

**HOW NON RESIDENTIAL BURGLARIES ARE SOLVED:
THE EFFECTIVENESS OF POLICE OPERATIONS**

by

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To

John and Linda Erwood,

My parents and best friends

ABSTRACT

The following study has three principle aims and objectives:

- 1) understand how the police deal with 'Burglary other Building' incidents;
- 2) appreciate which investigative activities and operations undertaken lead to the successful detection of these BOB incidents;
- 3) assess the scope for adjusting existing investigative operational procedures into crimes classified by the police as 'Burglary other Building', or non-residential burglary, with a view to boosting detections.

The research was based on a sample drawn from a population of 7070 'burglary other building' incidents recorded by West Midlands Police over a six month period between April 1st and September 31st 1998.

The study made use of both contemporaneous primary, and secondary sources of data. The primary data was provided by police officer questionnaires, whilst the secondary data was collected from police records and databases.

The police solved a significant minority of cases (15.3%). The police were found to use a number of diverse methods to achieve this success. The principle means of detection were the arresting of offenders at or near the scene and the use of evidence gathered at the scene either through the questioning of individuals or through SOCO examination. Allied to this, more proactive investigative techniques proved useful in the investigative process.

There appear, however, to be a number of areas that may still offer some scope for improvement.

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1. INTRODUCTION

Studying crime has been popular because of the depth and wealth of available research material, and also because of the useful application of many of its findings. The focus of such criminological study, as one would expect, has been through many changes over the last fifteen-year period, as more material becomes accessible. Despite this, certain topics have received rather less attention, including non-residential burglary, possibly because it can be viewed as a 'victimless crime', affecting buildings and organisations rather than people. The result of this is a comparative dearth of research-based literature available upon the subject. By comparison, residential burglary has received greater attention.

Burglaries committed against non-residential properties, however, should be considered as important as burglaries committed against residential properties for four primary reasons:

- 1) there are almost as many non-residential burglary incidents each year as there are residential burglary incidents;
- 2) there are many fewer target premises so the victims of these crimes tend to suffer more, especially when revictimisation is taken into account;
- 3) any losses incurred can affect the economic wellbeing of the population;
- 4) 'Burglary Other Building' incidents (BOB) include a diverse range of buildings from garden sheds, garages, lock ups, hotels and community centres/ social clubs, through to what are commonly recognised as business concerns, such as shops and offices.

During this same fifteen-year period, the study and measurement of the police has also seen many changes, especially within the last ten years, when the police have been subjected to greater scrutiny of the work that they do, and the evaluation of outputs and outcomes. Many attempts have been made to assess the work of the police using numerous metrics, each of which, although proving useful in some respects, has suffered from limitations.

This thesis therefore draws these research strands together, involving the study of non-residential burglary and the elemental police investigative procedures and operations currently in practice for solving non-residential burglaries (BOB's), from the moment of alert to the filing of the case as either 'detected' or 'undetected'.

The approach taken considers the crime of non-residential burglary, as far as possible, holistically i.e. breaks down the process of dealing with non-residential burglaries into its component activities, and assesses the contribution of these activities in successfully solving cases. A sample of non-residential burglaries was taken, containing information on key police activities. These included the initial police response and the screening of non-emergency cases for attendance, investigations conducted at the scene, attendance and evidence collected by SOCO (Scenes of Crime Officers), the screening process for any subsequent contact, and the use of any further evidence collected. This wealth of data, drawn from both primary and secondary sources, allowed a thorough exploration into police actions taken during the non-residential burglary investigation process.

In this way, it was possible to establish which burglary and response characteristics influenced the outcome of the case, the most useful items of evidence, and the operations the police took to collect them. By analysing the sources of detections and examining the impact of each activity the police undertook in dealing with non-residential burglary incidents, on their detection and recovery of evidence, it was possible to determine those activities that were fruitful and those that were not.

1.1 Purpose of research

The principle aims of this research are to:

- 1) understand how the police currently deal with incidents of non-residential burglary;
- 2) recognise those investigative activities that are more likely to lead to the successful detection of such cases;
- 3) where feasible, suggest ways of adjusting existing police operating procedures, in order to improve the primary detection rate with non-residential burglary enquiries.

The research is particularly concerned with primary detections^①. This is because primary detections result from the police activities and operations undertaken in dealing with the burglary cases studied, whereas secondary detections inevitably arise from other primary detections once the offender is in custody, generally arrested for another offence. An increase in the number of primary detections should therefore result in a corresponding increase in secondary detections, and hence increases in the overall detection rate. The remainder of the thesis describes the research in detail.

Chapter 2 shows how a study of non-residential burglary will provide greater insight into both the extent and variety of targets, and the effectiveness of police actions in terms of particular activities. Chapter 3 lays out the research objectives and the methodology for achieving these aims. Chapter 4 considers the diversity of targets, whilst Chapter 5 provides information upon patterns and influences in the reporting of non-residential burglary incidents, and how the police actually respond. Chapter 6 considers, in detail, the various differences and characteristics of those ‘emergency’ responses where arrests are made.

Chapter 7 looks at officer activities conducted at the scene and the collection and worth of evidence, including the attendance of SOCO officers, whilst Chapter 8 considers more proactive actions that the police can undertake, including the use of surveillance operations. Chapter 9 evaluates the worth of any follow up contact by officers and Chapter 10 finally draws together the conclusions from the work and discusses any policy implications.

① The West Midlands Police use seven categories to record clear-ups; these are:

i) Original Charge ii) Further Charge iii) Caution iv) Taken into consideration, T.I.C. - previously recorded v) T.I.C. - not previously recorded vi) Prison Write-Offs vii) Other Write-Offs

Categories i) - iii) are considered as primary detections, the rest are secondary detections. Primary detections and T.I.C.'s are recorded once the offender has been charged. Write-offs are not recorded until the offender has been to court or is in prison.

2. LITERATURE REVIEW

2.1 Summary

Non-residential burglary is a considerable problem in the UK, where businesses run approximately a six times higher risk of being burgled than domestic premises. Such premises also face a much greater risk of multiple victimisation within a short period of time (Mirrlees-Black and Ross, 1995) and studies have shown that the victims of such crime can suffer similar effects to those of domestic burglary (Johnston et al 1990, Ekblom and Simon 1988, Charlton 1990).

Analyses of the investigative effectiveness of specific police activities in relation to crime have been quite rare, particularly in relation to volume crimes such as non-residential burglary. This is as much to do with the inherent difficulties involved in trying to measure such an area, especially given the often diverse nature of police activities and actions, and difficulty in identifying objectives and measures. Those studies that have been conducted show that there is a need for more focused research into such areas (Horton and Smith 1988), though few provide the required detail, if the aim is to improve police effectiveness through the study of police activities.

This study fills a gap therefore in relation to police investigative effectiveness, by looking at specific aspects of a specific investigation procedure. It also considers the crime holistically, enabling the assessment of the contribution of different types of police activity to the solving of non-residential burglary. By considering the activities in this way, the effectiveness of any operations can be assessed with a view to understanding how the police deal with BOB incidents, the effectiveness of the various activities, and the assessment of the scope for adjusting current procedures.

2.2 Introduction

This chapter briefly considers the extent of non-residential burglary and highlights the few, and restricted, studies that have been conducted in this area. It goes on to review appropriate studies that have researched relevant effects of similar crimes, and draws pertinent similarities between those crimes and non-residential burglary. It goes on to consider the measurement of police activities, both in terms of what to measure and

how best to measure them, and provides a theoretical foundation for this research. Many valid attempts have been made at measuring and analysing police activities. Although highlighting the value of looking at specific aspects of police work, many studies have, to date, been too broad in their scope and so have failed to adequately assess police activities, especially within the context of the investigation process.

This chapter also reviews research that has been conducted looking at specific police activities and considers whether they provide appropriate levels of insight, both into the focus of their study, and within the context of the police investigation process per se. It also appraises the influence of the built environment in the commission and investigation of non-residential burglary.

2.3 Definitions

The distinction between the following is useful, as there is often confusion concerning the definitions of the following offences.

THEFT: The dishonest appropriation of another's property with the intention of permanently depriving the owner of it.

ROBBERY: The use or threat of force to a person immediately before or at the time of a theft.

BURGLARY: Entering a building as a trespasser with the intention of committing theft, rape, grievous bodily harm or unlawful damage. If a person commits the above offence whilst in possession of a weapon or explosive, the offence becomes aggravated burglary for which the maximum penalty is imprisonment for life.

The above are simplified definitions of those used in The Theft Act of 1968, therefore although not precise, the essence of the definition is clear.

2.4 Property Crime in Context

In 1994, there were 5.3 million notifiable offences recorded by the police, reflecting a 5% decrease on the figures for 1993 (Mirrlees-Black, Mayhew and Percy 1996). Of these notifiable offences, the greatest majority by far were taken up by crimes against property, with 93% (4.9 million) of crimes committed against property (including theft, burglary, criminal damage, arson and fraud), 6% of crimes committed against

the person, with the remainder accounted for by other crime. The actual breakdown of notifiable offences recorded by the police in 1994, by type of offence, can be seen in Figure 2.4. These offences total 5,258,000.

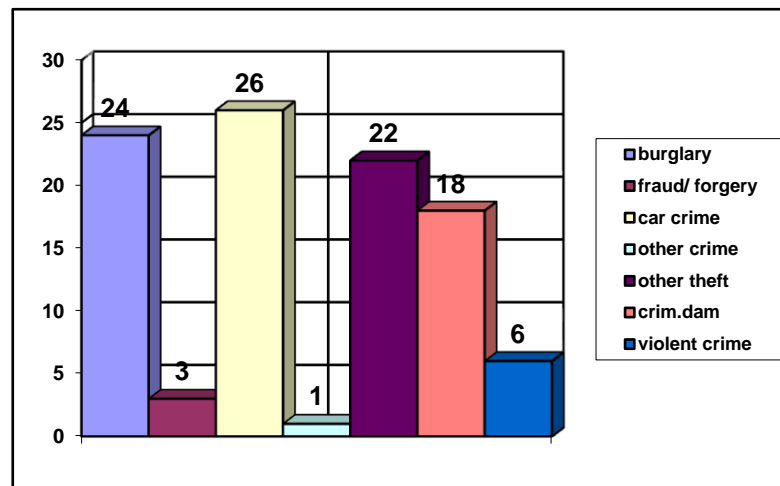


Figure 2.4 Notifiable offences recorded by the police by offence type (1994)

The above figures would appear to validate the findings of Waller (1984) who has argued that burglary is one of the most frequent offences committed in the western world. More worryingly perhaps, are the following figures that show that in England and Wales in 1994, there were 1,261,400 cases of burglary recorded by the police, of which 681,900 were burglary in a dwelling, with the remainder accounted for by burglary in a building other than a dwelling (579,500) (Mirrlees-Black, Mayhew and Percy 1996). In essence, although there are many fewer non-residential targets, there are almost as many cases of burglary accounted for and recorded by the police. As such, non-residential premises present a major target for criminal activity, second only to car crime.

2.5 Extent of Non-Residential Crime

From the various studies conducted within the area of crime against business (Johnston et al 1990a and b, Tilley 1993, Ekblom and Simon 1988), it becomes apparent that there is just as much of a problem within the business sector as there is in the domestic sector, with all forms of crime, not just burglary. However, as one would expect, crime varies both in its extent and types depending on whether we look at industrial and manufacturing industries, or whether it is commercial and retail

businesses that are considered. For instance, retail outlets suffer more from theft than do manufacturing premises, whilst the opposite is true for vehicle crime (Mirrlees-Black and Ross 1995). Furthermore, there are also differences in crime rates between different industrial estates or commercial areas, and even within different sectors of each of the respective areas (Johnston et al 1990). The problem it would seem is far from straightforward.

2.5.1 Crime on industrial estates

In a three-stage study, Johnston et al (1990) found some interesting results when looking at the nature of, and the extent of, the crime problem on industrial estates. It was found that, as one might expect, crimes against people themselves are particularly low in numbers whilst crimes against property occur to quite a large extent. Furthermore, when compared to crime survey figures, the Johnston study results show that industrial estates display a much higher rate of burglary and attempted burglary compared to domestic properties.

As far as burglary is concerned, Johnston et al found that 37% of victimisation on industrial estates involved burglary or attempted burglary, yet Mayhew and Aye-Maung (1993) found that, amongst other things, only 9% of victimisation in residential areas was accounted for by burglary or attempted burglary. Secondly, the best estimate for the number of burglaries involving loss in residential areas in 1988 was 517, 000, whilst in 1991 it was 612,000. If the figure of 19,818 million residential properties in England and Wales is accurate, then this means that 2.6% of residential properties in England and Wales were the victims of burglary in 1988. Even in 1992, Mayhew and Aye-Maung (1993) found that the figure for burglary and attempted burglary was still only 5.3%.

However, it was found that the rate of similar burglary on industrial estates averaged 9.7%, suggesting that there is more chance of burglary occurring in an industrial unit than in a residential property. This finding is consistent across studies. The 1994 Commercial Victimization Survey (Mirrlees-Black and Ross 1995) states that, 'retailing and manufacturing premises have a much greater chance of falling victim to burglary.....than domestic premises' (p.10), with the risk of burglary approximately six times higher for business than for domestic premises.

The problems mentioned above however are not isolated within industrial estates. There are a number of studies available which paint a similar picture for commercial and retail businesses. In essence, these studies also show that there are higher rates of victimisation for certain crimes than are apparent in the residential environment.

2.5.2 Crime in retail/ commercial environment

Hibberd and Shapland (1993) conducted a study that looked at small shops in city areas in both the Midlands and London. The results showed that the burglary figures of 16% in the Midlands and 7% in London still outweigh the 1992 BCS estimate of 5.3% of households being victims of burglary or attempted burglary (Mayhew and Aye-Maung 1993). Higher burglary rates have also been found in other studies.

Eklblom and Simon (1988) in a survey of Asian shopkeepers in Muswell Hill, Brent, Brixton and Newham, found that 22% of those surveyed had suffered burglaries in the last year. The rates actually varied from 14% in Newham up to 35% in Brent, yet still these figures far outstrip any BCS estimate for residential burglary. Charlton (1990) conducted a study on fifty businesses in Deptford High Street and found that 30% of the respondents had been the victims of burglary or attempted burglary in the last year. Again, this is far greater than any figures for rates of domestic burglary. Even in the worst residential areas, the burglary figures found in the 1992 BCS were still only 14.4% (Mayhew and Aye-Maung 1993). If this figure is compared to those burglary rates for commercial and retail businesses above, it is possible to ascertain some idea about the extent of the burglary problem faced in a small business environment.

2.6 Revictimisation

Not only do non-residential properties suffer victimisation to a greater extent than residential properties, they are also more prone to revictimisation or multiple victimisation. Allied to this, many non-residential properties will more than likely get burgled again within a relatively short space of time, indicating a problem that needs to be addressed as quickly as possible.

The figures from the 1994 Commercial Victimization Survey (Mirrlees-Black and Ross 1995) make for rather unpleasant reading. In both cases many of the businesses sampled experienced more than one crime in a year, if not more than one type of crime.

2.6.1 Revictimisation of industrial/ manufacturing concerns

The survey reveals that 41% of those industrial/ manufacturing businesses which had been victimised, had been victimised four or more times in 1993. Overall, it was found that 63% of the total amount of crime was against only 8% of the premises surveyed, 39% of the premises that had been burgled, had been burgled two or three times, whilst 7% of the premises had been burgled four or more times. In all, it was found that only 2% of the sample of manufacturers accounted for a quarter of all burglaries. This figure is perhaps the most worrying of all because it indicates a distinct lack of positive action either in crime prevention advice, in the installation of crime prevention measures, or on the part of the police. This picture however is not specific to the Commercial Victimization Survey (Mirrlees-Black and Ross 1995).

In total, 46% of the units within the Johnston (1990) sample who had been burgled in the last two years, suffered more than one incident of burglary. This figure compares to 18% of residential properties according to BCS figures (Mirrlees-Black, Aye-Maung and Mayhew 1993). It was further found that 30% of units on the industrial estates had been burgled at least once during their tenancy, and 25% had been the victims of attempted burglary. Even these figures pale into insignificance if it is considered that on the worst estates, 82% of the units had suffered from burglary during their tenancy, and 80% had been the victims of attempted burglary. All of these figures are particularly worrying however, if they are considered alongside the fact that 33% of the units had tenants occupying them for less than one year, and 75% of the units had tenants occupying them for less than five years. This would suggest that burglary on industrial estates has a great propensity for recurrence, and one that is very much an immediate problem.

2.6.2 Revictimisation of commercial/ retail concerns

It was found, again in the 1994 Commercial Victimization Survey (Mirrlees-Black and Ross 1995), that of those premises that had been victimised, 33% had been victimised ten or more times in 1993. In total, 59% of crime was against only 3% of

the premises surveyed. As far as burglary was concerned, 25% of all burglaries were suffered by only 2% of the sample. Again, the results of this survey are not isolated incidents.

In a study looking specifically at the repeat victimisation of commercial premises on four beats in the Hartlepool area, Tilley (1993) found that of the 250 eligible addresses (discounting schools, colleges and training centres) at which burglary had occurred, 39% had been reburgled at least once within twelve months of the first incident. In total, it was found that there had been 209 incidents of repeat victimisation. More interesting however is the temporal distribution of these repeat burglaries. It was found that of the 209 incidents, 119 had occurred within the first 73 days, 37 incidents had occurred within the period of 74 to 146 days, 29 incidents had occurred between 147 and 219 days, 13 incidents had occurred between 220 and 292 days, and the remaining 11 incidents had occurred from day 293 until the end of the year. These figures are displayed in Table 2.6.2 below.

No. of days between burglaries	No. of burglary incidents in that time
0-73	119
74-146	37
147-219	29
220-292	13
293-365	11

Table 2.6.2 Temporal distribution for being reburgled

2.7 Consequences of non-residential crime

Compared to residential burglary, very little is known about the effects of burglary in a Non-Residential setting. The available literature (next to nothing) shows that businesses are often in a very poor position to assess the true effects of burglary, other than the tangible losses that inevitably are a result of insurance claims.

There is a dearth of literature that actually looks at the consequences of crime for businesses, both in terms of the losses, and in terms of what would normally be recognised as victim effects. The following therefore looks at the available evidence from the few studies that have looked at the effects of burglary upon non-residential

victims. Further to the above, the extra financial burden and trading consequences which business may suffer from are highlighted. Although this study does not consider the effects upon victims, either of the crime or the police investigation process, it is essential to include these studies as they indicate the importance of solving these crimes.

2.7.1 Victim Effects

In the Johnston et al (1990) stage 1 study, it was found that burglaries in industrial units could actually produce very similar effects to those reported from studies of domestic burglary victims. That is, a sense of invasion of privacy, diffuse worry about crime in general and a more specific worry about the possibility of being reburgled and generally heightened anxiety levels.

In some instances, it is argued that burglary of a small industrial unit may actually have more serious consequences than those in a residential setting. That is, the everyday running of the business may be severely disrupted, which at an extreme may lead to workers being laid off and the business collapsing. This may be particularly likely if any elements crucial to the running of the business are taken in the burglary or crucial business is lost as a result. In a similar vein, Johnston et al (1990) also argue that larger industries may also be vulnerable, with extra stress created for those in middle management positions and those in charge of the premises, and the possibility of police investigation and auditing creating more stress for the employees generally.

Similar effects of burglary have also been found in the studies conducted with commercial and retail businesses. Ekblom and Simon (1988) found in their survey of Asian shopkeepers that with crime in their area, 21% worried 'a lot', 24% worried a 'fair amount', 19% worried 'a little', 17% were 'not very worried at all' and 19% were 'not worried'. These figures are comparable to those found in Charlton's (1990) study of Deptford High Street. It was found that 28% of shop owners felt crime was a 'big or very big problem', 48% thought it was a 'bit of a problem', 16% felt it was 'not much of a problem' and 2% felt it was 'no problem'. Allied to these concerns raised by the individual business owners, it has also been argued that crime against local businesses is also detrimental to the wellbeing of the community as a whole

(Shapland and Vagg 1988). According to this line of argument, if local businesses suffer, then their functioning is restricted, to the disadvantage of the local residents, and this in turn may be a factor leading to increases in crime.

Given the above evidence for both industrial estate units and commercial and retail businesses, the conclusion reached by Johnston et al (1990) would seem applicable to both. Their study states that

“it is wrong to think of the victims of Non-Residential burglary simply as abstract ‘businesses’, and instead consideration must be given to the victimisation effects on the individuals who make up the business” (p. 11)

and possibly the communities in which the businesses are situated. Furthermore, given that non-residential burglary involves premises such as sheds and garages, it is even more misguided a belief that all victims of non-residential burglary are ‘abstract businesses’. It is not just a case of totalling up the capital loss and contacting the insurance company, and then installing more security devices.

2.7.2 Cost of burglary

According to the 1994 Commercial Victimization Survey (Mirrlees-Black and Ross 1995), the cost of crime to the retail industry amounts to approximately £780 million, whilst for manufacturing premises, the amount runs at about £275 million. Burglary was found to be the most accountable for the losses suffered by business. Further to this, it was found that where an offender got onto the premises, irrespective of whether anything was stolen, the average cost to retailers was £1,660 and £2,420 for manufacturing concerns. If compared to domestic premises, businesses were on average, likely to be faced with a cost at least half as much again as a residential property. This further reinforces the need to discover how the police currently detect such crime and how the detection may be improved upon.

2.8 Non-residential burglary in perspective – the value of research

Property crime is an ongoing and very real problem, and non-residential premises suffer burglary to a greater extent than residential premises. Even in the worst residential area, the rate of burglary has been shown to be lower than in most areas in which business or industry is the main concern. Opportunities for valid research

within the field of non-residential burglary are largely being wasted, probably because the biggest mistake being made is to forget that businesses are made up of people, whose livelihood largely depends on the smooth running of that business. Furthermore, businesses, irrespective of their main concern, may not always be able to meet the costs of crime.

The figures show that the police are faced with a considerable problem. Non-residential burglary, and the investigation process, needs to be examined in greater detail, especially if the effects of the act of burglary on a non-residential property are fully examined, both in financial terms and in personal and personnel terms. Essentially however, the consensus between studies is that non-residential properties run a much higher risk of burglary and attempted burglary than domestic properties. However, whereas the prevention and detection of residential burglary has received high priority by both public (Maxfield, 1984) and the police (Audit Commission 1994), non-residential burglary has become the forgotten sibling.

It can be seen that the above studies are methodologically specific in their research, often dealing with either industrial estates or retail outlets, and providing general conclusions regarding burglary. Although providing us with interesting findings, each study tends to give only a partial view of the difficulties faced within a non-residential environment.

Because this research approaches the issue from an investigation perspective however, it provides a complete overview of the non-residential burglary problem, and the way that this is dealt with on a day-to-day, operational level. It considers burglary in a full range of organisations, examining non-residential burglary over a variety of property types including shed and garage burglaries. By considering the investigation of the crime in this way, this study is also able to provide an insight into the influences of the different built environments upon police investigations into non-residential burglary.

2.9 Why measure the Police?

There has been long standing interest from academia and government institutions, in the evaluation of performance within the public sector, especially concerning the police force in this country. This interest has been renewed in the last decade.

Horton and Smith (1988) suggest three reasons for this renewed interest in the use of police resources and the effectiveness of that usage.

- 1) the desire to make forces more financially accountable;
- 2) increased doubt about the fundamental purposes of the police;
- 3) a challenge, from some quarters, to the legitimacy of the police force.

As such, Stockdale, Whitehead and Gresham (1999) argue that;

“.....there is a growing need for the police to make resource allocation decisions transparent, to evaluate outputs and outcomes, and to demonstrate that resources are being used to generate the best returns”

The above quotation is essential in understanding the contribution made by any Operational Research conducted within this area, as the main objective of such study is to determine how the object being measured is performing, with the aim of improving that performance.

However, this is often easier said than done, because the remit of the police force is particularly broad and still expanding, and it is often difficult to achieve a balance between the demand and expectation of the force, given the diversity of roles the police are now expected to fulfil. This diversity of roles also means that there is difficulty in identifying what best to measure.

Further to this, the myriad of roles and multiple aims expected to be fulfilled by the police force in this country can often conflict with what is the main objective of such a law enforcement agency: to reduce the overall crime rate by apprehending those responsible for such crime.

That is not to say that there have been no attempts to rectify this situation, though the issues associated with such a task are formidable, primarily because of the diversity of duties that the police are expected to perform, and the outcomes of such tasks are not easily quantifiable (Abbotts 1989). As such, it is of little surprise to see that these issues have been approached in various ways, as it seems extremely difficult to find an overall indicator of police effectiveness.

2.10 Problems associated with measuring the Police – what to measure

Chatterton (1987) has argued that the police force has a very general objective in maintaining law and order, as this objective is inevitably achieved by conducting a variety of activities, from community policing through to the establishment of specialist squads used in targeting specific groups of criminals. Given that there is this great diversity of methods in pursuit of their objectives, it is of little surprise to find that no single performance indicator of police activity has been found. Although in some cases, the objective may be clear, quantifiable and measurable outcomes are often not (Abbotts 1989).

Because this is the case, there has been a tendency in the past to try and measure police operations using a variety of approaches.

2.10.1 Government Initiatives

In the 1970's and early 1980's several government initiatives were set in motion, including the formation of the Audit Commission, in an attempt to assess and gain, amongst public sector services, what amounted to 'value for money'.

The Financial Management Initiative was launched in 1982, the aim of which was to promote:

- 1) a clear view of objectives, and the means to assess and where possible measure outputs or performance in relation to those objectives;
- 2) well-defined responsibility for making the best use of their resources, including a critical scrutiny of output and value for money;

- 3) the information (particularly about costs), the training and the access to expert advice that they need to exercise their responsibilities effectively (HMSO, 1982).

However, trying to apply what can best be described as market discipline to the police force proved to be problematic, especially as, has been stated, it is difficult to find clear objectives let alone measure them, and also, the outcomes of police actions are many and varied. As Weatheritt (1987) found, the objectives may often be in conflict. When measuring the police, it is not a case of assessing an organisation whose main aim is the making of money, and where inputs can literally be measured against outcome (when the ultimate outcome is the creation of a financial profit). The police force in this country is not a business in the strict sense of the word, therefore trying to assess it as one seems somewhat inappropriate.

2.10.2 Crime Rate

In order to assess the police and police activity in a satisfactory manner, the outcomes of police work need to be aligned with the actual objectives of that work. One such general indicator of objective versus outcome is the use of the crime rate. However, many studies have shown that it is difficult to assess the true crime rate, since much crime goes unreported leading the way to the 'dark figure' of crime (Mayhew et al 1993). Indeed, even if it were possible to accurately gauge the crime rate, and perhaps measure the crime rate per officer in certain police force areas or patrol areas, the police, per se, only have partial control over such a rate. As Bottomley and Coleman (1981) argue, the police should not be assessed upon measures over which they have only partial control.

Because of the inherent problems noted above in trying to assess police actions either along business lines, or through the use of measures that may not be directly related to police actions, there was a distinct move towards what can best be described as crude and inappropriate 'intermediate measures'.

2.10.3 Intermediate Measures

These measures consider a more direct outcome of specific kinds of police activity e.g. the investigation of crime and the apprehension of offenders. As such, they provide a better reflection of police actions, since they provide some way of measuring police performance against objectives that are more under the control of

the police force, and address some of the shortfalls of using the crime rate. However, there are inherent problems in the use of such measures.

The use of both detection and clearance rates as an 'adequate' measure of police effectiveness seems somewhat misguided, and it has only been in recent years that superior, and more appropriate, measures of police effectiveness have been sought. Although there can be no doubt that both detection and clear-up rates are within the control of the police force, and attributable to police actions and operations, there are problems associated with the use of such measures.

The biggest problem is that different crimes have varying levels of solvability and invoke dramatically different investigation processes, more often as result of their perceived level of seriousness by the police and public, and the public expectation of outcomes. A rape or murder investigation, for example, will inevitably invoke the use of a different investigative process to that of a burglary of a shed. Similarly, the success of rape and murder enquiries is very different to those concerning shed and garage burglaries.

The second problem lies more specifically with the use of detection rates as an indicator of police effectiveness. It is clear that the chances of an offence being filed 'detected' are not necessarily dependent on police operations and activities. Burrows (1986) reports of a variable use made of 'secondary' detections. This distinction between primary detection rates and secondary detection rates is crucial if there is any hope of achieving an accurate measure of police effectiveness and efficiency.

A primary detected case can be considered as owing to active police investigations and their ability to make an arrest and charge an offender. A secondary detection owes more to an offender's willingness to admit to the offence whilst being held either in custody or on a prison sentence, generally for other offences. These cases will be 'written off' whilst in custody, or 'taken into consideration' (TIC'd).

Because 'detection rates' per se, as a measure of effectiveness, have tended to either encompass both primary and secondary, or fail to differentiate between the two, the police have, not surprisingly, concentrated more on realising secondary detections in

order to improve their detection rates (Pallister 1996). It is the use of the primary detection rates however that provides a more robust measure of police effectiveness and provides the possible means of boosting detections. That said, they offer no information regarding the differences in primary detection rates between forces, and the differences and effectiveness of police operations used in securing the arrest of an offender.

Another associated problem is that not only do different crimes have different levels of reporting ('dark figure of crime') with many crimes going unreported (Mayhew et al 1993), forces will inevitably make use of differing recording practices. The overall result is a highly inefficient, ineffectual and very variable measure of police effectiveness.

In essence, the police are required to perform a multitude of varied tasks, many of which have immeasurable outcomes, especially if trying to find one overall measure of police effectiveness, which seems a very much misguided way of attacking the problem. Although some moves have been made to rectify this situation through the use of intermediate output measures, which are more within the control of the police, these too can provide largely inaccurate and greatly varied measures of police effectiveness. It would seem to be more appropriate therefore, to study specific police activities and operations in more detail in an effort to find ways of accurately assessing the effectiveness of police operations, and especially the role of these activities in the primary detection of offences.

2.11 The measurement of the Police in perspective

It has been shown that the police are required to fulfil multiple and varied roles, often detracting from the main objective of such a body which is to apprehend the perpetrators of crime.

Although initiatives have been launched in the past in an attempt to measure police input and output and provide adequate metrics for the measurement of such inputs and outputs, it can be seen that these have often been flawed, most often because they attempt to measure the police according to criteria that are either inappropriate or not within their control.

The adoption of intermediate measures has gone some way to redressing this balance, though it is clear that even these are flawed, with measures varying dramatically according to the crime considered, and the method of measuring primary and secondary detections. Therefore, it appears that determining how well the police are performing and the use of police resources cannot be measured according to one simple, generalised metric. Given these findings, it would appear to make more sense to study individual police activities and examine those actions that are more effective in producing measurable outcomes that are within the control of the police i.e. primary detections.

2.12 Individual studies of Police activity

There have been studies conducted in the past that have attempted to rectify this situation by looking at more specific aspects of police work such as response times and uniformed police activities. However, this research has largely ignored issues surrounding the effectiveness of individual activities and / or focused upon specific issues. However, by considering previous studies that look at various police activities a number of issues are raised that are considered within this study of non-residential burglary investigation.

2.12.1 Patrol Activities

There is a fairly large body of research available upon police patrolling per se, both on foot and in vehicles, primarily because it has been a major cause of public concern for some years now, especially regarding the visibility of the police on the streets, and the persistent public desire for the 'bobby on the beat' (Audit Commission 1996b). Indeed, estimates place police patrolling activity at 60% of consumption of police resources (Audit Commission 1996b).

However, Clarke and Hough (1984), in their review, indicate that the majority of studies conducted provide little evidence that patrolling is effective as a crime prevention activity. The majority of studies that have been conducted, mainly in America, provide evidence that varying levels of police patrol have no noticeable effect in deterring crime. Kelling et al (1974), in the Kansas City Preventative Patrol Experiment, suggested that altering the level of preventative patrol in order to maintain visibility and deter crime produced little effect. Although based upon minor

differences in levels of patrolling, larger changes have been found to show similar effects. Zimring (1978) concluded that increasing the level of preventative patrol by a factor of two or more for twelve months does not reduce the incidence of crime to a great extent. Heal and Morris (1985) in their review of patrolling supported these findings, and highlighted further studies that indicated even larger changes in patrol levels had minimal effect on criminal activity (Schnelle et al 1977). Thus, it is reasonable to conclude that patrolling is of little or no use in terms of crime prevention.

Whilst failing to show any discernible differences in patrolling levels and crime prevention, these studies highlight the need for more detailed investigation and measurement of police activities. This study, although not adding anything to the overall debate on police patrolling, considers in chapter six, the indirect effects of patrolling levels on both the speed of response and aspects of that response and, as a consequence, the successful apprehension of offenders. Further to this, it considers the effects of vehicle patrol types and the manning levels of those patrols and their role and influences, if any, in the successful apprehension of offenders at the time of the incident.

2.12.2 Police Response

The majority of studies have found that a rapid police response to alerts has little if any impact upon the majority of crimes committed. Indeed, Clarke and Hough (1984) indicated that only 3% of crimes would see any benefit from a rapid response from the police. Even within this 3% where some benefit could be gained from a rapid response, Pate et al (1976) in a study in the US, found that a number of other factors are critical in determining a rapid response. These were, reporting time, distance from the scene and the pre-despatch time of the responding police unit. As such, the report concluded that there was no significant relationship between response time and outcome.

Despite this however, a rapid response still contributes significantly to the primary detection of a number of crimes, even if a rapid response in its own right appears to have a minimal effect. Burrows (1986) for instance, found that up to half of all primary detections could be linked to a fast response to 'in progress' burglaries, with

over 30% attributable to catching offenders in the act. Indeed, chapter six within this study considers these issues, both in terms of speed of response, and in terms of success of providing a rapid response.

Further to this, it considers response times in the context of the burgled premises, the method and route of alert, and the type and manning levels of the responding vehicles. This in itself gives some indication as to why a rapid response alone does not guarantee success at the scene, and why the scope of this research is an improvement over previous studies, as there are many variables at work that are likely to determine any single success. As can be seen, little work has been conducted so far on the individual determinants of a successful rapid response.

2.12.3 Patrol Staffing – One versus two-officer units

Studies have been conducted that have looked at the relative merits of one and two-officer vehicle units, the majority of which were conducted in the US. Wilson and Brewer's review of one and two person patrols (1992) found that the use of single manned units is likely to enhance efficiency, with one-person patrols completing the same number of calls for service and officer initiated activities as two-person patrols (Boydston et al, 1977). Although slower at servicing calls, they appear to be quicker in responding to emergencies (Boydston et al 1977, Kessler 1985) by offering the advantage of faster response times (Chelst, 1981; Green and Kolesar, 1984).

