffic, resulting in the breakdown of the semi-private character of the neighbourhood and use of the area by non residents.
- b) Out of scale support element - a neighbourhood park provides a large open space for football, skate boarding, BMX bicycle riding, etc. Because of a lack of recreational facilities in neighbouring areas the park draws young adults from other areas.
- c) Land use conflict - a neighbourhood shopping area has been enlarged to attract suburban commuters resulting in the need for increased parking in a residential neighbourhood, competition for use of pavements and public services.

There is seldom just one element out of scale and so a neighbourhood can have many environmental conflicts which provide opportunities for would-be offenders. Each conflict can precipitate a pattern of crime.

To achieve environmental security, there must be balanced development, adequate support systems and a development whose design encourages community interaction.

Crime prevention through environmental design and defensible space have been practised with varying degrees of success for a number of years. The concepts have potential and form the basis of advice offered to developers, planners and architects as one of the means by which crime can be prevented or reduced.

The institute, part of the University of York, devises educational programmes for architects, in the form of courses leading to a higher degree, or shorter modules related to the requirements for graduate architects to pursue a continuous programme of professional development.

One of the subjects offered by the I.A.S. is the study of crime prevention by design in the form of short residential courses at the University.

The University of York does not, however, have a faculty of architecture within the undergraduate campus and the author feels that all undergraduate architectural students should receive instruction in crime prevention techniques as part of the normal diploma course. The subject should be compulsory and not voluntary as it is at the York I.A.S. Aspiring architects need to consider crime prevention aspects of design in projects designed as part of their academic course.

The Institute does, however, publish useful information on designing and crime, and its video entitled "Safe as Houses" (40) is a well scripted and informative visual aid. It emphasises the importance at design stage of:-

- a) Analysing the risk
- b) Designing to deter

Analysing the risks involves the study of the local environment and its potential for crime. Factors such as proximity to main roads, 'hot spots' such as pubs and night clubs, easy escape routes, large open spaces, car parks need to be considered when trying to assess the risk of crime affecting a new development.

In "designing to deter" the architect should take account of:-

- a) avoiding potential hiding places
- b) providing good lighting
- c) avoiding recessed porches
- d) avoiding planting which encroaches on footpaths
- e) providing car accommodation with dwelling unit and avoiding large car parks

- f) keeping access (and escape) points to a minimum
- g) defining "public" and "private" spaces
- h) avoiding concealed entrances
- i) avoiding aids to climbing

The video only applies to residential building but it is understood that consideration is being given to producing similar visual aids appropriate to non-residential building types.

## 5.5 Neighbourhood Watch

### Objectives:

Neighbourhood Watch schemes represent an attempt to involve residents in a specific neighbourhood in crime prevention. The purpose is twofold, i.e. to formalise the process of natural surveillance, so that suspicious behaviour can be reported to the police and also to help remove feelings of helplessness in the face of increasing crime by mobilising the 'eyes and ears' of specific residential areas.

Schemes normally begin when the local police or residents perceive a crime problem, usually in the form of burglaries, vandalism or car crime and express a wish to do something about it.

The main purpose of Neighbourhood Watch schemes as published in the pamphlets issued by the local police watch co-ordinator is:-

1. To make people feel more secure because they can see that action against crime is being taken
2. To channel the natural inquisitiveness of residents into positive surveillance and accurate reporting of suspicious actions.
3. To exchange information on methods of increasing the security of their homes.
4. To make available equipment for post-coding property.
5. To persuade neighbours to notify each other when leaving their premises to go on holiday.

The scheme was first established in 1982 in Cheshire, and there are now some 90000 watch schemes throughout the country covering 3.5 million households. Each scheme appoints a co-ordinator to arrange

regular meetings and liaise with the local police.

Similar schemes exist on some industrial estates, farms and marinas the objectives being identical with those of housing neighbourhoods - to encourage natural surveillance of adjoining properties and to report unusual or suspicious circumstances to the police.

The effectiveness of such schemes is a subject of much debate amongst crime prevention professionals, and no statistics are available to support their usefulness as a deterrent. The generally accepted view of the schemes by the police is positive but the main problem is maintaining the enthusiasm of the general public for them. On balance the author feels that public participation in crime prevention is worthwhile, but to be more effective there needs to be a greater involvement by the professionals in a co-ordinating role, or alternatively, the post should be paid rather than voluntary. The frequent turnover of individuals in the post at present reduces the overall effectiveness of a group. Crime prevention needs resources, financial and human, if significant progress is to be made towards reductions in crime against property.

#### 5.6 Insurance Initiatives

The insurance industry has produced many statistics (31) relating to burglary in domestic premises which form the basis of its general policy towards incentives to policy holders who increase the security of their houses. One large insurer reports that whilst 1 in 12 of its policy holders will make a claim following a burglary, only 1 in 75 of Neighbourhood Watch members will make such a claim. It offers, therefore, specially reduced premiums, often by as much as 40% to Watch members, subject to a security survey of their property.

Other large companies, whilst not offering discounts to watch members, will reduce the premiums of policy holders who fit 5-lever mortice locks on their external doors, or have an intruder alarm system installed by an approved firm. 'Excess' clauses by which the insured will undertake to pay the first £250 of any claim will qualify for a 15% premium reduction by one major insurer.

Insurers are, becoming increasingly concerned by the rate at which claims are increasing, both in the residential and non-residential

sectors, particularly since it is alleged by them (31) that of the 1440 burglaries that occur daily in the UK only one in three involves forced entry.

Thirty years ago the author knows that local authorities, for example, did not insure their property since they found it cheaper to meet the cost of the occasional break-in or fire in one of their buildings than to pay an annual premium. That situation has changed and insurers are now having to meet the cost of the proliferation of criminal damage, theft, vandalism and arson in a wider range of public buildings. Schools, particularly those built since the late 1950's, on an open campus site appear particularly vulnerable, especially since the vast majority of such buildings are system-built, and, due to the lightness of their construction are more vulnerable.

Older, traditionally constructed schools in an urban location, without surrounding playing fields are less frequently attacked.

In view of this, insurers have taken the initiative in requiring that local authorities carry out a 'risk survey' of their buildings in order to identify weakness and take appropriate action to improve security. This is a formidable task but essential to ensure that insurance cover can be maintained.

In addition, insurers are insisting on vetting initial plans of new schemes being prepared by local authority architects to ensure that the required standards of security are being "designed in".

To extend such a scheme to the whole field of new construction seems sensible but currently beyond the resources of the insurance industry. The author believes that insurers could assist the police and others to lobby the government in a campaign to have crime prevention measures supported by Act of Parliament.

## 5.7 Street Patrols

The government has announced that the Home Office is considering extending the Neighbourhood Watch concept to enable local "Watch" groups to mount street patrols within their areas. Reaction to this

proposal is mixed, the general feeling being expressed is that such activities are best left to the police. In some inner-city areas and crime prone housing estates in the less affluent neighbourhoods, residents have already formed themselves into 'foot' patrols to promote active surveillance within their areas, but the idea is not supported by the police who fear that it could lead to street violence. Similarly, security firms are being employed by more affluent groups to perform a similar function with the acquiescence, if not the support of the local constabulary. No statistics exist to confirm the effectiveness of such groups in reducing the incidence of local crime, and the insurance industry is not generally impressed by the idea (See 5.2).

## 5.8

### Crime Concern

#### Objectives

Crime Concern, a non-profit making company, was set up in response to the 1987 Government manifesto policy to "build on the support of the public by establishing a national organisation to promote the best practices in local crime prevention initiatives". Although supported initially by the Home Office it now looks towards local industry and commerce for financial support. Its objectives as set out in their publicity brochure (41) are:-

- a) Reducing opportunities for crime
- b) Creating stronger communities in which individuals are less likely to offend.
- c) Improving the quality of life by supporting and developing efficient crime prevention.

No evidence has been produced to demonstrate the effectiveness of the organisation which appears to duplicate much of the work of the police. Nor is the author aware of any specific initiatives in the relationship between crime and building design.

## 5.9

### National House Building Council

Since June 1988, National House Building Council (NHBC) has included security measures in its Technical Requirements, some of which are mandatory.

Objectives: Any builder wishing to offer the NHBC's ten year guarantee must fulfil the mandatory security requirements.

The mandatory requirements include:-

A main entrance door to a minimum of 44 mm thickness overall.

Doors and windows to be fitted with devices to "improve their resistance to unauthorised entry"

A door viewer (or other means of giving a wide angle view from the main entrance door).

Patio door locks.

Front door limiter or chain.

One or more front door locks to BS 3621 (or an equivalent in terms of physical strength requirements).

Door bolts to top and bottom.

On secondary (back or side) doors a minimum 5-lever lock and bolts top and bottom.

Window locks on all ground floor and accessible windows which cannot be released without a key.

## 5.10

### Crimestoppers

Joint initiative between independent charity Community Action Trust (CAT) and the Metropolitan Police in conjunction with the media.

#### Objectives:

This scheme was launched in the London Metropolitan area in January 1988 with TV/Newspaper publicity to encourage the public to supply anonymous information related in particular to crimes of violence, via a freephone number. A cash reward, if offered, is drawn from donated funds (both public and business community contributions) for information leading to arrest and charges.

#### Structure

A Crimestoppers Board which is made up of representatives from the community (usually business) raises and administers funds. Rewards are decided on the basis of reports and investigations by a police co-ordinator.

The initial involvement included the Evening Standard newspaper, Thames TV and LWT along with radio station LBC and Capital.

### Expansion

Since 1988 a nationwide programme has been launched covering the whole of England, Scotland and Wales. There are now 12 regional Crimestoppers offices.

5:11

### Arson Prevention Bureau (APB)

Set up by the Home Office and Association of British Insurers in February 1991.

Objective - to spearhead a national programme of initiatives to prevent and control arson.

The Bureau is working to raise standards of fire investigation by UK fire brigades, the police and public and private forensic science services.

Arson is a growing extension of the pattern of crime against buildings and the Bureau has identified the following statistics:

- a) In 1990 one in forty schools was deliberately set alight, in most cases as part of a burglary attempt.
- b) 2000 serious injuries and fatalities are caused each year by arson.
- c) One in four building fires (about 23,000 per year) are started deliberately.
- d) The insurance industry estimates that 10% of the total cost of arson in the UK consists of fraudulent claims following arson attacks.

A APB working group set up to identify buildings at greatest risk from arson, inform owners and managers, encourage them to take action, and organise advice, seminars and courses.



### 5.12 Safer Cities Initiatives

This was launched March 1988 as part of Government's Action for Cities initiative; the objectives being to encourage local people to run local multi-agency projects to improve community safety.

20 projects have been established - Birmingham, Bradford, Coventry, Derby, Fulham, Hammersmith, Hartlepool, Hull, Islington, Leicester, Lewisham, Middlesbrough, Nottingham, Rochdale, Salford, Sunderland, Tower Hamlets, Wandsworth, Wirral and Wolverhampton.

The criteria for participation are:

- high crime rates
- socio/economic problems
- receive urban grants or other Government support.

The Home Office has so far made available £250,000 for each project for 12 month operation period. It also supports Safer Cities financially by funding project staff salaries, office accommodation, equipment, running costs, central research and evaluation work and some local publicity and survey costs.

A total of £11m in Home Office grant money has been provided in support of Safer Cities to date.

### 5.13 Home Office Crime Prevention Campaign 1991

A crime prevention week, with local activity emphasis was held from April 15 - 21 1991. Funded from the 1991/92 budget of £6m, it was based on Theme Days.

These covered Car Crime Youth Action, Business and Crime, Personal Safety and Violence (including Women's safety), Home Security and Neighbourhood Watch.

Initiatives during the week included the launch of the Home Office Car Theft Index, distribution of the handbook "Practical Ways to Crack

Crime" and other literature, TV advertising and the announcement that the next British Crime Survey, which is based on people's experience of crime, including those unreported, rather than on police statistics, would be in 1992.

Co-ordinated nationally by the Home Office and locally by Crime Prevention Officers.

#### 5.14 Home Office Crack Crime Campaign

Slogan: "Crime - together we'll crack it."

Investment from government - flm over three years.

##### Phase One:

Advertising campaign "I want to grow up in a place...", used children to make an emotional connection on the theme of hope for future generations.

##### Objectives:

To create awareness of and positive attitudes towards a whole range of crime prevention techniques, encouraging positive action in the crime prevention field.

##### Phase Two:

This phase was more specifically targeted at the general public, business builders and local authorities.

The handbook "Practical Ways to Crack Crime" was produced. Over 3.5m copies have been distributed.

The campaign seems to answer questions about getting involved in crime prevention, and gives advice on protection in different areas including safety and security of the family, burglary in the home, and preventing theft of possessions. It also gives ideas for getting involved in crime prevention.

A shorter "Family" version is now available in English, Welsh, Gujarati, Urdu, Bengali, Hindi and Cantonese plus tape cassette versions for the

blind or partially sighted. Over 3 m English copies, 75,000 special language editions and 9,000 cassettes have been distributed.

Objectives:

To generate a positive attitude to crime prevention in the general public, opinion leaders and specific community groups.

To create a greater awareness among all sections of the community of the whole range of preventative action which can reduce opportunities for property and violent crime.

To build and maintain positive attitudes towards crime prevention without exacerbating fear of crime.

Phase Three: Launched February 1992..

1992 designed Car Crime Prevention Year. Slogan Car Crime - together we'll Crack It. Supported by nearly 80 companies, and £3.6m already pledged for schemes.

£5m advertising and promotional campaign compares car criminals with scavenging hyenas.

Home Office holding top level meetings with car manufacturers - aim to ensure that by the end of 1992, all new cars fitted with effective vehicle immobilisers, high grade deadlocking and visible identification numbers.

5.15 The Situation Abroad

Underwood (14) finds that the most active and imaginative work is being carried out in Canada and Holland, with Canada having gone some way towards regulating crime prevention by introducing mandatory requirements in single family dwellings.

At a practical level, the concept of "target hardening" is the single most widely used crime prevention technique. Attempts to establish clear connections between crime and building design have not been too successful though most countries appear to recognise that a link exists even though much work remains to be done to translate ideas into practical guidelines.

Some countries appear to concentrate more on the criminal and the deterrence of his activity before the building design/crime interface is reached. Social and psychological factors are held to be equally important in finding a method of countering the ever increasing crime incidence in the developed countries.

#### 5.16 Conclusions

Whilst the author applauds the ever increasing concern for crime prevention which is apparent from the number of different initiatives referred to in this chapter, the research which forms the basis of this thesis does not suggest that the message is getting across to the people who matter, i.e. building owners and architects. In the final analysis the advice offered and the information published by the agencies responsible can only be advisory, and a very large proportion of such property owners, householders, developers and architects seem to be unwilling or too preoccupied with other problems to accept and implement the advice freely available.

In all new, non-domestic construction, Fire Prevention Officers are consulted at early design stage to ensure the provision of adequate and proper means of escape in the event of fire. Their recommendations in this connection are supported by statute and are non-negotiable. Retrospective fire protection is also provided in certain classes of building functional type prior to the issue of a Fire Certificate.

Crime Prevention must also be brought within the legislative process, enabling Building Control to check and monitor the inclusion of crime prevention measures in all new buildings.

## CHAPTER 6

### CASE STUDY, NORTH SHERWOOD STREET

## Chapter 6

### CASE STUDY, NORTH SHERWOOD STREET

#### 6.1 Introduction

In an attempt to draw together the twin disciplines of architecture and crime prevention so that each may contribute to a wider understanding of the principles of "designing out crime", Nottingham University School of Architecture and the Home Office Crime Prevention Unit have formed a unique partnership. Unique because enquiries have failed to reveal similar initiatives in other schools of architecture and a partnership because of the value of the combination of different skills each partner can offer.

The mutual co-operation normally takes the form of seminars for architectural liaison officers from various police authorities organised and run by the School of Architecture. (A programme for such a seminar is shown in Appendix 5). The principal objectives of the seminars are:

- a) To show the police officers a series of slides of buildings, historic and modern, and explain the factors which appeared to influence their form, and to try to illustrate the architect's design philosophy. The purpose of this exercise is to introduce the police officers to the architectural language he is likely to meet during one to one encounters with architects.
- b) To visit an existing housing estate, and by a visual inspection, identify weaknesses in planning and construction and make notes accordingly. On the return to the University prepare and deliver a short talk to the whole group setting out, by the use of normal visual aids, the shortcomings of the built estate together with recommendations for better crime prevention measures.

