

Residential Security: Containment and Displacement of Burglary

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Abstract: From police statistics and a two-stage tenant survey the improvement of residential security for an entire difficult to let estate was investigated for its effect upon the high burglary rate and for the displacement of burglary to two adjacent neighbourhoods or to other property crimes on the estate. In contrast with a control estate, where burglary rose, burglary steadied for approximately a year. Attempted burglary declined. Displacement effects were largely confined to the estate. Overall crime was probably reduced.

There is a widespread assumption that inadequate security is a major factor in the incidence of residential burglary: the encouragement of the installation of security devices in dwellings, diligence in their use and emphasis on the importance of closing windows when the house is unoccupied inform many crime prevention schemes. Little attempt, however, has been made to evaluate the effectiveness of the systematic employment of such security.

An exception is a study of victims and non-victims of burglary in Kent (Winchester and Jackson 1982) which suggests that security is not crucial to deterrence since:

Most houses became the target for burglary for reasons independent of their degree of security. Targets are chosen because of the potential reward they offer, because they are not occupied, but mostly because they can be easily approached without the burglar being seen. (Jackson and Winchester 1982, p. 21)

The findings, however, include indications that this minimal effect of security is not necessarily universal; there may be residential areas or groups of dwellings where an increase in security may have substantial benefits.

Although the number of such cases in the Kent sample was small (Winchester and Jackson 1982, p. 22) failure to lock doors and close windows did expose some houses to an increased risk of burglary. This was especially true for those close to and easily visible from public areas and, pertinently for the present study, houses of this type were owned by the local authority. Burglaries in such houses were also special in another way; important characteristics associated with the majority of burglaries in the Kent study are absent from such estates: the potential rewards are low and burglars (when identified) are more likely to be young, inexperienced and opportunist:

in search of ready cash and less likely to base their choice of target on the same rational decision making process. (Jackson and Winchester 1982, p. 21)

Thus despite the observation of one of our respondents, which echoes the sentiments of Jackson and Winchester, 'If they want in, they'll in!' (sic), target hardening may have greater scope for success in public as opposed to private housing especially, perhaps, in those areas of high deprivation with high burglary rates.

The research reported here originated in 1978 with the concern of the Chief Constable of Northumbria to monitor the effect of enhanced security of dwellings upon burglary rates and residents' fear of crime in high risk crime areas. The Newcastle/Gateshead Inner City Partnership Committee agreed to pay for security devices and the Home Office was asked for the experiment to be evaluated. The Home Office Research Unit (now Home Office Research and Planning Unit) commissioned Newcastle upon Tyne Polytechnic to do the work. The study falls within the developing Home Office tradition of a situational approach to crime prevention; the focus is not upon the motivation of the criminal but upon the structuring and manipulation of the physical environment in which crimes occur in order to render them more difficult to commit or more easily detectable. Measures are directed at highly specific forms of crime (Mayhew 1982).

The Research

The experiment evaluated was a target hardening exercise on a difficult to let estate. Unlike American studies which employ a range of strategies in the attempt to reduce crime (Curtis and Kohn 1982), the exercise was confined to the installation of ground floor security devices and no structural changes were made to the dwellings. This contrasted, for example, with such approaches as that in some Seattle housing projects where, in addition to deadbolt locks and solid doors, the span of window openings was restricted to nine inches (Seattle Law and Justice Planning Office 1975; Mayhew forthcoming).

The aim was to secure all ground floor points of entry against burglary; few entries (2-3%) are made above this level (letter from Bennett, University of Cambridge Institute of Criminology, June 1982; Hampshire Police n.d.). Northumbria Police were to survey the 792 dwellings of a selected target estate and recommend appropriate devices¹ and necessary structural repairs. These and the installation of the devices were to be undertaken by the local authority within the financial year ending 31 March 1980.