Allied to the above, deploying more officers in single manned units has also been shown to enable fewer resources to cover the same area, with two one-person patrols covering an area 71% greater than one two-person patrol (Kaplan, 1979). Overall, previous studies would appear to indicate the use of single manned vehicles are more economical and no less effective when deployed than those twin crewed units.

However, Wilson and Brewer (1992) state in their review, the data is limited and it does not “permit an examination of possible differences in the way individual offences may be dealt with” (p.452). This study redresses this balance and considers the relative benefits of using single and two-officer units in dealing with non-residential burglary incidents reported ‘in progress’. This research therefore assesses both the worth of, and influences, on the use of one and two officer patrols, primarily

the 'panda' and 'zulu' vehicle patrols used at 'in progress' incidents. These features of the police response are considered in chapter six.

2.12.4 Uniformed Police Activities

With regard to the work of uniformed officers, Bennett and Lupton (1992) conducted a national activity survey of uniformed police work, focusing on how officers spent their time, either inside the police station or out on patrol. However, this concentrated more upon the broader categories of work conducted, such as foot patrolling or administrative duties, rather than considering the effectiveness of particular uniformed police actions, especially at the scenes of crimes e.g. questioning. Given that earlier studies (Greenwood 1980, Chaiken 1975) had found that the great majority of detections had arisen from either catching the offender 'red handed' or from collecting scene evidence that clearly implicated the offender, this seems somewhat surprising, especially when it is considered that these actions fall predominantly within the remit of the uniformed officer. Burrows and Tarling (1987) confirm this.

In fact, previous studies had shown that a majority of burglary detections had resulted from, what was considered to be, fairly basic witness evidence collected at the scene (Burrows 1986a). Very few studies however have actually considered the effectiveness of individual uniformed officer actions in any detail, let alone considered the differences in activities and evidence availability between detected cases and undetected cases. Those that have (Eck 1983) have been mainly conducted in the US, did not consider non-residential burglary, and did not consider the activities of SOCO (Scenes of Crime Officers).

This thesis will look in detail at these individual uniformed police activities, including SOCO, and place them within the broader context of the non-residential investigation process as a whole. Further to this, this research considers the differences between detected and undetected cases and highlights any impact that the type of property may have on the provision of any evidence, including the collection of Modus Operandi evidence by uniformed officers. This is largely considered in chapters seven and eight within this study.

2.12.5 Further Police activities

Further studies, though few of them, have been conducted which assess any subsequent investigative activities such as visits by Scenes of Crime Officers (SOCO) (Tilley and Ford 1996) and the work of officers (CID or uniform) at follow up visits (Bottomley and Coleman 1980), or the screening process followed to weed out those promising cases from the less promising ones (Eck 1983). These few studies that have been conducted have tended to focus on the more general aspects of these roles, such as how these activities are used rather than how well they are used. Also, although studies have been conducted which address issues concerned with the integrated use of proactive techniques, both in terms of force implementation studies (Barton and Evans 1999) and more specific proactive technique studies (Maguire and John 1995), few assess the use of these techniques within investigation process, and none within the non-residential burglary investigation process.

2.12.5.1 Crime Screening

Although some past research has made reference to the screening process (Greenwood 1980, Gill et al 1996), and noted the importance of making the correct decisions, very little has been made of the actual effectiveness of this screening procedure, and the differences between those cases that merit further attention and those that do not. The effectiveness of this activity can have profound implications upon the remainder of the investigative process and the success, or otherwise, in detecting non-residential burglary.

The screening process takes place after the initial police response has been made, and a decision is made as to the worth of any follow up contact either by uniform or CID. This process has previously been described as one that divides cases according to those that cannot be solved with a reasonable amount of investigative effort, those that require further investigation that could lead to a detection and those that have already been solved circumstantially and merely require the arrest of the suspect (Eck 1983).

Although the Eck (1983) study made inroads into the screening process by identifying what was described as an 'implicit triage system', it did not consider the effectiveness of this crime allocation to one of the three groups. Indeed Greenwood (1980), in one

of the larger pieces of research work to be conducted as part of the Rand study, concluded that crime screening was highly subjective.

Although previous research does therefore provide an insight into crime screening, none consider how well it works in practice and the criteria allocated to the screening decision. This study is able to assess whether the screening process in operation is being used systematically or not, and whether potential detections are being lost through inappropriate screening techniques. As a result, it is also able to assess the worth, if any, of any subsequent contact in the context of the non-residential burglary investigation process as a whole.

2.12.5.2 Follow-up visits / Subsequent Contact

Little research has been conducted that considers the worth of follow up visits to the crime scene, either by uniformed or CID (Criminal Investigation Department) officers, or by Scenes of Crimes Officers (SOCO).

What little research has been conducted in this area has tended to focus more on the follow up visits of CID, to the detriment of considering SOCO and uniformed officers, and has been directed more towards the evaluation of CID work. Elliot (1978) looked at the difference between specific detection squads, or crime control teams, and normal detective work. Although he found that the crime control teams achieved higher clearance rates, no effort was made to examine officers' actions. It has also been shown, earlier within this chapter, that the use of clearance rates is not a suitable measure when considering the effectiveness of police actions. Further to this, The Audit Commission (1993) concluded that additional visits to the crime scene by detectives were largely duplicated effort, gaining further evidence in less than 5% of cases. Eck (1983) produced similar findings, concluding that follow up interviews conducted by CID were not significantly related to detection of cases.

These findings, when taken within the context of more general research that looks at the sources of detections, makes more sense. Zander (1979) found that in the vast majority of serious crimes, the offender should have been readily identifiable. These results were supported by a number of studies conducted in the US, most notably by Greenwood et al (1977) and Elliot (1978), which found similar results. Two studies

conducted by Steer (1980) and Mawby (1979) both concluded that many detections did not require numerous police actions, with the majority of detections being straightforward, often as a result of the offender being caught at or near the scene or as a result of a name being provided to the police. Indeed, Greenwood et al (1977) recommended that more use be made of the first police visit to the scene and that detectives should concentrate on more promising cases.

Although the above studies do indicate the sources of detections, as with previous research highlighted within this chapter, they do not consider the individual actions at the scene that led to the provision of such information, nor the series of factors that effect whether the suspect is caught at or near the scene. Also, it is clear from the above that no studies have considered the use of follow up contact conducted by uniformed officers, and the role that their activities may play in the investigation process, let alone within the non-residential burglary investigation process.

There has also been little research into the worth of follow up visits made by SOCO. Those studies that have been conducted have tended to focus more on the costs associated with the testing and use of forensic evidence (Tilley and Ford 1996), and the variance in SOCO practices and evidence submission between different forces (McCulloch 1996). Although some studies have shown that SOCO evidence is normally available as supporting evidence and contributes to only 2% of detections (Burrows and Tarling 1987), no studies have evaluated, in detail, the specifics of SOCO visits to the scene, the types of evidence collected and how SOCO attendance is actually determined in the first place. This research plugs those gaps.

2.13 Police research in perspective

Although the above studies demonstrate the importance of looking at as many individual aspects of police activity as possible, many are still too broad in focus to be of any definite value in the accurate assessment of police effectiveness. This is especially true if a good measure of effectiveness arises through the comparison of separate inputs to those instances where the outcome is successful or unsuccessful.

Whilst the studies mentioned do, for example, highlight issues concerning the success or lack thereof of a fast response time, or how much uniformed police time is spent

inside the station or out on community patrol, they do not give any insight into the numbers of factors which actually affect that response time, or the activities of the uniformed officer at the crime scene that may lead to an arrest. These features are essential if there is to be any hope of measuring the effectiveness of police activities against outcomes, and offering improvements. As can be seen, most often, such studies have considered aspects of police work in isolation.

This study fills gaps left by past research that has focused either on those broader categories of police measurement or on individual activities studied in isolation. This research follows the process from the time and method of alert through to the apprehension of the offender, considering the deployment of units and officers, any influences of the built environment, the time of day and day of the week, and the effect that these have upon where the offender is apprehended. In doing so, this research is better placed to assess the most influential determinants of a successful police response and, where possible, assess the scope for improving capture rates.

Similarly, no research to date has looked specifically at the role played by the attending officer at non-residential burglary incidents, their questioning of victims and neighbours, the gathering of other evidence and their assessment of the scene for the possibility of any SOCO evidence. This study looks at the actions and operations undertaken by the attending officer regarding all of these factors, from the questioning of relevant parties, to the evidence actually provided by the scene, and places them within the context of the investigation process.

Further to the above, little attention has been paid to the effectiveness of any force policies that dictate whether SOCO attention is required or not, the screening abilities of the first attending officer, or the differences and worth of SOCO evidence collected from different types of premises and the role played in the detection of cases. By analysing such factors, this study is able to pinpoint whether current police force operating procedures can be made more effective.

This research aims to address a number of issues by considering investigations into non-residential burglary holistically. Information will be collected for the same sample of burglaries on all aspects of the police response to crime. This will allow

police actions to be evaluated in terms of investigative effectiveness and the detection of crimes classified as 'Burglary Other Building' (BOB). This method of research has strong grounding. Bottomley and Coleman (1976) argue that there should be a

“.....more deliberate and direct attempt to examine the relationship between central aspects of police work in discovering and detecting crime”.

Further to this, Clarke and Hough (1984) state that

“Gains can be expected from the more focused strategies aimed at the arrest of specific groups of offenders”

This study achieves just that aim, by considering police investigative effectiveness into 'non-residential burglary' holistically. As such, the contribution made by any given police activity in the investigation process can be considered. This is particularly relevant in the case of a volume crime such as 'Burglary Other Building', as there has been no prior research conducted that analyses the investigative effectiveness of the specific police activities in relation to this crime.

2.14 Influence of the physical environment on Police actions

Thus far, work conducted on police activities has been reviewed with regard to their scope, relevance and investigative effectiveness within the context of detecting crime. All of these issues are largely within the control of the police force, at least to some extent. However, the environmental setting in which the crime actually occurs is further outside the control of the police. This section therefore considers how the environment may influence the investigation and subsequent detection of non-residential burglary offences.

There are proponents of the view that the very design of the environment, as well as the buildings themselves, can influence crime, either by increasing susceptibility to it, or reducing levels of it. Although the actual assessment of these aspects, per se, are not part of this study, it is important to be aware of the fact that there are influential elements of the situation, and outside of the polices' control, that can affect both the

way the police deal with any particular non-residential burglary incident and any resultant success of emergency 'in progress' incidents.

Studies by both Angel (1968) and Newman (1972) argue that certain aspects of environmental design may reduce the opportunities for committing crime and hence reduce crime levels. Two key elements of Newman's 'defensible space theory' are territoriality and increased surveillability of the site. These findings concerning environmental design fall into line with those of Johnston et al (1990), who found that over 50% of the tenants on the industrial estates surveyed thought that basic design aspects of either their unit or the estate itself made them unnecessarily vulnerable to burglary.

The most interesting finding of the Johnston study was the fact that the basic design and layout of the estate and the surrounding area are indeed the factors most associated with higher crime rates. The security precautions taken by units and the policing of the estate were found to have little significance. Hope (1986) made similar conclusions in his study on the design of schools. Large amounts of empty space between the buildings/ units or being generally more open plan was found to be most influential regarding the susceptibility of such premises to crime.

If buildings were situated nearby, from which people could come or be observed, then this became a factor. Equally, if there was some open space adjacent to the building, then this became a factor primarily because it allowed unobserved access. Bennett and Wright's (1984) study of burglars picked this up as a key finding, in as much that those interviewed stated that the amount of cover provided and the closeness of other premises to the chosen target were considered as risk factors. In essence, this reflects a fear of being seen and, as such provides some evidence in support of the concept of a 'rational criminal' (Clarke and Cornish 1986).

The above suggests that physical prevention measures fitted have a reduced effect in preventing crime. Indeed Bennett (1986) found that, although burglars made note of security levels, they were not mentioned particularly frequently nor were they described as being influential in the determining of the decision to offend.

Although not considering the use of physical security measures, per se, within this study, references are made to the use of alarms and their role in alerting the police. Many previous studies have considered various aspects of physical security measures (Bennett 1986, Burrows 1991, Felson and Clarke 1998), though few, if any, have considered their role within the investigation process. The main thrust of many of the studies conducted, considers the effectiveness of measures in reducing levels of crime, mainly by reducing opportunity, from an offenders' perspective. Although extremely valid, they largely ignore the proactive value, role and influences of some security measures, especially alarms, in how the police respond, and any impacts made upon the investigation process. This study considers these aspects, and notes the varying influences, primarily between alerts made by people and alerts from alarm activations, and how the varying environments impact upon this. This study does not attempt to throw further light on to the relative efficacy of various prevention measures.

It becomes apparent from the above that the situational role of the building within the context of what surrounds it, whether the premises attracts the public (retail units) or has public access (town centre environments), and whether the building can be seen from neighbouring premises (sheds and garages), is influential.

The true relevance of the above will be assessed within this research through the study of the diversity of environments in which non-residential burglary occurs. This study takes note of any differences between environments that may impact upon police effectiveness in apprehending burglars. This is an important consideration both with regard to the availability of any witness evidence at the time of the incident, and at those incidents where a suspect was seen. The latter will be shown to be particularly important especially concerning the method of alert and whether, in those cases where a suspect was seen, they were first seen either entering or inside the building.

Given the nature of many non-residential environments, the predictability with which the majority of such premises will be vacant and the fact that offenders' target selection is based largely on occupancy and surveillability (Wright and Bennett 1984), the environmental relevance to the investigation process can be seen. Further

to this, there are aspects of current police force policy regarding specific environments (residential sheds and garages) and the worth, if any, of either SOCO attention or a first officer visit, that need to be taken into consideration.

2.15 Conclusions

It can be seen that non-residential burglary is a worthy focus topic for research, as it is clearly facing a considerable problem within this country when looking at initial rates of burglary, revictimisation rates and the affects upon the victims of such crime. Needless to say however, because it has generally been considered a ‘victimless crime’, there is very little research-based material upon the subject. The few studies that do exist present a somewhat narrow outlook of the true extent and nature of the problem.

The picture is similar for those studies that have looked at aspects of police effectiveness, including both larger Government initiatives and smaller individual research studies, both within this country and in the US. The measures used have been shown to be either both inadequate and too variable to be of any true worth, or too general in their focus. Although the studies show the worth of looking at specific aspects of police effectiveness such as response times or patrolling, many look at the broader use of such activities and actions without considering the effectiveness of such activities or the role of such activities in satisfying their objectives. As such, these studies can provide only isolated information.

This is not to dismiss the efforts made, as it has been shown that trying to find a suitable measure of police effectiveness and then actually measuring it is far from straightforward. This study however, by having clear aims and objectives, and by approaching the police investigation into non-residential burglary holistically is in a better position to assess those police actions undertaken in the investigation process. Further to this, by approaching this area from an investigative perspective, the true extent and variety of the problem can be more fully appreciated, as many different types of building can be affected. This in turn can have a variable influence over the police investigation of the crime and any subsequent success in the arrest of the offender, specifically with regard the provision of witness information or evidence availability at the scene.

In conclusion, this chapter has shown how a comprehensive study of non-residential burglary, with specific focus upon the investigation and primary detection of such crimes, will provide new insights into the effectiveness of police actions. Chapter three describes the method followed for obtaining the data required to facilitate this research.

3. METHODOLOGY

3.1 Research Objectives

It was shown in chapter two that there is scope to extend the knowledge of both non-residential burglary, and more specifically, police investigation into it, by considering the crime holistically. The majority of previous research into the police force had either examined it at a high, aggregate level, or had looked at specific aspects of police operations without considering the elements that constitute an effective police investigation. By addressing these issues, the various investigative procedures and activities can be understood, allowing assessment of how resources could better be allocated in the investigation of non-residential burglary, with a view to improving primary detections.

The principal aims of this study are therefore to:

- 4) understand how the police deal with 'Burglary other Building' incidents;
- 5) appreciate which investigative activities and operations undertaken lead to the successful detection of these BOB incidents;
- 6) assess the scope for adjusting existing investigative operational procedures into crimes classified by the police as 'Burglary other Building', or non-residential burglary, with a view to boosting detections.

3.2 Introduction

The following chapter details the considerations and research design methodology used to obtain the data required, in order to achieve the objectives of the research.

This study covers a significant part of the second largest police force area in England and Wales, spread over 348 square miles and made up of mainly urban clusters, with a population of 2.63 million people. The force itself is made up of 7,333 police officers supported by 3,300 civilian staff. The research covered a sample of 657 'Burglary other Building' incidents, from a total of 7070, occurring in a six-month period between 1st April and 30th September 1998, committed on 9 Operational Command Units (OCU's) of the West Midlands Police force area.

The methodology was assessed after an initial research design was formulated, and tested during a feasibility study with the assistance of police officers at both Bilston Street and Birmingham Road Police stations in Wolverhampton, West Midlands. A thorough understanding of police procedures was achieved through the observation and interviewing of officers, the examination of police records and the piloting of the officer surveys. It was at this stage that any further changes were made and tested. This led to the detailed research design.

This research was funded by the Home Office.

3.3 Proposed research design

The research design proposed the use of three officer surveys conducted on a sample of non-residential burglary cases collected across the West Midlands Police force area. The surveys were designed to pick up all aspects of the investigation procedure into non-residential burglary so that the individual elements involved in the investigation of such cases could be related on the basis of individual incidents. The surveys consisted of an initial response, 'routine' or 'immediate' questionnaire, a subsequent contact questionnaire and a 'detected' or 'undetected' questionnaire. These would then be complemented by secondary police data available on the 'CRIMES' and 'MDIS' computer systems.

By using both primary and secondary sources of data, the most successful and effective methods of investigation and detection and their role in the investigative process could be pinpointed. The burglaries considered in the sample would be profiled in terms of the activities conducted from the moment of alert and any initial screening considered, through the police response and investigation practices, to the filing of the case as either detected or undetected. In considering the burglaries in this way, the flow of activities could be better understood.

3.4 The feasibility study

A feasibility study was conducted in order to develop the research instruments and assess whether the proposed research design would be able to provide suitable and sufficient data in order to achieve the set objectives. This information needed to be obtained in a clear, unambiguous, non-leading and objective manner. References on

social scientific research design and questionnaire design were utilised in order to achieve these aims (Moser and Kalton, 1993; Oppenheim, 1992).

Sample sizes were determined to ensure that there would be enough cases available to permit any required analyses and also, in part, to select the police areas to be used within this study. This was supported using secondary data from West Midlands Police records concerning the incidence and detection of non-residential burglary cases across a similar six-month period. The operational and technical feasibility of the design was also addressed.

The feasibility study was conducted using Bilston Street and Birmingham Road police stations within G1 and G2 OCU's (Operational Command Unit). During this study period the following was conducted:

- 1) gathering knowledge on the different activities used in the non-residential burglary investigation process;
- 2) ascertaining the best method for obtaining all relevant information on the investigation of cases classified by the police as 'Burglary other Building';
- 3) designing and piloting the series of questionnaires to be used in gathering information on those police activities.

The questionnaires for the initial response (both 'routine' and 'immediate') and the 'subsequent contact' questionnaire were piloted continuously on non-residential burglaries that occurred during a three month period between 1st September and 30th November 1996. The finalised questionnaires can be found in Appendix 1.

The questionnaires investigating filed cases (both 'detected' and 'undetected') were piloted on a sample of recently filed non-residential incidents and completed by the investigating officers. The finalised questionnaires can be found in Appendix 1.

The questionnaires themselves were developed from a basic framework based upon the perceived activities that the police were likely to undertake in dealing specifically with non-residential burglary incidents. A series of interviews were conducted with uniformed constables and sergeants who would be best placed to outline the majority

of procedures and activities that would need to be addressed. Interviews were also conducted with members of the crime bureaus and Scenes of Crime Officers to further understand principles and activities other than those conducted by uniformed officers. Finally, interviews were conducted with members of the Criminal Investigation Department (CID) to identify specific features of the investigation that would largely identify those cases as detected or undetected, and the evidence that is considered as part of the investigations.

Once the draft questionnaires were complete, interviews were conducted with senior inspectors to assess both the information coverage and the viability of using such instruments. Extra factors were also determined e.g. any likely differences in police practice across areas, so as to ensure that the finalised questionnaires would be valid across any of the police force areas under consideration. The piloting of the questionnaires was further complemented by the additional interviewing of officers involved in dealing with Burglary other Building incidents, who were given the opportunity to provide feedback on the content and layout of the questionnaires themselves. Officer feedback was then compared to the information provided by the questionnaires to determine survey effectiveness.

3.5 Choice of study area

For operational feasibility, police officer liaison, travelling time used in conducting the research and in consultation with West Midlands Police, it was decided to use nine police force OCU's (Operational Command Units) contained within the urban area of Birmingham and surrounding towns in the Black Country. These equate to what were once F (1, 2, 3), G (1, 2), J (1, 2) and K (1, 2) divisions.

These nine areas were chosen because:

- 1) they are contiguous, and provide an area for study that is large enough to provide sufficient non-residential burglary incidents and primary detections (given the detection rate from the feasibility study) during the proposed six-month period of data collection. 250 primary detected cases are required and the overall number of cases during the six months must provide this;
- 2) they are accessible to the research team for liaising with police personnel;

- 3) the areas have a diversity of non-residential environments, and where applicable, residential environments (sheds and garages), including a variety of retailing, office, manufacturing and industrial concerns and locations;
- 4) these OCU's provide a variety of areas that make it possible to gauge the impact of any possible diversity in investigation methods. The centralised crime bureaus are, however, likely to impose a degree of uniformity.

3.5.1 OCU information

3.5.1.1 Birmingham Central (F1)

Birmingham Central operational command unit is divided into three sectors, based at Vyse Street, Digbeth and Steelhouse Lane, and is the smallest in the force in terms of resident population and area.

'A' Sector covers the Jewellery Quarter, the National Indoor Arena and International Convention Centre, Centenary Square and Broad Street, the focus of the city's night life. 'B' Sector is responsible for the shopping and commercial areas, the Crown and Magistrates' Courts and both Victoria and Chamberlain Squares, the chosen venues for many events and demonstrations. 'C' Sector covers the east of the centre, Aston University, the industrial areas around Digbeth, the markets and most of the residential areas of Highgate and Lee Bank.

3.5.1.2 Rose Road (F2)

Rose Road operational command unit is responsible for one of the most diverse areas in the West Midlands covering the four distinct communities of Harborne, Quinton, Ladywood and Winson Green.

3.5.1.3 Thornhill Road (F3)

Thornhill Road operational command unit covers a multi-cultural area of Birmingham and is divided into four sectors based at Walsall Road, Holyhead Road, Thornhill Road and Bridge Street West police stations.

3.5.1.4 Wolverhampton West (G1)

Wolverhampton West operational command unit covers Tettenhall, Pendeford, Blakenhall, Compton, Whitmore Reans and the town centre.

3.5.1.5 Wolverhampton East (G2)

Wolverhampton East operational command unit delivers policing to the Wednesfield and Bilston areas of Wolverhampton. The area is mainly residential, with an increasing mix of light industry. In 1998/99 policing was carried out by officers based on five sectors. These have now been realigned to three sectors.

3.5.1.6 Dudley North (J1)

Dudley North operational command unit covers Dudley, Brierley Hill, Gornal, Sedgley and Coseley, an area which also includes the Merry Hill shopping centre, Dudley Zoo and the Black Country Museum.

3.5.1.7 Dudley South (J2)

Dudley South operational command unit serves Halesowen, Stourbridge, Lye and Kingswinford and policing is delivered from locally-based sectors.

3.5.1.8 Sandwell North (K1)

Sandwell North operational command unit serves Tipton, Wednesbury, Great Barr and West Bromwich; the heart of the West Midlands. The OCU covers some of the most deprived areas in the country.

3.5.1.9 Sandwell South (K2)

Sandwell South operational command unit covers Smethwick, Oldbury, Warley, Langley and Old Hill; a multi-cultural urban environment with a diverse population.

3.6 Required size of the sample area

Within the proposed six month study period, the study area needed to provide at least 250 'primary detected' non-residential burglary cases and an equivalent number of undetected cases. This would provide a sufficient number of cases for the required levels of confidence in findings for West Midlands Police investigation methods into Burglary other Building (BOB). The number of cases that would be available for study during the six-month period would be dependent on a number of factors.

3.6.1 Limiting factors

Because the objective of the study is to analyse aspects of the police investigation process that lead, or do not lead, to the charging or formal cautioning of an offender, the number of 'primary detections' available to study is crucial in gaining an accurate

view of police effectiveness in investigating non-residential burglary. However, the actual number of primary detections available in the six-month study period would be dependent on several factors.

- 1) the number of non-residential burglaries in the OCU's;
- 2) the primary detection rate of the areas considered;
- 3) the length of time taken for a burglary to be primary cleared;
- 4) the non-response rate of questionnaires;
- 5) the number of cases telephone investigated.

3.6.1.1 The number of non-residential burglaries

During the six-month period between November 1995 and April 1996, there were approximately 9103 cases of burglary other building in the proposed study areas. When broken down by division, this amounted to a total of 2329 burglaries in F Division, 1855 burglaries in G Division, 1975 burglaries in J Division and 2944 in K Division. It had to be assumed that these figures for burglary other building would remain reasonably constant, so providing a sufficient number of cases to be studied within the proposed six-month data collection period.

3.6.1.2 The primary detection rate

The primary detection rate between November 1995 and April 1996 across the four divisions, F, G, J and K was c. 5.1 %. If broken down by division, F division had a primary detection rate of 5.0%, G division had a primary detection rate of 5.5%, J Division had a primary detection rate of 5.9% and K, one of 4.3%. The equivalent rate across the entire West Midlands Police Force area was 4.7% during the same period. Again, it was assumed that these figures would not deviate too greatly, so providing c. 460 primary detections across the four divisions during the proposed six-month research period. This was sufficiently in excess of the 250 required, so that any reductions due to a fall in crime rate, plus non-response could be more than accommodated.

3.6.1.3 The length of time for cases to be primary cleared

The numbers of primary detected incidents about which complete data could be collected would be affected by the time actually taken to detect incidents. Some non-residential burglary incidents during the first few months of the study would be

primary detected but will have been committed before the data collection began. Therefore, information on the police's initial investigation would not be available since detections in the first few weeks of the study would not have full information, e.g. details of the initial visits to the scene. To accommodate this fact, a 'warm up' period for the study was used.

This 'warm up' period was determined by the length of time taken to obtain primary detections. Analysis on G Division's primary clearance time showed that 92% of the non-residential cases that were primary cleared, were cleared within one month, whilst the remaining 8% took between two and six months to be cleared. Of those 92% of cases primary detected within a month, 84% of those were within twenty days, whilst 76% were within 7 days (see Figure 3.6.1.3 below).

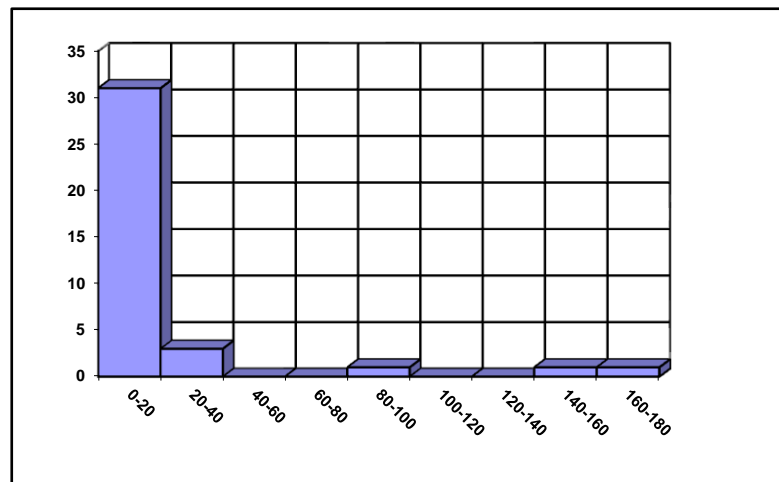


Figure 3.6.1.3 Time taken for cases to be cleared (days)

If these figures remained consistent for the remaining three proposed study divisions, there would be an approximate loss of only 6% of the data sample over the entire six-month period, so reducing the number from 460 to 432. However, if the six-month data collection period were to be extended for an additional month, and police records monitored, the bulk of any loss should be balanced by gains made from the burglaries taking place towards the end of the six-month data collection period. A small proportion of burglaries would be lost however, as some take much longer than a month to be detected.

3.6.1.4 The non-response rates on questionnaires

The number of primary detected cases for which questionnaire data could be collected would be further reduced by the non-response rate. Response rates from West Midlands' officers from research into residential burglary however, averaged over 90 per cent for the first officer surveys, with a response rate of 82% across all questionnaires used (Coupe and Griffiths 1996).

This feasibility study indicated that the sample of 432 primary detected cases prior to non-response would be reduced to 389 for the first officers' survey. This would be reduced further to 354 cases for the full set of questionnaires covering the three investigative stages: the initial response questionnaire, the subsequent contact questionnaire, and the final questionnaires concerned with the filing of cases as either 'detected' or 'undetected'.

3.6.1.5 The number of cases 'telephone investigated'

The manner in which certain non-emergency incidents are dealt with can also have a bearing on the required sample size. Some non-emergency cases are selected for a 'routine' grading first officer visit, while other less promising non-emergency cases are dealt with entirely over the telephone. It is necessary for sufficient cases of each type to be available for comparison so that the effectiveness of the screening process, in terms of the investigation of promising cases and the exclusion of those with little chance of detection, can be verified.

3.7 Research methodology

Having chosen an appropriate study area that would provide sufficient numbers of cases for analysis, the best method of obtaining the information had to be ascertained. There were two major inter-related issues that needed to be considered. Firstly, the choice between the use of historic or contemporaneous data, and secondly, the actual instruments to be used during the six-month data collection period.

3.7.1 The use of historic or contemporaneous data

Selecting a sample of cases that have been 'primary detected' during the proposed six-month data collection period, and sending questionnaires out to the officers involved seems both feasible and appealing upon first inspection. However, using this type of 'retrospective' approach would present the following problems:

- 1) memory lapse of officers is likely to degrade the quality of data collected. Results from the residential burglary feasibility study (Coupe and Griffiths 1996) show that officers have poor recall on the undetected cases after 2-4 weeks though recall on detected incidents lasts much longer. The biggest problem however would occur regarding the accuracy of the information provided about the initial police response taken in the investigation procedure;
- 2) any missing data would create further problems because, in general, it would not be possible to ask questions of the officers directly involved in any particular case;
- 3) there could be a danger that officers, already knowing the outcome of the case, might retrospectively complete details of the case accordingly.

Evidence from the feasibility study indicated that contemporaneous surveys would provide the only feasible method of obtaining the research data, to ensure that as many relevant incidences as possible were included and the data satisfied the need for completeness and high enough quality to conduct such research. Also, by using contemporaneous data, completeness of information allowed the research to be conducted on the same sample of burglaries across the entire investigation process. This was one of the major strengths of this research design.

3.7.2 Principal research instruments

The use of contemporaneous surveying meant that data would be required for as many initial visits to the scene of the burglary as possible in order to guarantee 250 primary detections. The only feasible method for obtaining such a large amount of quality data was by using:

3.7.2.1 Questionnaires

Three stages of the investigation process would be covered, with the aim of ascertaining the impact of different investigative activities on the 'primary detection' of non-residential burglary incidents.

- 1) Initial response to the BOB incident – The initial response questionnaires (A and B), 'self-completed' when officers first attended the burglary scene, covered the relative effects of both non-emergency and emergency responses (routine, early and immediate), the numbers of officers and types of vehicle used and response timings associated with each response type. Information was also available on

any questioning of victims (injured parties (IP's)), neighbours, and other witnesses, the evidence gathered and the use of that evidence. Information concerning modus operandi (MO) details, information on stolen property and any SOCO attention and associated evidence details were also available (SOCO information was supported further by the report forms compiled by the scenes of crime officers for all scenes visited, whether positive or negative). The collection of this data needed to involve as many 'non-emergency' and 'emergency' alerts where a 'first-officer' visited as was possible to collect, given the difficulties in collecting such data;

Supplementary questions regarding the 'in progress' (immediate response) incidents that considered factors that enabled a fast response were also contained in the questionnaires. These provided information regarding the location of the patrols when the alert was received, when and where the burglar/s were first seen, and any police activities conducted at the scene and in the surrounding area.

The questionnaires were left with main liaison officers at the nine principal police stations in the four OCU's covered. It was their role to distribute the questionnaires appropriately. This inevitably entailed attaching the questionnaires to the WC200 incident registers for completion, though there was some minor variation between police stations. It was hoped that this would provide a suitable number of incidents where first officers visited. Further to this, this method reduced the problem of memory lapse, as completed WC200's are required within 24 hours of the incidents being attended.

- 2) Subsequent contact - A second 'self-completed' questionnaire (C) covered any further activities conducted at any single particular incident. Information concerning the type and time spent on this contact, the number of officers dealing with the contact, the purpose of this contact and any further IP or witness information were collected. These questionnaires were also attached to the WC200's, as the incident registers also required update upon any subsequent contact;
- 3) Detected and Undetected cases - 'Self-Completed' questionnaires (D and E) by the OIC's (Officers in Charge) of the cases, covered all operations and

investigative activities undertaken that either led to the case being filed as 'detected' or 'undetected'.

These final questionnaires covered any evidence available either from the scene or elsewhere, and the resultant investigations. Furthermore, they allowed the collection of information concerning any investigations that were pursued concerning any particular incident, but led nowhere. This enables both the key factors in determining primary detections, and the factors that trigger investigations, to be identified. It also makes it possible to establish the sequence of activities that are more likely to lead to a successful outcome.

The final total number of completed questionnaires should include enough detected cases to satisfy the minimum 250 requirement. It should also include a sample of cases filed 'undetected' that contain a satisfactory minima of incidents where both visits to the scene and investigations took place, and those where neither occurred.