The author has attended such seminars and was impressed by the level of enthusiasm of the police officers in following the syllabus, but acutely conscious of some apprehension on their part. They perceive architects as well educated professionals who deal in abstract concepts and speak a different "language". It may be difficult for some of them to penetrate the veil of 'mystique'

which surrounds many professionals unless they are very confident and articulate in expressing their opinions. Architects, on the other hand, are well accustomed to dealing with fire officers and similar specialists who have no professional qualifications but whose knowledge is recognised as being vital.

The University is organising a similar event for the benefit of the local Society of Architects in an attempt to increase awareness of, and interest in designing out crime.

#### 6.1.1 Objectives

In selecting this particular estate as a case study the author's objectives were to assess the scope for the application of crime prevention techniques to an existing residential estate. Additionally, from a study of the configuration of the units, access points, road layouts and car parking areas, lessons may be learned which could influence future estate planning.

Those best qualified to consider these matters are the police officers responsible for advising architects, and the author was privileged to accompany groups of officers when they inspected the estate.

The information gained has been invaluable in producing this thesis.

### 6.2 Estate Profile

#### 6.2.1 Architectural Profile (Figs. 1 and 2)

The North Sherwood Street Estate was built for the North British Housing Association and was completed in 1981. It consists of 70 one-bedroom flats in two-storey blocks, and 119 two and three bedroom flats in 20 three-storey blocks. In the two-storey blocks one flat is set above another, the upper flat being accessed by an open timber staircase. Both upper and lower flats have their own separate yard for drying washing or cultivating.

Each three-storey block contains six flats accessed by a communal staircase which leads directly from an estate footpath. One ground floor flat, 19 North Sherwood Street, has been converted into the Estate

Management Office. Out of the total of 198 flats, 8 have been bought under the right to buy scheme, and a further 25 ground floor flats are identified as 'Category 1' converted for mobility purposes.

A most striking feature of the estate is that, though it is an inner-city estate, the physical appearance of both the buildings and the landscaping is very good in general. Apart from the yards to the two-storey flats, all the remainder of the estate is 'public' space maintained by the Housing Association by means of a service charge to tenants. There has been extensive bush and tree planting across the estate, both of which now grow vigorously.

As well as the positive side, the layout of the estate has some potentially problematic features. The open layout of the estate and the differing orientations of the blocks mean that there are an incredible 14 different pedestrian routes into the estate, including 3 which are also car access; making the estate very vulnerable to people cutting through. Since it was built 10 years ago the limited amount of car parking space on the estate now appears inadequate, though this seems partly due to the number of people who use the estate as a car park for the Nottingham Polytechnic or the city centre. Two very basic children's play areas are placed within the estate, one on Dundas Close, one on Ossington Close.

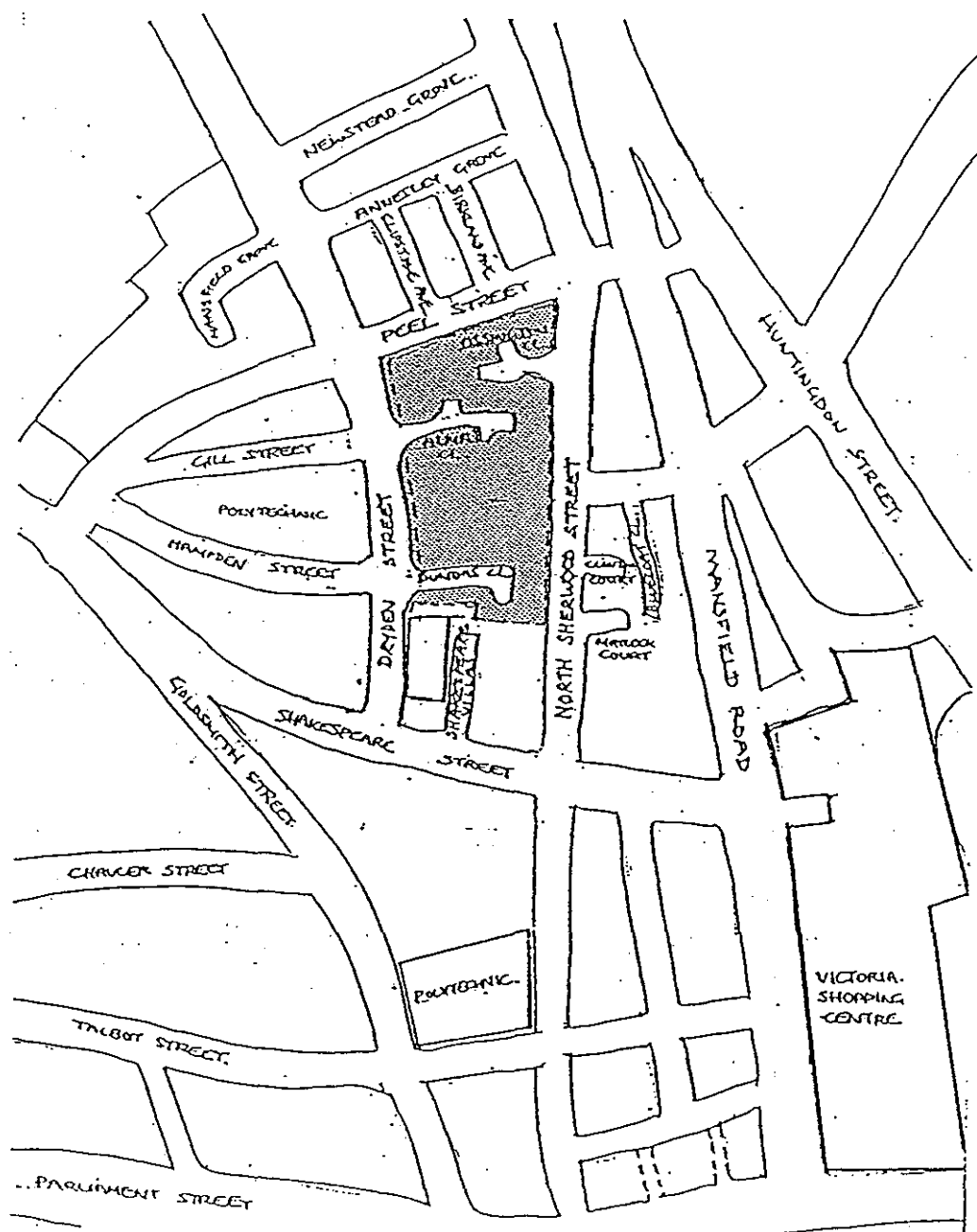
The estate is bounded by a nursery and the Polytechnic Library to the South, the other boundaries being marked by North Sherwood Street, Peel Street and Dryden Street. The land rises up fairly steeply from the bottom of the estate to the top, at Peel Street. Due to the slope, but despite the generally open nature of the estate, there is only one footpath between the top half of the estate (Alma and Ossington Closes) and the bottom half around Dundas Close. This tends to give the estate a divided feel, particularly as the Dundas Close area, has historically had more elderly residents and often seems quieter.

#### 6.2.2 Social Profile

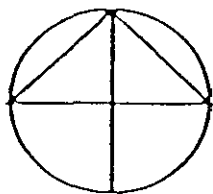
The social profile of North Sherwood Street Estates population is broadly as to be expected for an estate of its size and location although it has been moulded over the years by the changing allocation policies pursued by the estate's owner, the North British Housing



Fig.1 - Site location



north



North Sherwood Street Estate, Nottingham.

Location Plan

71 (A)

not to scale

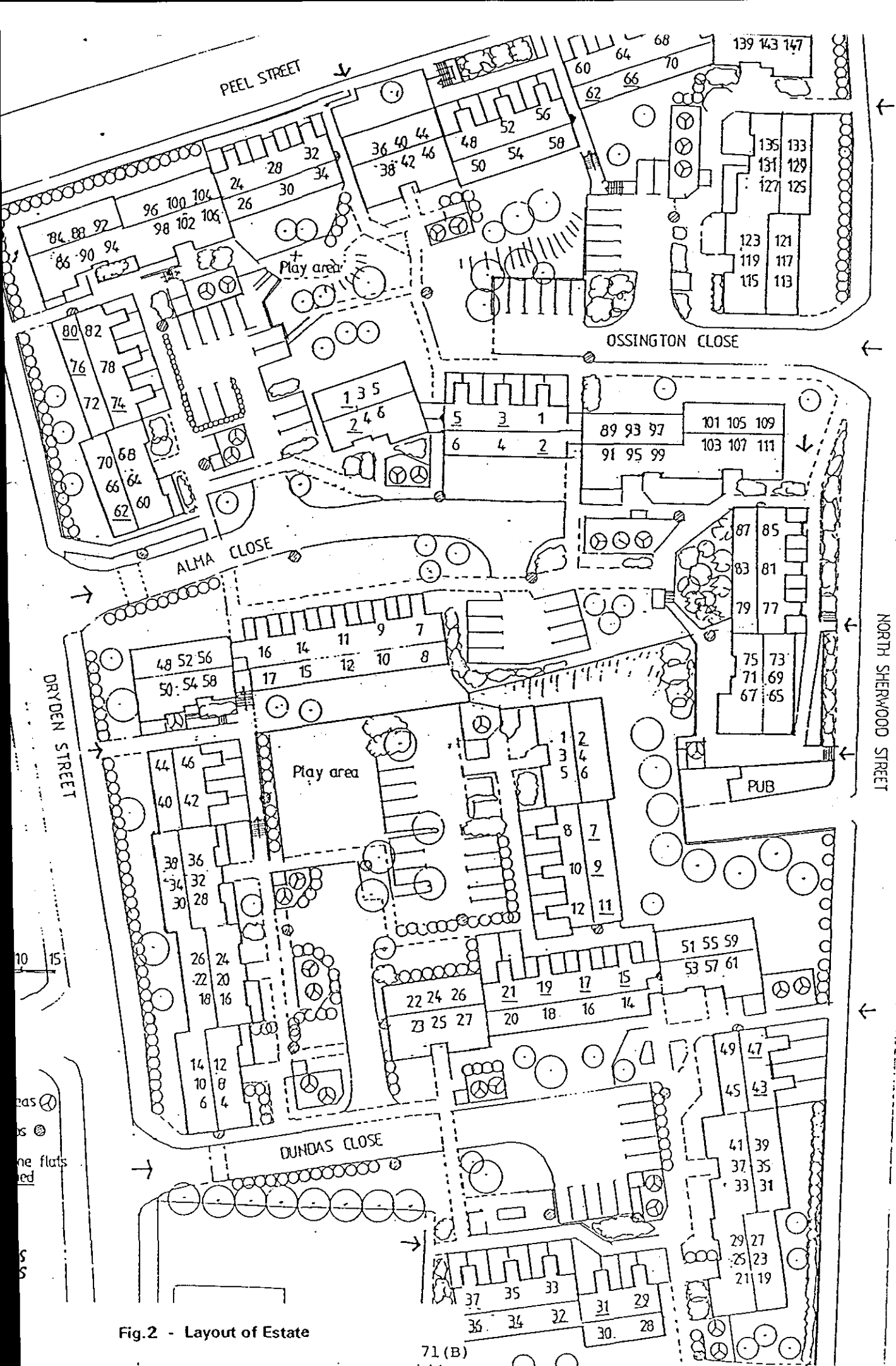


Fig.2 - Layout of Estate

Association. When the first tenants were allocated from 1980 (before the actual completion of the estate) residents were selected according to traditional grounds of respectability, suitability, etc. In the early 1980's a broadly needs based allocation system was adopted although it is probable that allocations were made with the previous 'culture of reference' still firmly in mind. In January 1988 a new points system was introduced allocating property purely to those who satisfied criteria of greatest need. Beside this residents can come to the estate through the mutual exchange system that North British operates with other housing associations and local authorities. This puts into perspective the view expressed by some of those who have lived longer on the estate that 'the estate's going down hill' or that 'people should be vetted more carefully before being housed here'.

Since the change in lettings policy in 1988 tenant turnover has increased from about 6.5% in the mid 1980's to nearly 12% per annum since 1988. This in some way reflects the greater mobility of the client groups now being catered for but also makes the creation of a feeling of 'social stability' less easy. However, whilst noting the increase it would be wrong to suggest that the levels of turnover are particularly high. Since the start of collection of data on household type and ethnic origin in 1988 just under 20% of new tenancies have been allocated to black householders, just over 70% to whites. The majority of new tenancies are allocated to either single people of working age (30%), single parents with young children (23%), couples of working age (17%) or couples with young children (9%). Other client groups such as the elderly or disabled account for most of the remainder. However it must be stressed that such data are collected at the commencement of the tenancy and, of course, people will move between categories during their time as residents but the records are not updated.

33% of tenants are in receipt of full, and 10% partial, Housing Benefit, the former probably mostly being income support claimants. These figures represent Housing Benefit paid directly to the association on behalf of the tenant, and not housing benefit paid directly to the tenant, the existence of which is unknown, but likely to increase the overall figures by a small amount. This compares favourably with a similar North British Estate, Raleigh Street, where 50% of tenants have their entitlement to full Housing Benefit paid directly to the Housing

Association. This in some ways reflects the greater mobility of the client groups now being catered for but also makes the creation of a feeling of 'social stability' less easy. However, whilst noting the increase it would be wrong to suggest that the levels of turnover are particularly high.

Whilst over three quarters of tenants are in rent arrears, the majority of this involves amounts less than two weeks rent (42% of those in arrears are only one week in arrears). In many cases this is simply explained by delayed, or out of step payments of Housing Benefit. Nevertheless about 30% of tenants are over 5 weeks in arrears. Overall, however, rent arrears are about 5% of the Rent Roll (or the total amount that should be collected) which is average for the Associations Stock in the region.

Of course, over time the change in lettings policy will have a marked effect on the population and social composition of the estate. However currently it has produced a mixed population of elderly, single or working couples and young families that perhaps do not always see their interest as the same.

(Figures supplied by North British Housing Association).

The layout of the estate as built is shown in Fig. 1. Layouts of existing house types are shown in Fig. 2.

### 6.3 Methodology

There were twenty four aspiring architectural liaison officers present at the seminar held on 21st July 1993, all from police forces in the West Midlands, and all of whom had had experience as crime prevention officers.

Also present were the director of the Home Office Crime Prevention Centre who have the responsibility for training ALO's, a senior lecturer from the Department of Architecture and the author.

Following the initial lecture with slides referred to above the whole group transferred to the housing estate and were divided into six groups of four officers.

The groups were given one hour to walk the estate, conduct random and informal interviews with a total of twenty residents, identify and record weaknesses in design, layout and construction. The author accompanied one of the groups. Due to the size of the estate and the enthusiasm of the police officers the time over-ran and the remainder of the programme was put back by one hour.

On return to the University, the group discussed and collated their findings, and one member of each group appointed to deliver a ten minute talk to the whole assembly to explain the findings of his group.

The Report (33) previously compiled by the University following a survey by two of their post graduate students and the Nottingham Police Authority crime prevention officers was to be used as a datum for comparison.

### 6.4 Crime Statistics on the Estate

The crime figures provided by Nottinghamshire Constabulary need to be interpreted with care. Firstly, they only relate to one year (1990), the last full year for which figures were available. This means it is not possible to analyse trends over time. Secondly, they only include recorded crime, much crime is unreported and a small amount of reported crime goes unrecorded (mostly concerning 'trivial' offences).

Table 1: The 1988 British Crime Survey gives estimates of the percentage of crimes recorded.

<u>Offence</u>	<u>% recorded</u>
Vandalism	10%
Burglary	41%
attempts and no loss	16%
with loss	73%
Theft in a dwelling	42%
Theft from motor vehicles	30%
Theft of motor vehicles	86%

The Authors of the British Crime Survey (42) suggest that people make a form of 'cost-benefit' judgement and indicate that 'the main reason for not reporting is the victims assessment that it is insufficiently serious to be grist for the mill of formal justice'. Crime reporting is, of course, related to the insurance status of the victim. Theft or damage is much less likely to get reported if the victim is uninsured and unlikely to gain by doing so.

Also, certain crimes are recorded in the particular areas where they occurred although they may not be linked to people in that street - this is particularly the case with car crime. For example, a car recorded as stolen from outside, say, 100 Peel Street need not 'belong' to that address, it was simply parked there when stolen.