With the exception of a small related study (Northumbria Police 1982, Part I) the experiment is unique in Britain. No other exercise has involved the upgrading of security for an entire area. As the consequences and policy implications of this approach may differ from those where security enhancement is less comprehensive, the evaluation investigated effects on the rate of burglary on the estate and the displacement of burglary both to adjacent areas and to other types of predatory property crime within the

estate. Residents' anxiety about crime was also monitored (Allatt 1982) but attention in this paper is confined to the effects upon crime.

Components of the Evaluation

The evaluation comprised a trend analysis on approximately five years police statistics (January 1977-February 1982) and a two stage tenant survey conducted prior to and one year after the security improvements of Spring 1980. While recognising the problems associated with such before and after designs (Campbell and Stanley 1966), many of which arose in this study and are discussed below, it was considered a suitable approach overall. Some light might be shed upon a complex situation the investigation of which was beyond the scope of the Kent study (Winchester and Jackson 1982, p. 25), and about which most of the existing knowledge tends to be intuitive.

For the trend analysis monthly statistics were extracted (by two independent coders) for incidents of burglary, attempted burglary² and displacement crimes on target and control estates. Displacement crimes were defined as those which would yield some financial gain. In consultation with Northumbria Police and the Home Office Research and Planning Unit the displacement crimes were selected from the Home Office Crime Classification (see below). Also extracted were details of methods and points of entry on the target estate and incidents of burglary in the two adjacent displacement areas. Annual burglary rates for the police sub-division in which the target estate fell, comprising 20 estates and new developments, were also consulted.

The tenant survey focussed upon discrepancies between the number of burglaries and attempted burglaries revealed in the interviews and those in the police records, and factors surrounding the effectiveness and ineffectiveness of the devices in cases of successful and unsuccessful burglaries.

Target, Control and Displacement Areas

Scotswood, in the West End of Newcastle, and Springwell, in the Wrekenton area of Gateshead, were selected as target and control estates respectively. The target estate was subject to intensive security enhancement. It was believed that change in rates of burglary on the target estate which were not mirrored in trends on the control could be attributed to the security enhancement programme. The estates were sufficiently similar for the purposes of the experiment. While the target estate was built between the wars and the control in the post war period, both overwhelmingly comprised council owned properties. They were comparable in design standards, amenities and number of dwellings (792 target; 758 control), predominantly houses. They were also similar with regard to household structure and their low reputation amongst the general public, reflected in the absence of, or short, waiting lists for tenancies (Newcastle upon Tyne Housing Authority; Gateshead Housing Authority).

Other measures of social deprivation identified the target estate as

worse than the control estate. It had a higher crime rate (Northumbria Police), a higher rate of tenancy turnover (Newcastle upon Tyne Housing Authority; Gateshead Housing Authority) and more households dependent upon the state for income. In Spring 1980, only 42% of the households of respondents had any member in full time employment; on the control estate the figure was 47%.

A 50% random sample of dwellings (396 target, 379 control), stratified by street, was drawn from local authority housing lists and a respondent randomly selected from household members over 16 years of age. Interviews took place in two stages, between 25 February and 16 June 1980, and 16 March and 10 July 1981.

The response rate for the two stages was similar but, as expected, suffered from attrition over the two stages of interviewing. The high response rate of 85% (338) on the target estate and 85% (322) on the control dropped to 61% (205) and 62% (199), respectively, of the original respondents. No substitution was made either of households or within households. The analysis, therefore, was confined to those interviewed at both stages and therefore comprised approximately one-quarter (26%) rather than approximately one-half of each estate.

The effect on the generalisability of the survey data is difficult to gauge. Perhaps the most salient features are that on both target and control estates the burgled were more likely to leave than those who had not been victims but that this limitation was modified by the fact that the victims of unsuccessful burglary and those expressing fear were not more likely to leave the estate. As a group, those still available and willing to be interviewed at the second stage were very similar to the lost cases. The most marked differences were first, a reduction in the number of 18 to 22 year olds as a proportion of the sample: from 30% to 11% on the target estate and from 26% to 20% on the control; secondly, a reduction in the proportion of the single: from 30% to 14% on the target estate and from 20% to 12% on the control. The representation of the other age groups and marital statuses remained broadly similar at both stages. Understandably, those who were most satisfied with the estate tended to be more represented amongst the retained cases, increasing from 20% to 31% on the target estate and 32% to 42% on the control, whilst the *very* dissatisfied on the target estate, although not so much on the control, tended to be amongst the lost, dropping from 49% to 31% on the target and 29% to 24% on the control. Other levels of satisfaction remained similar. In sum, the losses over the year were proportionately more amongst the young adult single, those most dissatisfied with the target estate and the victims of burglary.