Without employing the use of 'self-completed' questionnaires to gather information from officers, there would be the following problems:

- 1) increased problems regarding timeliness, police time and research costs. These rendered interviewing for all cases across all questionnaires infeasible;
- 2) difficulty in identifying non-residential burglary incidents using computer databases alone. Missing data are a problem with police database systems, and this can affect sample representation;
- 3) data that depend on officer responses at or near the time of the crime would not be available. This would include any attitude data as well as certain factual information such as where a patrol car was located when a burglary alert was received;
- 4) it would be impossible to pin down exactly how non-residential burglaries are detected without the final questionnaires. Police records and databases do not readily include comprehensive information on how cases are detected, rarely containing details regarding the use of surveillance and informants. However, research into residential burglary (Coupe and Griffiths 1996) indicated that officers would tick the use of such items on questionnaires;

- 5) if this study were reliant on secondary data, it would be further reliant on the availability of sufficient computer operator resources to search and print out all relevant details of incidents;
- 6) the privacy rules under the Data Protection Act would prevent the use of certain data derived from a computerised database. Such information may be used however, if supplied by officers in the form of questionnaire responses.

3.7.2.2 Interviewing of officers

Officer interviews were conducted to provide supplementary detail on both the investigative and screening processes involved in any investigation procedure. This was essential with Scenes of Crime Officers, as no data would be available as to their operational work or the problems encountered regarding any SOCO input into a case. Although these interviews would prove to be resource intensive it was considered essential to conduct such interviews.

3.7.2.3 Use of police databases

The collection of information from police records and databases was also used, within the constraints of the data protection act. Police logs for incidents would be collected using the MDIS computer database, whilst all relevant tracking and searching would be conducted using the CRIMES computer system. Allied to this, secondary data would be collected where no visit was made to the crime scene due to the incident being 'telephone investigated' by a member of the Crime Bureau/ Call Handler. This would be used as the basis for evaluating the effectiveness of the screening process employed that dictates whether a police attendance should be made to the scene of the crime or not.

3.8 Technical and Operational Feasibility of Research

It was important to ensure that the proposed design was feasible both from a technical and operational perspective. The technical feasibility of the research was dependent on the quality of information that could be obtained about the different aspects of police investigations using the questionnaires, police databases and interviews. It was further dependent on the level of analyses that could be conducted on this information. The operational feasibility of the research was concerned with the workload that would be placed on the researcher, and the extra workload created for

the police officers involved. The factors that affect the robustness of the research and their evaluation from the feasibility study are as follows:

3.8.1 Co-operation of police officers

Although there are a large number of non-residential burglary incidents to be considered, they would be spread across nine OCU's. The burden placed on individual officers for completion of initial response and subsequent contact questionnaires would therefore be small. Further to this, and to avoid problems of low response rate, the questionnaires were designed to use quick tick-box responses, taking approximately two minutes to complete. It was determined therefore that the research would not have an adverse effect on the officers' efficiency.

The questionnaires for filed cases, although somewhat longer, would be completed less frequently and by fewer officers, and the officers involved should typically have to complete only ten 'final questionnaires' during the main six-month data collection period.

3.8.2 Accuracy of information

Memory lapse will be minimised by the use of contemporaneous questioning and by the completion of questionnaires by officers within a week of the case being filed or within four weeks of the incident if the case is not filed by the end of the third week. Data from police logs (MDIS) and information from crime sheets will also provide cross-checks on certain variables. The feasibility study showed that data was available for all cases sampled after any investigations had been completed.

3.8.3 Scope of the study

The methodology covers each principal police activity used in the investigation of non-residential burglary incidents, from the initial response through to the case being filed either 'detected' or 'undetected'. The variety of factors that influence primary detection rates will therefore become apparent.

3.8.4 Constraints imposed by data protection and the disclosure of evidence

The pilot study showed that all information required on police investigations could be provided by officers and through the use of computer databases, since the research did not require detailed information on sensitive issues.

3.8.5 Method of distribution and collection of questionnaires

Both the initial response questionnaires (A and B), and the subsequent contact questionnaires will be distributed and collected through a liaison officer at each of the nine OCU's involved in the research. During the pilot study, a Detective Inspector at Birmingham Road Police Station carried this out.

The questionnaires for the filed cases (D and E) will be sent to either the detecting officer, or the officer in charge of the case depending on whether it was detected or not. The police 'CRIMES' system will be used to identify relevant officers, and indicate when a case has been filed 'detected' or 'undetected'. The 'CRIMES' system should be updated within one week of the state of the case changing, therefore the cases should still be fresh in the minds of the officers when the questionnaires are received.

3.9 Details of the research design

The following section gives details of the research design as it was implemented in the main study. It shows how the study fulfils the need to take a holistic view of the non-residential burglary investigation process and how, by doing so, it provides an extremely rich source of data for analysis. The proposed research design reflects the way the police deal with non-residential burglary enquiries. The full investigation procedure can be seen in Figure 3.9 overleaf. It shows the procedures, activities, and operations used selectively in investigating 'Burglary other Building' cases, according to the characteristics of the incident.

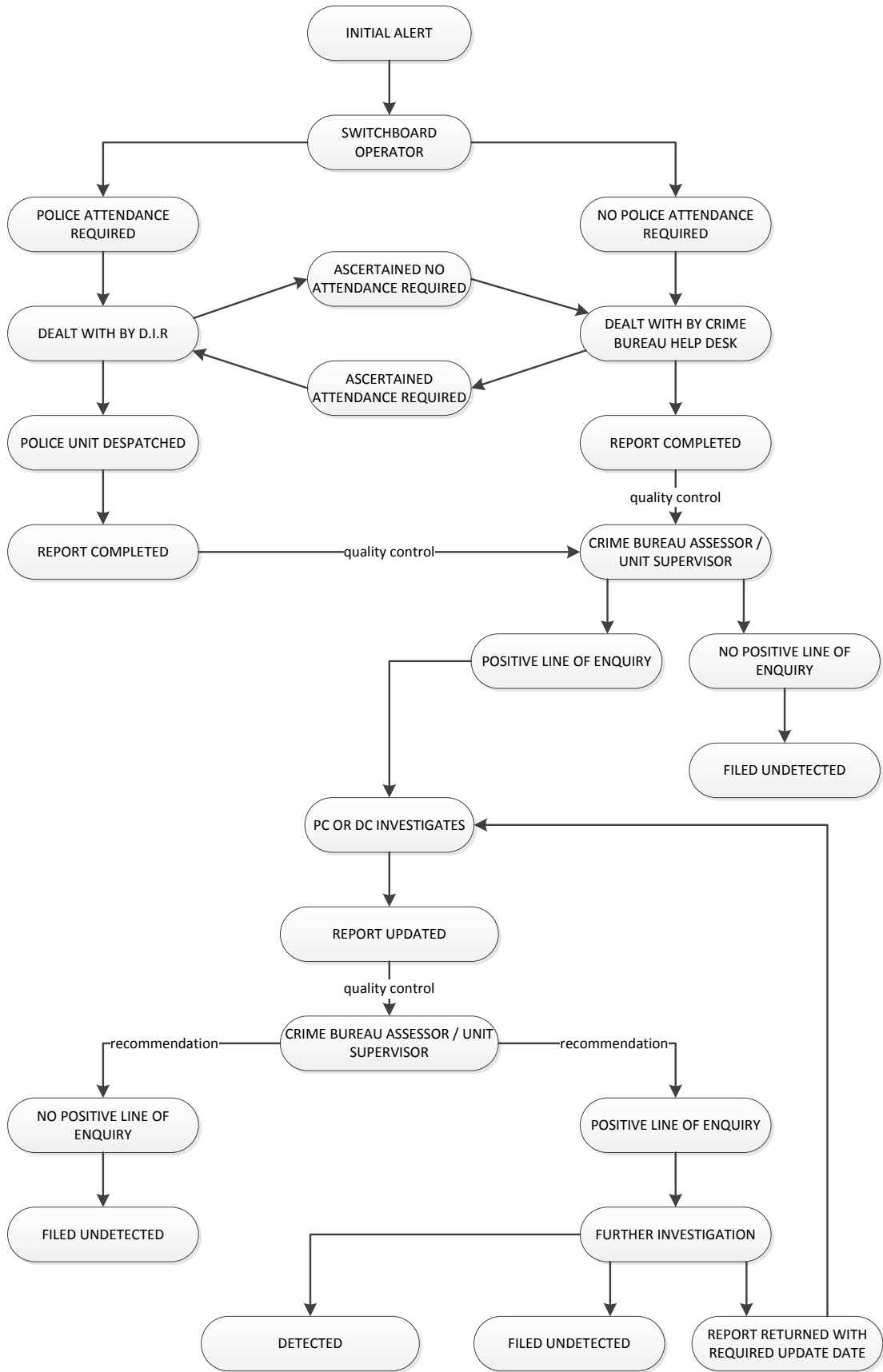


Figure 3.9 Investigation procedure for Burglary other Building incidents

3.10 Police activities, procedures and operations

The police, in the non-residential burglary investigation process, selectively undertake the following distinctive activities and procedures:

- 1) receive an alert regarding a non-emergency burglary incident, inevitably from the IP (injured party/ victim), and the screening of this information in order to decide whether a police attendance under a 'routine response' grading is required;
- 2) receive an alert from the scene of the crime regarding the availability of evidence likely to lead to the arrest of an offender, and the despatching of resources under an 'early response' grading;
- 3) receive an alert from any number of sources (IP, witness, alarm activation) that dictates emergency treatment of the case under an 'immediate response' grading, and the despatching police units to such cases. Inevitably the alert will suggest that the offence is ongoing or 'in progress';
- 4) investigations conducted at the burglary scene, including the interviewing of the victim and any witnesses to the act;
- 5) visits by Scenes of Crime Officers and the collection of any available forensic evidence;
- 6) the following up of any evidential leads provided at the scene of the crime;
- 7) the screening for any subsequent contacts made by officers to selected burglary incidents;
- 8) intelligence activities, including surveillance, collecting information from informants, targeting known offenders, and the use of Crime Pattern Analysis and Modi Operandi.

3.11 Distinctive Types of Activity

Four distinctive kinds of activity therefore should ideally be evaluated to determine their contribution to securing primary detections. These are:

- ◆ the screening of non-emergency incidents for a police attendance;
- ◆ visits to the burglary site, either as a non-emergency 'routine response', or as an 'early' or 'immediate response' emergency grading;
- ◆ activities conducted at the scene including any SOCO attention and the collection and types of evidence;

- ◆ the response and associated factors corresponding to those ‘in progress’ incidents.

Table 3.11 describes the data collected at each stage of the non-residential burglary investigation process.

Information on police investigations for each of the stages was obtained using the questionnaires, the police database systems (MDIS and CRIMES), and the interviewing of officers. These measurements provided the data for evaluating the effectiveness of each of the investigative stages and the impact of specific activities and procedures on the successful detection of non-residential burglary.

In addition, fuller measurement of ‘in progress’ burglaries has been incorporated into this study so as to provide an opportunity to determine the circumstances where ‘immediate responses’ to burglaries reported while ‘in progress’ are successful, and those where they are unsuccessful. Further to this, any variation in the practices between divisions depending on policy and work pressure will also be examined in the study.

Stage of Investigation	Data Source	Data Collected
Initial response	Initial response Questionnaire (A/B)	Strength of response (no. of officers and patrols and their arrival order), time spent at scene, witnesses questioned, type and quality of evidence provided, arrests made, practices at the scene
	MDIS logs	Precise information concerning the response; number and type of vehicle and response timings
Subsequent contact	Subsequent contact Questionnaire (C)	Purpose of contact, time spent, number of officers dealing, witnesses questioned, type and quality of information provided, officer’s case assessment
Visits by Scenes of Crime Officers (SOCO)	Initial response Questionnaire (A/B)	Details of whether a SOCO had been requested, or why not requested
	Final Questionnaires (D/E)	Details of any forensic evidence provided and if and how it was used
	Visiting forms	Official SOCO record of all scenes visited and negative or positive evidence
	Interviews	Operational difficulties, ongoing concerns
Detected cases	CRIMES system	Tracking of case and investigating/ detecting officer
	Detected Case Questionnaire (D)	Factors and evidence used in gaining the detection, operations undertaken and any proactive work
Undetected cases	CRIMES system	Tracking of case and officer in charge (OIC)
	Undetected Cases Questionnaire (E)	The evidence considered and any operations undertaken during the course of any investigations conducted

Table 3.11 Data source and collection and method of collection

3.12 Survey implementation

Following the feasibility study, meetings were held with all liaising officers from the nine OCU's to best decide the method of implementation of the questionnaires.

Although this process took place separately, a common approach was used across the nine OCU's. A research liaison officer was appointed as a contact between the researcher and the operational police officers. This varied from Detective Inspectors to Performance Review officers. The researcher cultivated the relationship with each of these officers and they proved invaluable in assisting in both the distribution and collation of questionnaires, and where possible, the return of questionnaires.

Once the survey was up and running, progress was monitored on a weekly basis, through visits, telephone calls and the interrogation of both the MDIS and CRIMES databases. The completed questionnaire data was also collected during these visits and any issues highlighted.

3.13 Difficulties encountered

Given the nature of the environment within which the data collection took place, and the type and amount of data required, several difficulties were encountered over the six-month data collection period.

3.13.1 Officer response

The response from the initial visit questionnaires was excellent, however, there was some difficulty in gaining subsequent contact questionnaires, and some OIC's were less willing than others to complete the final questionnaires. Overall however, close monitoring proved worthwhile in guaranteeing the running of the study.

3.13.2 Co-ordination of manpower; direct liaison

Given the nature of the environment and the changing of roles within the 6 month period across the 9 police force areas used within this research, liaison was required with a total of 23 police personnel, whether within a police study area or at West Midlands Police Headquarters. This created some problems with continuity of personnel, especially with regard the collection of the contemporaneous data. On four of the nine study areas, the main police liaison altered during the data collection period, with two areas altering more than once.

Allied to the above, there were further problems with continuity of personnel when the main area liaison officer was absent due to annual leave. This inevitably led to further changes of personnel, all of who had to be fully appraised concerning data collection, in a very short space of time. If no change of personnel was available, this meant further delays in the return of any data. These issues were, again, countered by regular and close monitoring of the situation.

3.13.3 Co-ordination of manpower; officer liaison

Similar problems were faced to those mentioned above with the actual completion of the police questionnaires, especially if this was required near the end of a shift. Problems were again encountered concerning annual leave, sick leave, and the delay in the return of questionnaires if an officer was attending a course on any particular occasion.

3.13.4 Operational Restructuring

Within the six-month data collection period, four of the nine study areas went through major operational restructuring, which again led to difficulties in the co-ordination of personnel and data collection. When the data collection began in April, areas J (J1, J2) and K (K1, K2) each had a centralised Crime Bureau and Divisional Information Room (DIR). During the data collection period however, both of these units were split in half, involving the relocation of part of both bodies to different stations within their respective police areas.

3.13.5 Access to Police Databases (CRIMES and MDIS)

Given that the police computer systems were in full use during the week, it was impossible at times to access required secondary police data. Although access was sometimes made available on occasional weekend periods, staff had to be available to oversee the use of the computers. If no staff were available, access to the databases was not possible, and therefore the collection of the required secondary data was delayed.

Allied to this, as the databases were not generally needed on an operational level at weekends, West Midlands Police IT unit had a tendency to take them 'off line' whilst the records and systems were updated or modified. This created further limitations regarding the collection of data.

3.13.6 Collection of Secondary Data

Although the majority of staff were able to use the databases on a general level, the specificity of this research meant that few staff possessed the required specialised knowledge to set up the kinds of specific searches to meet the needs of this research. This meant, that both the CRIMES and MDIS systems had to be learnt within a very short space of time in order to create the specific searches required to gain the secondary police data. Consequently, weekends that could have been spent collecting data were spent learning and creating the searches for future access.

3.13.7 Delays in the return of Questionnaires

In most cases, the best way to ensure that the initial response police questionnaires were completed (A and B), was to actually attach them to the crime report (WC200) until the case was filed 'detected' or 'undetected', at which time the research questionnaires were removed and returned. However, this inevitably meant a minimum delay of 28 days in the return of most questionnaires, as the majority of cases would be given a 'further referral date' (FR date) whilst any police enquiries were completed.

A cut off point had to be set for the 'detected' and 'undetected' questionnaires, (D and E) to ensure that any delays in the return of these questionnaires was not too great. Although this meant that a minimal number of detections might be missed, this was unavoidable, as the return of questionnaires could not feasibly have been left any longer. The majority of cases that would be detected however, were inevitably detected within this time period, even allowing for the return of any Scenes of Crime (SOCO) evidence from the testing labs.

3.13.8 West Midlands Police Internal Post

Because of the restructuring across the study areas, instances occurred where the returned questionnaires were effectively 'swallowed' by the system for up to 8 weeks. This meant that in many cases, because the questionnaires did not show up as returned, a second sweep of the internal system had to be conducted with regard the return of questionnaires.

3.13.9 Major Investigations

Understandably, when a major investigation arose, officers were often too busy to complete and return questionnaires. This proved problematic, especially in those

areas where the direct liaison was a CID officer who was subsequently seconded to an Incident Room. As stated above, this created problems with regard to changing police personnel, and further problems associated with this change. By ensuring direct and close liaison however, any effects were largely mediated.

3.13.10 Environmental ethos

The problems stated above are entirely of a practical nature, dealing with the specifics of data collection and collation. Equally important however were the problems encountered with the general environmental ethos within which the data collection took place. Similar problems have been noted by Horton and Smith (1988).

The key issue was the difficulty in conducting such research as an outsider. Although there was frequent liaison with officers charged with the task of collating the information required, it proved difficult at times to ensure the prompt return of relevant data without the authority to secure co-operation.

3.14 Response rates and representativeness of sample

The population studied consisted of 7070 'burglary other building' incidents that were committed in the survey area between April and September, 1998. 765 burglary cases were systematically sampled from these incidents, and the sample was stratified according to whether cases were detected or not. Incidents were identified from data on West Midland Police computers within two weeks of their occurrence, and every 1 in 2 detected cases, and every 1 in 25 undetected cases were selected for inclusion in the sample, representing half of the detected and 4% of the undetected cases. This resulted in 306 cases recorded as detected and 459 undetected cases.

The response rate for the questionnaires completed by police officers was 86% providing 657 burglary cases, 285 of which were detected and 372 undetected. There is no evidence that systematic bias due to non-response affected sample representativeness, since the profile e.g. property types, timing of the offences, characteristics of the offence, for the burglaries with a non-response matched quite closely that of cases where officers completed questionnaires.

Sample stratification meant that sample data needed to be adjusted or weighted using the differing proportions of detected and undetected incidents, in order to estimate

correct population parameters, such as proportions. In view of the fact that the sample consists of 50% of detected burglaries but only 4% of the undetected, it is necessary to multiply the undetected sample by 16.1 and the detected sample by 3.7 and then sum these two together. Similarly, the estimation of confidence limits needs to be proportionately adjusted to take account of any differences in the variances between detected and undetected cases. Statistical tests were carried out on the unmodified sample data. The examples in Appendix 2 illustrate how sample percentages are adjusted and confidence limits can be calculated to take account of the unequal proportions of detected and undetected cases.

The analytic approach adopted was to decompose the investigation of burglary incidents into component activities and operations. This makes it possible to assess the contribution of each type of operation to detection, and understand the factors that influence whether or not these crimes are successfully solved, and, hence, meet the objectives of the thesis.

The police selectively undertake a number of operations and activities in order to attempt to solve cases. These can be viewed as activities carried out sequentially but selectively, so that in effect, there are different potential paths through the burglary investigative process. It would be expected that more promising cases that remain unsolved will tend to receive continuing and greater attention than those with a slimmer chance of detection. An 'in-progress' burglary incident where no offender was caught but where there was good quality witness evidence is therefore more likely to undergo further investigation than where there is little or no information available. A summary description of the burglary investigation along these lines was not undertaken, because it would not in itself assist in meeting the thesis objectives, namely assessing the effectiveness of different types of investigative activity under different circumstances. If this is accurately assessed, then the appropriate activities can be carried out to investigate different types of cases.

The statistical analyses employed reflected the types of data, with inferential significance testing using variable control. Data summarising the importance of each operation or activity for successful detection were cross-related to incident or police response circumstances using inferential significance tests that matched the data level.

3.15 Conclusions

The research design incorporates a total of five officer surveys representing the three stages of police response. These are the initial response questionnaires (A and B), a subsequent contact questionnaire (C), and two final questionnaires that consider both detected and undetected cases (D and E).

Where appropriate, the information from the surveys was supplemented by secondary data from 'MDIS' and 'CRIMES' as permitted by the data protection act, and officer interviews. The minimum sample size required for the officer surveys was 250 primary detected cases, and a total of 285 were collected.

The key features of the Non-Residential design are similar to those used in the 1994-5 research into residential burglary (Coupe & Griffiths, 1996) that proved reliable and accurate. Adjustments have been made to the design to take account of the differences in the way 'burglary other building' cases are dealt with. This is most noticeable with respect to the differences in those 'non-emergency' incidents that receive a police attendance and further investigation, and the much smaller group of 'non-emergency' incidents that are not investigated at all.

The approach adopted in this research involves contemporaneous measurement of police activities. As a consequence, data collection was more difficult than if it were based on secondary police records, or if the study relied on questioning officers about their views as to what happens and how things might be improved. Although the latter may be a useful complement, it is more reliable to measure how officers deal with each case from a representative sample of incidents, assess the impact of each of their activities on detection, and then aggregate the findings across every case to determine their comparative impact on solving cases and any potential to enhance detection.

This research design provides a data set that is of extremely good quality and collected from both primary and secondary sources. As all data were linked to a single set of non-residential burglary incidents, police activities could be considered in a holistic manner. The final data set consisted of over five hundred variables.

4. DIVERSITY OF TARGETS

4.1 Summary

Twenty-eight different property types were identified within this study that suffered from burglary during the six-month data collection period, showing that almost every type of property and organisation can fall prey to the burglar.

A little over a half of all targets were offices, shops and industrial concerns or warehouses. The remaining burgled properties were schools and colleges, leisure facilities, including pubs, clubs, sports centres, cinemas and restaurants, and a variety of public service establishments and facilities, including hospitals, surgeries, churches and both fire and police stations. Parts of domestic properties, principally sheds, garages and 'void' dwellings are also classified by the police as 'Burglary Other Building', and as such, constitute almost one fifth of the sample.

4.2 Introduction

This chapter examines the variety of property types and environments within which 'Burglary Other Building' incidents occur. It is important that this diversity is fully appreciated because, as will be shown in following chapters, there are indications that the influence of the varying environments may have an effect upon factors involved in the police response to, investigation of, and the successful apprehension of the burglary offenders. This is of particular relevance when the burglary occurs within an environment that contains larger concentrations of people and, as such, is likely to increase the chance of an offender being seen, or the availability of other witness evidence. The influence of the differences between different premises and environments therefore runs as a common thread throughout the following research, acting, as it does, as one of the more relevant features outside police control that may impact successful detection.

To date, because police force classifications do not differentiate between non-residential building types, the majority of information available has come from individual studies conducted within the field of 'non-residential burglary'. These studies have tended to concentrate on specific, and more obvious, business types such as industrial estates (Johnston et al 1990) or retail concerns (Hibberd and Shapland

1993). This has resulted in a specificity that a) hides, to a large extent, the variety of targets and b) largely ignores the various influences upon burglary and detection that such diverse environments can have. By addressing the issue from an investigation perspective however, this study reflects more accurately the true nature of the problem by identifying these property types, and displaying the sheer diversity of properties that can be affected. Allied to this, any environmental influences that may be exerted on the police response and investigation that can impact upon the successful detection of non-residential burglary become more apparent.

4.3 Diversity of Premises and Environment

28 different 'non-residential' property types suffered burglaries. These vary from what one would expect to be classified as 'non-residential' (shops, offices, warehouses, pubs), through those properties which we are surprised to find burgled (libraries, fire stations, police stations, churches, dental surgeries), to those premises which one would not immediately consider to be cases of 'non-residential' burglary (domestic sheds and garages).

Although both shops (13%) and warehouse/ industrial premises (30%) do feature heavily within this study, as do other more obvious non-residential targets such as offices (12%), they only constitute half of all 'burglary other building' cases (55%). Both schools and colleges (10%), and domestic sheds and garages (14%) also feature heavily. It seems surprising that sheds and garages should be classed as non-residential premises, given that they are both set within a residential environment. However, by definition, they are both premises that are not generally used for living in. It is worth noting however, that a burgled garage with an adjoining door to a residential property will be classified as Burglary Dwelling House (BDH).

Even though the remaining property types do not feature to as large an extent, we cannot deny the fact that premises such as fire stations (0.2%), hospitals (1.1%), rest homes (0.2%), building sites (0.8) and churches/ mosques (1.1%) still suffer from incidents of burglary. It is through the study of the 'burglary other building' problem from the perspective of the West Midlands Police, and their investigation of such

cases, that this research is able to provide an idea of just how widespread the problem is, and how many property types are affected.

More importantly perhaps, given past domestic burglary research with its justifiable focus on victim effects, it can be seen that ‘non-residential burglary’ is not simply a case of crime against business, per se. It is a popular misconception therefore to see ‘burglary other building’ as a victimless crime against organisations rather than people. This is important for two reasons.

- 1) just because ‘the victim’ is business, it does not necessarily follow that any losses can be afforded. Allied to this, it is not the case that ‘burglary other building’ does not affect people because, even within businesses, employee jobs and the company future may be at stake;
- 2) it can be seen that residential properties are a ‘non-residential’ concern, with burglaries to both sheds and garages. Therefore, there will be what are generally recognised as ‘true victims’ of such crime. The picture is therefore much more complicated, with a wider variety of targets and people affected.

4.3.1 Generic property categories

For the purposes of analysis, the twenty-eight property types have been condensed into seven generic categories. These can be seen in Table 4.3.1 below.

Type of property	Frequency	Valid %
Offices	830	12
Shops	899	13
Warehouse/ industrial	2076	30
Residential environment	969	14
School/ college	692	10
Leisure facilities	623	9
Other	830	12
Total	6919	100.0

Table 4.3.1 Condensed property types

N.B. The figures displayed are population estimates from the sample

The categories ‘office’, ‘shop’ and ‘school/college’ have remained the same. The ‘warehouse’ and ‘industrial’ burglary cases have been combined to account for 30%

of all incidents, whilst the 'residential environment' category now includes both sheds and garages, so accounting for 14% of all incidents. The largest grouping has occurred within the 'leisure facilities' category, which now includes such property types as pubs, clubs, cinemas, sporting venues and restaurants. This grouping seemed appropriate, as there were many various types of leisure/ social premises that, individually, did not account for much of the total, but as a group, account for 9% of the total.

The remaining property types have been categorised as 'other', both because of their small numbers, and difficulty in categorising those premises appropriately. This category now accounts for 12% of the total.

4.4 Influences on non-residential burglary

There are two inherent considerations that need to be taken into account when bearing in mind police activities and gauging the influence of the differing non-residential environments.

1) predictable levels of occupancy;

Many non-residential burglary targets are situated in areas that will not be routinely occupied after 7.00 p.m. in the evening, or during the weekend period. This will mean that at predictable times of both the daily and the weekly period, it is a reasonable assumption that the majority of premises considered here would have neither owners nor members of staff on the premises.

2) location of site;

Some property types such as schools, and factories or warehouses on industrial estates, would be located away from areas generally considered to have good surveillability, such as residential areas. Such targets will offer better opportunities for a burglar to commit the offence unobserved, and leave the scene unobserved. Given previous research concerning both the risks of being observed (Bennett and Wright 1984) and building location (Hope 1986), these features of the environment are important considerations.

Both of the above will influence the availability of witnesses from the time of the offence, and are therefore likely to have an important bearing on both the amount and quality of suspect evidence and other information. It also follows that certain environments will afford better escape opportunities for the offender. At a more fundamental level, it can also effect the alerting of the offence, with the more isolated properties affording fewer opportunities for the offender to be seen, and so necessarily being more reliant on alarm systems.

4.5 Conclusions

It becomes clear from the above that there is great variation in the targets chosen by burglars, and that is somewhat naïve to see ‘Burglary Other Building’ as a problem that affects only business premises, or certain types of business premises.

Given the types of property seen to be targeted, especially residential buildings, it is misleading to view ‘non-residential burglary’ as a ‘victimless crime’, and one that does not have an effect on people. This classification of crime also effects many businesses, and could well result in the loss of business or jobs for the victim.

Although previous studies have given some indication of the problems faced, their outlook has been limited both by the study of specific business premises and the failure to recognise that it is not only business concerns that can suffer. This study highlights the fact that almost every type of premises can fall prey to burglary, and the variety of these targets can play a role in the way the police deal with such crimes. Given that the majority of premises involved in this study will be unoccupied at predictable times, it is useful to understand any influence associated with the different environments.

As will be shown in following chapters, these influences may exert subtle control throughout the whole burglary investigation process, from the type of alert received, through the police response allocated, to the collection of any evidence at the scene and the detection of such cases. It is therefore essential to appreciate the extent and variety of the premises that suffer from ‘non-residential burglary’, and any effects that these differing environments may have on any successful apprehension of burglars.

5. INITIAL REPORT AND POLICE RESPONSE

5.1 Summary

The largest number of burglaries were reported to the police at the beginning of the week, mainly in the mornings, and by someone from within the burgled premises. Neighbours or witnesses/ passers-by were also responsible for a number of alerts, with 2.9% of these incidents reported as the burglary was taking place, indicating the modest role of the general public in helping the police to tackle crime.

Alerts attributable to alarms were especially important for more isolated buildings such as school and colleges, whilst external individuals reported more burglaries in 'people rich' environments. Victims themselves most often called the during working hours, whilst alarm and witness reports were responsible for the greater majority of alert calls to the police later at night and early in the morning. It is clear however, that commercial and industrial premises and public facilities rely for much of the reporting of burglars committed outside of business hours on members of the public, whilst alarm activations also play a significant role in alerting the police.

The majority of incidents were dealt with as non-emergencies, though a significant proportion of all burglary incidents were emergencies reported whilst 'in progress', and would appear to offer the best opportunities for successful detection of the offence through catching the offender at or near the burglary scene at the time of the incident. This is reflected in the strength and speed of response given to 'immediate response' gradings. A large minority of emergency incidents were also designated by the police as 'earlies', at which, evidence was available and likely to lead to the arrest of an offender.

Whilst single police units, most often panda mobiles, dealt with routine cases, foot patrols tended to complement this function in town centres, whilst an average 3.3 patrols responded to calls for immediate assistance at 'in progress' burglaries, using larger proportions of faster response zulu units. At early response incidents an average two police units attended. Since most patrols were crewed by either one or two officers, the bulk of routine incidents involved either one or two officers, whilst an average 5.5 officers attended each 'in progress' alert.

The time taken to respond to burglary alerts also varied between the three incident responses, with immediate responses receiving the fastest response and routine responses the slowest. These overall response times depend on pre-travel time during which the alert is processed, actual travel time, and the distance travelled by units.

5.2 Introduction

The following chapter examines, on a general level, when and how the police are made aware of burglary incidents, and the ways that the police can and do respond, including the screening criteria attributed to those non-emergency incidents. The understanding of the various routes from which the alert is made and when it is made are essential, as both exert an influence over how the police initially attack the report of a burglary. As such, the speed, strength, vehicle type and manning levels of any police response will be directly affected.

The method of alert also exerts an influence over the availability of information to the police at the time of their response, and so has a distinct effect on the chances of an arrest being made, primarily at the time of the incident, but also at a later date as a result of any witness information available. Chapter 6 considers the specifics of those emergency incidents where arrests were made, whilst chapter 7 considers, amongst other aspects of the investigation process, the value of witness information.

Essentially, it will be seen that the strength and speed of any police response depends upon:

- ◆ whether the burglary can be graded as a ‘non-emergency’;
- ◆ whether the incident can be dealt with over the telephone;
- ◆ whether the incident satisfies ‘early response’ grading criteria;
- ◆ whether the burglary is reported as ‘in progress’.

5.3 Answering the alert

There are four different ways in which the police can respond once an alert has been received:

Non-emergency incidents:

- 1) Crime Bureau; no attendance; deal with all non-emergency calls; ascertain if attendance required through ‘telephone investigation’;
- 2) Routine Response; ascertained line of enquiry; attend within 24 hours.

Emergency incidents:

- 1) Early response; protection of evidence likely to lead to an arrest; attend within 30 minutes;
- 2) Immediate Response; danger, offence ‘in progress’, offender in vicinity; attend within 10 minutes.

The full breakdown of responses for the six-month data collection period can be seen in Figure 5.3 below.

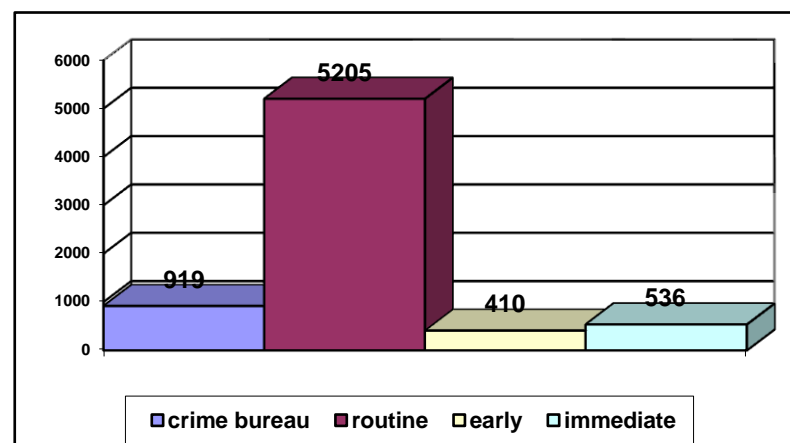


Figure 5.3 Response gradings for the six month data collection period

N.B. The figures displayed are population estimates from the sample

How the police do actually respond is largely dependent upon the form of that initial alert, especially in terms of the availability of any information, and the timing of the alert. Within this study, nine different types of alert were originally identified, and these have been appropriately condensed, with essentially four unique methods of alert;

- 1) *alert from the burgled premises* e.g. the injured party (IP) or staff member;
- 2) *alert from an individual external to the burgled premises* e.g. a witness or passer-by;
- 3) *alert from an alarm activation*;
- 4) *police discovery of the burglary*.

The frequencies of these methods of alert, upon which data was available, can be seen in Table 5.3 below.