Other policies also impinge on crime reporting rates. For instance, the repair bill for damaged windows and doors, is met by the Housing Association's insurers. Up until very recently the association required that such damage was reported to the Police, as a crime report number speeded the passage of the insurance claim. The effect of this would therefore be, presumably, to increase the overall reporting rate for such actions to a level higher than would normally be expected. In addition, the overall numbers of crimes (particularly in the surrounding areas for which we also have figures) are small, due to the small area of the estates concerned. Therefore it would be too dangerous to draw too many conclusions from the figures alone.

With regard to North Sherwood Street Estate the number of burglaries (with loss) is indeed quite high, both compared to the neighbourhood and also with the average for the city as a whole which had a burglary rate of 1 in 38 dwellings (2.6%) in 1990, including both attempted and actual burglaries. Where detailed, access tended to be via windows (after breaking glass) or by breaking glass in doors to operate the lock and gain entry that way. The walk-in thefts and lawful access thefts concern crime that happens when for example a door is left open and someone takes the opportunity to steal something (walk-in-theft) or when someone who has the keys and the right of access (e.g. a partner or ex-partner) removes things without authority from the property (lawful access). The number of cases of damage recorded can be explained with reference to the Housing Associations insurance claims policy mentioned above, and it is possible that a similar policy operates with the Guinness Trust, explaining their damage reporting rates. In most cases this concerns damage to windows, often broken by stones, bricks, etc. In addition in 1990 there was one recorded case of arson (a firework through a letter box), one robbery involving the theft of a handbag and 4 cases of assault (3 domestic, rather than in the street) within the boundaries of the estate. Taking into account the conditions concerning car crime mentioned above, there were 2 cases of stolen vehicles, 5 cases of attempted thefts of vehicles, 4 cases of theft from vehicles, and 3 cases of vehicle damage.

On the private estate off North Sherwood Street (Matlock court, Clinton Court, Bluecoat Close and Bluecoat Street), the rate of burglaries (with loss) was much lower, although the overall rate of both attempted and successful burglaries (11% of properties) was almost the same as North Sherwood Street estate (12% of properties). In addition, there was one robbery and one rape in this area. Vehicle crime included one case of damage, one theft and 5 thefts from vehicles.

With regard to the Guinness Trust properties on Mansfield Grove, Peel Street and Addison Street, (57 dwellings), there were no recorded cases of burglary or attempted burglary in 1990. The three thefts included two benefit books and a bicycle. Recorded damage was again mainly to windows. Car crime included one vehicle theft and two cases of damage. The terraced streets (Clipstone Avenue, Birkland Avenue) did suffer from burglary but at a lower rate than either North Sherwood Street or the private estate. Recorded car crime was also lower here with only one theft of a motor vehicle. One important comparison to make is the proportion of burglaries that involve theft as a proportion of those attempted or actually carried out. On North Sherwood Street Estate 83% were "successful". On the terraced streets of the 5.5% of properties that faced actual and attempted burglary 60% were "successful". However, on the private 'mews' estate, where the rate for actual and attempted burglary was 11% (almost as high as North Sherwood Street Estate). The "success" rate was only 38%. In several cases the police statistics showed that potential burglars had been thwarted by such measures as window locks.

#### 6.4.1 The Police view.

The Police Crime Prevention Officers consulted felt that the estate was not particularly bad for crime compared to other estates. However, they particularly noticed the weak points presented by the thumbturn door locks that provided an easy and unrestricted means of exit for the criminal and the weak points of entry, notably the doors, and bathroom windows on the two-storey blocks, making burglary, one of the estate main problems, that much easier.

They were well aware of the 'openness' of the estate with its many footpaths, that presented quick and easily escape routes. The use of



the estate as a through route also enabled opportunist criminals to become familiar with its layout without being challenged.

Unrecognisable people were common users of the footpaths and therefore were allowed to pass unquestioned through the estate. As a large proportion of crime is opportunist, reducing the scope for such crime would seem an important objective. The Police Officers very strongly believed that reducing access to the estate would help reduce crime levels.

## 6.5 Interviews

6.5.1 Sampling. In view of the nature of the exercise and the time available it is inevitable that the selection of interviewees was random and the cross section of those interviewed does not reflect the estate profile in terms of age, sex, marital status or colour. The purpose was simply to obtain a rough indication of how different individuals perceived the problem of crime on their estate. A total of twenty people were interviewed on the basis of questions which were felt by the police officers to be relevant, and which, in the event, turned out to be remarkably consistent.

The following tables categorise the respondents by gender, age group and length of time resident on the estate.

Table 2

<u>Gender</u>	<u>Respondents</u>
Female	65%
Male	35%

Table 3

<u>Age Group</u>	<u>Respondents</u>
Young (15-25)	32%
Medium (26-50)	43%
Old (51- )	25%

Table 4

<u>Time</u>	<u>Respondents</u>
0 - 3	40%
4 - 7	23%
8 - 11	38%

### 6.5.2 Interview Responses

Of the twenty residents who were interviewed almost three quarters felt that there was a problem with crime at North Sherwood Street. Of the remainder, only two thought otherwise, and four were uncertain.

The main problems were considered to be:-

- i) Vandalism, graffiti and damage to cars (40%).
- ii) Burglary (40%)
- iii) General noise, disturbance and offensive behaviour (20%).

90% of those interviewed had personal experience of one or more of the crimes mentioned above during their period of residence. On being asked what measures they were personally prepared to take to protect their property, most felt that it was up to the Housing Association to take the initiative.

When asked who they felt were responsible for crime on the estate, 25% felt that other estate residents were involved, 50% that it was a mixture of residents and non-residents and the remainder were not prepared to say.

Most residents interviewed felt that a more conspicuous and frequent police presence would have a deterrent effect, particularly in dispensing the groups of youths who tend to congregate in the public areas of the estate and create noise and disturbance. Many respondents felt threatened by these gangs and the fear of crime is also a problem on this estate, particularly among the older residents.

## 6.6 Perceived weaknesses

### 6.6.1 Access to Estate

From a Crime Prevention point of view a point of legitimate access for law-abiding citizens is a potential means of escape for a criminal. With fourteen different pedestrian routes into the complex, including three vehicle access points, the permutations of cross routes over the estate are numerous and the whole principle of multiple access is directly contrary to the preferred crime prevention solution of a series of culs-de-sac without linking paths.

Although potentially the most serious shortcoming in the planning of the estate, the possible remedy, i.e. the closure and sealing off of some of the access points is not a feasible solution. The configuration of dwelling units is based upon the current road and footpath layout and to change one without changing the other is not considered to be practicable by the author of this report. In addition, the social upheaval likely to be created by selective closure of site access points would be unacceptable to the residents.

There are lessons to be learned, however, when planning new residential estates, but they cannot be retrospectively applied to existing developments. This serves to emphasise the importance of expert input from crime prevention specialists at initial planning stages of projects.

#### 6.6.2 Configuration of dwelling (Fig.3)

Following on from consideration of road and footpath patterns, it was generally felt by the CPO's that passive surveillance of the estate would have been better if those facing outwards from the perimeter of the estate could have been turned round. They would then overlook the 'inside' of the development making supervision of children and car parks much easier.

One of the basic objectives in designing for crime prevention is to maximise passive surveillance. The theory, is that people going about their normal daily routines will observe and react to the presence of strangers in 'their' immediate neighbourhood. Architects and planners are advised to plan their estates so that each dwelling unit is overlooked by its neighbours.

Needless to say this concept runs contrary to an individual's natural desire for privacy and, consequently, some will erect screens and plant hedges to prevent being overlooked. The balance between privacy and mutual surveillance is therefore not easy to achieve, especially in housing developments.

The same principle can be applied to non-residential buildings more easily though its effectiveness under those conditions is much reduced due to most buildings being unoccupied out of working hours.

All agreed, however, that it would be worthwhile 'to examine' the extent to which some of the public space could be 'privatised', by re-allocating areas of public space, i.e. general landscaping and car parking to individual houses. This would also involve changes to the roads and car parks which would be expensive and disruptive. The configuration of the estate is such that desirable aims such as each house having its own garage or car parking space are impossible to superimpose on the existing layout.

It may be possible to re-allocate some of the existing landscaped 'public' space where dwellings are in juxtaposition with it.

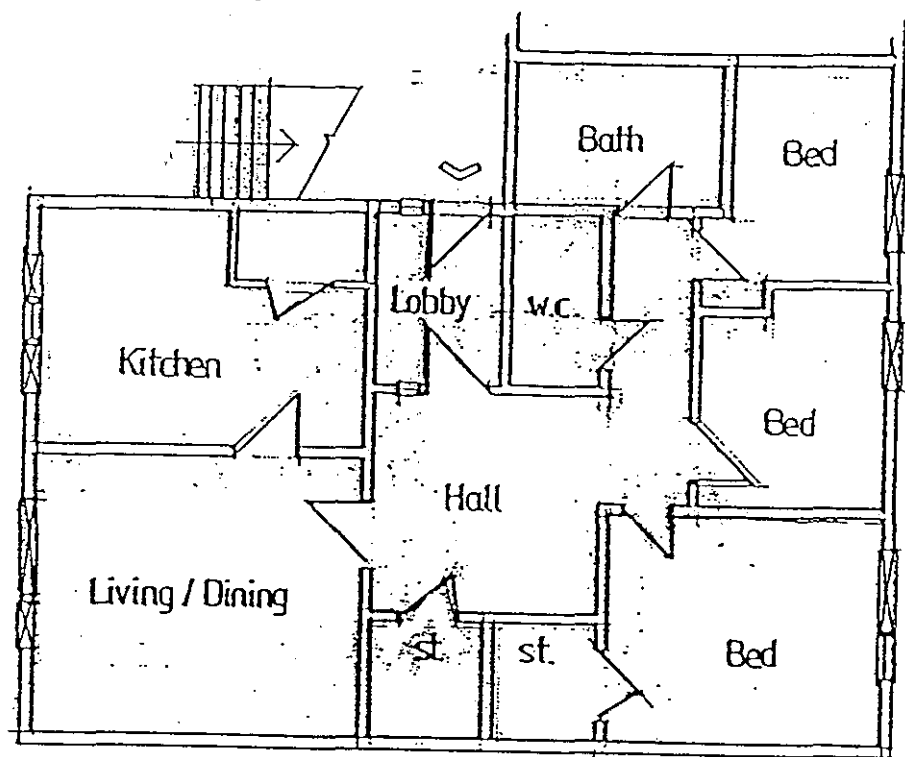
Another possibility identified by some of the officers was to relocate the estate management office from the edge of the estate to a more central position. This would assist in surveillance of the public areas during working hours, and may have some deterrent effect. Damage and vandalism might be identified and remedied more quickly if the site manager were in a more strategic location.

During interviews, trouble spots were identified in the form of ground level "tunnels", i.e. access through buildings at ground floor level with living accommodation above. These areas draw the local youngsters like a magnet - they are a shelter from rain, are not particularly visible from adjoining flats - and drug taking, graffiti and general disturbances result. Eliminating these areas would not be easy since they are an access route to the estate. The avoidance of similar features on new estates must be a priority item in any crime prevention design handbook.

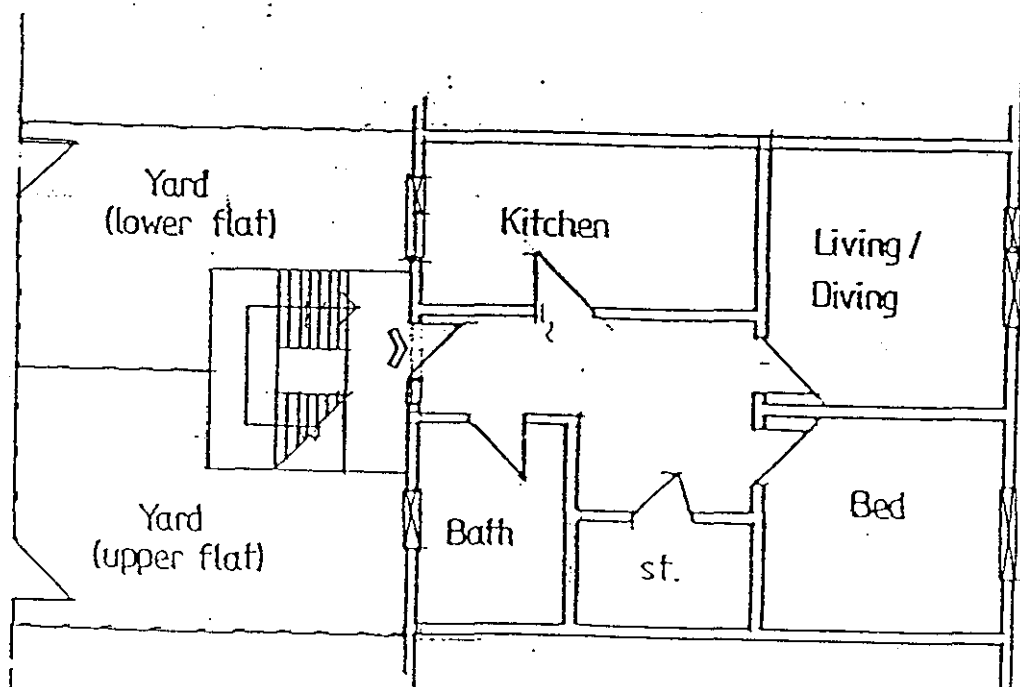
#### 6.6.3 Maintenance of external areas

Whilst the general 'ambience' of the estate was not generally detrimental, the CPO's felt that better and more frequent maintenance of the landscaped areas would achieve two aims. The first aim would be to eliminate potential ambush points and hiding places by cutting back overgrown shrubs and bushes. In some cases this could only be achieved by selective replanting. The secondary objective is to create, among residents, a greater proprietorial interest in the appearance of the estate as a whole.

NOT TO SCALE



3 STOREY BLOCK - 3 BED FLAT (Ground Floor)



2 STOREY BLOCK - 1 BED FLAT (First Floor)

A sense of 'taking care of what is nice' could, it was felt, encourage better behaviour and less vandalism on the estate. The author does not support this Utopian view. Forty years experience of handing over new buildings in pristine condition only to see them wrecked before the subsequent final inspection may explain this.

Nevertheless, there is clearly scope for improvement and any measure which improves the quality of life of the inhabitants must be beneficial to a degree though of doubtful value in a crime prevention sense.

## 6.7 Recommendations

### 6.7.1 Generally

Because this exercise relates to an existing housing estate, any recommendations for improving the security must inevitably be realistic, capable of achievement, reasonably economical and potentially effective.

The estate with all its imperfections from a crime prevention point of view is a pleasant area and was originally designed with skill and sensitivity reflecting the philosophies in vogue at the time. In 1980, when this project was conceived, crime had not assumed the importance it has today, and the science of crime prevention was in its infancy. Since then the nation has experienced a crime explosion and the issue has become a major factor in parliamentary debate.

It is inevitable, therefore, that any recommendations for improvements to security will be, to an extent superficial in that they can be 'applied' to an existing situation. They will consequently come under the heading of 'target hardening'.

### 6.7.2 Target Hardening

It became clear from the tenants replies to the questions in interviews that residents felt that their security on the estate would primarily be improved by 'target hardening' involving increased entry controls to their flat or block. This self-defence attitude rightly reflects their knowledge that there are obvious weak points in the design and security of the flats, but also reflects the fact that tenants rarely have the opportunity of giving their views and effecting changes to wider aspects of security such as the layout of the estate, street lighting and entrances.

It is important however, not to rely upon "target hardening" as the predominant method of improving security on the estate but to address estate layout and management issues as well. Behind more locked doors and entry phones, flats become yet more like privatised "fortresses". It is crucial that security remains a community issue and that street safety is addressed as well. Nevertheless, most burglary is opportunist, and can be deterred by modest cost target-hardening measures which will quickly address the security weaknesses of the individual flats and the primary fears of many of the tenants.

#### Summary Three storey blocks - 2 & 3 bed flats

- \* Create more private space in the block by installing doors at the bottom of the stairs at the block entrance.
- \* Install an intercom access control system 'entry phone' for each block.
- \* Replace the outer door to each flat with a stronger locking door with less glazing, but including a spy-hole and door-chain as standard.
- \* Ensure that the lock to the outer door is more secure whilst still complying with standards for fire escape.
- \* Replace the vulnerable glass side panel to the door with laminated glass or protect it with secondary glazing.