In addition to the target and control, two areas were selected by the police for close study of whether burglary was displaced from the target estate into adjoining areas. They comprised a small area of private housing to the west of the target estate and, to the north, across a thoroughfare, a council estate with dwellings similar in structure to those of the target estate thereby allowing for the type of local burglar specialising in one form of house design (Bennett and Wright n.d.) who

easily redirects his activities. The police felt that major dividing roads and a railway track would inhibit displacement in other directions.

Contaminating Factors

The problems besetting the evaluation of action projects are well documented and several were encountered in this experiment.

Firstly, on the target estate, burglary, attempted burglary and reporting behaviour were potentially affected by two unanticipated local authority initiatives: community policing covering the target estate, the displacement area of private property and half the displacement area of council property started in November 1980, eight months after most of the fitting was completed; additionally, an estate based housing management scheme, preceded by a survey, was instituted in June 1981. The two events were reflected most clearly in the smoothed burglary curve,³ based on monthly statistics, but they can also be seen in the raw figures {Table

Thus, on the target estate, following the steadying of the burglary rate from March to September 1980, a sharp rise in October was followed by a second lower steady period, extending from November 1980 to April 1981, the onset of which coincided with the start of community policing. Similarly, a fall in the burglary rate from July to September 1981 coincided with the early stages of the housing management scheme. That the burglary figures for the control and displacement areas showed no comparable change suggests either that the effects on the target estate were purely coincidental or that the impact of such schemes will vary according to local conditions and implementation.

Any surveillance effect was also possibly intensified in the early months of the experiment by the abundance of fitters on the estate. Their increase was due to the approach of the installation deadline (31 March 1980), which could not be changed, with the consequence that the first stage interviews took place virtually simultaneously with, rather than before, the fitting of the devices although efforts were made to interview ahead of the fittings. On the control estate there was an estate based management project from the start of the experiment (February 1980) and community policing from June 1981.

Secondly, the comparability of the recall periods for the two estates was also limited by the inflexible installation deadline for, in the effort to preserve the 'before and after' research design, interviewers were concentrated on the target estate rather than interview on the two estates in parallel. An assessment of the survey data, against the trend data, however, suggests that comparability was not radically affected.⁴

Thirdly, although substantially upgraded, the security was incomplete. Despite the haste to install, only 82% of the dwellings were fitted by 31 March 1980, rising to 94% by February 1981. Furthermore not all ground floor points of entry were covered and fitters' worksheets and the police dwelling survey could not be married to establish the extent of the deficiency.⁵ The results, therefore, must be considered in the light of the fact that less than total security had been achieved on the target estate.

TABLE 1
 (a) Police Figures for Burglary* in Dwellings on the Target Estate

| Month Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---------------|------|------|------|------|-----|------|------|------|-------|------|------|------|
| 1979 | 11 | 13 | 5 | 12 | 8 | 7 | 19 | 15 | 8 | 19 | 9 | 10 |
| 1980 | 22 | 11 | 13† | 15 | 8 | 14 | 8 | 14 | 13 | 26 | 10 | 15 |
| 1981 | 12 | 10 | 10 | 12 | 23 | 25 | 13 | 15 | 14 | 21 | 21 | 12 |
| 1982 | 20 | 12 | | | | | | | | | | |

(b) Police Figures for Burglary in Dwellings on the Control Estate

| Month Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---------------|------|------|------|------|-----|------|------|------|-------|------|------|------|
| 1979 | 7 | 4 | 16 | 5 | 4 | 3 | 6 | 5 | 8 | 2 | 7 | 0 |
| 1980 | 2 | 3 | 8† | 7 | 7 | 5 | 3 | 5 | 8 | 9 | 8 | 22 |
| 1981 | 13 | 13 | 11 | 10 | 10 | 8 | 4 | 8 | 8 | 12 | 15 | 3 |
| 1982 | 9 | 7 | | | | | | | | | | |

* Figures for attempted burglary are excluded.