Alert Method	Frequency	%
Burgled premises	5702	82.6
External burgled premises	644	9.3
Alarm	469	6.8
Police discovery	86	1.3
TOTAL	6901	100

Table 5.3 Condensed response directives

N.B. The figures displayed are population estimates from the sample

5.4 Non-emergency incidents

All cases of ‘burglary other building’ that do not require an ‘immediate’ or ‘early’ response will be dealt with initially by the Crime Bureau, whose job it is to ascertain if a physical police attendance is required. It is Police force policy to attend with a ‘routine response’ grading (within 24 hrs) if any of the following criteria apply;

- 1) a suspect may be identified;
- 2) there may be a witness to the offence;
- 3) a vehicle description/ registration number may be supplied;
- 4) violence/ weapons have been used/ threatened;
- 5) a person is considered vulnerable e.g. an elderly victim;
- 6) a number of similar crimes have occurred in the area in a short space of time;
- 7) SOCO, forensic, or other material evidence available e.g. CCTV;
- 8) property is of high value, abandoned, or presents a danger to the public;
- 9) unusual or significant M.O. (Modus Operandi);
- 10) premises insecure or unattended by owner;
- 11) unable to communicate due to language differences.

5.4.1 Characteristics of non-emergency incidents

The greater majority of alerts were raised by individuals from within the burgled premises (89%). There were significantly more logged by the police at the beginning of the week (chi-sq=13.242, p=0.000) and especially in the morning, with over one third of incidents logged between 0700hrs and 1000hrs (chi-sq=102.418, p=0.000). Given the nature of the majority of the premises involved within this study this is to be expected because such premises will be mostly unoccupied at weekends, and so the burglary will tend to be discovered upon arrival at work at the beginning of the week, and reported by someone from within the burgled premises. As such, the scene of the crime itself will tend to be 'cold' and is therefore more likely to be afforded a non-emergency response grading.

On a more general level, working hours were also found to be influential, with significantly more alerts from individuals within the burgled premises during this time (chi-sq=101.136, p=0.000) and hence, an increased number of non-emergency responses (chi-sq=98.869, p=0.000). If we assume that a generous working day might fall between the hours of 6.00 a.m. and 7.00 p.m., taking into account duties performed by cleaners, security etc before and after work, it can be seen in Table 5.4.1 below that more responses occurred during the day, as one would expect, from contact by the IP/ employee.

Method of Alert	Within business hours (0600-1900)			
	Yes	%	No	%
DIR from IP/ employee	4972	87.2	730	12.8
DIR from external	323	50.2	321	49.8
DIR from alarm	63	13.4	406	86.6

Table 5.4.1 Response directives during business hours

N.B. The figures displayed are population estimates from the sample

Conversely, outside of 'normal' working hours, significantly more responses occurred through alarm activations at the burgled premises and through external individuals (chi-sq=87.689, p=0.000). This is expected given that very few business premises will be occupied outside working hours.

5.4.2 Screening for police attendance

Members of the crime bureau are responsible for the screening of non-emergency reports in order to decide if a police presence is required. The following therefore considers criteria upon which cases may be filtered out purely for telephone investigation and those that warrant a police attendance.

5.4.2.1 Was a suspect seen

It was more likely that the police would attend if a possible suspect had been seen (chi-sq=8.456, p=0.004), with a routine attendance made in 99.4% of incidents in which a suspect was seen. This is extremely good practice because, as will be shown in later chapters, there is an increased chance of a 'primary detection' when a suspect information is available, but there has been no arrest made at the time (chi-sq=14.147, p=0.000).

5.4.2.2 IP/ Victim distress

Telephone investigations were not conducted with anybody who was shaken, annoyed, angry or distraught. In all cases, the victim's level of distress was either calm or mildly upset. This would tend to suggest that in cases where the distress of the victim was considered to be more serious, then a police attendance would be made.

5.4.2.3 Useful information available

There was an increased chance that a police attendance would be made when useful information was considered to be available (chi-sq=11.710, p=0.001). There would also appear to be a tendency for a police attendance when there are several items of information available (chi-sq=4.695, p=0.060). This is also good practice given that later chapters show the value of obtaining as much information from as many sources as possible.

Overall, with the screening methods in place, it was found that a police attendance was made in 87.2% of cases, with the remainder being dealt with purely by way of telephone investigation.

5.5 Emergency incidents

All emergency (999) contacts will first go through the Force Control Room. It is here that the first step in the filtering system occurs. That is, the following criteria are

applied to all contacts and a decision made as to whether an emergency response is warranted.

An 'early response' grading will be merited if it can be ascertained that an early attendance would be of worth with regard to the 'protection of evidence likely to lead to the arrest of an offender'. As such, a police attendance will be required within 30 minutes of the initial alert. An 'immediate response' grading will be merited if it can be ascertained that any of the following criteria apply:

- 1) there is a danger to life and limb;
- 2) the offence is ongoing;
- 3) the offender is still in the vicinity.

Once the alert has been logged, it is then passed on to the DIR (Divisional Information Room) of the relevant OCU (Operational Command Unit). It is at this stage that the amount of police resources available at the time of the alert, the form of the alert itself and the information available, will dictate the attendance level allocated to any emergency incident.

It is essential to note however, that it is the prerogative of both the Force Control Room and the DIR operators to decide whether a report merits an emergency response. If it is not deemed necessary at either stage, then the response will be downgraded to a non-emergency response and dealt with by the Crime Bureau/ Call Handlers.

5.5.1 Characteristics of emergency incidents

Unlike non-emergency incidents, the majority of emergency alerts were raised either by an individual external to the burgled premises (21.1%) or from an alarm activation (49.4%), and especially over the weekend period (chi-sq=21.954, p=0.000), with an average 57.2% of incidents dealt with as emergencies over this two day period. Sundays were particularly responsible for emergency incidents (chi-sq=13.582, p=0.000), accounting for almost one quarter of all emergencies logged (23.6%). The majority of these emergency incidents were met with an immediate response grading (chi-sq=21.669, p=0.000). These findings are of little surprise given that, as stated

above, the majority of premises considered will be unoccupied during this period, and more so on Sundays. As such, they will be especially reliant upon alarms and witness alerts. Figure 5.5.1 displays the methods of alert for all emergency incidents upon which data was available.

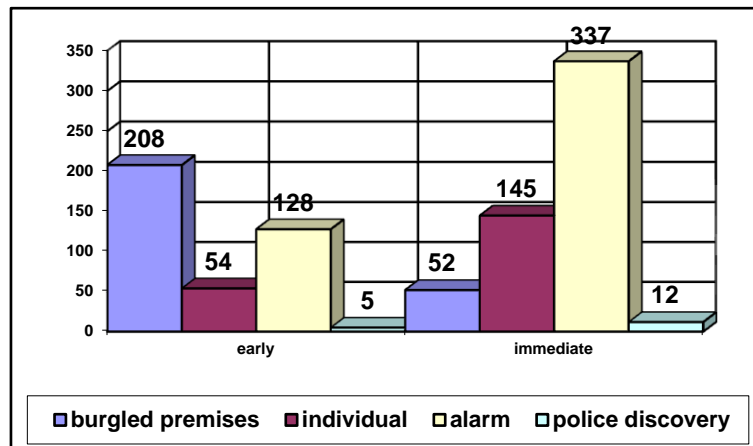


Figure 5.5.1 Method of alert for emergency incidents

N.B. The figures displayed are population estimates from the sample

During the weekday period, more emergencies occurred later on in the night and earlier in the mornings, though there were an increased number of emergency responses during rush hour periods, and especially between 1700-1800hrs (chi-sq=3.986, p=0.046). Such time periods are characterized by more general ‘traffic’, whether cars or people, on the streets and hence may mean more chance of any burglary being witnessed ‘in progress’. However, this finding might suggest that burglars are aware of this busier period and use it precisely because the increased levels of ‘traffic’ might ease escape. This may especially be the case if any attending police units have to contend with the increased congestion.

This suggestion is borne out to some extent by the increased travel times displayed by the first attending unit during this time period, though the difference is not significant. During rush hour, the average travel time was 4.9 minutes (trimmed at 5%) compared to 4.0 minutes (trimmed at 5%) outside rush hour (M-W, p=0.182). Police units are therefore taking longer to attend incidents during busier periods of the day.

5.6 Influences of property types on alert

Significantly more residential shed and garage incidents (70.5%) were dealt with as non-emergencies (chi-sq=11.780, p=0.001), and especially by telephone investigation (58.3%) alone (chi-sq=30.922, p=0.000). If the rationale behind making an attendance at non-emergency incidents is considered (availability of a promising line of enquiry) these findings make sense. In most cases, sheds and garages are more likely to be dirty with few smooth surfaces (no SOCO evidence), entry can often be gained easily, and items stolen will rarely be of great value or can be easily resold i.e. not distinguishable. As such, a physical response may often be wasted, unless the circumstances specifically dictate otherwise e.g. where a suspect is seen at the time of the incident. In such cases however, the incident will be dealt with in another manner entirely. Such incidents are covered in the following chapter.

In contrast, more isolated premises such as warehouses/ industrial premises (chi-sq=6.371, p=0.012) and schools (chi-sq=7.159, p=0.007) tended to receive fewer non-emergency responses. This was because both types of property, and especially schools, tended to result from alarm activations. This is quite marked for schools, with almost three times as many alarm activations at schools/ colleges (chi-sq=34.023, p=0.000) than there were at the remaining property types (40.8% and 13.9% respectively).

5.7 How the police respond

Having considered the various methods by which the police can deal with non-residential burglary, and the characteristics of the various incident types, the following considers those characteristics of the physical police attendance and the comparison between response types.

The strength and speed of the police response depended on whether the burglary was considered to still be 'in progress' (immediate response) at the time of the report for those emergency incidents and whether the incident could be graded as a 'non-emergency' routine response after having been screened by the crime bureau.

5.7.1 *Strength of police response*

	Routine		Early		Immediate	
	Mean	Tr mean	Mean	Tr mean	Mean	Tr mean
No. of Units	1.05	1.00	2.53	2.36	3.44	3.29
Officers	1.79	1.59	4.15	3.91	5.74	5.46

Table 5.7.1 Breakdown of police strength by response

As can be seen in Table 5.7.1 above, immediate responses afforded the strongest response by the police with routine responses affording the weakest. Early responses sat between these two extremes.

A police attendance was made by only a single unit in 95.4% of cases graded as ‘routine response’, with the majority attended either by a single standard patrol mobile (panda) or foot patrol (86.3%). There were no more than two officers in attendance in over 90% of such responses. In comparison, early responses were found to be stronger, both in terms of the average number of officers and units in attendance, and in the use of faster and more ‘attack oriented’ vehicles such as zulus (fast response vehicles) and dog vans. Unlike routine responses, zulus attended in 50% of early incidents whilst dog patrols attended just under one third of incidents (30.3%). Although there were instances of single unit attendances (37.9%), approximately one fifth of cases received either a two (22.7%) or three-unit response (18.2%), with up to seven officers in attendance.

It is of little surprise to see a major shift in the pattern of the strength of response afforded to immediate response incidents, when compared to both routine and early response gradings. The majority of incidents (87.2%) received up to a maximum of 5 units, although incidents occurred where up to eleven units attended. On average 3.4 units were despatched (3.3 trimmed) to all immediate response gradings, with 5.7 officers attending (5.5 trimmed). The full breakdown for number of units attending can be seen in Figure 5.7.1a below.

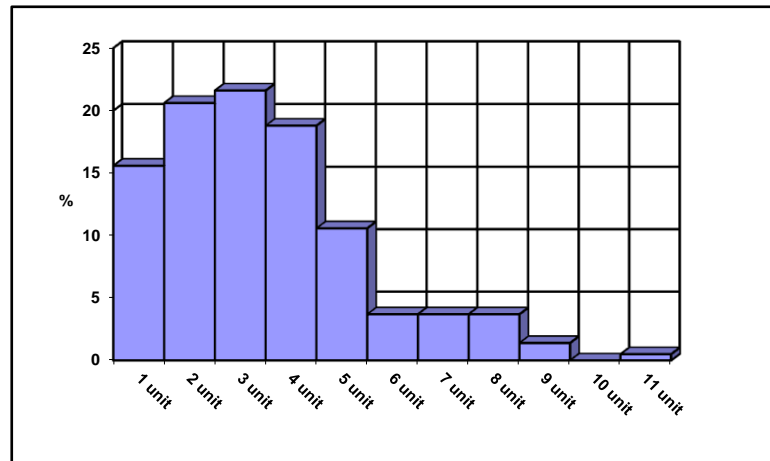


Figure 5.7.1a Percentage of units in attendance at immediate response incidents

It is clear from Figure 5.7.1b below however, that there are most definitely some incidents that appear to have ‘everything thrown at them’.

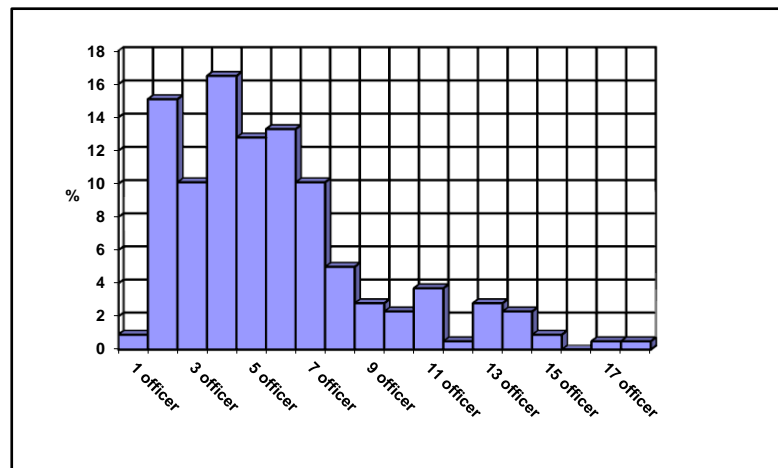


Figure 5.7.1b Percentage of officers in attendance at immediate response incidents

Needless to say, there was a significant increase in the number of faster and ‘attack oriented’ vehicles, with greater numbers of both zulu rapid response vehicles (chi-sq=6.263, p=0.012) and dog vans (chi-sq=10.653, p=0.001) attending the scene of immediate response incidents. Given the response remit with regard time to attend, it is of little surprise that there is an increase of zulus attending. Likewise, given that the aim of an immediate response is primarily to try and catch an offender at or near the scene, then the increase in dog van attendances makes sense, both with regard to the trailing and chasing down of any offenders.

The other notable difference with immediate responses is that both the force helicopter (AO1) and personnel carriers were also used in some instances. Although not used to a great extent, (4.6% AO1, 4.1% carrier), it is notable that these units were not used in any of the other two response group categories. This places further emphasis on the fact that ‘immediate response’ incidents require getting officers to the scene fast, and in as large a number as possible, with a view to the search/ trail and apprehension of those offenders, should they not be in the building upon arrival.

5.7.2 *Speed of police response*

	Routine		Early		Immediate	
	Mean	Tr mean	Mean	Tr Mean	Mean	Tr mean
Pre-despatch	111.09	51.54	6.22	3.75	1.24	0.91
Travel	21.53	18.81	6.75	5.83	3.84	3.47
Total arrival	129.88	72.21	12.95	9.53	5.13	4.55

Table 5.7.2 Figures for speed of police response

As can be seen in Table 5.7.2 above, immediate responses also afforded the fastest response by the police with routine responses affording the slowest. Once again, early responses sat between these two extremes though, given their response remit, they were more in line with immediate responses than routine responses.

The mean pre-despatch time for routine response incidents was 52 minutes (trimmed at 5%), with one third of all units despatched within eight minutes of the report (33.6%) and just under two thirds despatched in approximately three-quarters of an hour (47 minutes). Responding units were taking, on average, 19 minutes (trimmed at 5%) in travel time to reach the incident, though half had a travel time of 11 minutes or less. Three quarters of all units (75.6%) were taking less than 30 minutes to travel to the scene.

The average pre-despatch time of the first unit for early response gradings was considerably less than those routine response incidents (3.8 minutes, trimmed at 5%), with almost 70% (68.3%) despatched within 3 minutes. Needless to say, units were also taking less travel time (5.8 minutes, trimmed at 5%), with over three-quarters of all first units to arrive (76.8%) taking less than seven minutes to arrive at the scene

once dispatched. This picture is fairly consistent across units, with approximately two thirds of first, second and third units having a travel time of 6 minutes or less.

As one would expect, the emphasis with immediate responses is in getting to the scene as fast as is possible. As such, the mean delay between report of the incident and the dispatch of the first unit was 0.9 minutes (trimmed at 5%), with just over one quarter of units dispatched without delay (26.2%) and 82.7% of units dispatched within one minute. This is considerably faster than either of the other two responses. The full breakdown for first unit dispatch times can be seen in Figure 5.7.2a below.

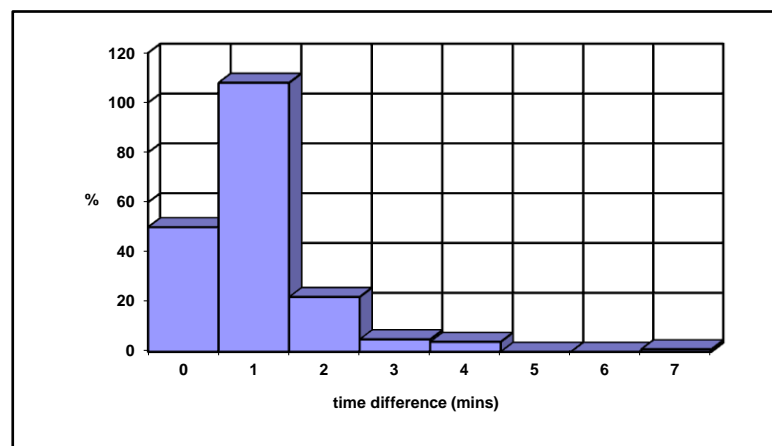


Figure 5.7.2a Pre dispatch times of first units at 'immediate response' incidents

As expected, this urgency is reflected in the time taken to reach the scene once dispatched, with a mean travel time for the first unit to arrive at the scene of 3.5 minutes (trimmed at 5%). These figures compare to a mean travel time of 4.62 minutes (trimmed at 5%) for the second unit to arrive, and 6 minutes (trimmed at 5%) for the third unit to arrive. Overall, it was found that just fewer than 90% of all first units to arrive at the scene of immediate incidents (88.7%) did so within seven minutes.

Given the above, it was found that the average response time from alert to arrival was 4.6 minutes (timed at 5%) for all immediate response gradings. Figure 5.7.2b below shows the total response times for 95.8% of all immediate response gradings. As can be seen, over three-quarters of all immediate responses (76.5%) had a first unit arriving at the scene within six minutes of the initial burglary alert. The larger

proportion of this was taken up between the two and five minute boundaries, with just over two-thirds (66.9%) of first units arriving within 5 minutes of the initial alert.

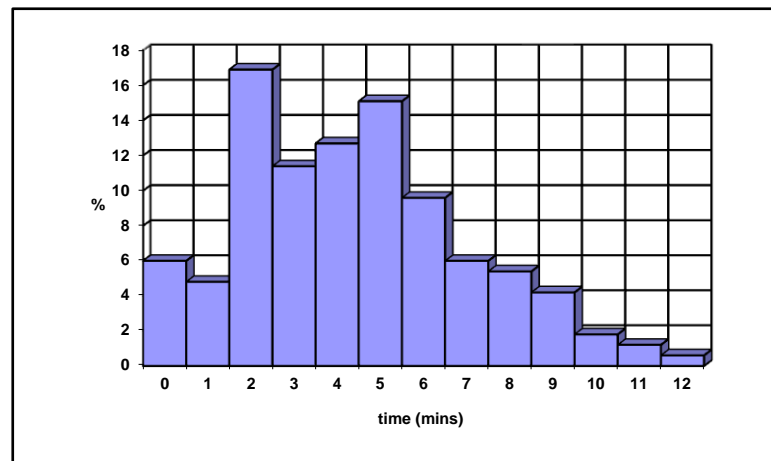


Figure 5.7.2b Total response times for 'immediate response' gradings

5.8 Conclusions

It is clear that there are distinct variations in the mode and timing of the alert and hence, variations in how the alert will be treated by the police. These findings sit quite nicely with the considerations made with regard to property types, both in this and the previous chapter, in so far as predictable levels of occupancy and site location and surveillability are clearly important, and intimately linked with these timings and methods of alert. It is largely within this context that we have to consider how the police response varies and how the timing and method of alert, influenced by the environment, impacts the method and success of any police response.

Essentially, five generic conclusions can be drawn from the above findings.

- 1) the majority of police alerts come from within the burgled premises during business hours, especially mid-morning at beginning of week;
- 2) outside of business hours, external individuals (neighbours / passers-by) and especially alarms are largely responsible for police alerts;
- 3) external individuals are more influential in raising alerts in people rich environments whilst alarms were of noted importance on more isolated property types;

- 4) alerts from witnesses and alarms are more likely to be met with emergency response as they will tend to be more indicative of a burglary in progress;
- 5) the mode of alert, timing of the alert, and environmental characteristics are all intimately related and will largely dictate how the police can and do respond.

Having considered the various ways in which the police do respond, the following chapter will therefore look at specific influences upon, and differences between, the response characteristics of those incidents where there is the greatest scope for the primary detection of 'Burglary Other Building' incidents. That is, those emergency incidents where there is the best chance of apprehending an offender, either at or near to the scene of the burglary, at the time of the incident.

6. CHARACTERISTICS OF EMERGENCY RESPONSES WHERE ARRESTS WERE MADE

6.1 Summary

35.9% of all detections considered within this study were directly attributable to the apprehension of the offender at the time of the incident, either at, or near to, the scene of the burglary itself.

The majority (31.5%) of these cases involved direct police actions regarding attendance at emergency incidents, and the catching of the offender whilst either still on the premises, whilst leaving the premises, or immediately after the committing of the act at up to a mile or more from the scene. The remaining incidents concerned those cases where either the IP themselves or a member of staff at the burgled premises apprehended the offender and called the police after the event.

Successfully catching offenders at or near the scene was found to hinge upon a number of inter-related factors:

- ◆ the strength of the police response;
- ◆ the stage of the burglary when the offender was first seen;
- ◆ who reported the burglary and the method of alert;
- ◆ the nature of the burgled premises and the type of environment.

The police were found to be particularly successful within residential environments when the alert had come from a witness who could supply pertinent information regarding the offence. This is largely a reflection of the nature of such people rich environments that often afford better surveillability and, therefore, offer greater potential for an individual to witness the act.

When a suspect was seen, the chance of an arrest was greatly increased, especially if they were seen at an earlier stage of the burglary, and this in turn affected where the police caught the offender. The earlier the burglar was seen, the greater the chance of catching the offender in the act, whilst the later the burglar was seen, the greater the chance of catching the burglar near to the scene, when a stronger police response is required. The police were found to respond accordingly, sending more officers and

units to the scene of those incidents where suspects had been seen. No advantages were found however with regard to the use of either single or double manned Panda or Zulu units.

6.2 Introduction

Previous studies have highlighted findings concerning the rapidity of the police response to crime. The majority of these studies have found that in only a minority of cases (Clarke and Hough 1984, cite 3%) did a fast police response have any impact. Further to this, even where a rapid response was found to be beneficial, other factors have been shown to be critical in determining that rapid response (Pate et al 1976). However, even though a fast attendance does not, in its own right, influence the primary detection of cases, a rapid response still contributes significantly to the apprehension of offenders. Burrows (1986) attributed forty three per cent of all primary detections at 'in progress' incidents to a fast response, with thirty per cent directly attributable to catching the offenders on the act. Although not quite reflecting these figures, this study did, nonetheless, show that over one-third of all primary detections were attributable to catching the offender at or near to the scene and highlights the importance of a rapid response. Nevertheless, other characteristics of the crime itself (especially the availability of witness evidence) and police response were found to be instrumental in influencing the success or failure of any single police response to emergency incidents.

This chapter therefore explores those features of the police response that impact upon offenders being arrested either at or near the scene at the time of the incident, including those cases where the suspect had been detained prior to police arrival. Furthermore, it identifies those factors that are considered as being outside of the direct control of the police but yet influence the success, or lack of, apprehending a suspect.

The identification of those influential aspects of both the burglary act and police practices, that have the most favourable impact on apprehending burglars, is particularly useful. It is important to identify the types of incident where a strong and more rapid response would be most productive, so that police resources can be utilised to their best potential, and so improve the chances of making an arrest whilst

not wasting resources. The staffing of patrols and the type of vehicles responding are also considered, as these aspects of the response can have significant resource implications. The following therefore considers aspects of the police response and the characteristics of the incident to look in detail at those non-residential burglary incidents treated as emergencies.

6.3 'Immediate 'in progress' Response' incidents

Arrests were made at the time of the incident in 139 cases out of the 218 sample incidents that received an 'immediate response' grading (on which we have data). These consist of 38.1% where the suspect/s was caught in the act, 53.2% where a suspect/s was caught at or near the scene, and 8.6% where the suspect/s was apprehended one mile or more from the scene. With regard to the definition of at or near the scene, all arrests made up to one mile from the scene and not caught in the act (CIA) have been placed within this category.

Table 6.3 provides an overview of response times and strength, including foot patrols. Foot patrols were the first police unit to arrive at the scene in just 5.1% of 'immediate response' incidents.

	ARREST		NO ARREST	
	mean	Tr mean	mean	Tr mean
Units	3.68	3.54	3.03	2.86
Officers	6.18	5.91	4.96	4.67
Pre-despatch	1.52	1.06	1.07	0.97
Travel	3.81	3.41	4.06	3.67
Total arrival	5.24	4.51	5.02	4.63
Distance	0.78	0.72	1.18	1.12

Table 6.3 Overview of essential 'immediate response' figures

6.3.1 Response times and number of officers attending

There were no significant differences in response times of the first arriving unit when an arrest was made at the time (4.5 minutes, trimmed at 5%) compared to cases where no arrest was made at the time (4.6 minutes, trimmed at 5%) (M-W, $p=0.420$). This would largely appear to support the findings of previous studies (Clarke and Hough 1984). Figure 6.3.1a below shows the full breakdown of response times for incidents where arrests were made and where no arrests made.

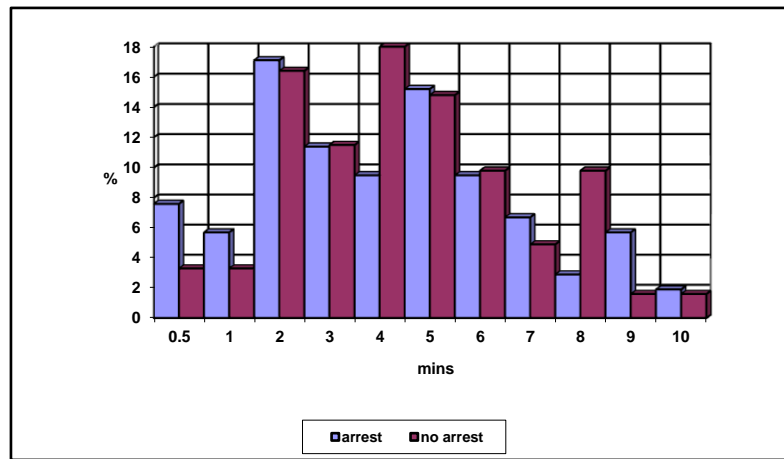


Figure 6.3.1a Total response times at 'in progress' incidents

N.B. The chart covers responses made within the first ten minutes only as, in all cases, over 90% of first units had arrived within this time.

There were a larger number of responses made within three minutes when an arrest was made (41.9% compared to 34.4%), and just over twice as many units with a response time of one minute or less when an arrest was made (13.3% compared to 6.6%). However, these differences were not found to be significant. Further to this, no significant differences were found between the time taken by the first police unit to attend and whether the offender was caught in the act (CIA) or not (M-W, $p=0.990$, t-test, $p=0.611$). In fact, the CIA response times were slightly slower than the non-CIA response times (4.59 minutes compared to 4.44 minutes) when trimmed.

These overall response timings are reflected in both pre-despatch and travel times for the first units, with the majority despatched within one minute and arriving in less than four minutes. Even though almost twice as many units had travel times of 0.5 minutes where an arrest was made, in comparison to those incidents where no arrest was made (15.1% and 8.1% respectively), this difference was not found to be significant (M-W, $p=0.573$, t-test, $p=0.466$). Therefore, although underlining the contribution of a particularly rapid response on success, it is not predictive, in its own right, of an arrest being made at the time of the incident.

There were more officers in attendance when an arrest was made (5.9, trimmed at 5%) when compared to those cases where no arrest was made (4.7, trimmed at 5%)

(M-W, $p=0.001$). As such, it is of little surprise that more units were in attendance at those incidents where arrests were made (3.5, trimmed at 5%) compared to where the offender evaded apprehension (2.9, trimmed at 5%) (M-W, $p=0.008$). Figure 6.3.1b below displays the spread of numbers for officer attendance.

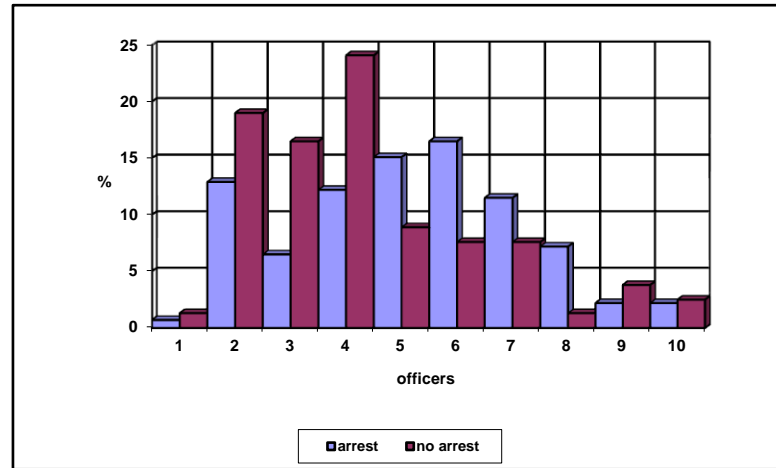


Figure 6.3.1b Number of officers in attendance when arrest made

N.B. The chart covers the frequency of officers up to a maximum of ten for both arresting and non-arresting incidents, as the number of incidents receiving more than this number of officers is negligible.

Somewhat counter intuitively however, is the finding that there tended to be fewer officers and units in attendance when an offender was caught in the act (5.3 officers, 3.1 units, trimmed at 5%) compared to those cases where an offender was not caught in the act (6.3 officers, 3.8 units, trimmed at 5%) (M-W, $p=0.008$, t-test, $p=0.011$ for officers, M-W, $p=0.001$, t-test, $p=0.001$ for units).

Although these findings do at first appear to be counterintuitive, when taken in the context of the above CIA response timings, some sense can be found. Once an offender has left the premises, the opportunities for making an arrest are greatly decreased as the area requiring police focus increases. As such, a quicker and more thorough response would be required to restrict the offenders' movement, as much as possible, away from the property. In short, the faster and stronger the response, the more chance of limiting the escape radius surrounding the burgled premises that the offender has at their disposal. As will be shown later in this chapter, apprehension

away from the scene is also heavily reliant upon the availability of witness information.

6.3.2 Distance of first arriving unit from scene

Two methods of measuring distance were calculated where data was available, between the location of the patrols prior to despatch, and the location of the burgled property.

The first estimate was calculated along a straight-line (crow-fly) distance between the location of the police unit when they were notified of the incident, and the location of the property. The second measure was estimated along what appeared to be the most direct route using recognised roads. There was found to be a strong positive correlation between these two measures (pearson=0.984, p=0.000, spearman=0.986, p=0.000). This would suggest that the police response, in the main, was not deviating too greatly from a straight line route to the scene.

More arrests were made at the time of the incident when the first police unit to arrive had a shorter straight-line distance to the scene from its point of despatch (M-W, p=0.038). The first unit to arrive had an average travelling distance of 0.72 miles (trimmed at 5%) when arrests were made, compared to 1.12 miles (trimmed at 5%) at those incidents where no arrest was made at the time. The majority of all first units travelled no further than 2.5 miles, with more first units at arresting incidents responding from closer to the scene across all distance categories. Table 6.3.2a below displays pertinent information.

First unit distance (miles)	Cumulative % units travelling from within distance	
	Arrest	No arrest
0.25	28.2	11.4
0.50	42.3	28.6
0.75	57.7	48.6
1.00	74.6	57.1
2.00	93.0	74.3

Table 6.3.2a Distance from scene of first arriving unit when arrest made

No significant differences were found, however, in the straight-line distance travelled by the first unit to arrive at the scene and whether the suspect was CIA or not (M-W,

p=0.164, t-test, p=0.079). Although more first units to arrive at CIA incidents were travelling in from closer to the scene of the incident across all distance boundaries, with almost twice as many first units attending a CIA incident travelling from within 0.25 miles, this difference was not found to be significant (chi-sq=3.403, p=0.065). The frequency breakdown of first unit distances to CIA and non-CIA incidents can be seen in Table 6.3.2b.

First unit distance (miles)	Cumulative % units travelling from within distance	
	CIA	No CIA
0.25	40.7	20.5
0.50	48.1	36.4
0.75	66.7	52.3
1.00	81.5	70.5
2.00	96.3	90.9

Table 6.3.2b Distance from scene of first arriving unit when offender CIA

In short, there was an increased chance of an arrest being made when the first unit to attend responded from closer, but it did not influence where the suspect would be apprehended even though more first units at CIA incidents were travelling less distance to reach the scene of the burglary.

6.3.3 Officer knowledge of patrol area and route to scene

There was not an increased chance of an arrest being made if the officers in the first attending units had either a good or very good knowledge of his/ her patrol area (chi-sq=3.534, p=0.060) or if the officer had better knowledge of the route to the scene (chi-sq=1.515, p=0.181). Tables 6.3.3a and 6.3.3b below provide information on all responses regarding officer knowledge.

Area patrol knowledge	Suspects arrested at time	
	Yes (%)	No (%)
Poor	5.1	4.2
Satisfactory	23.9	12.7
Good	34.2	36.6
Very good	36.8	46.5
Total	117/ 100%	71/ 100%

Table 6.3.3a Influence on arrests of officer knowledge of patrol area

Route knowledge	Suspects arrested at time	
	Yes (%)	No (%)
Very poor	2.6	5.9
Poor	1.7	2.9
Satisfactory	27	13.2
Good	27	26.5
Very good	41.7	51.5
Total	115/ 100%	68/ 100%

Table 6.3.3b Influence on arrests of officer knowledge of route to scene

6.4 Characteristics of immediate response incidents outside of police control

The following need to be considered as they are integral to the way any single incident may unfold and, consequently, play an extremely important role in the apprehension of suspects at ‘in progress’ burglary other building incidents. It will become clear that, rather than being able to see each of these elements as solitary influences, they are all, in fact, intimately linked. The following section therefore deals with how the alert was raised, whether any suspects were seen and where, the availability of information and the influences that the various environments may have on these factors.