- \* Install window restrictors to all opening windows in the ground floor flats.

#### Two Storey Blocks - 2 & 2 bed flats

- \* Replace the front door to each flat with a stronger locking door with less glazing, but including a spy-hole and door-chain as standard. Where it is on the lock of the door, replace the glazed side panel with a strong plywood panel.
- \* Ensure that the lock to the front door is replaced by a more secure lock, whilst still complying with fire exit standards.
- \* Fit window restrictors to all bathroom windows to stop this being an easy access-point for break-ins.
- \* Fit window restrictors to all windows in the ground floor flats.
- \* Install a suitable locking bolt to the French windows where these occur. Consider installing decorative iron grilles to the lower glass pane in the door and side panel.

#### All Flats

- \* Install a smoke alarm in each flat. This is now a common and standard safety measure in new properties.

#### 6.7.3 Lighting

- \* A regular check needs to be kept on the timeswitch for the lights to the staircases in the three-storey block. At best, it needs locking in a separate cupboard, to prevent it being tampered with by children or tenants. Currently they have access to the whole meter cupboard.

It is recommended that the estate lighting in the following locations needs attention, and could be improved by the means described:



- \* Installation of a freestanding lamp near North Sherwood Street to serve the footpath by 19-29 North Sherwood Street.
- \* A gable-mounted lamp is desirable for the footpath by 36-37 Dundas Close (if the footpath remains open).
- \* A wall mounted lamp on 48-58 Dryden Street to light the dark passage by 44-46 Dryden Street.
- \* Free-standing lamps to serve the access ways to the two storey blocks along 48-58 Peel Street, 77-87 North Sherwood Street and 8-16 Alma Close.
- \* The dog-leg path by 30-31 Dundas Close is very shadowy, an extra lamp may help here although selective replanting of the tall bushes which currently obscure the street lighting may be sufficient.
- \* If a block door is added to the three-storey blocks then an external light is required to light the entry phone panel, the keyhole and the entrance generally.
- \* Using existing lamp standards, white light halogen security lamps should be added to each car park.

## 6.8 Conclusions

To the author the whole exercise was both helpful and encouraging. The crime prevention officers were highly professional, dedicated, and, even though for them the operation was academic they approached it with a high level of enthusiasm. To the extent that they were dealing with a 'fait accompli' i.e. an existing estate their analysis of the weaknesses and their recommendations for improvement were concentrated and perceptive.

What the exercise could not show is the extent to which the officers could identify weaknesses in a scheme still only at planning stage. It is much more difficult to pinpoint problems where they have not yet been built, i.e. on a small scale site layout plan.

Nevertheless, the results of their survey and the list of recommendations produced indicate that action is still possible even

though the basic design could not be changed.

What is significant for the author of this report is that changes in design at drawing board stage could have resulted in substantial improvements to security. The basic presumption that it is possible to 'design out' crime has not been and cannot be conclusively proved, but there is no doubt in the minds of the crime prevention officers from West Midlands Forces. Their day to day experience of criminal activity and its aftermath qualifies them uniquely to support such a presumption.

## CHAPTER 7

### DESIGNING FOR SECURITY

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### DESIGNING FOR SECURITY

#### 7.1 Influences on design

Throughout the history of building design, the architect, in addition to providing suitable accommodation for specific functions, has been required to address other external factors. He has been conscious of those external influences on buildings which could be expected to occur during the lifetime of the building and which he must make the construction capable of withstanding. These influences are:-

1. Weather      -    rain  
                      snow  
                      frost  
                      wind  
                      sun
2. Geology      -    Ground movement  
                      subsidence
3. Materials    -    natural deterioration
4. In use        -    wear and tear

In addition, it now appears that criminal attack should be added to the list, although a building may never, during a normal life-cycle be subjected to it. The various forms of risk are:

- fire
- burglary
- terrorism
- vandalism
- ram raiding
- arson

#### 7.2 Risk Assessment

The assessment of the risk of any building being subjected to any or all of the above forms of attack will normally be carried out by the building owner, with advice from his insurers and the local crime prevention officer. The specific risks to be taken into account by the architect will form part of the design brief.

The architect designing a building is attempting to create appropriate functional spaces suitable for the purpose for

which the space is designated within limits of time and cost. In addition he must address the three dimensional nature of building design in his efforts to create visual harmony, appropriateness of expression, scale, proportion, rhythm, texture and colour. The spaces so created must be of the necessary size and shape and have the correct relationship with other spaces.

It will be appreciated, therefore, that the final form of the project, as built, will represent a balance between the ideal and the possible, and a reconciliation of the client's dreams and the realities of cost, time and the skill of the architect.

If the need for security measures to be included at design stage is stated during the initial briefing discussions between the client and the architect, and expert guidance on specific measures is obtained, the design will not be compromised unduly. The architect will feed information and advice on security planning and techniques into the design process in exactly the same way as he considers problems of drainage, fire safety.

### 7.3 Specialist Advice

It is, however, vital that specialist advice is sought from the local police at project briefing stage, before any design work commences. Crime prevention techniques are fundamental and can affect the shape of the building, the configuration of external walls, roof, openings, and even the location of the building on the site.

In addressing crime prevention at design stage, the architect can be assisted by input from the police crime prevention service who will, on request

- a) Provide information on site selection by means of a "Crime Profile" when the location of a new building is being considered. This will provide information on the incidence and type of crime experienced in the area.

- b) Provide advice at briefing stage on all aspects of crime prevention, including an analysis of risk specific to building type.
- c) Provide a security report of a check carried out on basis of architects preliminary drawings.
- d) Advice specifically on selection of appropriate types of locks, alarm, fence, etc.

Design guidance in a form easily understood by architects is extremely useful and the method of presentation found by the author to be helpful is a checklist. Such lists are never exhaustive but can be adapted and updated in use by the designer as he or she becomes more familiar with the subject.

The lists set out in Appendix 2 are adapted from information issued by the Home Office Crime Prevention Unit to police crime prevention officers - or, in some cases "architectural liaison officers" - to guide them in advising architects on security.

#### 7.4 Principles of Security Design

##### 7.4.1 Siting and Configuration of Buildings

There is much that can be done at the stage in the design process which concentrates on estate layout, whether residential or commercial and industrial. The relationship between one building and its neighbours, and between groups of buildings and the road and footpath pattern can either generate or reduce crime (18). Over provision of pedestrian routes can provide easy means of escape for burglars and through vehicular access reduces the scope for casual surveillance.

The "Secured by Design" initiative (Chapter 5) recommends the use of "culs de sac" where possible on housing estates to enable residents to detect the presence of strangers in their particular cul de sac more easily. It goes on to recommend that the number of pedestrian links between culs-de-sac be kept to a minimum and that all pedestrian routes can be overlooked.

#### 7.4.2 Car Parking (residential)

It is advisable to provide car parking within the curtilage of each property, or at least in a location where the owner can see it from his house. Parking courts or garage parking should be avoided (18).

#### 7.4.3 Public and Private Space

Site layout should define 'public' space and 'private' space by real or symbolic barriers. Real barriers include fences, walls, gates, hedges, planting and railings and symbolic barriers include changes of hard paving surfaces, speed ramps, dwarf walls, reduction in paving widths, gate piers with no gates and bollards.

In the case of public buildings, the building should be designed for pedestrian access from the front with separate vehicle access to car parking. Pedestrian routes from car parts to building entrance should be clearly marked and unobstructed.

#### 7.4.4 Car Parking (commercial areas)

Some parking provision should be made adjacent to the main entrance to enable staff entering or leaving the building out of hours to reach their vehicle quickly. Surface car parks should be capable of being overlooked and pedestrian and vehicle routes segregated and clearly signed. In the case of enclosed car parks, structural columns should be limited in number, and, where possible, direct access at each level to the associated office block or shop should be provided.

#### 7.4.5 Landscaping (soft)

Planting is an important component of building design and site layout, but where used arbitrarily can provide concealment for potential intruders. It is essential to consider carefully the selection of plant types and the disposition of trees and shrubs and to ensure that correct and frequent maintenance is provided. Thorny plants are useful in deterring people from

taking short cuts. The landscaping, both hard and soft, should be considered as an integral part of the original design and not something to be applied to the completed scheme.

#### 7.4.6 Walls and Fences (Fig. 4)

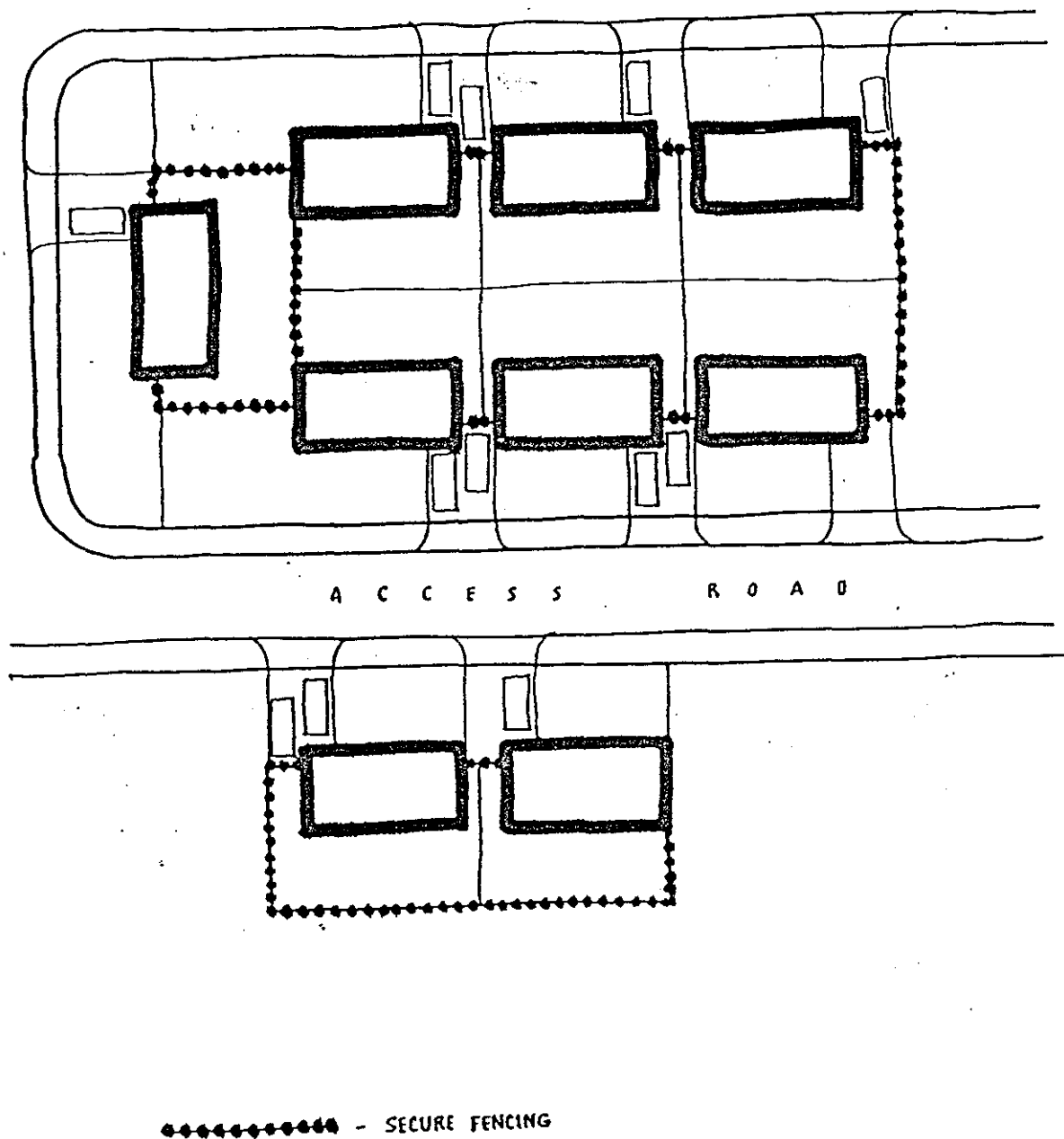
External barriers are important and should be used to define "private" areas such as rear gardens or secure compounds attached to commercial premises. They have a visual impact and should be designed sensitively. They do, however, attract the attention of vandals with aerosols, and, where appropriate, should be constructed with materials which can easily be cleaned. In some cases, the opportunity for graffiti artists can be reduced by planting.

#### 7.4.7 The Building Shape

Crime prevention officers have identified a correlation between building shape and crime. Examinations of buildings affected by crime have tended to indicate that the more compact it is, the lower the risk of criminal attack. Buildings which 'sprawl' across the site, with many perimeter indentations provide hiding places for the ambush of pedestrians, or allow burglars to work unseen and uninterrupted. Open plan industrial estates, 1960's and 1970's single storey schools and many housing estates have been found by the police to suffer disproportionately in this respect. As an architect responsible for the design of many school buildings during the period quoted, the author is well aware of the philosophy which determined the design of the primary schools of that period. Education experts, psychologists and architects were convinced that primary schools should be light, airy, inviting places, with easy access to enclosed or partially enclosed outside teaching areas. Hence the informal, attenuated plan shapes which, a generation later, are contributing to the crime rate.

The other extreme solution, i.e. the 'fortress' concept has been identified by research carried out by criminologists as likely to attract criminal attention as an obviously well defended building is seen by some criminals as a challenge.





91 (A)

Fig.4 - Secure housing layout

Nevertheless, the elimination of unnecessary indentations or protrusions along the perimeter of a building is recommended, and, in most cases the author believes that the overall design need not be compromised.

The juxtaposition of flat roofs with upper floor windows or rooflights is also best avoided. Any ground floor feature which acts as a platform for entering the building at a higher level is a potential weakness.

The position of windows on each elevation should, where possible, be organised so as to give a clear view of the building surroundings, approach roads and footpaths, car parks and loading areas.

#### 7.4.8 Construction of the Building Envelope (Fig.5)

The factors which determine the choice of constructional technique are varied, and in some cases, contradictory. Retail outlets, for example, require their main facade to be a showcase for their products. Banks and office buildings do not. The need for maximum security often conflicts with quick escape in the event of fire (19). The use of external grilles over display windows, or roller shutters over shop fronts is often not permitted by the planning authority on aesthetic grounds. The architect must attempt to reconcile these conflicts in a building which satisfies the functional requirements, is, aesthetically pleasing, has structural integrity and is built within imposed limits of time and cost.

It is inevitable that compromises must be made, but the architect must be able to include, within the construction, counter measures against crime which are appropriate to the perceived risk. These will include an outer defensive system, such as heavy bollards, against ram-raiding, i.e. the use of a vehicle to smash the wall of the building to gain rapid entry. It is important that doors and frames are equally strong. There is no point in fitting a sophisticated lock to a cheap and flimsy door.