† The date by which 82% of the dwellings on the target estate had improved security.

The upgrading of security for an entire area had both positive and negative effects. Briefly, a containment of burglary on the target estate and a decline in attempted burglary coincided with an increase in burglary in adjacent neighbourhoods and in other types of predatory crime on the estate itself. The detail and some of the underlying factors, are set out below.

Containment of Burglary

In contrast with national patterns (Bottoms 1981; General Household Survey 1981; Hough and Mayhew 1983) successful burglary on these estates was usually reported to the police. Thus while one estimate, based on the Government Household Survey 1980, suggests that 40% of burglaries go unreported (Jackson and Winchester 1982, p. 1) and the British Crime Survey found that 18% were unreported (personal communication from Mayhew, Home Office Research and Planning Unit, on 27 January 1984)⁶ the established housing repair policies of the two local authorities concerned, whereby structural damage following burglary was repaired (along with the free replacement of the security devices following the installations) on the condition that the police were informed, meant that the majority of burglaries entered into police figures. A high reporting rate was confirmed by the survey results. Details of all burglaries were not collected at the first interview, but at the second interview only one burglary on the target estate and two on the control were not reported. A high reporting rate was also indicated when the number of burglaries mentioned by tenants was compared with the police figures. Thus for approximately one-quarter of the residents, for the year 1 March 1980 to 28 February 1981, the 36 reported burglaries on the target estate would suggest a total of 144 for the entire estate as compared with 158 in the police records. Similarly, for the control estate, if one-quarter of the reported burglaries stood at 22, the approximate total for the estate would be 88 compared with 108 in the police records. Also to be taken into account is the fact that, in the year between interviews, on both estates the burgled were more likely to leave than those who had not been victims with the consequence that the survey figures are a slight underestimate of the extent of burglary.

Although there was no decline in burglary on the target estate a trend analysis of the monthly data revealed a pronounced levelling off for just over a year following the start of the security improvements. This contrasted with the encompassing police subdivision and the control estate where burglary rose substantially. Confining the assessment to annual figures (Table 2), in the year following the measures the previously comparable patterns of burglary on the two estates diverged to give a 9% increase in burglary on the target estate for 1980/81, compared to a 77% increase on the control estate in the same period.

In the second year, although burglary on the target estate increased, there was evidence of a continuing impact of the upgraded security; the

TABLE 2

Police Crime Figures* over 5 years (1 March-28 February) for Burglary in Target and Control Estates and Displacement Crime in Target and Control Estates with Percentage Increases

| | Burglary | | | Displacement Crime | | |
|---------|-------------|-------------|-------------------------------|------------------------------|-------------|------------|
| | Target | Control | Displacement Area A (Private) | Displacement Area B (Public) | Target | Control |
| 1977/78 | 165 | 66 | 19 | 134 | 62 | 37 |
| 1978/79 | 126 | 52 | 19 | 91 | 61 | 42 |
| 1979/80 | 145 | 61 | 21 | 90 | 62 | 36 |
| 1980/81 | 158 (+ 9%) | 108 (+ 77%) | 39 (+ 86%) | 178 (+ 98%) | 120 (+ 94%) | 43 (+ 19%) |
| 1981/82 | 198 (+ 37%) | 115 (+ 89%) | 46 (+ 119%) | 140 (+ 56%) | 94 (+ 52%) | 47 (+ 31%) |

*Figures for attempted burglary are excluded for the target and control estates but included for displacement areas.
 †Percentages are based upon 1979/80 burglary rates.

burglary rate expressed as a percentage of the rate in the year prior to the installations remained lower for the target than for the control estate. There is, of course, the possibility that uncontrolled factors on the control estate contributed to the steep rise in burglary in 1980/81, this burglary rate continuing for 1981/82; however, the 1981/82 burglary figures for the target estate remained rosier not just in comparison with the control but also when compared with all the other areas.