6.4.1 Alert method and source of information

A suspect was seen in 55.9% of all immediate response incidents, with the greater majority seen either entering (38.8%), inside (26.7%) or leaving (24.8%) the premises and arrests were made at the time of the incident in over one-third of all such cases (37%). This compares to the 5.1% of cases where an arrest was made but no suspects were seen. There was an increased chance of an arrest being made at the time of the incident if a suspect was seen (chi-sq=58.136, p=0.000 one tail) and the alert had come from an individual external to the burgled premises i.e. a witness (chi-sq=16.657, p=0.000), with arrests made in 45.1% of cases where the alert came via this route.

These findings would make sense given that a witness may well be able to provide information regarding offender direction and descriptions if they are clearly visible as well as providing notification of the offence. As such, more information is likely to be available to the police with regard to identifying features of the offence and the offender.

This suggestion is reinforced by the finding that the major source of any information cited when arrests were made was an ‘individual external to the burgled premises’. In only 39.1% of cases, did the information come from ‘an individual linked to the burgled premises’. Further to this, it was found that the most common information available to the police was an offender description and offender direction. Table 6.4.1 below shows the full breakdown of information cited as aiding the arrest. Attending officers cited the use of prior information as aiding the arrest in 54.3% off the 139 cases where arrests were made at ‘in progress’ incidents.

INFORMATION	Frequency	% Incidents
Offender description	51	68.0
Vehicle description	4	5.3
Offender direction	23	30.7
Surveillance	2	2.7
LIO package	2	2.7
IP/ staff detention	12	16.0
Identity information	8	10.7

Table 6.4.1 Information used in aiding arrest

(LIO: Local Intelligence officer; IP: Injured Party/ Victim)

N.B. The frequency totals and percentage totals do not add up to either the seventy-five cases where information aided the arrest, or up to 100% of incidents. This is due to the fact that, as one would expect, combinations of factors were used at times in the arrest of any single offender.

Conversely, there were notably fewer arrests made (10.9%) at the time of the incident when the alert came from alarm activations (chi-sq=33.807, p=0.000). Given the above, it is reasonable to assume that this is primarily the result of a lack of information over and above the initial notification of an offence.

6.4.2 Influence of property type

There were significantly more suspects arrested at the time of the incident when the burgled property was within a residential environment i.e. sheds and garages (chi-sq=14.117, p=0.000). In fact, of those immediate responses within a residential environment, arrests were made in 80.8% of cases. This finding is reflected in the availability of information across all of the more ‘people rich’ environments. The more isolated facilities such as schools/ colleges (40%) and warehouse/ industrial (43.5%) premises all had a significantly reduced number of incidents where information aided the arrest of a suspect (chi-sq=8.126, p=0.004). This compares to an average 69.3% of incidents where prior information aided the arrest either within more people rich environments such as town centres or residential areas.

6.4.3 Where seen, where caught and availability of information

Where the suspect is first seen also impacts on whether there is an increased chance of arrest. Although there are several categories available for where the suspect was first seen, it is only where they were seen either entering or inside the building that there is an increased chance of an arrest being made at the time of the incident (chi-sq=8.028, p=0.005 one tail), and an improved chance of catching the suspect in the act (chi-sq=10.059, p=0.001 one tail). Conversely, there was a reduced chance of an arrest being made if the suspects were first seen near to or leaving the scene (chi-sq=3.785, p=0.042 one tail), with arrests made in 23.8% of such incidents (compared to 36.7%).

These findings have to be disentangled from the particular nuances of the provision of information by witnesses, where available information really became useful once the offender had left the premises.

If the police fail to apprehend the offender whilst on the premises, the chances of arrest are reduced unless pertinent information can be provided. This was indeed established, with the finding that an alert from an individual did in fact increase the chance of an arrest being made near to the scene at the time of the incident (chi-sq=7.099, p=0.008) upon provision of an offender description and direction information (chi-sq=6.502, p=0.011). This would seem to corroborate the earlier suggestions that the truth worth of witness information comes into play once the offender has left the scene, when description and offender direction information become more relevant, and more information is required for a successful arrest. The findings concerning the lack of success for alarm activations would appear to reinforce this suggestion.

6.4.4 Tailoring of police response when suspects seen

It has become clear from the above that witness information and associated descriptions are extremely influential in the apprehension of offenders. As such, it is essential to understand whether the police do respond accordingly, by tailoring the response to those cases where the chances of securing a primary detection are increased. This was found to be the case.

Significantly more officers and units attended those immediate incidents where a suspect was seen (5.9 officers, 3.5 units, trimmed at 5%) when compared to those incidents where no suspect was seen (4.2 officers, 2.7 units, trimmed at 5%) (M-W, $p=0.000$, t-test, $p=0.000$ for officers, M-W, $p=0.004$, t-test, $p=0.005$ for units). The breakdown of the percentages of officers in attendance can be seen in Figure 6.4.4 below.

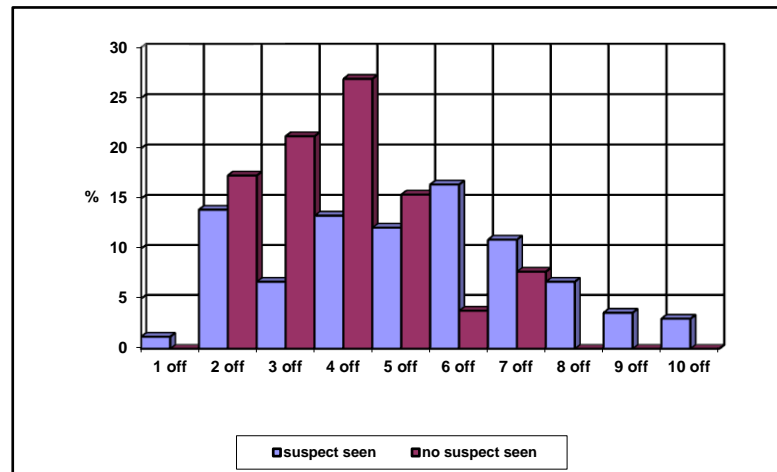


Figure 6.4.4 Number of officers attending when suspect seen

N.B. The chart covers up to ten officers only as the number of cases receiving more than ten is minimal.

6.4.5 *The influence of Day/ Night operation*

Data was collected concerning the times of sunrise and sunset for each incident that occurred during the data collection period. This was then matched with the despatch and arrival times of the first police unit to arrive at the scene. As such, we have three distinct categories of operation.

- 1) operating during daylight 'sun up';
- 2) operating during darkness 'sun down';
- 3) crossover period (operating within the transition between day and night).

There was a significant improvement in the success rate at immediate response incidents when the first unit to arrive was operating during 'sun up' ($\chi^2=5.274$, $p=0.015$ one tail), with Arrests made in 31.8% of incidents. This is in comparison to 20.3% of incidents in which the first unit to arrive was operating after the sun had set.

6.4.6 Section summary

The availability of witnesses and witness evidence is clearly extremely influential in the way the police are able to approach any single immediate response burglary incident. In short, people rich environments are likely to show an increased chance of arrests primarily because there is likely to be an increased chance of available witnesses and hence, an increased opportunity of useful information being provided. As such, this combination of incident features proves to be successful, especially if the offender is seen at an earlier stage in the burglary proceedings. However, even if the offender is seen later in the burglary proceedings, the availability of witness descriptions still greatly improves the chances of an arrest being made further away from the scene.

Given the significant role of witnesses, and the increased capacity for making an arrest, the police do respond accordingly, both when witness evidence is available and according to the stage in the burglary at which the offender is seen. The response is therefore stronger when witness evidence is available and even stronger when that evidence suggests the offender has left the scene. This necessarily dictates that an appropriate response is required to restrict the offenders escape options.

6.5 Other incidents where arrests were made

There were a total of twenty-one incidents in which either the injured party (IP) or a member of staff caught the burglar at the premises prior to notifying the police. Nine of these cases were graded as 'early response' ('attend within thirty minutes') whilst the remaining twelve were graded as 'immediate response' ('attend within ten minutes'). In addition, there were a further twenty-one 'early response' incidents at which the police alone made the arrest.

There was a significantly increased chance of IP/ staff catching burglars during working hours (chi-sq=3.867, p=0.049), with 66% of such incidents taking place between the hours of 6.00 a.m. and 7.00 p.m. This is in direct contrast to the majority of emergency incidents which have already been shown to be concentrated between the hours of 8.00 p.m. and 5.00 a.m. (chi-sq=106.599, p=0.000).

The speed of response given to those early incidents where the offender was already held did not differ significantly either from those cases early incidents where arrests were made by the police alone, (M-W, $p=0.640$), or those where no arrest was made at all (M-W, $p=0.604$). However, at those immediate response incidents where the burglar was detained prior to police arrival, the response times were faster (5.8 minutes, trimmed at 5%) than corresponding early incidents (9.1 minutes, trimmed at 5%), but still comparable to immediate responses as a whole (M-W, $p=0.313$).

Response resourcing was clearly adjusted in such circumstances, with significantly fewer officers (M-W, $p=0.003$) and units (M-W, $p=0.007$) attending those 'early response' incidents where the offender was already held by a member of staff, when compared to those cases where the arrest was made solely by the police. An average 2.5 officers (trimmed at 5%) attended in 1.5 units (trimmed at 5%) when the offender was held, compared to an average 5.6 officers (trimmed at 5%) attending in 3.4 units (trimmed at 5%) when the police made the arrest in their own right. These figures compare further to the response at non-arresting early response incidents where there were significantly fewer officers in attendance (M-W, $p=0.043$).

With regard to those twelve 'immediate response' cases where the burglar was detained prior to police arrival, there was found to be more officers (3.2, trimmed at 5%) and units (1.8, trimmed at 5%) in attendance than the early cases, but significantly fewer than comparable immediate response incidents where arrests were made (M-W, $p=0.000$). Again, given that the offender is already detained, it seems fruitless to send a full strength immediate response to the scene, even though an appropriately fast response is afforded.

6.6 Influence of arrival ranking of patrols on arrests

As might be expected, patrols arriving earlier at the scene were especially successful in making the arrest. The first arriving unit was responsible for 70.6% of arrests across all incidents when an arrest was made at the time of the incident, the second responsible for 15% and the third and fourth units responsible for a further tenth of cases where offenders were arrested. Figure 6.6 shows the percentage of burglars caught by order of arrival of police unit.

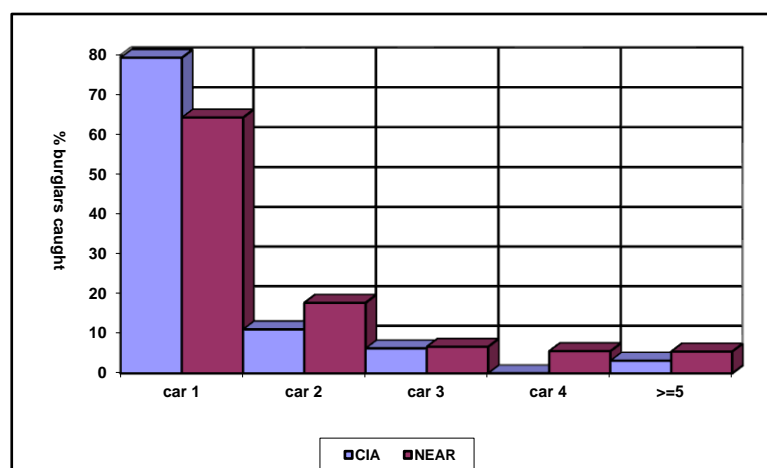


Figure 6.6 Arrival ranking of arresting patrols

This pattern alters slightly with regard to where the offender was actually apprehended, though the findings are not surprising. When the offender was CIA, the first car to arrive was responsible for just fewer than 80% of all arrests made (79.4%), with 11.1% attributable to the second unit and 6.3% to the third. For those incidents where the offender was caught near to the scene, there was an increased number of second arriving units responsible for the arrest (17.8%), with a fifteen per cent reduction in the number of first arriving units responsible for making the arrest (64.4%). Given that the offender has left the scene in these incidents, there would be an increased chance for later arriving units to make the arrest, largely depending upon the direction in which the offender has left the scene and the direction from which the police unit is arriving. There was, however, no significantly increased chance of later arriving units apprehending more burglars after they had left the scene (M-W, $p=0.123$), nor was this influenced by the method of alert ($\text{chi-sq}=1.36$, $p=0.28$).

6.7 Speed and strength of motorised police units

The response times of foot patrols were comparable to those of motorised units, except within a town centre environment where they held a distinct speed advantage over vehicles. That is, foot patrols attended on average in 3.3 minutes compared to 7.7 minutes for motorised units. Given the increasingly pedestrianised nature of many town centres this is of little surprise, given that access to anything other than a foot patrol would be restricted in many instances. Therefore, in some town centre environments and under certain limited circumstances, it is likely that foot patrols

could prove a superior response method for some 'Burglary other Building' incidents. Due to the small number of cases involved however, it is not possible to test the above statistically.

At the majority of burglary incidents where a vehicle was first to attend, the use of a motorised police unit was essential for the successful apprehension of the offender. The remainder of the chapter therefore deals specifically with the response of motorised police units, and the interactions that influence the police response.

6.7.1 Number of units and response time

The overall response time from alert to the arrival of the first attending motorised unit was found to be more rapid when there were more patrols in attendance (ANOVA, $f=4.942$, $p=0.000$), and this will inevitably hinge upon the availability of resources at the time of the alert. This can be seen in Figure 6.7.1 below.

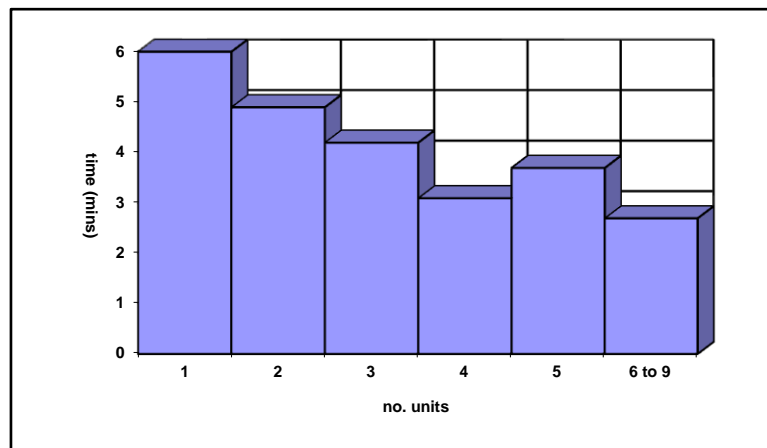


Figure 6.7.1 Number of units responding by response time

As can be seen, as the number of units dispatched to the scene increases, so the total response time of the first attending unit is reduced, up to five units, where there is a small increase in the response time. Response times of the first unit to attend ranged from an average six minutes when only a single unit was dispatched down to an average 2.7 minutes when between six and nine units were dispatched to the scene.

6.7.2 Number of units and distance travelled

Just as the total number of motorised units despatched influenced the response time of the first unit to attend, so the distance travelled of the first unit to attend was affected, though not to a significant level (ANOVA, $f=1.276$, $p=0.289$). That said however, a distinct trend emerges, whereby as the number of units despatched increases, so the straight-line travel distance of the first attending unit decreases. This can be seen in Figure 6.7.2 below.

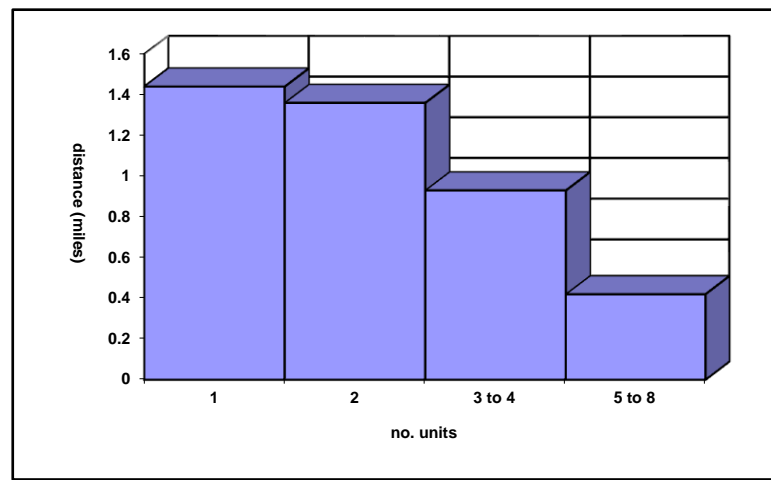


Figure 6.7.2 Number of units responding by first unit distance

In essence, when a single unit is despatched, the average straight-line travel distance of the first unit to attend is 1.44 miles compared to an average distance of 0.42 miles when between five and eight units are despatched to the scene. As such, the first unit to attend is over two-thirds the distance closer if more than five units attend than when a single unit responds, or half the distance closer when either three or four units respond. Given earlier findings, that the straight-line travel distance of the first arresting unit to attend is significantly shorter (M-W, $p=0.038$) in those cases where arrests are made (0.72 miles compared to 1.12 miles), the distance from the burglary scene of the first arriving patrol clearly exercises an important influence over the successful apprehension of the offender, as does the strength of response.

6.7.3 Distance travelled and travel time and speed of first unit

It is of little surprise to find that first units responding from closer to the scene of the burglary reached the scene faster than those units responding from further away (ANOVA, $f=7.931$, $p=0.000$). Needless to say, as the travel distance of the first unit

to attend increased, so did the travel time of the unit. This can best be seen in Figure 6.7.3a.

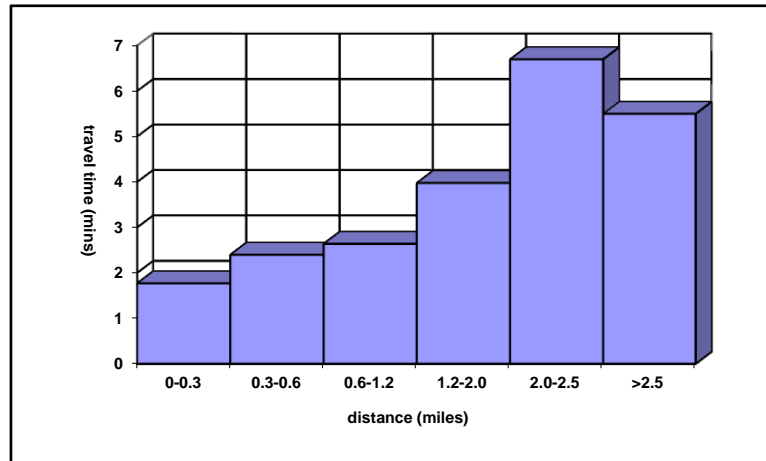


Figure 6.7.3a Response distance by response time

Despite the above influence of distance exerted over travel times, these differences are not similarly reflected in the speed of the first unit to attend. It can be seen in Figure 6.7.3b that the speeds of the first attending unit increase as their distance from the burglary scene increases.

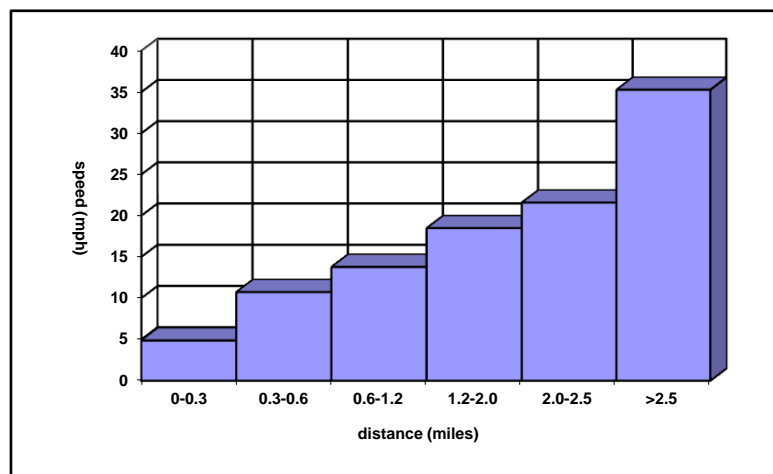


Figure 6.7.3b Response distance by speed

This may at first seem somewhat puzzling, yet if a mobile police response is considered, these findings will make sense. As it is the aim of an immediate response to attend the scene in as short a time as possible, it makes sense that mobile units will try to find the straightest and fastest routes between their point of despatch and the

scene of the burglary. If the unit is attending from further away, this will entail longer stretches of straight road, encompassed by slower periods at both the start and end of the journey, when the unit will have to get to the main road, and then find the site upon arrival. As such, when the first arriving unit is closer, much of the travel time will be taken up by these slower periods of the normal journey to the scene from the point of despatch, and inevitably involve less time on the faster main roads.

6.7.4 Response time and arrest

Although there was not found to be any significant differences in total response time and whether an arrest was made, primarily because at some incidents, later vehicles are making arrests, there is a definite trend visible regarding the response times of the first motorised unit to attend and the percentage of cases where offenders were arrested at or near the scene. As can be seen in Figure 6.7.4 below, across all time boundaries, the longer the total response time of the first attending unit, the less the chance of apprehending the offender.

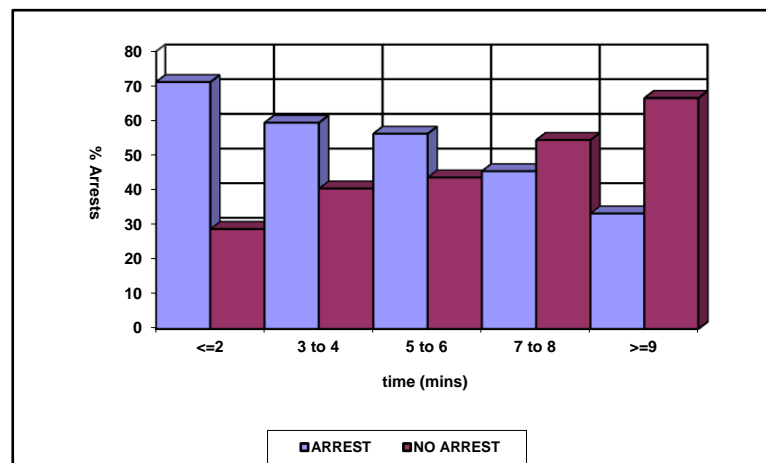


Figure 6.7.4 Response time by arrest

6.7.5 Number of patrols and officers

The number of patrols attending was found to be more important than, and somewhat independent of, the number of officers in influencing capture. There is some evidence of this fact when looking at the differences between those incidents where a suspect was arrested and where no suspect was arrested. The trend indicates that an increase in the number of cars in attendance improves the arrest rate (chi-sq=12.352, df=8,

p=0.136) over an increase in the number of officers in attendance (chi-sq=18.396, df=15, p=0.242).

The true worth of this finding though is evident when looking at those incidents in which the offender was not CIA. Regarding just these incidents, an increase in the number of cars attending significantly improved the chance of capture near to the scene as opposed to the offender making good their escape (chi-sq=14.821, df=7, p=0.038). This is in contrast to an increasing number of officers, which failed to influence the arrest in similar cases (chi-sq=19.703, df=13, p=0.103). This is best displayed in Table 0.

No. cars arriving	% Caught near scene	% Escape
2	11.8	60.0
3	31.8	30.0
4	38.6	24.1
5	58.3	12.5

Table 0 Effects of number of police cars on arrests

6.8 Patrol type and manning levels

6.8.1 Single officer versus two officer patrols

There were twice as many two officer units as single officer units in attendance at all ‘burglary other building’ incidents, though the double crewed units outnumbered the single crewed units 4:1 when looking at first arriving unit at the scene. This is best displayed in Table 6.8.1a.

No. of officers	Order of arrival at scene (%)					Total
	1 st	2 nd	3 rd	4 th	5 th -9 th	
1	18	34	43	35	51	32 (188)
2	78	61	55	62	47	65 (378)
3	3	5	2	3	2	3 (19)
Total	100/ 198	100/ 163	100/ 106	100/ 63	100/ 55	100 (585)

Table 6.8.1a Manning levels of vehicles and arrival ranking

At ‘in progress’ incidents, two officer vehicle units represented just under two thirds (63.9%) of all police patrols attending the scene of ‘non-residential burglary’ incidents, and were found to be the first attending unit in over three-quarters (77.9%) of all such incidents. Further to this, two officer vehicles were responsible for the

apprehension of the offender in 90% of incidents where it was the first unit to arrive that actually made the arrest either at, or near to, the scene of the burglary. However, as will be shown, it is not simply the case for arguing that more two-officer vehicle units should be placed on patrol duties, as there are subtle interactions at work regarding both the type of unit involved, and the distances over which certain patrols will travel to reach the scene.

Significant differences were found with regard to the influences of the number of officers in police patrols sent to the scene of 'immediate response' burglary incidents and the response timing categories (as opposed to total number of officers in attendance).

Across all attending vehicle patrols, twin crewed units were found to have a faster overall response time in reaching the scene once the burglary alert had been made (ANOVA, $f=16.461$, $p=0.000$), with an average response time of 5.4 minutes compared to 6.7 minutes for single crewed units. This is the result of both a tendency to be despatched faster (ANOVA, $f=3.519$, $p=0.061$) with an average pre-despatch time of 1.8 minutes compared to 2.2 minutes, and a significantly reduced travel time in reaching the scene (ANOVA, $f=11.505$, $p=0.001$). That is, twin crewed units were one minute faster in reaching the scene, with an average travel time of 3.7 minutes compared to 4.7 minutes for single crewed units.

However, this apparent advantage of twin crewed units reflects, as has been shown above, the larger number of two officer units on patrol. This means that a two-officer unit is twice as likely to be the closest to the scene and so will tend to reach the scene first. This is borne out by the above figures that show a twin crewed unit was four times more likely to arrive first at the scene, and also that it will be travelling in from significantly closer to the scene from its point of despatch (ANOVA, $f=8.861$, $p=0.004$). Thus, when a twin crewed unit arrived first, it was travelling a mile less on average than a single crewed unit (1.1 miles compared to 2.3 miles respectively).

Twin crewed units arriving first also had a shorter pre-despatch time (1.4 minutes) in comparison to single crewed units (1.8 minutes), but these were offset by a longer average travel time of 3.2 minutes compared to 2.6 minutes for the single crewed

units. As such, the total response times for the first attending units were not found to be significantly different (ANOVA, $f=0.019$, $p=0.890$) when looking at one and two officer influences. Table 6.8.1b below shows all relevant timings for all units and for first arriving unit at the scene.

ALL UNITS	Pre-despatch	Travel	Total response	Distance
One officer	2.2 (mins)	4.7	6.7	1.6 (mile)
Two officer	1.8	3.7	5.4	1.2
FIRST UNIT				
	Pre-despatch	Travel	Total response	Distance
One officer	1.8	2.6	4.4	2.3
Two officer	1.4	3.2	4.4	1.1

Table 6.8.1b Manning levels of vehicles and response times and distances

6.8.2 Type of patrol unit

The earlier arrival at the scene of twin crewed units was also partly attributable to the type of units in which officers were responding. Almost half of the two-officer patrols responding were zulus (fast response vehicle), whilst virtually every single-officer unit in attendance was a panda (routine patrol unit). Because the zulu is a fast response vehicle, they will tend to be on uncommitted patrol unless engaged elsewhere on another emergency incident. This means that they are able to attend almost immediately in the majority of cases, whereas panda units will tend to be tied up with 'routine response' incidents. As such, zulu units reached the scene more quickly than panda units (ANOVA, $f=6.654$, $p=0.010$), with an average total response time almost one minute quicker than the panda units (4.9 minutes compared to 5.8 minutes respectively).

However, this is more a reflection of their tendency to be despatched to the scene faster than the panda units (ANOVA, $f=3.275$, $p=0.071$), with an average pre-despatch time of 1.7 minutes compared to 2.0 minutes. This is borne out by the values for the first arriving units at the scene, when again, there was a tendency for zulus to have been despatched faster (ANOVA, $f=3.145$, $p=0.078$) with an average pre-despatch of 1.3 minutes compare to 1.6 minutes for pandas.

Once on the move however, there is very little difference between the travel times of pandas and zulus for all units attending (ANOVA, $f=0.477$, $p=0.490$) and first

arriving units (ANOVA, $f=0.253$, $p=0.616$), even though the travel times of the zulus was slightly faster (3.5 minutes compared to 3.6 minutes). This is partly a reflection of the distances from which each unit type travelled, where there is some indication that pandas tended to be travelling in from closer to the scene than the zulu units (ANOVA, $f=3.072$, $p=0.082$) (1.1 miles compared to 1.5 miles respectively). The above findings are best displayed in Table 6.8.2a.

ALL UNITS	Pre-despatch	Travel	Total response	Distance
Panda	2.0 (mins)	3.6	5.8	1.1 (mile)
Zulu	1.7	3.5	4.9	1.5
FIRST UNIT				
Panda	1.6	3.1	4.5	1.0
Zulu	1.3	3.3	4.6	1.4

Table 6.8.2a Patrol type and response times and distances

In essence, the above findings show that any advantage initially displayed by twin crewed units is offset by the predominance of twin crewed zulu units travelling to the scene of the immediate response burglaries from further out.

Although this still equates to a faster pre-despatch time of 1.7 minutes for the twin crewed zulus compared to 2 minutes for twin crewed pandas (ANOVA, $f=2.736$, $p=0.044$), this advantage is not reflected in a significantly different overall response time (ANOVA, $f=2.292$, $p=0.078$). This finding is more pronounced for the first arriving units where twin zulus had an average total response time of 4.6 minutes and double pandas an average time of 4.5 minutes (ANOVA, $f=0.052$, $p=0.984$). Again, this is due to the increased distance from which the twin crewed zulus are travelling in order to reach the scene first (ANOVA, $f=4.172$, $p=0.009$), with an average of 1.4 miles travelled compared to 1.0 miles for a twin panda.

However, given that zulus are faster vehicles and are travelling in from further out, there is increased opportunity for travelling along a main road (as stated above). As such, the twin crewed zulus did in fact show a 4 m.p.h. speed advantage over the twin crewed pandas, with average speeds of 23.6 m.p.h. and 19.4 m.p.h. respectively. Essentially though, once at the scene of the burglary, two officer units were found to be no more successful than single officer units in apprehending the offender, either in

the act or at or near the scene (chi-sq=0.67, p=0.50). The figures for first arriving one and two officer units and offenders apprehended can be seen in Table 6.8.2b.

Patrol type	Caught at scene	Caught near scene	Escaped	Total %
One officer	16	38	46	100
Two officer	21	32	47	100

Table 6.8.2b Influence of vehicle manning levels and arrests made

Therefore, neither zulu units nor twin manned units displayed any intrinsic advantage in dealing with ‘immediate response’ incidents, offering no significant speed benefits at the distances from which the patrols had to respond in order to apprehend the offender. Although some advantages were apparent, these were inevitably offset by a combination of distance and patrol type. The greater success of twin manned units in arriving earlier at the scene and in apprehending more offenders is more due to the role allocated to two officer zulu units, and the decision to deploy more twin crewed units to the scene of ‘in progress’ non-residential burglary incidents than either single crewed units, or panda units, which will inevitably be tied up with routine incidents. As such, any benefits that may have been expected from the use of faster two manned units did not materialise.

These findings largely contradict previous conclusions (Chelst 1981, Kaplan 1979) that found single officer patrols to be faster in response and have a lower waiting time for a free unit. However, these earlier studies failed to consider the interactions between the types of vehicle in which the officers were placed, and the roles and responsibilities attributed to the use of each type of vehicle. This study, in looking at these interactions goes some way to improving the body of research on one and two officer patrols.

6.9 Discussion and policy implications

36% of the detections within this study attributable to attending and investigating non-residential burglary cases were due to catching the burglar at or near the scene. 26.5% of these arrests involved police patrols catching the offender either on the

premises, while leaving them, or shortly afterwards mainly within one mile of the scene. There were further cases (4.4%) where arrests were made at the time of the incident that involved the IP/ member of the burgled premises detaining the offender prior to police arrival. A further 5% of incidents involved the arrest of a suspect shortly after the incident at the offender's home after the provision of witness evidence.

If the times taken from despatch to arrest, and despatch to giving up any searches made at the scene, with different numbers of officers are calculated, and related to the number of incidents where burglars were caught at or near to the scene, then the average time taken for a detection of this nature is 6.2 hours. Therefore, detections resulting from arrests made at 'in progress' incidents proved to be particularly effective, despite the extra officers and units typically despatched to the scene of the incident.

At incidents where the offender had not been previously detained, the successful catching of offenders at or near the scene primarily depended upon:

- ◆ how quickly and in what numbers the police responded;
- ◆ who reported the burglary or the method of alert;
- ◆ offender behaviour:
 - ⇒ the stage of the burglary when the offender was spotted;
 - ⇒ the time of day that the burglary was committed;
 - ⇒ whether the suspect was detained prior to police arrival.
- ◆ characteristics of the environment:
 - ⇒ surveillability of the target property;
 - ⇒ type and location of the property itself.

The likelihood of an arrest being made was, therefore, dependent on both the nature of the police response to the alert and also significantly affected by the characteristics of the incident itself, over which the police were unable to exercise any control.

With regard to the nature of the police response, both numbers of units in attendance and response times played an important role in influencing whether an offender was caught or not, though a rapid response in its own right did not significantly improve the chances of apprehension. More arrests were made when the police response was stronger, with 40% more burglars caught when three or more units attended than when there were fewer than three patrols. Similarly, when units reached the scene in less than three minutes, there were a third more arrests made than when the response had taken over six minutes.

However, this speed of response hinged on the number of patrols attending each incident, with a faster response occurring when more patrols were despatched to the site of any one burglary, which itself is a reflection of the number of units available to be despatched to the scene. With more patrols available, the first arriving unit was just that, primarily because it was consequently closer to the scene, therefore it had a shorter travel distance and time, and was therefore more likely to make the arrest. Despite this influence on travel times, being closer to the scene did not result in such marked contrasts in total response times. As a result, the number of patrols attending was proven to be more important than response times in determining which patrols made the arrest.