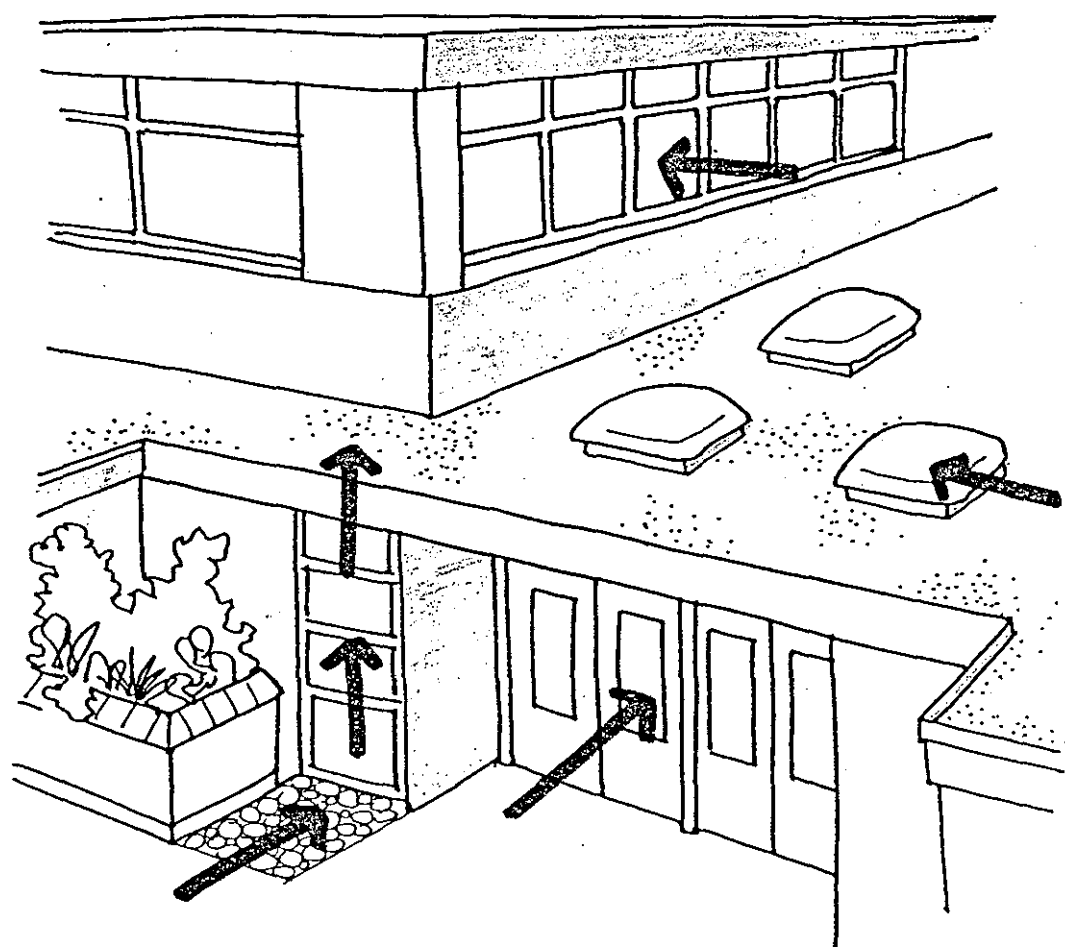


Fig.5 - Potential entry points

Glazing is vitally important and the selection of glass types needs great care (32). What is effective for security may not be acceptable for fire resistance.

Roof coverings are one of the first lines of defence against unlawful entry and need careful consideration. Pitched roofs with tiles or slates are particularly vulnerable as are flat roofs consisting of lightweight deck and covering. Concrete deck flat roofs are much more secure.

Services, e.g. electricity, telephones should be concealed, particularly where entering the building to avoid being disabled by potential intruders.

#### 7.4.9 Ironmongery and Door and Window Fastenings

This subject is covered comprehensively in handbooks on security, manufacturer's catalogues, design guides, B.S.I. Guides (17), Home Office publications (28). As part of the basic design process it can be classed as an "add-on" means of protection in the same way as intruder alarms. That is to say that whilst security hardware is vitally necessary it will not be accorded much space in a study concerned with more fundamental concepts. The important thing is that doors, windows and security hardware are considered as one element and interact accordingly in the finished building.

#### 7.4.10 Security Alarm Systems

A properly designed intruder detection system is one component of a fully considered design for a secure building. To the extent that such a system can be "applied" to a building at any stage, up to and after completion, it does not materially affect the design process. Such measures, therefore, have not been included in this research project.

#### 7.4.11 Lighting

Lighting can be used in two main ways. During the hours of darkness, permanent or automatically activated lighting can extend the period of natural surveillance of the property to

cover the full 24 hours. In addition, selected internal lights can be activated by photo-electric cell or timeswitch to give the impression that the premises are occupied.

On residential estates, shopping areas, car parks and other areas used by pedestrians, a high level of illumination is vital. Light sources should be placed so as to avoid casting dark shadows over areas frequented by pedestrians.

All lighting needs frequent and correct maintenance, and should, where possible be vandal proof, and fixed at a height at which it cannot be easily damaged or interfered with. Vandal proof light fittings are essential in residential areas.

## 7.5 CONCLUSIONS

While acknowledging the importance of aesthetic qualities of a building, it must be pointed out that a design which takes account of the security implications can be attractive. The two factors are compatible - a vandalised building loses out on both counts.

Once a building has been constructed, the best chance to "design out" crime will have gone. Implementation of police/architect liaison, will prove to be an achievement for all concerned, a positive benefit to the community and a major contribution to the prevention of crime.

Nevertheless it cannot be stressed too emphatically that this study has led the author to conclude that recommendations alone are insufficient. Harrington-Lynn (12) recommends that consideration should be given to the inclusion in the Building Regulations of requirements for security measures in dwellings.

His study concluded that direct and indirect health risks to the population resulting from exposure to arson, burglary and criminal damage are of comparable magnitude to the risks to health and safety arising from items currently falling within the remit of the Building Regulations and the Fitness Standard.

Until crime prevention is supported by the power of the law which requires the checking of all proposed building developments by a competent authority at design stage, progress towards the prevention of crime by design will be unacceptably slow.

## CHAPTER 8

### CONCLUSIONS

## Chapter 8

### CONCLUSIONS

#### 8.1 The Beginnings of Designing Out Crime

Crime prevention through building design, as a concept, is not new. Throughout the ages mankind has sought to protect himself, his family and his property from criminal attack, which, in many cases, accompanied the occupation of territory by a victorious opponent. Burning, raping, pillaging were not part of the conflict but a direct result of it, and man soon learned to erect protective structures, form ramparts and excavate trenches or moats to deter or delay potential opponents and give the occupants more time to prepare more active methods of defence.

There are, of course, differences between organised war for political reasons and burglary by individuals, but the principles of defending ones property are the same.

#### 8.2 The Influence of the Designed Environment

Crowe (27) is a strong advocate of the ability of architects to manipulate space to influence human behavior. His views are supported by Newman (2) and Poyner (1) who refers to mediaeval castles and Baron Haussman's design for Paris in the mid nineteenth century. It is known that personal feelings can be affected by the immediate environment and mood changed by the scale of the building. Spiritual awareness can be generated by the lofty proportions of a mediaeval cathedral and scale, texture, colour, light and noise are all known by psychologists profoundly to influence human behavior. Such influences are often sub-conscious but also can be obvious and will produce an immediate response from the observer. A well protected building will send visual messages to a would be burglar to re-consider his original intention to target such a building. Similarly an open ground floor window in a secluded, apparently unoccupied house is an invitation. Crime prevention through environmental design, in its current state, is simply part of a gradual,



evolutionary process towards more sophisticated and effective method of making burglary so unattractive that it will not be attempted. If this seems to represent a Utopian view, the increase in armed robbery at post offices, banks and building societies results., in the author's opinion, partly from the futility of 'out of hours' attempts to break into the buildings. Ram raiding, or the use of a four-wheel-drive vehicle to smash its way through a Shop front is a reaction to the use of measures which make "normal" methods of entry more time-consuming and difficult.

### 8.3 Can Crime be "Designed Out"?

The results of this study indicate that there is no doubt that buildings can be made inherently more secure at the design stage. The whole strategy of official crime prevention initiatives is based upon such a premise, and all crime prevention specialists interviewed were wholeheartedly in favour of it.

That the level of enthusiasm among the ordinary members of the public interviewed was considerably lower is to be expected, although one would have expected those who had been burgled to take a more positive view. In the event, they appeared to be resigned to the inevitable further attack on their property. (V3).

Reaction from the corporate sector was predictable. The scale of losses from burglary paled into insignificance compared with losses from shoplifting, pilfering by staff, fraud and other ingenious methods used by employees to transfer the ownership of items from their employers to themselves. Whilst aware of the need to take what they perceived to be "normal precautions" against unauthorised entry, they felt that further measures would not be cost-effective.

Amongst the architects there was little doubt that crime could be "designed out" to a greater or lesser degree, and that such a concept was desirable in practice. There was much debate on the effectiveness of the principles related to building type and magnitude of risk. For example, it was considered absurd to attempt to design buildings generally to resist terrorist attack or effects

of explosions at close quarters. Arson was also felt to be difficult to counter since, whilst buildings themselves are required to be fire resistant, there is no control over flammability of many of the contents. The important objective is to ensure adequate means of escape for the occupants.

Some potential difficulty occurs when the external appearance of buildings is altered by security grilles and shutters, especially in conservation areas of towns or where planning controls are more stringent. In Nottingham recently the planning authority have issued a notice to a store to remove an external shutter because it is aesthetically unacceptable. This in spite of the store having had its shop front smashed seven times in the preceding twelve months. Grilles and shutters are in common use on the continent where the quality of the architecture is often better, although shop fronts there are often smaller and the shutters less intrusive.

#### 8.3.1 Scope of designing out crime by building function

- a) Housing - Much can be done at initial planning stage in terms of layout, defensible space, passive surveillance and target hardening.
- b) Schools - Poyner (1) identifies research which clearly shows that post-war schools on large open campus sites are particularly vulnerable. Their light and relatively "flimsy" construction and articulated perimeter shape increase their vulnerability and make applied protection more difficult and expensive. Pre-war buildings usually on enclosed urban sites, with traditional construction and smaller windows have been found to be less prone to attack. The idealism of the 1950's and 1960's which encouraged architects to provide large expanses of glazing, informal shapes, easy integration of interior and exterior spaces has become the curse of the 1990's. Educational ideologies will need to be re-considered to enable new school buildings to be more secure.
- c) Retail, Commercial and Leisure - These building types are especially difficult to design with crime prevention in mind since their very purpose involves their being open to the general public. In the case of retail premises, goods are often displayed outside the shop entrance to encourage people to go in. Protection through building design must be secondary in these cases and technology takes over in the form of electronic

surveillance, tagging of goods, security staff, warning notices and chaining of display goods to secure points attached to the building fabric.

Measures which can be incorporated at planning stage are limited to protecting the building from external attack when the premises are closed, and attempting to achieve the following:-

- 1) Improving lines of sight to making display cabinets and supermarket gondolas partly "see through".
- 2) Removing poorly-supervised corners and recesses.
- 3) Attempting to reduce crowding, particularly in queues and round the computer display area by increasing spacing between displays and installing queue barriers.
- 4) Concentrating key target areas into one higher security zone.

#### 8.4 The Future

##### 8.4.1 Further Research

The fight against crime must keep pace with the increasingly sophisticated activities of criminals and much needs to be done to co-ordinate and direct the fragmented efforts being made by a large number of agencies. Much work is being done, but a structured framework of research studies, evaluation and guidance to designers is vitally necessary.

##### 8.4.2 Education and Training

The author can identify only one school of architecture, out of a total of twenty four, which attempts to instruct its undergraduate architects in the subject of crime prevention by design.

Training of crime prevention officers appears to be well organised but does not lead to a degree or similar qualification which would accord professional status to its graduates.

Much needs to be done in the field of educating those whose efforts can make a big contribution towards increasing building security.

Only an architect's training gives him the skill to design a secure building without making it look like a fortress.

#### 8.4.4

##### Legislation

Gatepain (35) argues that the current system of architectural liaison between police crime prevention and architects is a waste of police resources. The time of properly qualified officers is better employed at the cutting edge of crime investigations and prevention. Attempting, by persuasion alone, to educate design professionals in security when invited to do so is unlikely to achieve the desired aim.

Throughout California, USA, all building designs and development plans must be inspected with a view to checking on security measures in relation to the crime patterns in the location where the building is to be constructed. This inspection is carried out by suitably qualified officials within the local authority on the basis of codes of practice setting out mandatory security measures.

The author is convinced that the introduction of such a system in the U.K. would be simple and effective. The vehicle already exists in the form of the Building Regulations, and the inspectors in the form of Building Control Officers. The system appears to work well in fire prevention, why not with crime prevention too? Moves are being made in this direction by the P.S.A. and Building Research Establishment but no conclusions appear to have been reached.

Nevertheless it must be conceded that there are aspects of crime prevention at design stage that would be difficult to bring within the legislative process. To impose strict control over building shape form and configuration would inhibit designers to an unacceptable degree and prevent their skills being exercised for the benefit of their client.

Some building types, notably primary schools, residential care

homes, nurseries, homes for the mentally and physically handicapped and community hospitals should not be planned within a geometric straitjacket. Such buildings are usually single storey, and need to be arranged in an articulated manner to achieve domestic scale and a close relationship with sheltered external spaces.

The configuration of these functional types will inevitably be loose, possibly with units of accommodation linked by glazed corridors in an informal manner, thereby creating indentations and projections which could provide concealment for the burglar.

Similarly in multi-unit residential development a balance must be struck between the individual's natural desire for privacy, and the mutual protection afforded, by being overlooked by neighbouring dwellings. The feeling of living in a "goldfish bowl" is not acceptable to many people who may prefer to accept the greater risk of being burgled rather than live in public view.

Principles of designing out crime which could be brought under statutory control fall within the general headings of:-

- a) Residential estate layout
- b) Target hardening

In spite of these difficulties, the author is convinced that the perceived fear of crime among the more vulnerable sections of the community is a threat to health in much the same way as that generated by inadequate ventilation or poor sanitation, and should therefore be taken seriously.

The procedure for codifying crime prevention measures into statutory legislation could be as follows:-

1. The Building Research Establishment (BRE) produces draft proposals for discussion.
2. Proposals discussed by representatives of building professionals, crime prevention specialists the construction industry, the National House Building Council and the Department of the Environment.

3. BRE considers outcome of discussions and prepares a document setting out conclusions and recommendations, for inclusion in Fitness Standard and Building Regulations.
4. Regulations ratified and given statutory authority by Her Majesty's Government.

Initially, the author would expect the new regulations to cover residential buildings only, since further research is necessary to ascertain the extent to which non-residential buildings could be similarly regulated.

- 8.4.5 To enshrine crime prevention measures within the law is an emotive subject and could not succeed without the full co-operation of the design professions. The official view of the Royal Institute of British Architects is that the fear of crime is greater than statistics can justify and that protective devices such as security grilles increase the ambience of fear and promote sterile design (39). Design rules can only be effective if designers have been involved in their formulation and that security techniques must be sympathetic to the quality of the environment in which they are installed.

- 8.5 The author concludes from this study that an individual building can be made more secure if, at design stage, the architect is aware of, and incorporates into his design measures appropriate to the function of the building and the perceived risk of attack.

Nevertheless, this research identifies much that needs to be done if crime prevention at design stage is to be an automatic process equivalent to thermal efficiency or good drainage.

Chapter 3 has identified a wide range of knowledge but relatively little information set out in a form useful to designers.

The discussions described in Chapter 4 reveal much interest in the subject of crime prevention by design, but relatively little enthusiasm, even among architects, for what they perceive as further erosion of "aesthetic freedom". Building owners require to be convinced of the cost benefit of incorporating crime prevention measures in their buildings.

The author is encouraged by the variety of initiatives referred to in Chapter 5, but remains convinced of the need for this disparate efforts to be brought under a single co-ordinating agency such as the Home Office.

The results of the Case Study (Chapter 6) have persuaded the author that the objectives of this study have been met and that much can be done at design stage to reduce crime, and the fear of crime on housing estates. The rising incidence of crime is a problem for politicians, psychologists, sociologists and others, but we all must play our own part in fighting it.