A containment effect was similarly reflected in the difference in the increases for the target area and police sub-division (Table 3). (These figures run from January to December of each year.) In the second year after the security enhancement the difference shown here, although in the same direction, was not as marked. The sub-division comparison, however, is less exact than the target-control comparison. Also, since the target estate is included in the sub-division figures, less of a control is to be expected.

TABLE 3

Police Burglary Figures* over 3 Years (1 January-31 December) for the Target Estate and in the Police Sub-division with Percentage Increases†

| | Target Estate | Police Sub-division |
|------|---------------|---------------------|
| 1979 | 136 | 765 |
| 1980 | 169 (+ 24%) | 1373 (+ 79%) |
| 1981 | 188 (+ 38%) | 1105 (+ 44%) |

* Attempted burglary is excluded for the target estate but included for the sub-division.
 †The percentages are calculated on 1979 burglary rates.

Attempted Burglary

According to police records attempted burglary was low on both estates although in the year following the installations it apparently rose on the target estate from four to 25 while falling on the control estate from eight to four. The survey data, however, comprising responses from only one-quarter of the dwellings, revealed not only gross under-reporting to the police but, when multiple attempts were included, a marked decline in attempts on the target estate paralleled by an increase on the control (Table 4).

The figures suggested that, on the target estate, first attempts were at least contained whilst further attempts on the same dwelling were substantially reduced. Both the rise in recorded attempts and the decline in completed burglaries could, of course, be explained either by an increased police presence (Burrows 1982) or alternatively, by the need to report more extensive damage, ensuant upon enhanced security, inflicted by the potential burglar. Unfortunately resources did not permit the extraction of relevant detail from police records to test this.

TABLE 4

Number of Attempted Burglaries Amongst Survey Respondents

| Attempts | First Attempts | | Further Attempts | | Total Attempts | |
|------------------------|----------------|---------|------------------|---------|----------------|---------|
| | Target | Control | Target | Control | Target | Control |
| Pre-Installation Year | 49 | 14 | 27 | 3 | 76 | 17 |
| Post-Installation Year | 42 | 20 | 6 | 10 | 48 | 30 |

Devices and Access

A comprehensive assessment and the upgrading of security upon the containment of burglary and decline in attempts must take account of two other factors: the adequacy and use of the devices installed.

In the year following the experiment 24⁷ of the Scotswood respondents were victims of at least one successful burglary and 42 of at least one attempt, although three of these were references to suspicious activity near the house. To enhance recall in interviews attention was directed to the last incident in each category and information sought on the point of entry, the presence and use of a device, the adequacy of fitting and mount, and the means by which it was overcome.

In 58% of the successful burglaries (14/24) devices were fitted and used. In half of these instances (all windows) the device was forced; in the remainder it was either reached via glass, that is, access was facilitated by the design of the dwelling, or it was by-passed by breaking glass and entering directly.

This vulnerability of glass in both windows and doors was reflected in the trend analysis of patterns of access. Following the security installations windows remained approximately twice as vulnerable as doors and access to a lock by the glass component of a door constituted one-third of all door entries.

In a high proportion of the burglaries revealed by the survey (42%) security devices at the point of entry were not in use and, to aid future policy decisions, it was important to know why; that is, the extent to which this was due to the devices and their fitting or to neglect by the householder. The latter possibility was especially important for this estate where the public image of the typical resident is one of heedlessness. In fact of the ten unguarded points only two were the responsibility of the householder, eight lay within the definition, execution and maintenance of the scheme. Of the latter, three fell outside the brief of the scheme and the trend analysis suggested that the security measures deflected some burglars to points of access known locally to be without official devices; thus entries above ground floor level rose from 6% (11) of all recorded burglaries in the year prior to the fittings to 11% (17) in the year after. A further three devices were not in position for reasons connected with the

execution of the scheme: poor workmanship, late fitting of the device, and an unfitted back door bolt. In two instances security had not been maintained: one bolt and one window device had been broken and remained unreplaced. Of the remaining two a mortice key had been lost by the householder and a window, usually secured, had been left open following painting.