The proportion of officers in single or double manned vehicles can also play an important role in the distance of the nearest patrol to the scene, whilst the numbers of pandas and zulus operating can also have an effect on response times. However, any advantages displayed by either the two officer units or the faster zulus were inevitably offset by other factors which nullified any anticipated advantage. As such, neither zulu or panda units had any advantage over the other in dealing with emergency incidents, with no speed advantages apparent from the distances from which these two patrol types operate. Similarly, two officer units displayed no real advantages over the single officer units, primarily because of the role allocated to the use of two-officer zulu patrols at immediate response incidents. Perhaps most important however, once at or near the scene of the burglary, two officer units were no more successful than single officer units. The findings of this study therefore contradict some of the earlier work conducted on the relative efficacy of one and two officer

patrols (Chelst 1981, Green and Koselar 1984) that found one officer vehicles would provide quicker responses to 'in progress' incidents.

So, despite the fact that a faster and stronger response proved to be more successful, it did not guarantee success. This was because the characteristics of the burglary itself interacted with the deployment of police units in dictating which responses resulted in an arrest.

Features of the burglary outside of the polices' control such as the method and route of alert, the stage in the burglary at which the offender was spotted and a good description, all determined how long the police had to reach the scene of the incident. If the burglar was reported leaving or left quickly after an audible alarm, the police had little, if any, time to intercept them at the scene, so improving the chance of the offender escaping. Similarly, if there was a poor description of a burglar leaving the scene, a strong and fast response may at times prove to be fruitless. Burglary circumstances and the burglar's behaviour therefore exerted an important influence over whether the police were successful or not. Figure 6.9 best displays the interaction of factors involved in a successful, or otherwise, 'in progress' response.

The above findings indicate that there is potential to catch more burglars at or near the scene, primarily by ensuring that sufficient patrols attend more often. More specifically, where feasible, it is important that there is a level of patrol availability that would enable a unit to be located sufficiently close to the scene to get there quickly, particularly to catch offenders who have left the crime scene but are still in the vicinity. It may therefore be useful to have a sufficient pool of uncommitted units available to ensure the required number is available to be despatched. This may mean that, at times, units are not engaged in dealing with routine incidents and are apparently under-utilised. Alternatively, this might be achieved by prioritising the most promising immediate incidents, most notably, where witnesses are available and where the burglar is first seen entering or inside the premises.

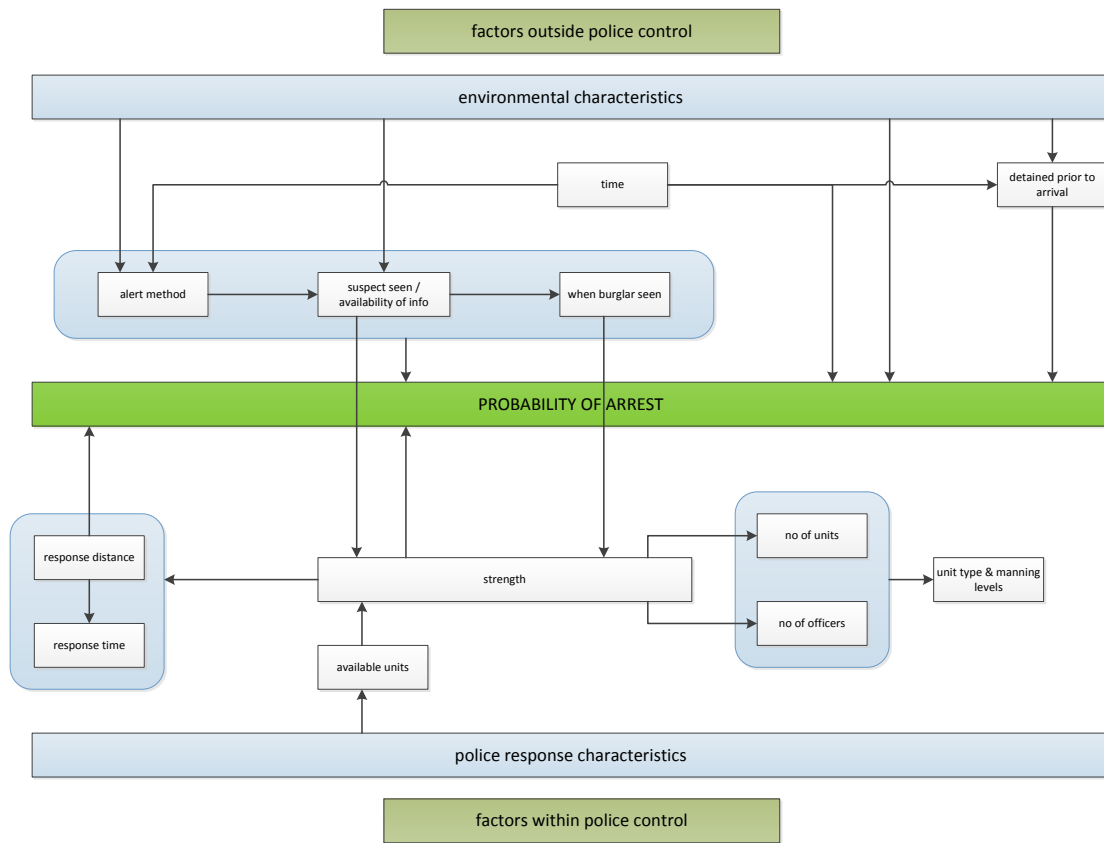


Figure 6.9 Influencing features of emergency responses

7. INTITIAL POLICE ACTIVITIES CONDUCTED AT THE SCENE

7.1 Summary

Differences were found in the questioning of neighbours and other individuals, with more neighbours questioned when burglaries occurred within a residential environment. However, neighbours were questioned less if the incident occurred at night, though there was no difference in the provision of useful evidence.

Neighbours were questioned more if the police attended immediately at the end of the working day, as were other individuals. Similar to the above however, this did not translate into increased information. Although longer was spent on questioning when information was available, questioning more neighbours did not improve either the availability, or quality, of information. There is some suggestion however, that the police do still continue to question neighbours in an effort to gain further information.

Although MO evidence was not found to be available in many cases, it did still play a role in the detection of some cases, especially where the MO was indicative of a specific suspect. SOCO attended fewer residential and warehouse/ industrial premises, mainly as a result of force policy or too much dirt, respectively. This feature meant that the latter were more likely to provide footwear evidence at the scene. However, there was found to be no significant reduction in the availability of evidence at residential properties, where police force policy is in action, in comparison to other property types.

SOCO mainly collected fingerprint evidence, especially from those 'people rich' buildings such as schools and shops, whilst dirtier premises tended to provide more footwear evidence. The most important evidence appeared to be that which could irrefutably identify a suspect such as fingerprint or DNA evidence, even though in the majority of cases SOCO evidence played a supporting role in the detection of any single case.

7.2 Introduction

The way the police respond to non-residential burglary can be split into a series of

distinct processes: responses to emergency incidents, initial investigations, additional activities and follow up investigations. This chapter therefore considers the initial investigations conducted at the scene.

Part of the role fulfilled by the initial police visit to the scene of any 'Burglary other Building' incident is the questioning of the burglary victim and other people who may have been witness to the burglary. This questioning is most often conducted in an effort to collect information and evidence that may aid in the detection of the offence. In addition, any Modus Operandi (MO) and forensic evidence e.g. fingerprint, footwear, will be collected by uniformed officers and Scenes of Crime Officers (SOCO).

These initial police and SOCO activities at the scene are particularly important as they will often provide the best and, in all probability, only opportunity to collect any evidence that may enable the successful detection of the offence. Previous studies have shown this to be the case, with Gill et al (1996) concluding that this initial stage of police investigation is the most important, since it is the primary source of information for subsequent investigations. Further to this, Burrows and Tarling (1987) found that most of the available information in criminal investigations came from members of the public i.e. witnesses, and in the case of burglary, mostly from the victims themselves (Greenwood 1980).

This chapter therefore considers the role of both the crime scene and activities conducted by the police and SOCO at the scene of the burglary, as it is evident that this initial visit plays an integral part in the investigation process.

7.3 Importance of the Scene of the Burglary

Figure 7.3 below shows the sources of evidence available in both those detected and undetected cases when no arrests were made. The specifics of those cases where offenders were arrested at the time of the incident have been considered in the previous chapter.

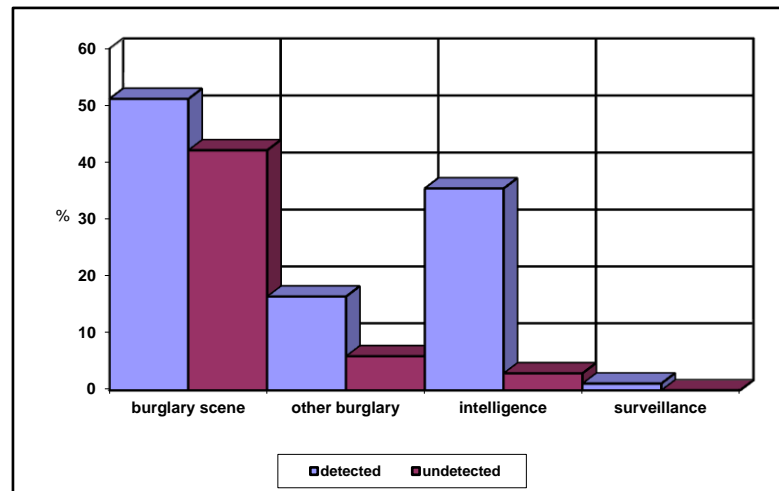


Figure 7.3 Sources of evidence when no suspects arrested

N.B. Figures from the above chart will not sum to 100% as most cases involved the use of a variety of sources of evidence.

It is clear from the above that the burglary scene itself was found to be the most fruitful source of evidence, irrespective of whether the case was eventually filed 'detected' or 'undetected'. Evidence was available from the scene in over half of all detected cases (51.2%), and in 42.2% of undetected cases. This finding is not surprising given past research that has looked at sources of evidence in investigations.

Several studies have drawn similar conclusions, finding that the scene is indeed the richest source of evidence and, as such, greater use should be made of this first visit to the scene (Greenwood et al 1977, Zander 1979). However, there was not significantly more evidence from the scene available in those cases that were filed detected ($\chi^2=3.587$, $p=0.058$), indicating that it is not simply the case for using availability of evidence at the crime scene as predictive of detections.

The importance of the crime scene is further reinforced if the findings of Steer (1980) and Burrows (1986a) are considered, with both studies finding that a significant majority of crimes are cleared either from catching the offender at the scene or as a result of evidence acquired from the scene. However, although studies have reviewed the more general sources of detections, few have considered the actual actions that take place at the scene and the individual sources of evidence and information.

7.4 Importance of time spent at the scene

This study found that officers employed an average 2.32 investigative strategies in detected cases compared to an average 1.81 in undetected cases (t-test, $p=0.001$). If those incidents where arrests were made at the time are removed, this picture remains the same. It would appear then, that the more factors uncovered, the greater the chance that the case undergoing investigation would be detected. Therefore, time spent at the scene and the collection of accurate and relevant information and evidence, would appear to be critical in the successful detection of non-residential burglary cases.

7.5 Questioning of neighbours

Neighbours were questioned in 25.6% of all BOB incidents. This figure sits between previous studies that have found figures ranging from less than 20% (Eck 1983) and over 50% (Coupe and Griffiths 1996). On average, two neighbours were questioned for thirteen minutes in total. The breakdown of neighbours questioned by response grading can be seen in Table 7.5 below. It is of little surprise to find that there was a significantly reduced chance of neighbour questioning if the incident was dealt with by the Crime Bureau/ Call Handlers by way of 'telephone investigation' ($\chi^2=9.975$, $p=0.002$).

	Response Grading			
Questioned	Crime bureau	Routine	Early	Immediate
Yes	0.2%	84%	9.2%	8.3%
No	22.1%	64.9%	4.8%	7.2%

Table 7.5 Percentage of neighbours questioned by response type

In 35.9% of cases where neighbours were not questioned, it was because there were no nearby neighbours to be questioned by the police. This means that there were just over 38% of incidents where neighbours could have been questioned but were not.

7.6 Disparity in questioning neighbours

7.6.1 Property type

Differences were found with regard to property types and the questioning of neighbours. There was a greatly increased chance of neighbours being questioned

when a burglary had occurred within a residential environment i.e. sheds and garages (chi-sq=34.995, p=0.000). Neighbours were questioned in 46% of all residential shed and garage burglary cases, compared to an average 19% of cases for the remaining property types. This increased rate of questioning is largely a reflection of the nature of the environment and increased opportunities for observation. It is of little surprise to find that these figures are similar to those found in the residential burglary project where neighbours were questioned in 52% of cases (Coupe and Griffiths 1996). This level of questioning within residential environments appears to be justified, with useful information provided in almost three times as many incidents when compared to other property types (chi-sq=9.632, p=0.002).

In contrast it was found that two-thirds less neighbours were questioned when the burgled property was a school or college (chi-sq=9.540, p=0.002). Again, it may be suggested that this is the result of schools often being located away from more densely populated areas or situated within their own extensive grounds and hence, more reliant on alarm activations (see chapter 5).

7.6.2 Day of the week

No significant differences were found with regard to the day of the week and whether neighbours were questioned or not (chi-sq=3.660, df=6, p=0.723). Neighbours were questioned on an average 22.8% of incidents that occurred across all weekdays, including weekends. This varied from 19.5% of incidents on Mondays through to a maximum of 28.8% on Fridays.

7.6.3 Number of officers attending

There were no significant differences found in the questioning of neighbours and the number of officers in attendance (M-W, p=0.530, t-test, p=0.359). 3.53 officers, on average, attended those incidents where neighbours were questioned (3.2 trimmed) compared to 3.28 officers, on average, where the neighbours were not questioned (2.9 trimmed). Interviewing neighbours therefore did not depend on there being more officers available.

7.6.4 Time incident logged

Differences were found regarding the time the incident was logged and whether any neighbours were questioned.

There was an increased chance of neighbours being questioned if the incident was logged between 9.00 a.m. and 6.00 p.m. (chi-sq=9.555, 0.002) compared to the remainder of the twenty-four hour period. In short, neighbours were questioned at an average 31% of incidents reported within this time frame compared to an average 19% of incidents occurring in the remainder of the day.

Crucially however, there was no significant difference in the provision of useful neighbour evidence if the incident was logged outside of these hours (chi-sq=1.786, p=0.181), nor in the quality of evidence provided by neighbours outside of these hours (chi-sq=0.280, p=0.597). In fact, neighbours provided useful information in 25.6% of those cases logged between 9 a.m. and 6 p.m. compared to 39.5% of cases logged outside of these hours. It therefore appears that there is some scope for improving the questioning of neighbours, especially if the incident is logged outside of this 0900-1800 period.

There are also signs that there is a reduced tendency to question neighbours if the incident is logged between the hours of 9.00 p.m. and midnight (chi-sq=3.570, p=0.059). Between these times, 16.9% of incidents received neighbour questioning compared to 27.4% of incidents outside of these times. As with the above findings however, there was no significant difference in the provision of useful neighbour evidence if the incident was logged between these times (chi-sq=0.619, p=0.432), nor in the quality of evidence provided (chi-sq=0.376, p=0.540). Overall, the signs are that more questioning of neighbours at incidents logged after 6p.m. at night, and especially after 9p.m. at night, could prove fruitful in the provision of evidence.

However, care must be taken in drawing specific conclusions, as the provision of evidence outside of this 0900-1800, and post 9 p.m. period may largely reflect increased selectivity in the choice of scenes at which questioning should be conducted. If this is so, it may well be the case that less selectivity and more questioning may well result in a reduction in the amount of useful information.

7.6.5 Time attended

Significant differences were found as to when neighbours were questioned and how it related to the time of day that the police actually arrived at the scene. There was over

twice as much chance of neighbours being questioned by the police between the hours of 1700-1900 (chi-sq=6.884, p=0.009). That is, an average 58.3% of neighbours were questioned in comparison to an average 24.5% of incidents attended outside of this time frame.

However, these times merely reflect when the police attended. As such it appears that the police actively match their attendance at some incidents to coincide with people's return from work. This would make sense given the preponderance of neighbours questioned within a residential environment. It would make further sense to optimise manpower, and attend when there is a greater chance of there actually being someone available to question, as opposed to allocating resources to incidents where the provision of evidence is greatly reduced by there not being anybody available to question.

7.7 Number of neighbours questioned

Figure 7.7 below shows the percentages of number of neighbours questioned at each incident, where neighbours were questioned.

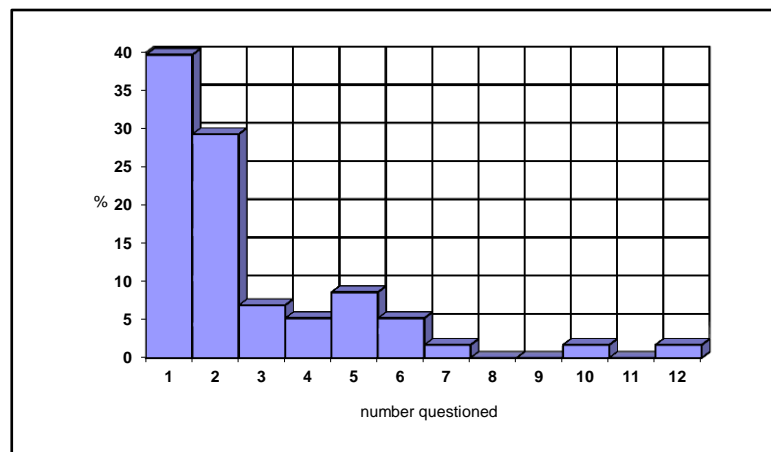


Figure 7.7 Percentage of neighbours questioned

In just over two-thirds of all cases (69.0%) where neighbours were questioned, there tended to be no more than two actually interviewed by the police. Given the preponderance of questioning amongst residential premises, it would make sense that a single neighbour either side of the burgled property would be questioned. However,

it is clear that a single neighbour was questioned in just over 10% more cases than two neighbours (39.7% compared to 29.3%).

That said, there were still a recognizable number of incidents where anywhere up to six people from neighbouring premises were questioned, suggesting that in some cases, door to door enquiries are merited.

7.8 Time spent questioning neighbours

As can be seen in Figure 7.8 below, at almost 95% of incidents where neighbours were questioned (92.9%), the police spent no more than thirty minutes interviewing for any information, with a mean questioning time of 16.68 minutes (12.71 minutes trimmed).

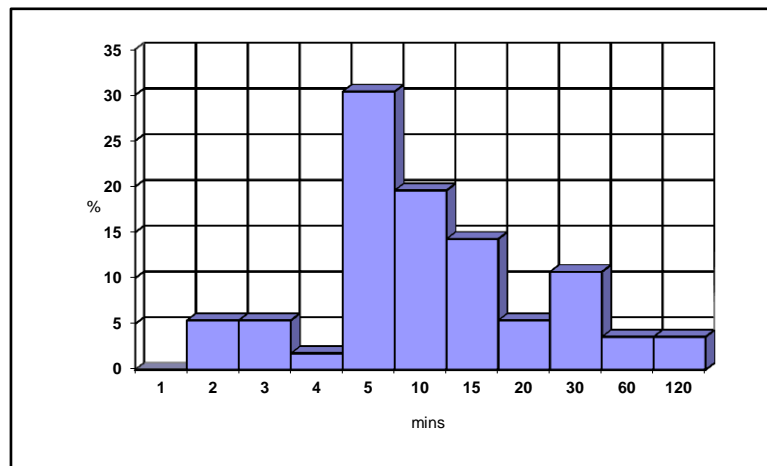


Figure 7.8 Length of time neighbours questioned

Just less than two-thirds of neighbours (64.3%) received between five and fifteen minutes of questions, with the largest single majority of incidents (30.4%) receiving just five minutes.

7.9 Information provided by neighbours

Where neighbours were questioned, the police considered that useful information was provided in just over one-third of all cases (33.7%). That is, neighbours provided information on either a definite suspect, a possible suspect, a suspect vehicle, or

further intelligence concerning the incident. The full breakdown of information provided can be seen in Table 7.9 below.

Information	Frequency	% Cases where available*	Assisted a primary detection	Assisted a secondary detection	Undetected
Definite suspect	45	24.3	84.4%	15.6%	0.0%
Possible suspect	72	38.9	16.7%	38.9%	44.4%
Suspect vehicle	64	34.6	0.0%	0.0%	100%
Further intelligence	216	89.7	19.5%	18.4%	62.1%

Table 7.9 Information provided by neighbours

N.B. The figures displayed are population estimates from the sample

* Figures represent column percentages

The percentages in the above table do not add up to one hundred as, with previous findings, there are often combinations of factors at work that aid the police. This is borne out by the finding that in the majority of incidents where neighbours provided useful information, two items of information were most often available (64.3% of incidents).

It is clear from the above figures that neighbours were able to provide further intelligence in the majority of cases where information was available (89.7%). Further to this, it would appear that this further intelligence would be in combination with some form of information regarding the suspect, with the majority providing possible suspect information.

Specifically, ‘further intelligence’ was identified primarily as a suspect description, though it included information such as vehicle number plates, the location of stolen property and previous dealings with the suspect. These were all identified from the police questionnaires.

7.10 Influences of neighbour information

7.10.1 Length of time questioned

A significant difference was found in the length of time spent questioning neighbours when the police considered there to be useful information available (t-test, $p=0.014$). Where useful information was considered available, neighbours were questioned for an average 31.29 minutes (27.94 minutes trimmed). This compares to an average

10.31 minutes where no useful information was considered to be available (9.68 minutes trimmed). The full spread of times spent questioning neighbours can be seen in Figure 7.10.1 below.

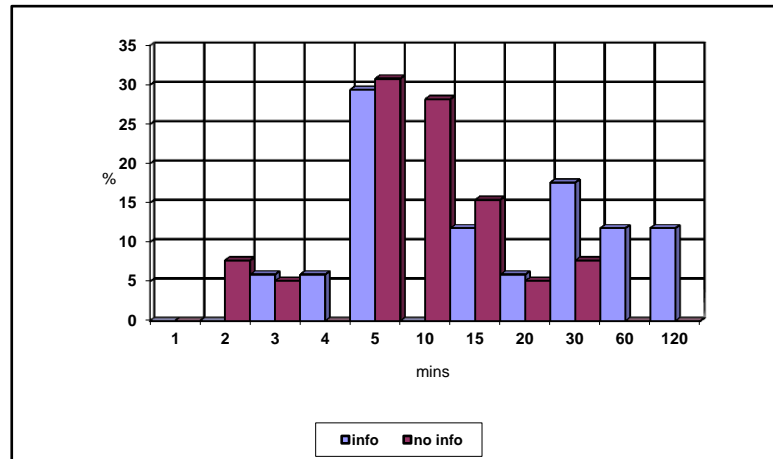


Figure 7.10.1 Length of time neighbours questioned when information available

It is important however, that the above findings are not misinterpreted. That is, it is probably not the case that the police were able to gather useful information if longer was spent questioning, merely that more time was spent questioning neighbours where useful information was considered to be available at the time.

7.10.2 *Usefulness and Quality of evidence*

The police did have a tendency to spend longer questioning neighbours, when they were in a position to provide better quality evidence (t-test, $p=0.056$). Where neighbours could provide information regarding either a definite suspect, or definite suspect information backed up by further intelligence, the police spent an average 47.47 minutes questioning neighbours (46.07 minutes trimmed). This compares to 12.88 minutes (12.47 minutes trimmed) when the neighbours were not able to provide such information.

However, it would appear that questioning more neighbours did not increase the likelihood of better quality evidence (M-W, $p=0.419$, t-test, $p=0.714$). An average 1.92 neighbours (1.74 trimmed) were questioned where information concerning a definite suspect was available, in comparison to an average 1.70 neighbours (1.67 trimmed) when no information regarding either a definite suspect or a definite suspect backed up with further information was available.

Unusually however, there were significantly fewer neighbours questioned when useful information was provided (M-W, $p=0.024$, t-test, $p=0.031$). An average 1.82 neighbours (1.64 trimmed) were questioned when useful information was provided, compared to an average 3.14 neighbours (2.81 trimmed) when no useful information was provided. This may suggest that the police actively question more neighbours in an effort to gain any useful information if it is not immediately forthcoming from the first questioned, whether this extra effort proves to be fruitful or not.

7.11 Availability of neighbour information in detections

Info available	Detected	Undetected
Yes	48.7%	51.3%
No	9.4%	90.6%

Where neighbours were questioned and useful information was provided, a greater number of detections resulted ($\chi^2=15.988$, $p=0.000$). Useful information was provided in 34% of detected cases where neighbours were questioned. This compares to provision of information in only 7.2% of cases that were undetected and neighbours were questioned. Further to this, where useful neighbour information was available, and the case was detected, ‘witness evidence’ was cited by investigating officers as playing a role in the detection of the case. It would appear therefore that useful neighbour information does indeed hold some influence over the detection, or lack of, some burglary other building incidents. This finding confirms the work of previous studies (Eck 1983) that have found that neighbours can be a useful source of information. This finding however, must be taken in within the context of the differing environments that, as has been shown, tend to dictate the availability of neighbours. The availability of information in those detected cases can be seen in Table 7.11 below.

Information	Frequency	% Assisted primary	% Assisted secondary
Definite suspect	45	84.4	15.6
Possible suspect	40	30.0	70.0
Suspect vehicle	48	0.0	0.0
Further intelligence	70	51.4	48.6

Table 7.11 Availability of neighbour information in detections

N.B. The figures displayed are population estimates from the sample

The most common form of neighbour information in detected cases was ‘further intelligence’. Given the preponderance of suspect related information (i.e. opportunity for further intelligence on either a definite or possible suspect) it is of little surprise that this is the case.

It is of little surprise to find that there was an increased chance of the case being filed as detected if there was better quality evidence available (chi-sq=4.480, p=0.034). That is, of all cases where neighbours were questioned and useful information was provided, 24.3% of detected cases had information regarding a definite suspect available. This is in stark contrast to those undetected cases where definite suspect information was unavailable in all cases.

7.12 Questioning of other individuals

The police questioned other individuals in 41.1% of cases. This amounts to 68.5% of incidents where an individual from the burgled premises was questioned (IP/ member of staff/ security) and 31.5% of cases where another witness was questioned (MOP/ security other building).

7.13 Disparity in questioning other individuals

7.13.1 Property type

The police, on average, questioned individuals in just over 90% of all incidents. There were however some variations within this general pattern of questioning. Victims were questioned at an average 95% of incidents dealt with by either the Crime Bureau/ Call Handlers or by a ‘routine response’ grading, whilst passers-by and victims were questioned at just over one third of emergency response incidents (35.7%).

Having already seen that the police are more likely to question neighbours within a residential environment, so they are more likely to question other individuals if the burglary had occurred either within an office or leisure facility environment (chi-sq=6.741, p=0.009). Individuals were questioned in an average 56.3% of incidents occurring within these environments, compared to an average 35.4% of incidents occurring within the remaining environments.

It would appear that these findings also, at least to some extent, reflect the nature of the environment within which the burglary has occurred. Indeed, just as residential properties are more likely to provide neighbours, and hence neighbours with useful information, so leisure facilities are less likely to. As such, the police would have to question other individuals at the site in an effort to gather any available useful information. Given that such premises are often 'people rich' this would make more sense. This suggestion is borne out to some extent by the fact that shops, schools and leisure facilities, all 'people rich' environments, tended to provide more useful information than the remaining property types (chi-sq=6.760, p=0.009). These property types provided useful evidence in an average 39.5% of incidents compared to an average 26.9% of incidents across the remaining property types.

7.13.2 Day of the week logged

Unlike the questioning of neighbours, significant differences were found in the pattern of questioning other individuals.

There was less chance of other individuals being questioned at weekends (chi-sq=7.049, p=0.008). Across this two-day period, individuals were questioned in an average 33.8% of incidents, compared to an average 50% of incidents for the remaining days of the week. However, at weekends, there was not significantly less information provided, although there was a reduced amount compared to the remainder of the week. Useful individual information was provided, on average, in 28.4% of incidents compared to a slightly increased average of 31.3% for the remaining weekly period (chi-sq=0.257, p=0.612).

7.13.3 Number of officers attending

No significant differences were found with regard to the questioning of other individuals and the number of officers in attendance (M-W, p=0.224, t-test, p=0.670).

On average, 5.19 officers attended (4.88 trimmed) when other individuals were questioned regarding the burglary compared to 5.36 officers (5.11 trimmed) where no individuals were questioned.

7.13.4 Time incident logged

If the incident was logged between 5 p.m. and 7 p.m. there was an increased chance of other individuals being questioned (chi-sq=5.795, p=0.016). Further questioning took place in 64% of incidents occurring within this time frame in comparison to 39.1% of incidents occurring outside of this time frame. However, this did not translate into an increased chance of gathering useful information (chi-sq=0.065, p=0.799). This suggests that some police effort may be wasted in pursuing such a task between these times.

7.13.5 Time attended

If the police attended the incident between 5.00 p.m. and 7.00 p.m., there was an increased chance of further individuals being questioned (chi-sq=7.400, p=0.007), with other individuals questioned in 65% of incidents attended by the police within this time frame. This is in comparison to individuals being questioned in 39.5% of incidents when the police attended outside of this time frame. Given that in the majority of cases, it was the IP/ member of staff who was questioned, it is reasonable to assume that the increase in questioning between these times is also a reflection of the close of business. As such, staff members would not need to cut into their working day to aid the police with their enquiries.

7.14 Information provided by individuals

Where other individuals were questioned at the scene, the police considered that useful information was provided in 20.8% of cases. Again, this constituted information regarding either a definite suspect, a possible suspect, a suspect vehicle or further information. The full breakdown of information provided can be seen in Table 7.14 below. The total percentages will not total one hundred, as individuals most often provided two items of information (56.3% of incidents).

Information	Frequency	% Cases where available*	Assisted a primary detection	Assisted a Secondary detection	Undetected
Definite suspect	189	19.5	80.0%	14.3%	5.7%
Possible suspect	403	41.6	44.0%	12.0%	44.0%
Suspect vehicle	112	11.6	50.0%	33.0%	16.7%
Further intelligence	890	91.8	60.3%	12.8%	26.9%

Table 7.14 Information provided by other individuals

N.B. The figures displayed are population estimates from the sample

* Figures represent column percentages

91.8% of individuals questioned were in a position to provide ‘further intelligence’ (primarily suspect descriptions), definite suspect information was provided in 19.5% of incidents and possible suspect information in 41.6% of incidents where questioned. Suspect vehicle information was available in only a minority of such incidents (11.6%).

7.15 Availability of individual information in detections

More detections resulted when the individual questioned was able to provide useful information (chi-sq=19.680, p=0.000), with 38.6% of cases filed detected when useful information was made available. This compares to 13.5% of cases that were filed ‘undetected’. The information provided by individuals in those detected cases can be seen in Table 7.15 below.

Information	Frequency	% Assisted primary	% Assisted secondary
Definite suspect	125	72.8	27.2
Possible suspect	53	60.3	39.6
Suspect vehicle	48	41.7	58.3
Further intelligence	272	68.9	31.1

Table 7.15 Availability of other individual information in detections

N.B. The figures displayed are population estimates from the sample

There was also an increased chance of the case being filed detected if there was better quality evidence available (chi-sq=14.002, p=0.000), with definite suspect information available in 53.3% of subsequent detections. This compares to similar information being available in just 9.1% of those cases that were filed ‘undetected’.

Two items of information were available in the majority of detected cases (56.7%), with 'further intelligence' as the most common.

7.16 The availability and role of all witness information in detections

There is a significantly increased chance of a case being filed 'detected' where useful 'witness' information is available (chi-sq=25.507, p=0.000). In all detected cases, information was available in 45.1% of incidents compared to 18.8% of undetected cases.

Further to this, there was a significantly increased chance of an arrest being made at the time if this 'witness' information was available (chi-sq=41.268, p=0.000), with arrests made at 82.1% of incidents where useful information was available compared to availability in 30% of incidents where no arrest was made. Where no arrest was made at the time, 'witness' information was cited by the officers as being used in the detection of over 95% of cases, including those primary detected incidents.

7.17 Collection of physical evidence at the crime scene

Details were also collected from both officers and Scenes of Crimes Officers (SOCO) concerning the availability and collection of physical evidence that may help in the detection of non-residential burglary cases. Previous studies have shown that whilst the collection and availability of physical evidence can aid the detection of crime, it is often used as supporting evidence (Steer 1980, Ramsay 1987). As a result, physical evidence is rarely directly responsible for the detection of any single crime. However, it is important not to underestimate the corroborative role played in the use of such evidence, especially if we consider that certain physical evidence can irrefutably identify particular individuals.

7.18 Collection of MO (Modus Operandi) evidence from the scene

Information concerning either an unusual 'modus operandi' (MO) (23.6%) or an indicative MO (76.4%) was available in 208 cases (adjusted), with both available in just 3% of cases. 39% of the cases where MO information was available were detected, 15.9% of which were primary detected. Crucially however, there was found to be a particularly high rate of detection where 'indicative MO' evidence was available at the scene.

Discounting those cases where arrests were made at the time, MO evidence was available in 9% of cases and was the pivotal item of evidence available from the scene in just nine cases, representing 1.9% of all primary detections. There is no indication that any subsequent contact after the initial police response aids in the gathering of information regarding an offender's MO ($\chi^2=0.801$, $p=0.371$). Therefore, the initial police visit to the scene is the best opportunity to collect MO evidence, but MO information was rarely available or used in investigations and when it was, it was often used as supporting evidence.

7.19 Scenes of Crime Officers (SOCO)

7.19.1 Interviews

As well as collecting documented primary data from Scenes of Crimes Officers, an informal, unstructured interview took place with the four Senior SOCO officers across the study OCU's concerning their opinions on the way that the role of Scenes of Crime Officers is defined, and the problems faced within the everyday work environment.

The most common problem cited was the inability of many attending officers to adequately assess the worth of SOCO attention. It is essential, especially with 'volume crime' such as burglary that the attending officer is in a position to make the correct decision. Given the sheer number of incidents, it is of paramount importance that SOCO attention is made where there is available evidence, and that no attention is made where there is either no evidence, or poor quality evidence. Allied to this, it is particularly important, given the inevitable delay in SOCO actually getting to the scene, that journeys are not wasted, given the current time constraints that many officers are working under.

However, it would appear that attending police officers often fail to properly assess the worth of evidence or lack thereof, generally being insufficiently discriminating and calling for forensic assessment in unpromising cases. These findings support those of Tilley and Ford (1996), who concluded that, in general, the first attending officer did not have sufficient knowledge about the discriminatory potential of physical evidence.