## CHAPTER 9

### LIST OF REFERENCES



## Chapter 9

### LIST OF REFERENCES

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Appendix 1

West Sussex Police Authority

Crime Statistics

## Appendix 1

### Statistics produced by permission of the West Sussex Police Authority

#### INCREASE IN BURGLARIES

% growth in the number of offences  
between 1981 and 1991

Leicestershire	252
Lincolnshire	197
Devon and Cornwall	182
Staffordshire	176
Gloucestershire	174
Norfolk	169
Kent	163
Avon and Somerset	157
Cumbria	148
Dyfed-Powys	145
Thames Valley	144
Bedfordshire	140
City of London	135
South Yorkshire	130
Northamptonshire	124
Sussex	120
Essex	118
West Yorkshire	116
Suffolk	115
Wiltshire	115
Cambridgeshire	106
Durham	106
Cleveland	104
Dorset	99
Hertfordshire	99
Surrey	94
Humberside	92
Lancashire	91
Gwent	90
Northumbria	89
Warwickshire	87
Greater Manchester	85
West Mercia	81
Cheshire	79
Hampshire	77
Derbyshire	64
Nottinghamshire	62
North Yorkshire	59
West Midlands	50
Metropolitan Police District	47
South Wales	41
North Wales	27
Merseyside	-8
Total (England and Wales)	79

TABLE 1

Appendix 1 (Cont'd)

BURGLARY CLEAR-UP RATE

% of burglaries cleared up by Police

	1991 (81)
Cleveland	43 (36)
Merseyside	42 (34)
Lancashire	39 (36)
Dorset	36 (24)
Lincolnshire	36 (43)
Greater Manchester	35 (26)
Staffordshire	35 (38)
Dyfed-Powys	35 (49)
Norfolk	34 (31)
Gwent	34 (31)
Northamptonshire	33 (30)
Northumbria	33 (42)
North Wales	33 (45)
West Midlands	31 (27)
Cheshire	30 (39)
Humberside	30 (29)
South Yorkshire	30 (46)
Cumbria	29 (34)
Cambridgeshire	28 (40)
Essex	28 (32)
West Mercia	27 (36)
Durham	23 (36)
Warwickshire	23 (36)
Derbyshire	22 (36)
Gloucestershire	22 (32)
Leicestershire	22 (44)
South Wales	22 (50)
Hampshire	21 (23)
West Yorkshire	21 (41)
Wiltshire	21 (27)
Hertfordshire	20 (30)
Nottinghamshire	20 (58)
Suffolk	20 (35)
Devon and Cornwall	17 (27)
North Yorkshire	17 (31)
Bedfordshire	14 (38)
City of London	14 (19)
Surrey	14 (18)
Thames Valley	14 (29)
Kent	13 (27)
Avon and Somerset	12 (32)
Sussex	11 (32)
Metropolitan Police District	10 ( 7)
Total (England and Wales)	24 (28)

TABLE 2



Appendix 1 (Cont'd)

BURGLARY OFFENCES

DIVISION	SUB-DIVISION		OFFENCES	% DETECTED	
				DETECTED	DETECTED
WEST	CHICHESTER	W1	828	207	25.0
	ARUN	W2	1176	154	13.1
	WORTHING	W3	985	86	8.7
	SHOREHAM	W4	540	61	11.3
	TOTAL		3529	508	14.4
NORTH	CRAWLEY	N1	779	60	7.7
	HORSHAM	N2	659	58	8.8
	MID-SUSSEX	N3	570	52	9.1
	EAST GRINSTEAD	N4	700	51	7.3
	TOTAL		2708	221	8.1
GATWICK	GATWICK	G1	16		
	TOTAL		16		
CENTRAL	BRIGHTON	C1	2647	357	13.5
	HOVE	C2	1174	62	5.3
	TOTAL		3821	419	11.0
EAST	HASTINGS	E1	938	194	20.7
	ROTHER	E2	649	60	9.2
	LEWES	E3	674	79	11.7
	EASTBOURNE	E4	1485	167	11.2
	TOTAL		3746	500	13.3
COUNTY TOTALS TO DATE, THIS YEAR			13820	1648	11.9
COUNTY TOTALS TO DATE, LAST YEAR			12915	1706	13.2
INCREASE/DECREASE			+906	-58	
% INCREASE/DECREASE			+7.0	-3.4	1.3

TABLE 3

Appendix 2

Design Recommendations

## APPENDIX 2

### RECOMMENDATIONS AT DESIGN STAGE

(Adapted from Home Office guidance to architectural liaison officers)

#### 2. Generally

2.1.1 Precise problem identification is the best antidote to unnecessary protection.

2.1.2 Whilst the physical structure of any building may have certain similarities and require basic specifications to familiar risks, before considering security design measures there is a need to analyse the particular individual premises, taking into account the type of business, its location, the type of crime likely to be committed against it, the likely perpetrators and the circumstances under which the crimes are likely to occur, including the manner and time span of commission.

2.1.3 In order to provide an appropriate security design there is a need to answer the following questions:-

- i) What crimes are likely to impact the building?  
e.g. burglary, arson, damage or theft.
- ii) Who is likely to commit them?  
e.g. professional criminals, opportunists, juveniles or employees
- iii) How are they likely to occur?  
e.g. breaking into premises, causing damage to building fabric, stealing from storerooms or warehouses during duty time, creating disorder in public areas
- iv) When are they likely to occur?  
e.g. time of the day, day of the week, season of the year.
- v) What is the crime risk rate of the target premises?  
e.g. tobacco warehouse 1 in 5, supermarket 1 in 20.

- vi) What is the possible maximum loss in the event of an attack?  
i.e. the maximum loss that would be sustained if the target were completely destroyed or stolen, e.g. arson in a paper warehouse.
- vii) What is the probable maximum loss in the event of an attack?  
i.e. the amount of loss a target would be more likely to sustain, e.g. a warehouse might contain a stock of electrical goods and office equipment. Whilst it is possible that the whole stock could be stolen, it is more likely that a thief would concentrate on the small, valuable, easily sold electrical items such as video recorders, calculators and televisions. Furthermore, it might be assumed that the loss would be restricted to what could be carried on one large truck. In practice the probable maximum loss would be the stock of electrical goods of an amount equivalent to one truck load.

#### 2.1.4 Risks Identification

Identifying the crime risk of target premises is vital because it enables the specifier to gauge the likelihood of attack for particular types of premises. Similarly the identification of a probable maximum loss is important because it allows the designer to assign priorities to the target risks. It also enables him to establish realistic limits on the cost of the system he designs. Rarely is it acceptable to design a preventive system to match more than the probable maximum loss. The overall objective is to achieve a balanced preventive design which is not excessively costly, which reduces the risk of crime and consequent loss and which will not interfere unduly with the legitimate function, comfort, convenience and profitability of the client organisation.

#### 2.1.5 Risk Analysis

There is a need on each occasion to analyse the problem carefully, identifying the potentially serious risks which might result in serious losses; measure the degree of those potential losses and determine those that are unacceptable, then match solutions to the problems in order that the potential for crime and loss can be kept within acceptable parameters.

## 2.2 RECOMMENDATIONS

### The External Environment

This is the external area surrounding the building to which recommendations or comments could have some effect. The following are some of the points the architect should look for:-

#### Natural Surveillance

BS 8220 Pt.1 Sec.1

BS 8220 Pt.2 Secs.

1;2;8

BS 8220 Pt.3 Secs.

2.3;2.7;3;4;5

NHBC Guidelines

Secs. 1;2;3 & 5

- The building should be sited in such a way that it receives the maximum amount of natural surveillance by persons in adjacent buildings and possibly from passing pedestrians and motorists. Consider formal surveillance i.e. CCTV in high risk situation.

### Boundary delineation

BS 8220 Pt. " Dec 2.7

BS 8220 Pt. 3

Sec's 2.3;3.3;12;15

Appendix G

- A fence or similar barrier may be necessary to keep out trespassers. It should be noted, however, that conventional fencing should never be regarded as a means of keeping out potential intruders, it creates territoriality.

### Landscaping

BS 8220 Pt.1 Sec.1

BS 8220 Pt.3

Sec's 3 & 4

NHBC Guidelines

Sec's 2 & 3

- Landscaping should be kept at a low level particularly near doors and windows. Shrubs and bushes should be of the hardy self protecting variety, e.g. roses etc. The necessity for ongoing maintenance of public landscaped areas should be considered. Young trees should not be planted too near the building, where in maturity they would provide a climbing frame to the roof or upper floors.

### Lighting

BS 8220 Pt.1

Sec's 1;3 &

Appendix A

BS 8220 Pt.2 Sec.10

& Appendix L

BS 8220 Pt.3

Sec's 2.8;13

& Appendix E

Essentials of Security

Lighting - Electricity

Council

NHBC Guidelines

Sec's 3;4

- Security Lighting can be a deterrent and should be installed where appropriate. All units should be vandal resistant.

#### Access

BS 8220 Pt.1 Sec.1

& Appendix A

BS 8220 Pt.2 Sec.7

& Appendix D

BS 8220 Pt.3 Sec's

2.14;2.19;6 &

Appendix B

Fire Prevention

Note 1/1970

- Vehicular and pedestrian access to the building should be sited so that supervision can be given from the building. Consideration should be given to access for emergency vehicles which may be a statutory requirement

#### Car Parks

BS 8220 Pt.1 Sec.1

BS 8220 Pt.2 Sec.3;5

& Appendix F

BS 8220 Pt.3

Sec's 3.3;16.4;17

& Appendix J & K

NHBC Guidelines

Sec's 1-5

Petroleum

(Consolidation) Act

1928

- Sited where they can be supervised from the building and illuminated.

Multi-storey and underground car parks may be subject to conditions under Petroleum Spirit Licence in respect of fire fighting equipment, means of escape and lighting.

#### Outbuildings

BS 8220 Pt.1. Sec.1

BS 8220 Pt.2 Sec's 1;

2; 3 & Appendix A8

NHBC Guidelines

Petroleum

(Consolidation)

Act 1928

- Outbuildings such as plant rooms, bin shelters etc., to be sited in such a position that they do not obscure vulnerable parts of the building, and do not provide easy access to the roof or upper floors. The security of the outbuildings should be considered.

The ideal situation would be to have the functions of the outbuildings within the structure of the building.

#### Alarm Box Covers

BS 8220 Pt.2 Sec.3-4;

5.7;8.2;10.3

BS 8220 Pt.3 Sec.3.3;

14 & 21

BS 4737 Intruder

Alarm System in

Buildings

NHBC Guidelines

Sec.4

- The existence of an intruder alarm system should be advertised.

Alarm box covers, including dummy ones, should be placed in prominent positions.

#### The Physical Barrier

The physical barrier is the shell of the building itself, i.e. walls, roof, doors and windows, etc. Many of the recommendations in this section would be similar to crime prevention advice given for existing buildings. Examples of this area are:-

#### Building Lines

BS 8220 Pt.1 Sec.1

BS 8220 Pt.2 Sec's 1;

2; 3.3.11

NHBC Guidelines

Sec's 2 & 3

- To be kept as clear as possible to assist supervision and prevent climbing to the roof or upper floors

#### Recesses

BS 8220 Pt.1 Sec.1

BS 8220 Pt.2 Sec's 1;

2;3.3.11

NHBC Guidelines

Sec's 2 & 3

- Recessed areas that receive no supervision should be avoided wherever possible.



## External Doors

BS 8220 Pt.1 Sec.3  
& Appendix A 1.2.3

BS 8220 Pt.2 Sec.5

BS 8220 Pt.3 Sec's  
2.9;3.3;6;7 & 8

BS 5588 Fire  
Precautions in the  
design and  
construction of  
buildings Pts.1;2;3

BS 1186 Pts.1 & 2  
Timber for and  
workmanship in  
Joinery

BS 1245 Metal door  
frames

BS 3621 Specification  
for thief resistant  
locks

BS 4878 Internal and  
external doorsteps,  
leaves and frames

NHBC Guidelines Sec.3

- Consider their intended use  
position, type, style, material  
composition etc.

Recommendations will vary  
accordingly but in the broadest  
terms the designer should look  
for maximum strength in and  
unrestricted view of, all  
external doors

Fire exit doors require  
special consideration because  
of the balance between safety  
and security.

## Windows

BS 8220 Pt.1 Sec.2

& Appendix A3

BS 8220 Pt.2

Sec's 4 & 6

BS 8220 Pt.3

Sec's 2.11;3.3;5

BS 4873 Aluminium

Alloy windows

NHBC Guidelines

- Windows are probably the weakest point in any building.

Consider quantity of ventilation and position as well as type and size of frame, method of opening, fixed panes of glass, window locks, limited opening etc. Avoid external glazing beads to fix glass. It is at this point that the architect has the opportunity to alter the design of the window to maximise security.

Louvre windows should be avoided.

NB Reduced glazed areas can save money and energy.

## Iron Bars & Grilles

BS 8220 Pt.1 Sec.2

& Appendix A3

BS 8220 Pt.2

Sec's 4 & 6

BS 8220 Pt.3

Sec's 2.11;3.3;5

BS 4873 Aluminium

Alloy windows

NHBC Guidelines

Sec.3

- The use of such hard measures of security may be resisted by the architect or planning officer as being visually intrusive.

They should only be recommended in high risk areas where all alternatives have been exhausted

## Glass

BS 8220 Pt.1 Sec.4

BS 8220 Pt.2 Sec.6

BS 8220 Pt.3 Sec's

2.12 & 12

BS 952 Pt.1 Glass

for Glazing

BS 5051 Security

Glazing Pt.1 Bullet

Resistant Interior

Pt.2 Bullet Resis-

tant Exterior

BS 5357 Code of

Practice for instal-

lation of security

glazing

BS 5544 Specification

for anti-bandit

glazing

BS 6202 Specification

for impact

performance for

safety glass and

plastic

NHBC Guidelines Sec.3

## Roof

BS 8220 Pt.1 Sec.2

BS 8220 Pt.2 Sec's

3;7 & Appendix A8

BS 8220 Pt.3 Sec's

2.14 & 11

NHBC Guidelines Sec.3

- Glass needs special consideration.

There is a distinct difference in the risk from the housebreaker to the vandal. Once the major risk has been determined, security recommendations should be commensurate with that risk.

In a well supervised area of the building normal glass could suffice.

In an unsupervised area consideration could be given to the glass alternatives such as laminated glass or polycarbonates. Security glazing must be considered for risk areas.

- Consideration to be given to the pitch, the overhang, fabric, accessibility, roof lights, etc.

#### External Pipes

BS 8220 Pt.1

Sec.1.6.

BS 8220 Pt.2 Sec.7.6

BS 8220 Pt.3 Sec.11.7

NHBC Guidelines Sec.3

- To be flush or concealed to prevent climbing to the roof or upper floors.

#### Walls

BS 8220 Pt.2 Sec.3.3

BS 8220 Pt.3

Sec's 2.13;11

- Consider the finishes available, with particular emphasis on anti-graffiti material on the ground floor

#### Public Utilities

- Consideration should be given to protection of gas, electricity, water, oil supplies and telephone connections.

### 7.4 Interior Areas

This section deals with all the security implications of the interior of the building. The following are examples of some of the areas of concern.

#### Target Areas

BS 8220 Pt.2 Sec's

3.4;9 Appendix H

BS 8220 Pt.3 Sec's

2.17;3.4;4;9;18;19

Appendices L;M;N

- Specific areas that will be a target for the criminal element. These must be identified and their vulnerability considered. It would be advantageous from a security point of view, if 'target areas' were concentrated in one part of the building which would allow for maximum security measures being implemented at minimum cost.

#### Secure Stores

BS 8220 Pt.2 Sec's  
3.4;9 & Appendix H  
BS 8220 Pt.3 Sec's  
2.17;2.4;9;18;19  
Appendices L;M;N

- Consideration to be given to their overall strength and positioning within the building to ensure proper usage. Secure stores at first floor level of physical protection required for windows.

#### Vulnerable Offices

BS 8220 Pt.2 Sec's  
3.4;9 & Appendix H  
BS 8220 Pt.3 Sec's  
2.17;2.4;9;18;19  
Appendices L;M;N

- Certain offices in some buildings are, from experience more vulnerable than others, e.g. in schools greater security should be given to the Headmaster's and Secretary's office.

#### Stock Rooms

BS 8220 Pt.2 Sec's  
3.4;9 & Appendix H  
BS 8220 Pt.3 Sec's  
2.17;3.4;9;18;19 &  
Appendices L;M;N  
BS 8220 Pt.2  
Appendix E  
BS 8220 Pt.3  
Appendices L;M;N;Q

- Obvious targets which must be properly protected.

#### Cash Handling

BS 8220 Pt.2 Sec's  
3.4;9 & Appendix K  
BS 8220 Pt.3  
Appendix R

- Offices in which cash is dealt must be positioned in the building for maximum protection. Consideration should be given to provide secure areas for delivery and collection of cash.

#### Access Control

BS 8220 Pt.2 Sec.5  
Appendix D  
BS 8220 Pt.3 Sec's  
3.4;16 & Appendix P

- The control and supervision of persons entering a building must be considered.

Staff Rooms

BS 8220 Pt.2 Sec.3.4

Appendix H 1.7

BS 8220 Pt.3 Sec.16.6

- Staff Rooms in public buildings and offices to be protected against sneak in thefts etc. Entrances/Exits to staff rooms in factories and shops should be sited where they can be supervised to prevent thefts of stock, etc., by members of staff.

Intruder Alarms

BS 8220 Pt.2 Sec's

3.4;5.7;8.2;10.3

& Appendices A & G

BS 8220 Pt.3 Sec's

2.6;2.18;3.3;14;21

& Appendix F

BS 4737 Intruder

Alarm System in

Buildings

NHBC Guidelines

Sec.4.

ACPO and Force

Policy

- Despite the high percentage of false alarm calls, intruder alarm systems do provide an effective back up to good physical security. Their presence has a deterrent effect and in many instances their installation is included in the architect's brief from his client.

Recommendations should be made so that optimum coverage is achieved.

APPENDIX 2 (Cont'd)

CHECKLISTS FOR ARCHITECTS RELATED TO BUILDING FUNCTION

CAR PARKS

1. CRIME RISKS

- 1.1 Thefts of and from vehicles
- 1.2 Thefts from the person
- 1.3 Assault/Robbery/Rape

2. POINTS TO CONSIDER

- 2.1 Layout
- 2.2 Entrances and Exits
- 2.3 Open area parking:
  - Hard Surfaces
  - Landscaping
  - Surveillance of area
- 2.4 Enclosed parking:
  - Stairways/lifts
  - Circulation of traffic
  - Wall colour finish
  - CCTV
- 2.5 Cash collection:
  - Manuals - Kiosks
  - Automatic systems
- 2.6 Lighting
- 2.7 Pedestrian access
- 2.8 Graffiti Management
- 2.9 Additional uses i.e. taxi rank, shop  
kiosk, and car valeting
- 2.10 Vandal resistant materials
- 2.11 Maintenance

Consider:- BS 8220 Parts 1, 2 & 4 Security of Buildings  
Against Crime

## HOSPITALS

1. CRIME RISKS - i.e. theft, vandalism, personal attack,  
drug offences
2. CONSIDER LOCATION - i.e. urban, rural, neighbouring sites
3. THE GROUNDS
  - 3.1 Assess the layout
  - 3.2 Are there any through routes?
  - 3.3 Visible entrances
  - 3.4 Lockable outbuildings
  - 3.5 Are the buildings clear of the boundary?
  - 3.6 Control of external storage facilities
  - 3.7 Restriction of vehicle access
  - 3.8 Separate car parking facilities for residents,  
staff and visitors
  - 3.9 Natural surveillance of car parking areas
4. POINTS OF ACCESS
  - 4.1 Can numbers be reduced, consider vehicles and  
pedestrians separately
  - 4.2 Select appropriate gates and barriers
5. PERIMETER BARRIER
  - 5.1 Consider type and size of perimeter fencing or  
walls
  - 5.2 Visibility and surveillance
  - 5.3 Planting - type and size
6. EXTERNAL LIGHTING AND SURVEILLANCE
  - 6.1 Is there a need for security patrol?
  - 6.2 Illumination levels
  - 6.3 Perimeter lighting



7. OTHER FACTORS

- 7.1 External storage protection
- 7.2 Notices - adequate directional signs
- 7.3 Police liaison
- 7.4 Fuel storage
- 7.5 Site storekeeping and management
- 7.6 Delivery control
- 7.7 Private parking

8. THE BUILDING

8.1 Entrances and Exits

- 8.1.1 Keep number to a minimum
- 8.1.2 Locate for security
- 8.1.3 Establish locking route
- 8.1.4 Designated means of escape should be monitored for misuse
- 8.1.5 Security doors should open outwards
- 8.1.6 Avoid panelled or hollow cored doors
- 8.1.7 Avoid low level glazing
- 8.1.8 Care with ironmongery specification
- 8.1.9 Avoid rim locks
- 8.1.10 Provide deadlocks where possible
- 8.1.11 Master suiting of keys

8.2 Windows

- 8.2.1 Check location (ground floor easy access)
- 8.2.2 Number of opening lights. Any dimensions over 125 mm. Operating mechanism
- 8.2.3 Consider bars or grilles
- 8.2.4 Glass type

8.3 Roof

- 8.3.1 Examine access, i.e. easily climbed
- 8.3.2 Examine openings and rooflights

9. INSIDE THE BUILDING

9.1 Risks Areas

- 9.1.1 Locate cash offices, pharmacy, drugs store, etc. within protective surroundings
- 9.1.2 Avoid recessed areas, especially on cash routes
- 9.1.3 Separate despatch and delivery

- 9.1.4 Provide checking area
- 9.1.5 Provide staff changing rooms and secure personal storage
- 9.1.6 Secure machines/photocopiers etc.
- 9.2 Property
  - 9.2.1 Establish observation
  - 9.2.2 Protect goods, i.e. linen etc.
- 9.3 Internal Doors
  - 9.3.1 Decide locking policy
  - 9.3.2 Control key issue
  - 9.3.3 Avoid sliding doors
  - 9.3.4 Avoid panelled/glazed doors in secure areas
  - 9.3.5 Fit spyholes in risk areas
  - 9.3.6 Access control for secure areas
- 9.4 Internal Lighting
  - 9.4.1 Leave planned lights on at night
  - 9.4.2 Illuminate secure store areas and safes  
(visible from outside)

## 10. TERRORISM AND PERSONAL SAFETY

- 10.1 Define likelihood
- 10.2 Establish search and evacuation procedures for bomb alerts
- 10.3 Protect cash carrying staff
- 10.4 Duress - brief staff for response
- 10.5 Install alarms in high risk locations

## 11. PERSONAL SAFETY - Nursing Staff

- 11.1 Consider siting of nurses accommodation - access control, lighting, footpaths, surveillance etc.

## 12. ACCESS CONTROL

- 12.1 Is there a need, examine movement/communication patterns
- 12.2 Select appropriate system (key/card/code/personal)
- 12.3 Set out policy
- 12.4 Design master key system

13. VANDALISM

- 13.1 Avoid loose gravel, copings or other potential missiles
- 13.2 Use of vandal resistant materials for lighting
- 13.3 Light entrances
- 13.4 Avoid external rainwater pipes
- 13.5 Avoid low level glazing
- 13.6 Consider glazing materials
- 13.7 Use easily cleaned surface finishes
- 13.8 Protect new planting

Consider:- NHS Security Guidelines

## HOTELS

### 1. CRIME RISK

- 1.1 Theft: Employee  
Resident  
Visitor
- 1.2 Vehicles: Theft of and from

### 2. POINTS TO CONSIDER

- 2.1 Natural Surveillance
- 2.2 Exterior - Boundary  
Roadways  
Car Parks  
Recreation areas (swimming, tennis, etc)  
Landscape  
Lighting
- 2.3 Access Control
- 2.4 Physical Security - exterior entrances
- 2.5 Public Lobby
- 2.6 Reception & Cashier
- 2.7 Public Restaurants
- 2.8 Other public areas e.g. Cinemas  
Theatres  
Banqueting  
Night Clubs
- 2.9 Luggage Rooms
- 2.10 Interior Doors
- 2.11 Room Key Security
- 2.12 Guest Property
- 2.13 Lost and Found Property
- 2.14 Cash Collection and Handling
- 2.15 Bomb Threat - Evacuation etc.
- 2.16 Fire Exit Alarms
- 2.17 CCTV
- 2.18 Security Management

## INDUSTRIAL PREMISES

### 1. CRIME RISKS

- 1.1 Theft - Employee
  - Delivery Area
  - External Storage Areas
- 1.2 Burglary
- 1.3 Cash in transit
- 1.4 Commercial Espionage
- 1.5 Vandalism and Arson

### 2. POINTS TO REMEMBER

- 2.1 Perimeter Security
- 2.2 Security Control Point
- 2.3 CCTV etc
- 2.4 Storage Areas
- 2.5 Car Parks -
- 2.6 Goods Delivery/Loading Area
- 2.7 Access Points
- 2.8 Service Inlets/Outlets (e.g. water, cooling,  
fuel oil etc)
- 2.9 Roof Access
- 2.10 Emergency Fire Exits
- 2.11 Warehouse Layout
- 2.12 Waste Disposal Areas
- 2.13 External Doors, roller shutters
- 2.14 Windows - eliminate unnecessary windows
- 2.15 Reception Areas
- 2.16 Internal Control Zones
- 2.17 Administration area: Computer Department  
Cashiers Office
- 2.18 Research & Development - control of data

Consider: BS 8220 Pt.2 Security of Buildings Against Crime  
- Offices and Shops  
BS 8220 Pt.3 Security of Buildings Against Crime  
- Warehouses and Distribution Units

## OFFICES

1. CRIME RISKS
  - 1.1 Walk-in Theft
  - 1.2 Burglary
  - 1.3 Theft by deception/fraud
  - 1.4 Vandalism
  - 1.5 Loss of information
  - 1.6 Theft by employee
  
2. POINTS TO CONSIDER
  - 2.1 Site location/landscape
  - 2.2 External areas:
    - Car Parks
    - Entrance/Exits
    - Paths/roads
    - Lighting
    - Fences/gates
    - CCTV
    - Delivery area
    - Waste disposal
  - 2.3 Building:
    - Access points
    - Fire Exits
    - Loading Bays
    - Basement areas
    - Plant Rooms
    - External Stairways
    - Roof Access
    - Doors/Windows
  - 2.4 Internal:
    - Entrance
    - Lobby
    - Reception
    - Access Control
    - Cash Office
    - Lifts/Stairs/Corridors
    - Computer area
    - Executive Offices
    - Canteen/Staffrooms
    - Key suiting

Consider:-

BS 8220 Pt.2 Security of Buildings Against Crime  
- Offices and Shops 130.

## PUBLIC BUILDINGS

1. CRIME RISKS
  - 1.1 Theft
  - 1.2 Assault
  - 1.3 Burglary
  - 1.4 Fraud
  - 1.5 Arson
  - 1.6 Vandalism
  - 1.7 Espionage
  - 1.8 Terrorism
  - 1.9 Rioting
  
2. POINTS TO CONSIDER
  - 2.1 Location
  - 2.2 External - Public Areas
    - Secure Areas
    - Boundaries
    - Car Parks
    - Pathways
    - Lighting
    - Public Information Signs
    - Fencing
  - 2.3 Physical Security - Access Control
    - Doors
    - Windows
    - Glazing Material
  - 2.4 Access Control
  - 2.5 Reception Area
  - 2.6 Lobbies
  - 2.7 Lifts
  - 2.8 Internal Corridors/Stairs
  - 2.9 Fire Doors
  - 2.10 Walls
  - 2.11 Computer Areas
  - 2.12 Basement Areas
  - 2.13 CCTV & electronic monitoring

- 2.14 Bomb security & elevation
- 2.15 Switch/plant rooms
- 2.16 Ceiling areas and service ducts
- 2.17 Waste disposal area
- 2.18 Mailroom
- 2.19 Cash security
- 2.20 Antiques/paintings/silverware
- 2.21 Goods delivery

Consider: BS 8220 Part 2 Design of Buildings Against  
Crime - Offices and Shops



## RESIDENTIAL CENTRES FOR THE ELDERLY/MENTALLY HANDICAPPED

1. CRIME RISKS - i.e. theft, vandalism, personal attack
2. CONSIDER LOCATIONS - i.e. urban, rural, neighbouring sites
3. THE GROUNDS
  - 3.1 Assess the layout
  - 3.2 Are there any through routes?
  - 3.3 Private driveways, i.e. symbolic gateways
  - 3.4 Visible entrances
  - 3.5 Lockable outbuildings
  - 3.6 Separate employee parking. Position for surveillance
  - 3.7 Planting size and type
4. POINTS OF ACCESS
  - 4.1 Keep to a minimum
  - 4.2 Consider vehicles and pedestrians separately
  - 4.3 Select appropriate gates/barriers
5. PERIMETER BARRIER
  - 5.1 Type and size of perimeter fencing or walls
  - 5.2 Visibility and surveillance
  - 5.3 Physical strength
6. EXTERNAL LIGHTING AND SURVEILLANCE
  - 6.1 Point or area lighting
  - 6.2 Illumination levels
  - 6.3 Perimeter lighting
7. OTHER FACTORS
  - 7.1 Staff levels
  - 7.2 Residents numbers
  - 7.3 Site storekeeping/management
  - 7.4 Delivery control
  - 7.5 Joint use of facilities
  - 7.8 Notices - adequate directional signs

8. THE BUILDING

8.1 Walls

- 8.1.1 Define likelihood of vandalism

8.2 Entrances and Exits

- 8.2.1 Keep numbers to a minimum  
8.2.2 Locate for security  
8.2.3 Staff audible alarm signal  
8.2.4 Exit only after pre-set time  
8.2.5 Alarm designated means of escape  
8.2.6 Open security doors outwards  
8.2.7 Avoid double leaf doors wherever possible  
8.2.8 Avoid low level glazing  
8.2.9 Care with ironmongery  
8.2.10 Define likelihood of vandalism  
8.2.11 Consider access control

8.3 Windows

- 8.3.1 Check location (ground floor or easy access)  
8.3.2 Simple and easy to operate. Must be restricted internally  
8.3.3 Glass type

9. INSIDE THE BUILDING

9.1 Risk Areas

- 9.1.1 Create secure storerooms  
9.1.2 Drugs to be close to staff accommodation  
9.1.3 Provide staff changing rooms and secure personal storage  
9.1.4 Mark items of valuable equipment  
9.1.5 Reception Facilities with audible alarm

9.2 Internal Doors

- 9.2.1 Avoid panelled/Glazed doors

9.3 Internal Lighting

- 9.3.1 Leave planned lights on at night

10. PERSONAL SAFETY

- 10.1 Install alarms in risk situations
- 10.2 Consider fire risk or life risk
- 10.3 Escape security
- 10.4 Establish search and evacuation procedures

11. VANDALISM

- 11.1 Chain link fencing may be subject to damage
- 11.2 Avoid loose stones or gravel etc.
- 11.3 Keep planting neat and tidy
- 11.4 Use easily cleaned surface material
- 11.5 Consider glazing materials
- 11.6 Use vandal resistant light fittings
- 11.7 Protect new planting

## SCHOOLS

1. CRIME RISKS - i.e. vandalism, burglary, arson, theft
2. CONSIDER LOCATION - i.e. urban, rural, neighbouring sites
3. THE GROUNDS
  - 3.1 Assess the layout
  - 3.2 Are there through routes?
  - 3.3 Visible entrances
  - 3.4 Lockable outbuildings
  - 3.5 Is the building clear of the boundary?
  - 3.6 Control external storage facilities
  - 3.7 Car parking facilities
  - 3.8 Planting - size and type
4. POINTS OF ACCESS
  - 4.1 Keep to the absolute minimum
  - 4.2 Select appropriate gates and barriers
5. PERIMETER BARRIER
  - 5.1 Type and size of perimeter fencing or walls  
Chain link fencing may be subject to damage
  - 5.2 Visibility and surveillance
  - 5.3 Planting - size and type
6. EXTERNAL LIGHTING AND SURVEILLANCE
  - 6.1 Is there a security patrol?
  - 6.2 Points of area lighting
  - 6.3 Illumination levels
  - 6.4 Perimeter lighting
7. OTHER FACTORS
  - 7.1 Alarm System
  - 7.2 External storage protection
  - 7.3 Notices - adequate directional signs
  - 7.4 Police liaison
  - 7.5 Joint use of facilities

8.

THE BUILDING

8.1 Walls

- 8.1.1 Define likelihood of vandalism
- 8.1.2 Consider strength and construction

8.2 Entrances and Exits

- 8.2.1 Keep numbers to a minimum
  - Avoid hidden recesses
- 8.2.2 Designate final exit
- 8.2.3 Locate for security
- 8.2.4 Establish locking routine
- 8.2.5 Designated means of escape should
  - be monitored for misuse
- 8.2.6 Open security doors outwards
- 8.2.7 Avoid double leaf doors
- 8.2.8 Avoid panelled or hollow cored doors
- 8.2.9 Avoid low level glazing
- 8.2.10 Care with ironmongery specification
- 8.2.11 Avoid rim locks. Provide deadlocks
  - wherever possible
- 8.2.12 Consider multiple locking
- 8.2.13 Define likelihood of vandalism

8.3 Windows

- 8.3.1 Check location (ground floor for easy access)
- 8.3.2 Minimise the number of opening lights
- 8.3.3 Restrict openings internally, rather than individual locks
- 8.3.4 Glass type

8.4 Roof

- 8.4.1 Examine access
- 8.4.2 Examine openings and roof lights

9.