Even where evidence was found to be available, a general failure on the part of the attending officers to adequately preserve the scene/ secure evidence was noted by SOCO. The most frequently mentioned problem was the preservation of broken glass, which tends to be of particular importance as it is often crucial in the collection of fingerprints. In the winter months, this factor is essential given the more extreme nature of the elements, and the increased likelihood of evidence being destroyed.

As a result of the above problems, West Midlands Police have produced a 'pocket card' that all officers are required to carry, regarding SOCO guidelines, offering advice on scene preservation. The following 10 points have been identified by SOCO as aiding the security of evidence;

- 1) preserve broken glass by picking up by edges, bring inside, and prop up against an internal wall;
- 2) board broken windows up on the outside so as to protect any 'climbing in' marks which may be available;
- 3) don't tell the IP that fingerprints are visible;
- 4) tell the IP what can be cleared away (cushions, clothes etc) as shiny surfaces are often the surface for developing fingerprints;
- 5) any small items for fingerprinting can be put to one side;
- 6) do not remove items for fingerprinting from the scene, as this causes two SOCO visits;
- 7) don't touch items with gloves; use bare hands and tell the IP to inform SOCO so prints can be eliminated;
- 8) look out for torn papers, envelopes or bin liners left by the offenders as they are often a good source of fingerprints;
- 9) forensic samples such as blood and footprints also need preserving; SOCO don't just collect fingerprints;
- 10) don't provide ETA's (estimated time of arrival) for the IP as it is almost impossible for SOCO to keep to them.

However, the same problems are still arising, especially as many of these pocket cards are not used or are lost.

7.19.2 Findings from interviews

Across all OCU's, a lack of training was stated as the major reason for failure to either identify or preserve evidence adequately on the part of the attending officers. Currently, there is no SOCO input into the basic training received by officers, as the emphasis has shifted more towards community policing. Even in those cases where the SOCO officers have run courses themselves for uniformed officers, there has been little or no turnout to such training sessions. If, as the Audit Commission (1996) showed, that the training of officers can, and does, appear to provide an effective response, then attendance at such courses needs to be enforced to some degree. Although detectives were receiving training in SOCO techniques and the value of evidence/ scene preservation, there is very little emphasis or understanding on how SOCO evidence per se fits into the investigation procedure as a whole. As such, some available evidence is being missed or the value and worth of other evidence is being misinterpreted.

On a more practical level, further problems were cited with regard to appointments, missing/ incorrect details, crime misclassification and availability of information on/ access to police computer systems (CRIMES and MDIS).

The problem with the misclassification of crimes creates an unnecessary workload for SOCO. The main issue relates to the mistaken classification of shed burglaries as 'Burglary Dwelling House' (BDH). All BDH incidents will receive a SOCO visit, whereas a shed break should be classified as BOB. As such, SOCO are mistakenly attending breaks because it is force policy at BDH incidents, even though it is currently West Midlands police force policy not to attend shed breaks unless there are obvious evidential signs. This means that by misclassifying such crimes, two separate force policies are being counteracted, with the opposite result achieved.

In so far as there are problems regarding appointments and incorrect details, journeys are being wasted / not being made because information is not made available as to when the IP will be at the premises. This is compounded by incorrect or incomplete addresses. As such, it is left to SOCO to try to chase up IP's or find out the correct

addresses in order to make a visit. This means that time and resources are being consumed which could be better spent at the crime scene.

The above is not helped by the fact that all SOCO jobs (names, addresses etc.) are retrieved from the MDIS computer system first thing in the morning, yet access to MDIS is limited. In some cases, there is no immediate access to MDIS at all. Allied to this, any new SOCO jobs should be paged through to the officers when they are out on the road. However, this was stated as a further problem, often requiring either a return to a police station to access MDIS, or actively ringing in on a regular basis to ascertain if any new jobs had come through.

In short, valuable time is being wasted that could be better spent at crime scenes where evidence is actually available. The result is that there are more jobs to complete, yet less time to complete them in. As such, it may be the case that evidence rich scenes are not being visited, or evidence at visited scenes is being missed due to the limited time available to complete the day's SOCO jobs.

7.20 SOCO attention

SOCO can be requested either by the attending officer, or by the Crime Bureau operators upon initial screening of the non-emergency report. Where the Crime Bureau requested SOCO, evidence was available in 33.3% of cases compared to a slightly reduced 32.7% of cases when the officer in attendance requested SOCO. Although this may indicate the Crime Bureau/ Call Handlers are able to assess the worth of SOCO attention equally as well as an attending officer, this finding should not be taken at face value. The Crime Bureau operators are in a position to request SOCO input into their decision making process prior to making a request for SOCO attendance. This is not the case for attending officers.

Slightly less than half of all incidents received SOCO attention (47.8%). However, there were significant differences between property types and whether SOCO attended (chi-sq=54.611, p=0.000). Only 23% of shed and garage burglaries received such attention compared to an average 56% of incidents across the other property types (chi-sq=46.916, p=0.000).

The main reason cited by first attending officers for not requesting SOCO attention, across all properties, was the considered lack of any suitable evidence (66.2%). However, this too varied with property type.

Excluding residential sheds and garages, lack of suitable evidence was cited in 83% of cases across the remaining properties. With residential buildings, police force policy was the major reason for SOCO not being requested in 40% of instances (chi-sq=68.254, p=0.000). This policy has resulted from such premises often failing, in the past, to provide any physical evidence, largely as a result of the characteristics of such buildings i.e. made of wood, easy to break into, few smooth surfaces. Currently, unless there are extenuating circumstances, SOCO attention will not be merited.

For warehouse and industrial premises the main reason for not requesting SOCO in 35% of cases was the amount of dirt within the premises (chi-sq=29.405, p=0.000). This is of little surprise given that this type of premises will inevitably contain dust, dirt, large amounts of grease and oil, and very few smooth surfaces from which to collect evidence.

7.21 Collection of Evidence

Cases have to be considered where both a physical SOCO attendance was made, and where evidence was removed from the scene by the attending officer, for SOCO examination. In both instances, there is a propensity for the collection of definite evidence.

Evidence was collected from a third (32.7%) of all BOB crime scenes. Although this is not particularly low, it does tend to indicate that there may be some scope for improving the screening process that dictates whether SOCO attendance is necessary, especially by attending officers. If taken in the context of the findings from the interviews, this would make sense.

Only shops, schools/ colleges and leisure facilities tended to provide SOCO evidence in the majority of crime scenes (39%) compared to the remaining four property types (25%) (chi-sq=5.297, p=0.021). Most notable however, was the fact that when residential sheds and garages did receive SOCO attention, there was not significantly

less evidence collected from the scene ($\chi^2=1.658$, $p=0.198$), even though there was a reduction in the number of cases where evidence was actually available. This might possibly reflect either an effective use of policy, or more stringent assessment by the attending officer, with regard to the availability of useful evidence.

7.22 Number and type of evidential items

Three quarters of all crime scenes that provided any SOCO evidence provided only a single item of SOCO (75.2%). The most common form of evidence collected from crime scenes, either on its own or in combination with other evidence, was fingerprint evidence (44.5%). A comparable amount of footwear evidence (39.4%) was also collected. Chemical evidence was only half as important (20%), whilst sample evidence (e.g. paint flakes) and DNA evidence both fell around the 6% mark (6.4% and 5.9% respectively).

7.23 Influence of property type and SOCO evidence

It is important to recognise here that although certain premises will provide larger amounts of certain evidence, it is by no means a reflection on either the quality of that evidence, or any further use of that evidence.

Schools and colleges were more likely to provide fingerprint evidence for testing ($\chi^2=7.996$, $p=0.005$). Given the number of people that are likely to be using such buildings, this is of little surprise. Warehouse and Industrial premises were more likely to give up footwear evidence ($\chi^2=11.283$, $p=0.001$). Although on a wider scale they were less likely to receive a visit from SOCO because the premises were often too dirty, by the same merit, such premises will be more amenable for picking up footprint evidence, primarily because of the dirt and grime.

The full listing for the frequency of SOCO evidence collected from the various property categories can be seen in Table 7.23 below.

	f/ print	forensic	chemical	footwear	DNA	sample
Offices	10.8	0.0	10.5	12.0	12.0	3.2
Shops	12.0	11.1	15.8	22.0	32.0	38.7
Ware/ ind	15.7	22.2	36.8	36.0	12.0	19.4
Resident	7.2	11.1	0.0	4.0	4.0	6.5
School/ coll	26.5	22.2	21.1	8.0	16.0	12.9
Leisure	19.3	11.1	5.3	10.0	16.0	12.9
Other	8.4	22.2	10.5	8.0	8.0	6.5

Table 7.23 Influence of property type on SOCO evidence

N.B. All figures are column percentages

7.24 SOCO and Detections

53.3% of all incidents that were subsequently detected received SOCO attention. This is slightly higher in comparison to the overall picture for SOCO attention, where 47.8% of all incidents received a visit.

SOCO evidence was collected in just under twice as many detected cases (47.9%) in comparison to those undetected cases (29.2%). This compares further to the 32.7% across all BOB incidents. So, although fewer detected cases received SOCO attention, evidence was collected in a larger proportion of those cases that were subsequently filed as detected (chi-sq=22.797, p=0.000).

7.24.1 SOCO use in cases filed as Detected

SOCO evidence was actively used in the detection of 105 cases that were filed ‘detected’ (population adjusted), including 57 incidents that were ‘primary detected’. In 91.4% of these primary detections (52), it was only a single item of SOCO evidence that played a role in the detection of the offence.

The most important piece of evidence was fingerprint evidence, which accounted for 37.5%, followed by DNA evidence, which was the single most important piece of evidence in 28.1% of cases. In short, it appears that in those cases where the only form of evidence available from the scene is SOCO, the most influential types of evidence are those that could irrefutably identify a single offender.

Although evidence collected by SOCO did play a part in the detection of cases, in the main, it rarely provided enough proof in its own right for detection. However, most

often, evidence collected by SOCO was of greatest use in corroborating evidence already available from the scene. These findings have been shown in previous studies, most notably by Steer (1980) and in findings from the Audit Commission (1993).

7.25 Discussion and policy implications

The scene of the burglary, in common with past research, has been shown to be the richest source of evidence. Excluding those cases where the burglar was apprehended at the time of the incident (for discussion on this see chapter 6), the majority of detections arose from evidence gathered from witnesses at the scene. Once officers had arrived, their activities included the questioning of all relevant parties and the collection of MO evidence, whilst SOCO officers were responsible for the collection of physical evidence.

It can be seen, again, that the diversity of the environment within which the burglary occurs influences both police actions undertaken at the scene, and the availability of any evidence from the scene. Both the questioning of neighbours and other individuals, at the scene was affected by property type, with more neighbours questioned and more information provided within a residential environment. Conversely, other individuals were more likely to have been questioned and provided more evidence at incidents occurring within the more isolated, yet people rich premises (as opposed to environments).

Overall, information from neighbours was a factor in the detection of 10% of burglaries that were solved, with an average 5.9 hours used per burglary detected as a result of evidence provided by neighbours. As such, the interviewing of neighbours was found to be effective, especially since the majority of useful neighbour evidence was picked up at the initial visit to the scene. In only a small minority of cases was any useful information gathered during subsequent contact (see chapter 9).

That said, there might still be some scope for increasing the number of detections, particularly amongst the 38% of cases where neighbours could have been questioned, and where the circumstances of the burglary matched those where evidence from

neighbours proved most useful. Although limited by environment, there is reason to believe that certain improvements can be made.

There may be grounds for improving the questioning of neighbours, especially at incidents logged after 6.00 p.m. at night, and particularly between the hours of 9.00 p.m. to midnight, when there was found to be no difference in either the provision, or quality of, evidence provided by neighbours within these time periods. Even though it would appear that the police are targeting neighbours at specific times of the day when they are more likely to be available for questioning, it may be more fruitful to question neighbours at more evening and night time incidents, especially those occurring within residential environments.

Further to this, there is some indication that a certain amount of police effort is not being used as effectively as possible. Although longer was spent questioning when good information was available, increasing the number of neighbours questioned did not improve the availability or quality of information. Although it is indeed possible that 'neighbouring premises' further away from the burgled premises could supply useful information, especially within residential environments, the indications are that valuable police time is being wasted questioning more neighbours when there is very little hope of gathering any useful information. In most cases, it would seem likely that immediate neighbours are more likely to provide any useful information, especially given the fact that the police were getting their information when, in the majority of cases, no more than two neighbours (one either side) were questioned. Some of this time, as stated previously, may therefore be better spent assessing the crime scene itself, either for potentially valuable SOCO evidence, or any signs of an offender's MO.

There are signs therefore that, although questioning neighbours was effective and proved to be a useful source of information, some gains could be made by questioning neighbours at a greater number of night time incidents, and decreasing the amount of questioning when useful information is not immediately forthcoming from those neighbours contiguous to the burgled premises.

Useful information from the questioning of other individuals (IP, owners or other staff, members of the public) contributed to the detection of 4.2% of all cases. On average, first officers spent 36 minutes at the burgled premises questioning witnesses and assessing the burglary site. This equates to 12.5 hours of officer effort for each burglary where evidence from other individuals made an important contribution to the detection of the case.

The scope for questioning victims at the scene is limited by the fact that incidents will inevitably occur during the night or over the weekend period, to be discovered either the following morning or anything up to two days after the event. In these cases, if the alert is not raised at the time of the incident, there will be a poor chance of gathering any evidence, let alone any good quality evidence.

There may be some scope for improvement however, especially at those premises found to supply more witness information. Further to this, there is some scope for improvement in the questioning of other individuals at incidents occurring over the weekend period. Although a reduced amount of information was collected, it was not significantly low enough to warrant reduced questioning over this two-day period.

In general, the findings regarding witness information further reinforce the worth of questioning and the role of witness information in detections. Although the contribution was found to be comparatively low, extending questioning in the correct circumstances could still prove fruitful, especially given the fact that it does not require extra visits to the scene.

Regarding the collection of physical evidence, SOCO information assisted in the detection of just under 2% of non-residential burglaries, with officers spending an average 26 minutes at each incident attended. This represents a total of 1476 hours used to obtain evidence that led to detections, representing 22 hours per detected case. When the contribution of SOCO evidence to those cases where suspects were arrested for other offences are considered, these figures are reduced to quite a large extent, with an estimated 12 hours of staff resource per detected case.

Assessing the scope for improving the use of SOCO visits is more difficult, primarily because in the majority of incidents, somebody else decides whether SOCO attention is required. That is, apart from those incidents dealt with by the Crime Bureau/ Call Handlers, it will be the first attending officer who assesses the worth of the site for any forensic evidence.

The main issues concerning any scope for improvement must first focus upon the use of a force policy that restricts SOCO attention, and secondly, the assessment abilities of the Crime Bureau/ Call Handlers and the assessment and scene preservation abilities of the first attending officers. This study has already shown that telephone operators are no worse than attending officers at assessing the availability of valid evidence at the scene. Even though, as stated, the call handlers can refer to a relevant officer, it is hard to believe that this happens on every occasion, especially when the call handlers themselves have clearly defined guidelines as to when SOCO attention is merited. Perhaps, as stated in the interviews conducted, uniformed officers should receive compulsory training regarding such matters. In this way, there may be some scope for improving both the collection of evidence, and the reduction of wasted time and effort at worthless burglary scenes.

The second issue raised is the use of force policy in directing whether SOCO should attend. A substantial proportion of shed and garage burglaries were not referred to SOCO because of 'force policy', yet when officers did attend, there was found to be no significant difference between these residential buildings and the remaining property types with regard to the collection of useful evidence. Again, perhaps, this is more a reflection of the attending officers not being willing to ask for SOCO attendance knowing that a policy is in place that directs officers not to ask for SOCO attention. Were the officers able to adequately assess the scenes however, there would be no need for such policy implementation.

In short, although not conclusive by any means, the above suggests that more selective use of SOCO could help in increasing the number of detections. This could be achieved through better training of uniformed officers in assessment and scene preservation techniques. By doing so, there should be an increase in the number of valid burglary cases visited and a corresponding decrease in SOCO attendance at

worthless sites. In this way it may be possible to increase the time spent at worthwhile scenes, and so increase the propensity for gaining more evidence.

The implications for policy from all of the above findings on this initial police visit to the scene would seem to dictate that, although the success rate of the main investigative strategies was not particularly high, best use must be made of this initial opportunity to collect evidence.

8. FURTHER INVESTIGATIVE ACTIVITIES

8.1 Summary

As well as conducting more reactive initial investigations at the scene of the crime, the police make use of several other more proactive methods, often in combination with the investigative activities discussed in the previous chapter. These pro-active techniques tended to be used more infrequently but were effective when they were used, especially when used after evidence has been built up from across a number of sources. This use of multiple sources of evidence would appear to be integral to the detection of the many non-residential burglary cases.

8.2 Introduction

Having looked at those police activities conducted at the scene of the burglary in the preceding chapter, the following considers those additional investigative police actions that take place. These include the use of general intelligence, special operations and crime pattern analysis. These activities will often complement and run in parallel to those more reactive police actions taken in response of any burglary alert.

8.3 Evidence from general intelligence

The use of ‘general intelligence’ involves, either in isolation or in combination, intelligence on local or travelling criminals, vehicle stop-checks, registered informants, and the use of any local knowledge or contacts.

Intelligence was used in 22.3% of sample BOB cases for which data was available, representing 6% of all burglary cases (population adjusted). It led to useful information being collected in 75% of cases where it was put to use, contributing to 36.7% of all primary detections and 32.6% of secondary detections. The available ‘general intelligence’ information can be seen in Table 8.3 below.

General intelligence	Frequency	%
Travelling criminals	3	2.1
Stop-check	18	12.3
Registered informants	12	8.2
Local knowledge/ contacts	94	64.4
Offender identity info	44	30.1

Table 8.3 The availability of ‘general intelligence’ information

N.B. The above figures will not total 100% as there are instances where more than one form of intelligence was available.

The majority of available general intelligence had come from the officers' local knowledge (64.4%), either of criminals themselves or from contacts known to the officer. This is followed by 'tip-off' information regarding the identity of the offender (30.1%). Both 'stop check' information (12.3%) and the use of registered informants (8.2%) also feature. Understandably, the smallest contribution to general intelligence is made by information on travelling criminals (2.1%).

It was found that there was a significantly improved chance of detection when 'general intelligence' information was available (chi-sq=70.088, p=0.000). This finding may largely be explained by the number of different investigative methods that are covered under this umbrella term, especially when, as will be shown later in this chapter, it is considered that the more sources of information, the greater the chances of any one case being detected.

8.3.1 Information on travelling criminals

Information on travelling criminals was available in only three cases, all of which were filed 'detected'. This may be a result of either;

- a) very few burglars operating outside of their own 'turf';
- b) poor inter-force communication regarding travelling criminals;
- c) few criminals being considered 'serious' or prolific enough to merit force wide information.

In all cases, information / evidence was available from other sources, be it MO evidence or SOCO evidence.

8.3.2 Information from stop-checks

Of the eighteen cases in which information from a stop-check was available, seventeen (94.4%) were filed 'detected', with five arrests made at the time of the incident. In all cases where the arrest was made at the time, information concerning the offender, the vehicle or the stolen property was available. Of the remaining detected cases, there was stolen property, suspect and vehicle information available

from the scene in the majority of cases. In the cases where evidence was not available from the scene, information was available from other burglaries.

In the single undetected case, although information was provided as to the identity of the offender prior to the stop check, there was no other evidence available from elsewhere, i.e. description, property details, SOCO etc. When taking account of population figures, stop checks were actually carried out in less than 1% of all burglaries and assisted in just 3.5% of all detected cases.

8.3.3 Use of registered informants

All twelve cases where registered informant information was used were filed 'detected', reflecting a population incidence of 3% where the use of informant information assisted detection. An arrest was made in a single case, when police saw the suspect near to the scene after an alarm activation at the burgled premises. It must be assumed that the informant information placed the police in the right place at the right time.

In three cases, evidence was used from the scene of the burglary, including a combination of a vehicle description, SOCO, identifiable property, and a suspect description. In the remaining cases, no other information was cited as being used in the detection of the offences, although there was minimal information available concerning previous breaks and property details at two further offences. Most notable however, is that four of these remaining incidents were admitted to during interview.

This effective use of informants has been noted by the Audit Commission (1993), who estimated that detections arising from the use of such sources were extremely cost effective, averaging just £57 per detection.

8.3.4 Use of local knowledge or contacts

Of the 94 cases where the officer's local knowledge or contacts was cited as being used, ninety-two were filed 'detected'. This equates to assisting in over 20% of detections when population allowances are made. Thirty-six arrests were made at the time of the incident, fifteen of which were CIA.

As above, where local knowledge was cited, it was often used in combination with other factors, either the availability of other evidence either from the scene, other burglaries or from other general intelligence.

8.3.5 Information regarding offender identity

Forty cases out of the forty-four incidents where information regarding the identity of the offender was cited were detected. Twelve arrests were made at the time of the incident, leaving thirty-two cases. Of these cases, information was available from several sources in the majority of incidents. Most often, suspect descriptions had also been provided, though SOCO evidence was also available in some of these cases. The provision of information regarding offender identity proved to be useful, assisting in 10% of all detections when allowing for population figures.

8.4 Use of ‘special operations’

The use of ‘special operations’ essentially involves the surveillance or observation of an area, a specific person, or a specific building.

Special operations such as surveillance were used in 1.2% of incidents. All cases were filed ‘detected’. The operations mounted can be seen in Table 8.4 below.

Special operation	%
Area surveillance	10.0
Person surveillance	50.0
House surveillance	10.0
Premises surveillance	30.0

Table 8.4 Type of ‘special operations’ utilised

There are few indications of the circumstances in which operations would be mounted though surveillance, per se, was not used in isolation in gaining the detection. All cases where police surveillance was undertaken had made use of other sources of information. Where scene information was used, it was quite comprehensive, with suspect and witness descriptions available, property details, and further witness information. Indeed, some cases made use of all available sources of information.

That is, SOCO, vehicle and suspect descriptions were available at the scene, SOCO, suspect descriptions, M.O. information and pattern information relating to both a suspect and an area were available from other burglaries, and use of local contacts and informants were used from 'general intelligence'.

The above tends to suggest that any surveillance operations mounted will be based on sound evidence, often accumulated from a variety of sources. Most important perhaps is that 88.9% of cases where a surveillance operation was employed were 'primary detected'. Crucially, when surveillance operations were mounted, a suspect was more likely to have been seen (chi-sq=4.847, p=0.028). In 80% of incidents suspects were seen when surveillance was used, compared to 45.1% when it was not.

It is apparent that the use of such operations can be extremely successful when correctly targeted. Although perhaps not accounting for many detections, assisting in only 3% (adjusted) of all detections, mounted operations will inevitably display a high success rate when implemented. This is often because such operations will be based upon a lot of good information from various sources.

8.5 Evidence from other burglaries

There was significantly more evidence available from other burglaries in detected cases than in undetected cases (chi-sq=11.652, p=0.001). Evidence was available from other burglaries in 16.5% of cases eventually filed 'detected'. This is in comparison to those undetected cases where evidence was available in just 6.0% of incidents. However, this may be a reflection of the reduced numbers of cases where evidence from other burglaries was available. In the main, this would involve evidence used to link incidents together according to either MO evidence or patterns.

8.5.1 Use of Crime Pattern Analysis (CPA)

Patterns relating to a suspect, an area, a series of burglaries, or in combination, were available in twenty cases. 70% of these cases were filed 'detected', with six arrests made at the time of the incident. In total, CPA assisted in just 0.2% of non-residential burglary detections (adjusted). Discounting those cases where an arrest was made, the differentiating feature of those cases that were detected from those that were undetected would again appear to be the availability of evidence from other sources.

There was found to be no difference between property type and establishing a pattern (chi-sq=2.022, df=6, p=0.918). Not surprisingly however, there was an increased chance of establishing a pattern if there was MO evidence available at the scene of the burglary (chi-sq=3.970, p=0.046). That is, when MO evidence was available from the scene of the burglary, patterns were established from other burglaries in 43.8% of incidents. This is in comparison to the establishing of patterns from other burglaries in just 16.7% of cases when there was no MO evidence available from the scene of the burglary.

It would appear however, that patterns within the non-residential burglary domain are identified infrequently, and used in detections even less, and not at all in their own right. It is of little surprise therefore that the Audit Commission (1993) found few resources, if at all, were allocated, let alone dedicated, to crime pattern analysis.

8.6 Number of sources of evidence

Given the findings from all of the above, the indications are that in the majority of cases, and especially those successfully detected cases, several sources of information were available and utilised. This was indeed found to be the case.

Including all cases, officers used an average 1.09 sources for information in detected cases compared to an average 0.51 in undetected cases (t-test, p=0.000). Similarly, more sources of information were available in primary detected cases (t-test, p=0.000). Evidence was available, on average, from 1.23 sources in primary detected cases compared to an average 0.52 sources in secondary detected cases. If those incidents where arrests were made at the time are removed, this picture remains the same.

8.7 Discussion and policy implications

‘Proactive policing’ played a role in a significant minority of cases. However, it may well prove difficult to substantially increase its use as, often, proactivity depends upon the availability of locally based information and sources. As such, its use will be limited by the extent to which criminals from outside any particular police force area commit burglaries. As stated earlier, there was little incidence of information

available on travelling criminals. Allied to this, the application of such techniques on a wider scale may also be limited by the dependence upon a thorough build-up of evidence from a number of sources. This would appear to fall into line with the conclusions reached by Maguire and John (1995) who found that the use of proactive techniques would continue to make only a marginal contribution to crime control until a fully integrated, strategically informed approach was taken.

Nevertheless, it is clear from the above that police use of more proactive techniques can prove to be of use in the detection of 'Burglary other Building' incidents, especially in those cases where 'special operations' are mounted. Even though such operations will tend to be resource intensive, they are often based upon particularly solid evidence from a number of sources and, as such, stand a good chance of proving successful. It is important that such procedures are mounted on strong foundations, as failed operations result in a waste of both large amounts of police resources and effort. With careful targeting however, based on an accumulation of good evidence from as many sources as possible, such operations can prove extremely effective.

Similarly an officer's use of 'general intelligence' would also appear to be of value, especially given that the majority of such intelligence will come about as a result of 'normal' patrol duties, and as such, does not require any special input. While this use of registered informants may require some form of monetary reward and take time in cultivating any trusting relationship, the payoff would appear to be worth it. As such, the utilisation and successful use of 'general intelligence' creates a strong argument for keeping officers within the same areas. As well as being of use within the investigative framework, it would undoubtedly be of value with regard to the public relations side of policing and the idea of the 'community policeman'.

Although the availability of crime pattern information and the analysis of such information would appear to be restricted, it is clear that the use of such a technique can be of great value. As with the above, it is particularly effective and resource efficient because such evidence can be picked up as part of an officer's initial investigations at the crime scene, which will inevitably be visited as part of the police investigation.

Overall, it is clear that great use can be made of more proactive investigation techniques, especially those that do not involve much extra effort on the part of the police, especially in terms of resourcing. It is also makes clear however, the value of the accumulation of evidence, as in the majority of cases cited above, a number of items were available, and often from a variety of sources. As such, there is a large amount of overlapping and interaction of evidence both within and between cases, specifically concerning pattern analysis. However, unless such information is being stored effectively and made easily accessible to, and by, all officers to whom it has relevance, then some potential for further detections may well be lost.

9. ADDITIONAL POLICE CONTACT

9.1 Summary

Additional police contact was made in a substantial minority (19%) of all non-residential burglary cases, in 35% of cases by a visit, and 23% via telephone, on average, nine days after the incident. An average 51 minutes was spent when further contact was made through a visit. Contact made by letter accounted for the largest proportion of all incidents that received any form of further contact, though the bulk of victims, 81%, received no subsequent contact after the first officer visit, and a significant minority did not even receive that.

Uniformed officers were responsible for making contact in the majority of cases, more often if the burglary had occurred within a residential environment, and more often through a visit if the burglary had occurred at a school.

There are indications that visits tend to be made when evidence is available, and that CID will be responsible for any further contact when useful information is available. However, there appears to be no systematic screening method for the value of such items, and the evidential worth of any such subsequent contact was found to be negligible in terms of detections.

9.2 Introduction

Further contact was made in a number of non-residential burglary cases following the initial police response and set of investigative activities. This chapter considers how worthwhile this additional contact was.

The chapter first looks at the initial decision making process concerning whether to make any form of additional contact or not, and then goes on to evaluate the worth of such contact. In order for any additional contact to be worthwhile and effective, this contact needs to provide useful information over and above that already collected from the initial police response.

9.3 Disparities in subsequent contact

Of those 1440 cases (population adjusted) where additional contact was made, arrests were made at the time of the burglary in 27.6% incidents. Of the remaining cases, telephone contact was made in 17.1% of incidents, a visit was made in 35.8%, and contact was made via a letter in 47.1% of cases.

It was more likely that further contact would be made to premises within a residential environment (chi-sq=6.119, p=0.013), with 30% of shed and garage breaks receiving follow up contact compared to an average 18.7% of remaining property types.

Allied to this, there was an increased chance that offices or schools would receive a visit to the premises as opposed to a telephone call or a letter (chi-sq=4.029, p=0.045). On average, where subsequent contact was made, offices and schools received a visit in 48% of cases compared to an average 31% of other premises receiving visits.

9.4 Screening for subsequent contact

Previous research has considered the practice of crime screening (Greenwood 1980, Gill et al 1996), though very little has been made of the effectiveness of the screening process and the differentiation between those cases that would merit further contact and those that would not. Indeed, although Eck (1983) identified what was termed an 'implicit triage system', which differentiated between 1) those cases that cannot be solved with reasonable effort, 2) those cases that can be solved circumstantially and 3) those that may be solved through reasonable investigative effort, very little was made of the criteria that would actually place cases within these groupings, nor the effectiveness of the screening decisions. The following section assesses the screening process in place during the study period and considers the criteria by which screening may occur, and the effectiveness of this process.

There is no evidence to suggest that there is any systematic screening process that dictates whether subsequent contact will be made across all possible critical screening criteria. There was no more chance of further contact being made if the case was detected (chi-sq=0.028, p=0.867), with contact made in 21.1% of detected cases compared to a slightly reduced 17.7% of undetected cases. Nor was there found to be

any increased chance of subsequent contact being made if an arrest had been made at the time of the incident (chi-sq=1.485, p=0.223).

Discounting those cases where a suspect was arrested at the time of the incident, there was no more chance of subsequent contact being made where; suspects were seen at the time of the incident (chi-sq=0.102, p=0.749); anything was stolen (chi-sq=1.238, p=0.266); the distress of the victim was greater (chi-sq=2.039, df=6, p=0.916); any forensic evidence was collected at the scene if SOCO had attended (chi-sq=0.012, p=0.914); either a neighbour or other individual had provided any useful evidence (chi-sq=0.186, p=0.666, chi-sq=0.117, p=0.732 respectively) at the time of the initial police response.

These findings fall somewhat into line with those of Greenwood (1980), providing some evidence of a more subjective screening process as opposed to one based upon defining criteria. Given that Eck (1983) found that follow up interviews were not related to the making of arrests, this may make more sense, especially, as was the case in this research, when experienced officers are making the screening decisions. However, a lack of a clearly defined screening process may mean that some burglaries with apparently good initial evidence may be discarded without investigation whilst others with less useful evidence may be being investigated further.

9.5 Mode of contact

The majority of tests conducted, failed to show any significant values regarding whether the contact was made via telephone or through a visit to the scene. However, some significant values were available, and there are some indications that the mode of contact is, in some cases, targeted towards specific incidents.

There was an increased chance that if the alert had come from the burgled premises, then any subsequent contact would be made through a visit (chi-sq=4.095, p=0.043). Where subsequent contact was made after an alert from the burgled premises, it was made through a visit in 37% of cases. This is in comparison to 23% of cases where the alert had come from another route.

Similarly, when forensic evidence was available from those cases that had received SOCO attention, there was an increased chance that any subsequent contact would be made through a visit rather than through a telephone call (chi-sq=4.188, p=0.041). 76.2% of incidents that received subsequent contact received a visit when SOCO had an input into the case and evidence was collected from the scene.

There are also indications that when useful neighbour or individual information was available, the majority of subsequent contacts would be made through a visit to the scene. That is, when information was available and subsequent contact was made, visits were made in 60% and 73.3% of incidents respectively. Further to this, if items were stolen and identifiable, then the cases tended to receive a visit from an officer rather than a telephone call, with visits made to the scene in 53.2% of cases where something was stolen and in 62.5% when the property stolen was marked or easily identifiable.

9.6 Contacting officer

When an alarm activation was responsible for the alert, there was a tendency for uniformed officers to conduct any further contact (chi-sq=3.462, p=0.063), with 84.6% of such incidents receiving contact by a uniformed officer. This may reflect earlier findings regarding alarms, and the little worth attached to them over and above the initial alert, which inevitably produces fewer arrests, than at other emergencies, at the time of the incident. As such, it would seem of negligible value for trained investigative officers in CID to make any further contact if there is no tangible basis upon which to launch any further investigations.

It would also appear that there is a tendency for uniformed officers to conduct any further contact when property was stolen, with 62.9% of incidents where property was stolen and further contact made, being made in this way (chi-sq=3.075, p=0.080). Again, this possibly reflects the nature of the contact being more of a 'detail taking' exercise rather than an active investigative procedure. The following finding perhaps reinforces this, showing that in 62.5% of cases where the stolen property was marked or easily identifiable, a uniformed officer made subsequent contact.

There was a significantly increased chance of CID making further contact if the burgled property was an office or a leisure facility (chi-sq=5.490, p=0.019) with an average 64.7% of offences within these environments receiving contact from CID. This is in comparison to CID contact in 33.3% of incidents across the remaining property types. In contrast, shops and schools were more likely to have further contact made by uniformed officers (chi-sq=4.444, p=0.035), with an average 80% of cases compared to 53.3% for other property types.

If the incident received SOCO attention, the majority of cases provoking a subsequent contact (58.5%) were dealt with by uniform. However, if there was actually SOCO evidence available at the scene, further contact from CID was slightly more likely (52.4%). Furthermore, CID made the majority of subsequent contacts (60%) in those cases where useful neighbour information was available. Therefore, although there are no definite findings, there are indeed indications that CID tend to be allocated to those incidents where there may be some worth in sending an officer trained in specific investigative techniques. This is opposed to those cases where the purpose of the subsequent contact appears to be a 'form filling' exercise.