INSIDE THE BUILDING

9.1 Risk Areas

- 9.1.1 Design concentric zones. Group targets together
- 9.1.2 Provide staff changing rooms and secure personal storage

- 9.1.3 Is there a reception facility
- 9.1.4 Mark items of valuable/portable equipment
- 9.1.5 Create secure storerooms

9.2 Internal Doors

- 9.2.1 Decide locking policy
- 9.2.2 Control key issue
- 9.2.3 Avoid sliding doors

9.3 Ceilings

- 9.3.1 Check access possibilities area to area
- 9.3.2 Check vulnerability of services
- 9.3.3 Bolt trap doors from below

9.4 Internal Lighting

- 9.4.1 Leave planned lights on at night

10. INTRUDER DETECTION

- 10.1 Define risk level of protection required
- 10.2 Estimate consequences of failures
- 10.3 Comply with BS 4737. Suggest monitored system
- 10.4 Locate control panels discreetly, close to fire exit door

11. VANDALISM

- 11.1 Avoid loose gravel, copings or other potential missiles
- 11.2 Use easily cleaned surface finishes
- 11.3 Use vandal resistant materials for lighting
- 11.4 Avoid through routes
- 11.5 Consider glazing materials
- 11.6 Avoid low level glazing
- 11.7 Light entrances
- 11.8 Protect new planting
- 11.9 Avoid external rainwater pipes

Consider:- Department of Education and Science Guidelines

## SHOPPING PRECINCTS

1. CRIME RISKS
  - 1.1 Theft (Shoplifting/Employee)
  - 1.2 Burglary
  - 1.3 Vandalism
  - 1.4 Public Order
  - 1.5 Robbery
  
2. RISK AREAS
  - 2.1 Off Licences
  - 2.2 Department Stores
  - 2.3 Stationery and Book Shops
  - 2.4 Tobacconists
  - 2.5 Clothiers and Outfitters
  - 2.6 Electrical Goods Stores
  - 2.7 Chemists
  - 2.8 Fast Food Restaurants
  - 2.9 Banks and Building Societies
  
3. POINTS TO CONSIDER
  - 3.1 Access points
  - 3.2 Car Park Location - (also additional list)
  - 3.3 Delivery Areas
  - 3.4 Unsupervised Areas
  - 3.5 Landscaping (External & Internal Planters)
  - 3.6 Cash Collection/Delivery
  - 3.7 CCTV and Monitoring
  - 3.8 Security Management/Staff
  - 3.9 Opening and Closing Times
  - 3.10 Lighting Levels
  - 3.11 Toilets
  - 3.12 Anti vandal surfaces
  - 3.13 Keyholding
  - 3.14 Roof Areas
  - 3.15 Public Place/Highway
  - 3.16 Policing Arrangements

- 3.17 Central Station or Collector Points for Alarms
- 3.18 Public Seating
- 3.19 Fire Exits and Automatic Ventilators
- 3.20 Nuisance caused by youths congregating



## LEISURE AREAS

1. CRIME RISKS
  - 1.1 Theft
  - 1.2 Vehicle Crime
  - 1.3 Assault
  - 1.4 Vandalism
  - 1.5 Public Order
  
2. POINTS TO CONSIDER
  - 2.1 Boundary definition, walls, fences & gates
  - 2.2 Landscape
  - 2.3 Footpaths and roadways
  - 2.4 Car parking
  - 2.5 Lighting
  - 2.6 Natural Surveillance
  - 2.7 Mechanical Surveillance
  - 2.8 Security Patrols
  - 2.9 Storage Areas
  - 2.10 Waste Disposal
  - 2.11 Reception Area and Lobbies
  - 2.12 Lifts and Corridors
  - 2.13 Toilets
  - 2.15 Licenced Areas
  - 2.16 Cash Office
  - 2.17 Cash Collection

## LEISURE CENTRES

1. CRIME RISKS
  - 1.1 Theft (Equipment and Personal effects)
  - 1.2 Burglary
  - 1.3 Vandalism
  - 1.4 Public Order
  
2. POINTS TO CONSIDER
  - 2.1 Suitability of location
  - 2.2 Ease of supervision by staff
  - 2.3 Formalise entrances and exits
  - 2.4 Parking provision (natural supervision)
  - 2.5 Landscaping
  - 2.6 External lighting
  - 2.7 Security of users property (lockers)
  - 2.8 Identify nuisance potential to fellow users  
by others
  - 2.9 Use of CCTV for security and management benefit
  - 2.10 Potential problems for nearby business or  
residential premises by site users
  - 2.11 Vandal resistance of materials used in  
construction of building and amenity items
  - 2.12 Bar facility - security
  - 2.13 Amusement machines
  - 2.14 Cash handling

Consider:- BS 8220 Part 2 Security of Buildings Against  
Crime - Offices and Shops

APPENDIX 3

Questions forming basis of  
interviews with  
Company Directors .

### APPENDIX 3

#### QUESTIONS PUT TO COMPANY DIRECTORS DURING INFORMAL DISCUSSIONS

1. NATURE OF BUSINESS OR OPERATION
2. HOW IS IT AFFECTED BY CRIME
3. DO YOU HAVE PREMISES IN DIFFERENT LOCATIONS YES/NO
4. IF SO, ARE SOME LOCATIONS MORE VULNERABLE THAN OTHERS YES/NO
5. IN WHAT WAY?
6. CAN YOU QUANTIFY THE ANNUAL COST TO YOUR ORGANISATION OF CRIMINAL ACTIVITY?
7. DO YOU HAVE A FORMAL POLICY ON SECURITY YES/NO
8. DO YOU EMPLOY SECURITY PERSONNEL? YES/NO
9. WHAT TYPES OF SECURITY DEVICE DO YOU USE?
10. ARE THEY GENERALLY EFFECTIVE? YES/NO
11. DO YOU FEEL THAT THE INHERENT SECURITY OF BUILDINGS COULD BE IMPROVED AT DESIGN STAGE? YES/NO
12. IF SO, HOW?

APPENDIX 3 (Cont'd)

13. DO YOU BRIEF YOUR ARCHITECT ON SECURITY NEEDS YES/NO
14. DO YOU MONITOR THE INCIDENCE OF CRIME AS IT AFFECTS YOUR ORGANISATION? YES/NO
15. WHICH SOURCES OF ADVICE DO YOU FIND TO BE MOST USEFUL ON THE SUBJECT OF CRIME PREVENTION?
16. DO YOU FEEL THAT TOO MUCH SECURITY COULD HAVE AN ADVERSE EFFECT ON YOUR BUSINESS? YES/NO
17. IF "YES", IN WHAT WAY?
18. DO YOU FEEL THAT BUILT-IN SECURITY MEASURES SHOULD HAVE THE SAME LEGAL STATUS AS FIRE PREVENTION REQUIREMENTS? AND THAT BUILDINGS SHOULD BE REQUIRED TO BE INSPECTED FROM TIME TO TIME TO ENSURE COMPLIANCE WITH THE REGULATIONS? YES/NO

APPENDIX 4

Quotes from Interviews

## APPENDIX 4

### QUOTES FROM INTERVIEWS

### QUOTES FROM INTERVIEWS

1. "You would need to brick up every window and even that wouldn't stop a determined thief" (Member - RCS)
2. "If you can thwart the guy who breaks into buildings he will simply turn to a nastier form of crime, e.g. robbery" (Member - RCS)
3. "Burglary is the least of our problems - shoplifting and staff pilfering cause us more headaches and financial losses than any other form of crime. (Director of large retailer)
4. "What worries us more than anything else is an attack on our main computer. That doesn't bear thinking about". (Director of large retailer).
5. "If our recommendations had the power of legislation behind them we could make a lot more progress towards designing out crime". (Crime Prevention Officer)
6. "It's not only crime itself, but the fear of becoming a victim of it that frightens people". (Crime Prevention Officer)
7. "Crime prevention should be a core subject in schools of architecture". (Practising Architect)
8. "We've been done twice, each time they smashed a window - how can we prevent that happening again? (Victim of domestic burglary)
9. "We haven't got anything worth pinching" (Frequent comment by members of general public)
10. "It's difficult enough to satisfy fire officers, building control, planning officers and the client! We can do without anyone else telling us what to do!" (Architect)

APPENDIX 5

Nottingham University  
Architectural Liaison Officers  
Programme



University of Nottingham



School of Architecture

## Architectural Liaison Officers Programme

Wednesday 21st. July 1993

0.15 approx.	Arrive coffee and welcome.
10.30 - 11.45	Education of Architects Alastair Gardner
11.45 - 13.00	Group Field Exercise Robert Jones Project on site analysis and design proposals to reduce crime
13.00 - 14.00	Working Lunch
14.00 - 15.00	Group Work
15.00 - 15.30	Secure By Design Alastair Gardner Getting the message across; the use of good examples
15.30 - 15.45	Discussion and tea
16.00	Depart Nottingham

# Group Topics

1. Car Parking
2. Pedestrian Routes
3. Building Design
4. Landscaping

comment on,

## The Existing:

List the shortcomings of the scheme as you see it together with the likely reasons

## Proposed Remedies:

What can be done to improve matters and why do you consider they would work

## Future Proposals:

What lessons can be learned for the future and how can you influence matters

APPENDIX 6

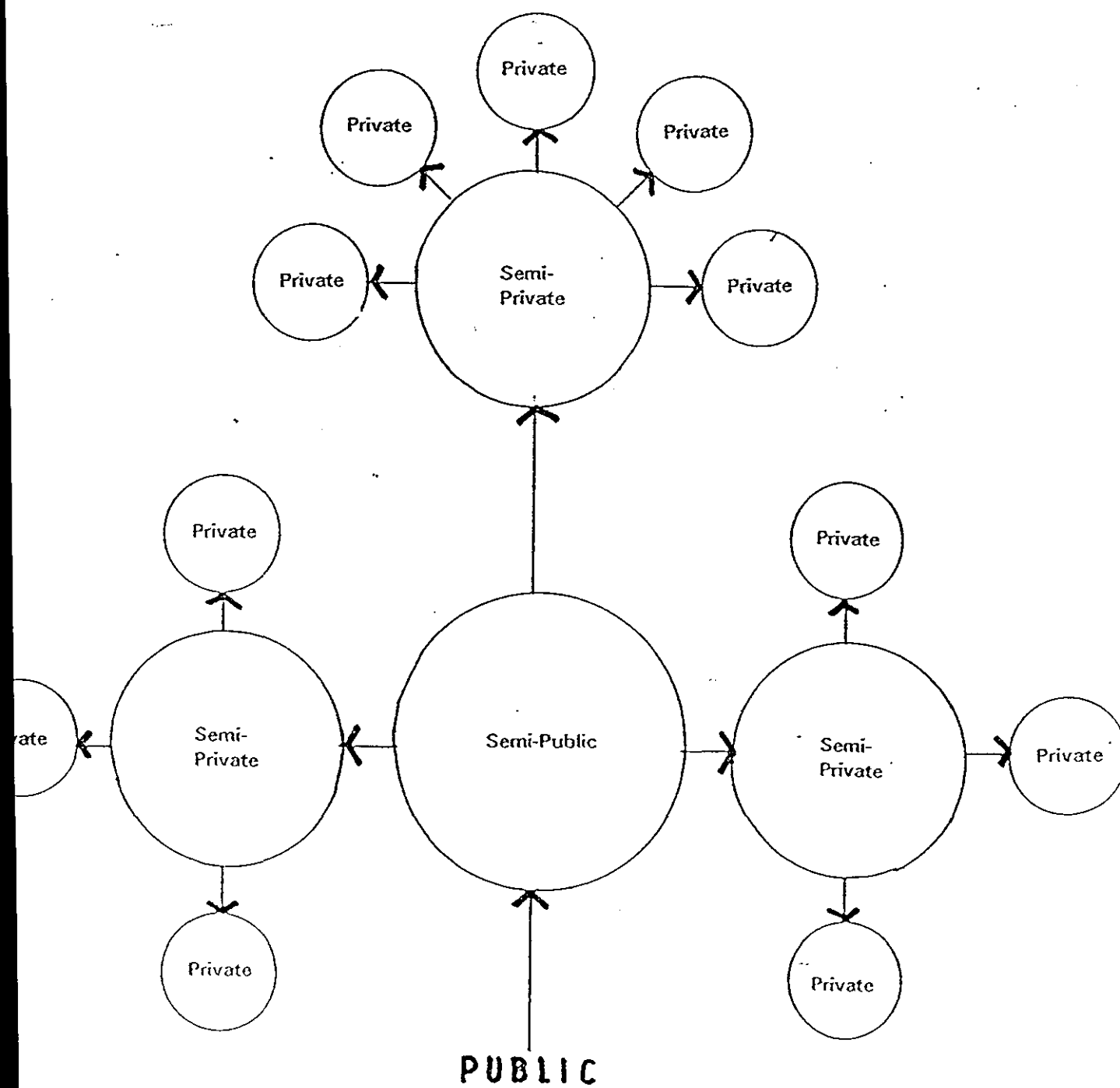
Home Office Crime Prevention Centre  
Typical Syllabus  
Architectural Liaison Officers' Course

0900 0950	Registration of Students Directing Staff				Open Forum Directing Staff
0955 1045	Student Introduction & Current Projects Directing Staff	Interpretation of Plans Mr. G. Dickson Greater Manchester Police	Travel to STRATHCLYDE UNIVERSITY	Syndicate Presentations for Exercise No. 1 Directing Staff	Syndicate Case Studies • Exercise No. 2 Directing Staff & ALOs
COFFEE			COFFEE & WELCOME		
1105 1155		The Planning Process • Police & Planners Mr. N. Bell Assistant Chief Planning Officer, Glasgow	Education of Architects Dr. H. Frey  Group Field Exercise	Lighting for the Built Environments • Effects on Crime Mr. J. Knowles Senior Lighting Engineer	Review & Close Directing Staff
1200 1250	Duties of an Architectural Liaison Officer Ch. Insp. B. Hewitt Home Office Crime Prevention Centre		<i>In collaboration with senior student architects, the ALO course students will engage in a field trip with a view to designing a crime resistant site, meeting the aspirations of architects and ALOs and in keeping with the requirements of form and functionality.</i>		
LUNCH					
1400 1445	Crime Prevention Through Environmental Design & Secured by Design Ch. Insp. B. Hewitt Home Office Crime Prevention Centre	Briefing for Exercise No. 1 Peterborough Southern Township Directing Staff	WORKING LUNCH	Syndicate Case Studies • Exercise No. 2	
1450 1535			Practical Demonstration of Computer Design	Syndicate A - Study set by P.C. R. Iffla (Central Scotland Police) Syndicate B - Study set by Sgt. I. Richardson (Lothian & Borders Police) Syndicate C - Study set by Ch. Insp. B. Hewitt (Home Office Crime Prevention Centre)	
TEA			TEA		
1555 1640	Secured by Design - All Aspects Ch. Insp. B. Hewitt Home Office Crime Prevention Centre	Preparation for Exercise No. 1 Directing Staff	Urban Design  Return		
1645 1730				Practical Experiences of an ALO Discussion period led by: P.C. R. Iffla Sgt. I. Richardson Ch. Insp. B. Hewitt	
DINNER					
1830 2000					

APPENDIX 7

Defensible Space Hierarchy  
in housing units  
(2)

Defensible Space hierarchy in housing blocks



Appendix 8

Table of categories of  
individuals interviewed

## Appendix 8

Table of interviewees (See Chapters 2 and 4)

Reference in text	Position held or category of interviewee	Number interviewed
MD 1	Managing Director (Retail Organisation)	1
MD 2	Managing Director (Manufacturing)	1
MD 3	Managing Director (Service Industry)	1
MD 4	Managing Director (Public Transport)	1
SO	Security Officer (Retail Organisation)	1
C	Sociologist Specialising in Criminal Behaviour	1
LGA 1 ) 2 ) 3 ) 4 )	Senior Architect (Local Authority)	4
PA 1 ) 2 ) 3 )	Architect (Partners in private practice)	3
AL	Architect/Senior Lecturer at University	1
RCS 1 ) 2 )	Detectives on Regional Crime Squad	2
HO	Director of Home Office Crime Prevention Centre	1
ALO 1 2 3 4 5	Architectural liaison officers from different police authorities	5



Appendix 8 (cont'd)

Reference in text	Position held or category of interviewee	Number interviewed
PRO 1 2	Principal Research Officers at the Building Research Establishment	2
V 1 2 3 4	Victims of burglary at their homes	4
CJ	Circuit Judge	1
R 1-20	Residents of Case Study Housing Estate	20