Crucially, there was an increased chance of the case being filed detected when CID were responsible for any subsequent contact (chi-sq=14.747, p=0.000). However, given the above findings, this may be explained in two ways. Firstly, it does not necessarily suggest that it is the investigative techniques of CID officers that are paying off, but perhaps more the case that CID officers are tending to conduct subsequent contact in those cases where there is the possible availability of some further leads or evidence. As such, there will be an increased chance of the case being detected anyway. Alternatively, it may simply be a reflection of the fact that a uniformed officer will make the majority of subsequent contacts and so will naturally attend to more undetected cases. Given that 92% of undetected cases that received subsequent contact did so via a uniformed officer, this is a reasonable assumption.

Although, then, there is little evidence to suggest that CID contact positively influenced the detection of cases, there is evidence that contact, to some extent, was targeted.

9.7 OCU variation

There was an increased chance of subsequent contact being made on F2 and F3 OCU's both when the alert had come from an individual external to the burgled premises (chi-sq=10.179, p=0.001), and consequently, when useful information was available from that individual (chi-sq=5.986, p=0.014).

In those cases where the alert had come from an individual, F2 and F3 OCU's were making some form of subsequent contact in 53.8% of cases on average. This compares to an average of just 15.2% of cases where the alert had come from elsewhere. Allied to this, when useful individual information was available, contact was made in an average 44.4% of incidents compared to an average 16.4% when there was no individual information available.

Given earlier findings on the worth and effectiveness of both information available at the scene and the value of the alert coming from an individual external to the burgled premises, there would seem to be some logic to this criteria on these two OCU's. However, it is not reflected in an increased detection rate.

9.8 Value of subsequent contact

It is essential here to discount those cases where contact was made via letter, as there is no propensity for gaining any further information through further contact. This leaves 764 (population adjusted) cases where direct contact was made by a police officer, 39.6% over the telephone, and 60.4% by a visit. Only visiting proved to be of worth, in terms of gaining any further information.

9.8.1 Neighbour Information

Subsequent visits where neighbours were questioned increased the number of cases with information available by 13.6%, all of which contributed to a detection. However, information was also found to be available from other sources in the majority of cases, mainly from the initial police response.

9.8.2 Injured party (IP) information

Where information was gathered by the first attending officer, subsequent visits increased the information in 23% of cases, with the majority of these filed detected. The information concerned possible suspects and stolen property information. As before however, information was gathered from other sources in the majority of these cases, providing either definite suspect information, or information that directly indicated the identity of the offender.

Overall however, less than 2% of all subsequent visits to neighbours and victims provided any information that resulted in extra detections.

9.9 Discussion and policy implications

It can be seen that there is indeed some variation in relation to the method, mode and contacting officer at those cases that 'merit' subsequent contact.

There was an increased chance of burgled residential buildings receiving subsequent contact. Premises where the alert had come from within the burgled premises were more likely to receive a visit, as were schools, especially from a uniformed officer. Also, there was a tendency for any subsequent contact to be made by uniformed officers if the alert had come from alarm activations or in cases where some property was stolen. In contrast, CID officers were more likely to make any further contact within office or leisure environments, whilst also showing a tendency to concentrate on those cases where more evidence was available from the initial police response.

In short, it would appear that when uniformed officers are responsible for making any further contact, it was more a 'form filling' or public relations exercise rather than part of the investigative procedure per se. In contrast, there would appear to be some tendency for CID to stick to those cases that may need some more substantial investigative technique or training. However, that said, there are no clear indications of any systematic screening process in place that dictates either which cases merit any subsequent contact, how that contact will be made or who will make that contact.

Although the OCU variation displayed may provide some evidence for a more systematic process in use in some areas, especially where useful individual information was available, it was not reflected in an increased chance of detection.

Given the above findings, it appears that there may well be potential to extend the use of subsequent contacts in appropriate circumstances, to witnesses who did not receive such visits. However, it also appears to be the case that much of the perceived evidential 'value' in the subsequent contacts is somewhat misplaced, and more a case of duplicating effort rather than gathering new useful information.

There could be some worth in selectively increasing the number of subsequent visits that the police make to the burglary scene, but only in those more promising cases where there is already some evidence, though insufficient in strength to produce an immediate conviction. However, if the primary objective behind any subsequent contact is the collection of further evidence in the hope of it leading directly to an arrest, it would appear that resources could be better allocated to other tasks. If however, the main aim of subsequent contact is to reinforce existing evidence or update any relevant parties involved, it would appear beneficial for many more of the 81% who received no form of further contact to at least receive a letter, either specifying Police contact telephone numbers or indicating the progress in the case.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 Research formulation

Despite clearly being a considerable problem, non-residential burglary, or 'Burglary other Building' has generally been ignored, often because it has been perceived as a crime that affects 'abstract businesses'. Although true to an extent, this type of viewpoint clearly underestimates the nature of the problem. The result is that, as an area of study, there is currently a paucity of research-based material within this field.

Although some previous individual studies have addressed certain aspects relevant to this area of study, the majority have tended to be especially specific in the focus of their research, concentrating on particular types of premises, such as shops or warehouses. By confronting the problem from an investigative perspective however, it becomes clear that it is not simply a case of 'business' victimisation, but that a diversity of targets are affected, including many types of premises that might not ordinarily be recognised as non-residential. Further to this, by appreciating the sheer scale and diversity of the problem, influencing features of the differing environments can be better appreciated.

Allied to this largely blinkered outlook alluded to above, the evaluation of police effectiveness has been shown to be problematic, as no perfect metric or system of metrics exists, with the majority of the commonly used, or proposed measures, displaying several inherent problems. The result is that the assessment of policing has been made very difficult, through the use of inappropriate measures that encompass many more influencing features over and above policing, per se. The result is that often, many of the reasons identified for the differences between measures have little to do with the actual investigative effectiveness of the police force in question. Those more specific studies that have tended to concentrate on particular areas have also often produced little research on the actual effectiveness of those specific police activities under investigation. Fewer studies still have attempted to look at all the elements of the activities analysed to determine those features that are effective and those that are not.

This research assessed how the police investigated non-residential burglary and considered those activities that proved to be successful in securing detections. A sample of burglaries was drawn from the 7070 committed over a six-month period in four OCU's (Operational Command Units) of the West Midlands Police. The study set out to measure all aspects of the investigative activities and actions in relation to these burglaries by considering the crime holistically. Data were therefore collected on the police's response and the activities conducted in relation to the burglaries sampled.

During the study, the police solved 15.3% of the 'Burglary Other Building' incidents recorded. This figure is reduced however if those cases that were 'detected' through means other than police activities and directed investigations are removed. That is, 6.8% of incidents were detected as a result of direct police operations conducted into the investigation of any single case, whilst the majority of the remaining 8.5% of incidents were 'secondary detected' through offender admissions (TIC's), or prison 'write-offs'.

It is the 6.8% of cases that are considered as 'primary detected' however that are best used to identify the most effective methods of police investigation into non-residential burglary and are likely to offer the greatest scope to improve those primary detection rates. The research design allowed the relative effectiveness of police activities to be evaluated both in terms of detections and the variety of investigative techniques invoked. The following sections discuss each aspect of the police investigations into residential burglaries in these terms.

10.2 Analytic approach

The analytic approach adopted was to decompose the investigation of burglary incidents into component activities and operations, such as an emergency response by the first officer, questioning neighbours, or a SOCO visit. Together with the use of officer questionnaires to collect data 'contemporaneously', this makes it possible to assess the contribution of each type of operation to detection, and understand the factors that influence whether or not these crimes are successfully solved, and, hence, meet the objectives of the thesis. The collection of data 'contemporaneously' also has an indispensable part in providing appropriate data on, for example, the

information gathered from neighbours, as well as details from the officers themselves, that is not routinely stored in police records.

The police selectively undertake a number of operations and activities in order to attempt to solve cases. These can be viewed as activities carried out sequentially but quite selectively, so that in effect, there are different potential paths through the burglary investigative process. At only a limited subset of cases, for instance, will the burglar be spotted in the act and be allocated an emergency response. If the burglar is caught, then there will be little or no need to carry out the subsequent activities associated with some other cases, though a SOCO visit may still take place. If he is not caught, then it is likely to be worthwhile questioning witnesses, either neighbours or the victims themselves. In other cases, where a burglary is reported when occupants arrive at premises the next day or after the weekend, it may not be even worthwhile sending an officer to the scene. If it is worthwhile, there may or may not be scope to question neighbours who might have seen something if the offence was carried out in a non-residential area dominated by schools or factory estates. Hence, the particular circumstances of a case will determine which activities the police carry out.

It would be expected that more promising cases that remain unsolved would tend to receive greater attention involving more activities than those with a slimmer chance of detection. It is possible to view the activities and operations that cases may selectively undergo as part of the process of investigation in terms of a 'flow' of events. This thesis might have examined the components of the investigation process with this perspective, so as to provide the reader with an appreciation of the varying partial sequences of activities carried out by the police to try to solve burglary cases. Only in a limited number of cases, however, would most activities be implemented in connection with a single incident, most notably where an 'in progress' case or an incident with high quality eye witness evidence appeared to show particular promise for detection. In practice, the bulk of the cases that are solved involve emergency responses and good eyewitness evidence.

The feasibility study and the full study showed that the bulk of cases are, in fact, solved within the first few days, and involve the key activities of the emergency

response and the questioning of victims or neighbours. Therefore, relatively few cases would be subjected to every operation and activity. Such an approach would be interesting, and would 'paint' a picture of the activities applied to different cases, up until their solution or being filed undetected. It would also allow for the effects of combinations of activities on successful detection or otherwise, to be presented. It would highlight the fact that most of the activities making up the later part of the investigation process offer much poorer chances of success than the earlier ones since, in general, if the burglar is not caught in the act, or if there is not clear and high quality witness evidence that implicates a particular offender, then there is little chance of the case being solved.

However, this approach would not in itself enable an adequate measure of effectiveness to be applied, since this necessarily requires evaluation on the basis of distinctive individual activities and operations. Combining activities would obscure the task of pinning down which operations and activities were most effective, that is, contributed to producing the most detections. Therefore, a summary description of burglary investigation along these lines was not undertaken, because it would not in itself assist in meeting the thesis objectives, namely assessing the effectiveness of different types of investigative activity under different circumstances. If this is accurately assessed, then the appropriate activities can be carried out to investigate different types of cases.

A 'sequential' approach would, however, enable an appreciation of the extent to which applying additional activities to a case appeared to bear fruit or whether they provide evidence of diminishing returns, since most cases are solved within the first seven days of the offence occurring. In general, if the burglar is not caught in the act, or if there is not clear and high quality witness evidence that implicates a particular offender, then there is little chance of the case being solved. The study therefore shows that most of the activities making up the later part of the investigation process offer much poorer chances of success than the earlier ones.

The statistical analyses employed therefore reflected the types of data, with inferential significance testing using variable control. Data summarising the importance of each

operation or activity for successful detection were cross-related to incident or police response circumstances using inferential significance tests that matched the data level.

10.3 Responding to the burglary alert

The police had a number of ways in which to respond to any single incident of non-residential burglary, though it was those emergency incidents that offered the best initial chance of securing a primary detection. ‘Immediate response’ alerts, where there was an opportunity to catch the burglar at or near to the scene, proved to be particularly successful when compared with most other detection methods. Fewer offenders were caught at ‘early response’ incidents, though they did provide a significant minority of arrests.

The police arriving quickly and in sufficient numbers of patrols notably improved capture rates, though these were higher when the suspect was spotted at an earlier stage in the burglary and their location was reported. The earlier the offender was seen also largely dictated where they would be caught, with more apprehended in the act when first seen entering the premises. Catching the offender in the act was less likely if they were seen at a later stage in the burglary, though successful arrests were made near to the scene in a number of incidents when the response was sufficiently faster and stronger again. The speed of response was not found to be influential in its own right however, as a number of interrelated factors involved in the availability and deployment of vehicles determined this speed of response. Capture rates were also significantly lower when an offender had not been seen, and generally reduced in more isolated environments and properties that would be more reliant on alarm activations.

Improving responses to emergency incidents has the potential to increase detection rates. Ensuring the police responded to burglaries quickly and with sufficient numbers would be likely to show benefits in most of the police areas studied. Where feasible, five or more units should be available for despatch, as this level of response would improve the time to attend but particularly reduce the distance from which the first unit would be responding. Having larger numbers of units despatched would also be of particular importance in those cases where the offenders had left the scene.

Where offenders had left the scene, success was particularly dependent upon the availability of witness information and the use of that information, particularly offender description and direction information when suspects were seen. This underlines the importance of trying to gain such information from any witnesses when the report of the burglary is made. When suspects were seen, the police prudently prioritised such responses, and this undoubtedly enhanced the success at these incidents. Even when less promising incidents occur, a strong response should still be made as, although the prospects are worse, they will still be as good as, if not better than, detections from subsequent investigations based upon evidence and information.

There may be some justification in suggesting that patrol resourcing be adjusted to match periods with high demand for emergency 'in progress' incidents. At peak periods of demand for help at emergencies, it would be better if a sufficient pool of uncommitted units were available. Although at times this may mean that units would be under-utilised, it would enable a quicker and more thorough response, and is more likely to return an increase in detection rates. Although there were not any inherent advantages in the use of one or two manned panda and zulu units, increasing the number of single-crewed patrol units might be a way of achieving the extra density of cover required to bring down response times by putting the first unit closer to the scene of the crime at emergency incidents.

10.4 Investigative activities conducted at the scene

The burglary scene was the principal source of evidence and made an extremely important contribution in the solving of burglaries. Although evidence from the scene in its own right did not often provide sufficient evidence to ensure detection, it was often the foundation upon which the majority of successes would be made, with a variety of other sources contributing to the detection. The majority of detections however, were reliant upon evidence from these initial investigations at the scene, and so obtaining all available information during this stage of the investigation was imperative.

Attending officers conducted interviews with both the victims and any witnesses or neighbours, in an attempt to gather information about the incident. Modus Operandi

(MO) evidence was also collected where available, and Scenes of Crimes Officers (SOCO) also collected evidence when requested.

Questioning the victim, neighbours and witnesses often proved to be practical as separate journeys were not generally required. Neighbours were seen at only a quarter of all incidents, partly due to the nature of the various environments, where some premises simply did not have any neighbours to speak of, and partly due to less questioning taking place at night. At incidents where more neighbours were questioned, there was no more valuable information collected, suggesting that if the first two or three most promising neighbours contacted provided little or no information, then additional questioning is unlikely to prove fruitful. Where useful and better quality information was considered to be available however, the police were sensibly spending longer interviewing relevant parties. Other individuals such as the victim and witnesses were questioned in approximately two-fifths of incidents, and especially in more people rich environments.

There may be some scope for the improvement of questioning both at weekends and later at night, as there are currently indications that valuable time is being wasted in the pursuit of information that will not be forthcoming, or in the misdirection of interviewing at certain times of day. Some of this time may be better spent in the collection of any available MO evidence, even though it was relatively infrequently obtained, or in the assessment and preservation of the scene for SOCO. However, these other activities should not occur to the further detriment of interviewing, as the value of information is paramount in the successful detection of cases.

SOCO attention was limited to around half of all incidents. Attending officers generally displayed reasonable discriminatory skills, with fewer requests for SOCO at sheds and garages, and where the scene was dirty or contaminated. However, in the majority of shed and garage cases, it was force policy that was cited as the major reason as opposed to a lack of evidence. This may indicate that some valuable cases may be being missed more as a result of policy than an actual lack of evidence. Nevertheless, senior officers expressed unanimous concern over receiving requests at unpromising cases and the failure to preserve the scene properly at promising cases. If first officers were more discriminating, and received compulsory training in

relevant techniques, SOCO attention could be made more selective and effective, which in turn suggests that there may be some scope for an increase in the number of detections. This would arise primarily as a result of being able to spend more time at the more worthwhile and properly assessed scenes, and a corresponding decrease in the amount of time spent at worthless scenes. Where possible, the number of cases requiring SOCO attention should therefore be reduced.

10.5 Further investigative activities

The majority of burglaries provided little or no evidence, therefore the use of further investigative techniques and activities were also utilised to some extent. These include the use of intelligence, informants, crime pattern analysis and special operations. Given that more items and sources of information proved to be of the greatest worth, the use of all available techniques is indeed wise.

The pro-active gathering of information and use of pro-active operations were conducted by the police infrequently but proved to be successful when they were used. Although selectively utilised, the use of such activities were key in an important minority of cases. The use of operations especially relied on a build-up of evidence, often from a number of sources and, as such, were mounted upon strong foundations. Therefore, although fairly resource intensive, such operations are generally very effective. These activities could therefore be usefully extended in carefully selected cases where there was a sufficient weight of evidence to justify the use of pro-active techniques. Unlike special operations, the use of intelligence is not as resource intensive as the officers can pick up information as part of their normal patrolling activities. As such, this would appear to be an extremely useful tool at the disposal of the police and greater use should be made of cultivation of useful contacts and information sources.

More generally however, the use of such activities could only realistically be extended to any great extent once the wealth and worth of information is fully appreciated and integrated into a force wide information system that all officers have ready access to. Until such time, some potential detections may well be lost.

Making subsequent visits to question individuals was also employed selectively and resulted in some additional information, though the screening process involved appeared to lack any form of systematic approach over and above the subjective opinion of the screening officers. However, relatively few detections resulted as a consequence of additional police contact. The focus was, appropriately, more on cases where evidence and information was already available and CID officers were especially involved at such cases. Nevertheless, in the main the majority of follow up contacts would appear to be little more than PR and form filling exercises conducted by uniformed officers. As such, there is a considerable amount of duplicated effort.

That said, there might be some scope for extending the use of subsequent contact to those cases where witnesses may not have received a visit from an officer, and those more promising cases where some evidence is already available, though insufficient for detection. On the whole however, it would appear to be more prudent to restrict subsequent contact to a formal communication by letter or some other such method whereby some form of automation could be employed to good effect.

10.6 Conclusion

Many detections resulted from more than one activity or type of evidence. A majority were attributable to activities carried out at the burglary scene, whilst over one third were due to catching the offender at the time of the incident. Police operations and the use of criminal intelligence also played a role, often complementing evidence from the crime scene in solving cases. Forensic evidence resulted in fewer detections, though it generally enabled cases to be solved with certainty, whilst both SOCO attention and subsequent contact were appropriately selective. However, a number of factors outside of police control can also impact and influence the effectiveness of police actions and activities, especially those environmental features and associated influences on the investigation procedure. Figure 10.6 below, shows the various factors that impact upon burglary detections.

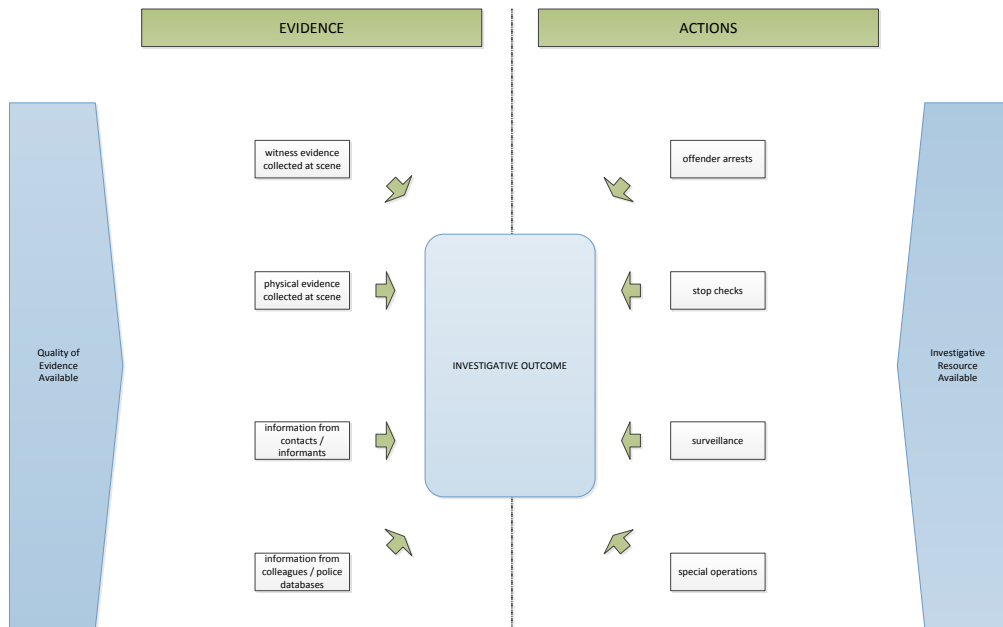


Figure 10.6 Factors impacting on burglary investigations

It is clear that a number of methods are therefore utilised. Table 10.6 below displays this well by showing the percentage of principle methods and operations used that influenced the primary or secondary detection of all non-residential burglary incidents. It is important to note that the totals for those primary and secondary detected do not correspond, as they have been adjusted to take into account population figures. Further to this, the total percentages do not equal one hundred, as the figures are a reflection of the number of cases in which a role was played and not a reflection of when any one particular method or operation was the major factor.

	Primary	Secondary
Methods and Operations	%	%
Prior catch	4	
Caught in act / near scene	27	
Early incident arrest	5	
Questioning witnesses at scene	44	24
Collection of SOCO evidence	11	8
Intelligence from contacts / informants	24	5
Surveillance and stop checks	5	
MO evidence	2	4
Crime pattern analysis	3	
Total	480	608

Table 10.6 The role of methods and operations in detected cases

N.B. The figures displayed are population estimates from the sample.

Generally, it would appear that the police perform well with regard to the investigation and detection of 'Burglary other Building' incidents. It is clear however that there is still some scope however for adjusting current police operating procedures to improve the primary detection rate for non-residential burglary, and this thesis has shown that a holistic study of police investigations into a specific crime can reveal a number of areas where those adjustments can be made. Such improvements can be made without major adjustments or innovations, by simply applying 'best practice' across all investigations.

APPENDIX 1: POLICE QUESTIONNAIRES

HOME OFFICE / ACPO: BURGLARY OTHER BUILDING INVESTIGATION

INSTRUCTIONS FOR THE COMPLETION OF QUESTIONNAIRES

This Research does not need to be disclosed in normal court papers

Questionnaire 1: FIRST POLICE VISIT; to be completed in ALL cases where a visit to the scene of the burglary has occurred. The first officer to attend the scene should complete the questionnaire accordingly.

If this visit was graded as 'ROUTINE RESPONSE' complete **'A'** (2 sides)

If this visit was graded as 'IMMEDIATE RESPONSE' complete **'B'** (2 sides)

A copy of the incident log should be attached

Questionnaire 2: SUBSEQUENT CONTACT; to be completed in ALL cases where further contact (visit/ telephone/ negative letter) was made concerning the burglary incident. If a visit was made, to be completed by attending CID or Uniform Officer only.

Complete **'C'** (1 side)

Approximately 10% of investigating officers will be approached to complete the remaining questionnaires

Questionnaire 3: DETECTED CASE; to be completed for ALL cases where a detection has been achieved.

Complete **'D'** (2 sides)

Questionnaire 4: FILED (UNDETECTED) CASE; to be completed in ALL cases where there has been no detection.

Complete **'E'** (2 sides)

IMPORTANT: Questionnaires must be fully complete within 24 hours of visit/ contact/ filing

Please return completed questionnaires once a week in an envelope using the labels provided

THANKYOU FOR YOUR TIME AND CO-OPERATION IN THIS MATTER

**RESEARCH; DOES NOT NEED TO BE DISCLOSED IN
NORMAL COURT PAPERS—Please attach incident log**

FIRST POLICE VISIT TO SCENE—*Burglary Other Building Only*

ROUTINE RESPONSE

Please complete the following. Tick the appropriate answer(s) where the question gives a choice.

Crime number: . . . / . . . / .98. Incident log no:

Officer Name and Number: OCU

Date and Time that the incident was reported:

Date and Time that you arrived at the scene:

Name and address of burgled property:

Type of property: OFFICE SHOP WAREHOUSE FACTORY/INDUSTRIAL OTHER

If OTHER, please specify:

Was this an attempted burglary: YES NO

Is your knowledge of your patrol area: POOR SATISFACTORY GOOD V.GOOD

Which department are you from: UNIFORM CID

If applicable, are you using: 'ONE STOP' SYSTEM BIO SYSTEM NEITHER

1. Was this response a result of: I.P REQUEST TELEPHONE INVESTIGATION DIR ACTION

2. Was there an alarm activation: YES NO DON'T KNOW

3. Has the response been downgraded as a result of previous false alarms:
YES NO DON'T KNOW

4. How many officers attended the scene:

5. Were your investigations shortened due to other demands: YES NO
If YES, briefly describe these other demands:
.
.

6. If applicable, were neighbours questioned: YES NO
If YES, how many and for how long :

7. Did the neighbours provide any useful information:
YES NO NO NEARBY NEIGHBOURS
If YES, does this information provide:
DEFINITE SUSPECT POSSIBLE SUSPECT SUSPECT VEHICLE
FURTHER INTELLIGENCE

Please explain:
.
.

8. Was any useful information provided by any individual at the scene: YES NO
If YES, does this information provide:
DEFINITE SUSPECT POSSIBLE SUSPECT SUSPECT VEHICLE
FURTHER INTELLIGENCE

Please explain:
.
.

9. Was a suspect/s seen at the incident: YES NO
If YES, how many, and by whom:

13. How were the officers present deployed at the site (please describe):
14. Did any units search the surrounding area: YES NO
 If YES, how many.....and for how long.....
15. How long in total was spent at the scene:.....
16. Is SOCO attending/ will SOCO attend : YES NO
 If NO, why not:
17. Were any suspects arrested: YES NO

IF ARREST MADE, GO TO QUESTION 18

***IF NO ARREST WAS MADE, GO TO GRID BELOW AND COMPLETE FOR
 THE FIRST PATROL(S) TO ARRIVE AT SCENE***

18. How many suspects were arrested:.....
19. Were the suspects arrested at the scene: YES NO
 If NO, estimate distance from scene as accurately as possible:.....

20. Did the use of any security measures lead to/ aid the arrest: YES NO
 If YES, please explain:
21. Did the use of any prior information lead to/aid the arrest: YES NO
 If YES, please explain:

IF AN ARREST WAS MADE, PLEASE COMPLETE GRID FOR ARRESTING PATROL(S)

IF NO ARREST MADE, PLEASE COMPLETE GRID FOR FIRST PATROL(S) TO ARRIVE

	<u>PATROL 1</u>	<u>PATROL 2</u>	<u>PATROL 3</u>	<u>PATROL 4</u>
OFFICER SURNAME/ COLLAR NUMBER	(.....)	(.....)	(.....)	(.....)
PATROL TYPE	<input type="checkbox"/> M <input type="checkbox"/> Z <input type="checkbox"/> D <input type="checkbox"/> T <input type="checkbox"/> AO1 <input type="checkbox"/> FOOT	<input type="checkbox"/> M <input type="checkbox"/> Z <input type="checkbox"/> D <input type="checkbox"/> T <input type="checkbox"/> AO1 <input type="checkbox"/> FOOT	<input type="checkbox"/> M <input type="checkbox"/> Z <input type="checkbox"/> D <input type="checkbox"/> T <input type="checkbox"/> AO1 <input type="checkbox"/> FOOT	<input type="checkbox"/> M <input type="checkbox"/> Z <input type="checkbox"/> D <input type="checkbox"/> T <input type="checkbox"/> AO1 <input type="checkbox"/> FOOT
NO. OF OFFICERS IN PATROL	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> >4	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> >4	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> >4	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> >4
EXACT LOCATION PRIOR TO DESPATCH (road to nearest junction/ police station)
WERE YOU REDEPLOYED FROM ANOTHER INCIDENT	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
ARRIVAL DELAYED	<input type="checkbox"/> YES <input type="checkbox"/> NO If YES, why:.....	<input type="checkbox"/> YES <input type="checkbox"/> NO If YES, why:.....	<input type="checkbox"/> YES <input type="checkbox"/> NO If YES, why:.....	<input type="checkbox"/> YES <input type="checkbox"/> NO If YES, why:.....

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SUBSEQUENT CONTACT - Burglary Other Building Only

Where the question gives a choice of options please tick the answer you feel best describes this incident

Crime Number:/...../98 Incident Log no.

Officer(s) Name(s) and Number(s): OCU.....

Date of the burglary:

Was this contact via: TELEPHONE NEGATIVE LETTER VISIT

If VISIT, which dept. are you from: UNIFORM CID SOCO

PLEASE COMPLETE APPROPRIATE SECTION

ONLY UNIFORM OR CID SHOULD COMPLETE 'VISIT' SECTION

VISIT:

1. Date and time that you visited the scene:

2. Number of visits that were required to see the injured party:

3. Number of officers revisiting the scene:

4. Time spent at the scene:

5. Were neighbours questioned: YES NO

If YES, how many:

6. Was any useful information obtained from the neighbours: YES NO

If YES, does this evidence provide: DEFINITE SUSPECT POSSIBLE SUSPECT
 SUSPECT VEHICLE FURTHER INTELLIGENCE

(Please Describe):

7. Was any further information/evidence gained from the injured party: YES NO

If YES, does this evidence provide: DEFINITE SUSPECT POSSIBLE SUSPECT
 SUSPECT VEHICLE FURTHER INTELLIGENCE

(Please Describe):

8. Was any further information/ evidence gained from anywhere else: YES NO

If YES, does this evidence provide: DEFINITE SUSPECT POSSIBLE SUSPECT
 SUSPECT VEHICLE FURTHER INTELLIGENCE

(Please Describe):

9. Degree of distress of the victim (where applicable): CALM MIDLY UPSET

SHAKEN DISTRAUGHT OTHER:(Please describe)

.....

10. How do you rate the chance of recovering the items stolen: ALREADY RECOVERED

VERY POOR POOR AVERAGE GOOD VERY GOOD EXCELLENT

11. How do you rate the chance of a primary clearance for this case: ALREADY CLEARED

VERY POOR POOR AVERAGE GOOD VERY GOOD EXCELLENT

12. What factors lead you to this conclusion (Please describe):

.....

13. Will any further visits be required? YES NO

If YES, why and by who:

.....

.....

TELEPHONE:

14. Was any further information gained: YES NO

If YES, what information was provided:.....

.....
.....
.....

15. Will any further contact be required: YES NO

If YES, will it be: TELEPHONE NEGATIVE LETTER VISIT

If a further visit is required, who will be making it: UNIFORM CID SOCO

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DETECTED CASE: SIDE 2- *Burglary Other Building Only*

Were any other lines of investigation pursued in relation to this case that **DID NOT** lead to the detection:

YES NO

If YES, please complete questions 1-4.

1. Did any investigations result from information gathered at the scene: YES NO
If YES please describe:.....
.....
.....

2. Was any relevant evidence (to this case) obtained from other burglaries:
 Forensic:(please describe) Suspect Description Other witness evidence
..... Vehicle description
..... Unusual M.O.
..... M.O. indicating a possible suspect
..... Distinctive and identifiable property details
 Patterns relating to a suspect Patterns relating to an area
 No evidence Another common factor(please describe):
.....
.....

Did any investigations result from this evidence: YES NO
If YES please describe:
.....
.....

3. Was any information relevant to this case provided by:
 Intelligence on local criminals Local knowledge
 Intelligence on travelling criminals Registered Informants
 Local Contacts None
 Information from stop-checks
Surveillance of : Area Person House Shop Offices Factory/Industrial
 Warehouse Other Operations

If Other, Please describe:
.....

Did any investigations result from this information: YES NO
If YES please describe:
.....
.....

Man Hours Used for Surveillance =

4. Please describe any other investigations that were conducted but have not been described above:
.....
.....
.....
.....
.....

Man Hours Used for any Surveillance =

Please describe any information provided:
.....
.....
.....

Did any investigations result from this information: YES NO
If YES please describe:
.....
.....

4. Does this burglary form part of a pattern or series: YES NO
If YES does this pattern relate to:
A person An area Specific Building Type Distinctive M.O. Another common factor
Please describe:
.....
.....

5. Did this burglary provide information that was a factor in the clearance of another case:
YES NO
If YES does this information relate to:
A person An area Specific Building Type Distinctive M.O. Another common factor
Please describe:.....
.....
.....

6. Were any other investigations not already described pursued in relation to this case:
YES NO
If YES please describe:.....
.....
.....
.....
.....
.....

7. Will there be any further investigation (e.g. awaiting forensic results): YES NO
If YES, what further investigation will take place:
.....
.....
.....
.....

8. Was this offence filed at source: YES NO

9. Please estimate the man hours spent on this case:

APPENDIX 2: ADJUSTMENTS & CALCULATIONS

1) ADJUSTMENT TO SAMPLE PERCENTAGES TO TAKE ACCOUNT OF THE UNEQUAL PROPORTIONS OF THE DETECTED AND UNDETECTED CASES

The sample of burglaries that was drawn from the 7070 burglaries committed during the six-month data collection period consisted of 27% of detected cases and 6.2% of undetected cases in the sample. In order to judge the impact of the results from the sample on the population, it is necessary to consider the detected and undetected burglaries separately. For example:

Population consists of 7070 burglaries of which 1060 were detected and 6010 were undetected.

Sample consists of the two strata, 285 detected and 372 undetected, which equates to the 27% detected cases (285/1060) and 6.2% undetected (372/6010).

Therefore, if 14.5% of burglaries sampled occurred within an office environment, this figure must be adjusted to take into account the difference between detected and undetected. If from this sample we have 10% (29/285) detected and 18% (67/372) undetected, the following calculation must be undertaken to convert the above figure to population percentages.

$$\begin{aligned}\text{Population figure} &= (29 * 100/27) + (67 * 100/6.2) \\ &= 107 + 1081 \\ &= 1188\end{aligned}$$

Therefore population % of office burglaries is 1188/7070

$$= \mathbf{16.8\%}$$

2) CALCULATION OF CONFIDENCE LIMITS TO TAKE ACCOUNT OF THE UNEQUAL PROPORTIONS OF THE DETECTED AND UNDETECTED CASES

95% confidence limits on the 16.8% of office burglaries from previous population calculation

$$16.8 \pm 1.96 \sqrt{\left[\frac{p(1-p)}{n} * .187 + \frac{p(1-p)}{n} * .813 \right]} \%$$

$$= 16.8 \pm 1.96 \sqrt{\left[\frac{10 * 90}{285} * .187 + \frac{18 * 82}{372} * .813 \right]} \%$$

$$= 16.8 \pm 3.91\%$$

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