In sum, if the data on burglary and attempted burglary are combined, it seems that the devices had some deterrent effect and, given the opportunity, residents were conscientious in their use.

On the non-replacement of defective devices it is worth noting that, despite the maintenance policy of the local authority, four of the burgled respondents said that the resulting deficiencies had not been rectified: two keys had been stolen during the burglary and two window devices broken. Although when this happens the householders often install their own security, the problem of security maintenance and some of the factors behind the short-term deterrent effect were perhaps reflected in the police statistics. These showed an increase in access via insecure points in the second year after the introduction of the security improvements. Such entries rose from 13% (19/147) of all entries in 1980/81 to 26% (46/179) in 1981/82. They were most marked for entry by door which moved from 15% (8/55) to 40% (27/68).

Thus while the gradual completion of the fittings coupled with a maintenance policy which covered damage and removal of keys by those leaving the estate (70 to June 1982) implied an increase in security, for reasons which were not explored in this study the actual level may have been declining. What perhaps is indicated is that the enhancement of residential security by these methods rests not only in the efficient installation of security devices but also in overcoming the problems of long-term maintenance that will be encountered by local authority housing and maintenance departments.

Target Hardening and Displacement

The putative effects of target hardening were not entirely desirable. The containment of burglary on the target estate coincided with an increase in burglary in the two displacement areas and, on the target estate, with an increase in burglary in privately-owned dwellings along with increases in crimes selected as those to which a frustrated burglar might turn his attention.

In the year immediately following the experiment the burglary⁸ rate on the target estate rose by 9%, in the displacement area of private housing (A) by 86% and in the adjacent council estate (B) by 98% (Table 2). Part of this rise could be related to the general rise in the burglary rate rather than solely to the movement of burglars away from the target estate, especially when the increases are set against the 77% rise on the control estate and the more local figure of 79% for the police subdivision (Table 3) in which both displacement areas and the target estate were located. Consequently, if the rise on the control estate is taken as a base⁹ the displacement effect accounted for approximately 2 (9%) of the 18

additional burglaries in Area A and 19 (21%) of the 88 extra burglaries in Area B.

In addition to the two selected displacement areas there were on the target estate small pockets of privately-owned property which were in consequence excluded from the scheme. Following the introduction of the security measures burglary in these dwellings rose from five in the previous year to eleven but dropped back to five in the following year. However, only approximately two of the eleven could be attributed to a displacement effect.

The final measure used to assess possible deleterious effects of the security enhancement was that of displacement crime. Target and control estates were compared across seven categories selected from the Home Office Crime Classification two of which, aggravated burglary in other premises and going equipped, produced only one incident over the five year period (in 1977). The remainder — burglary in other premises, robbery, theft from person, theft of cycle, theft from vehicle, theft of vehicle and damage over £20 — showed, in total, a more marked increase for the target estate than for the control, doubling from 62 to 120 compared with a 19% rise from 36 to 43 (*Table 2*). The crimes which increased most on the target estate were theft of vehicle, which rose from 25 to 45 cases, and burglary in other premises which more than trebled from 8 to 27 instances. In contrast, on the control estate there was little discernible change.

However, when account is taken of the 'natural' rise of 19% displacement crime as indicated by the situation on the control estate, the number of displacement crimes on the target estate attributable to frustrated burglary may be 47 of the additional 58.

In sum, it seems that while the upgrading of security for an entire area does have displacement effects there may still be a net saving in crimes committed. Although on the target estate burglary did not decline, comparison with the control estate suggests that, without improved security, perhaps 99 more burglaries could have been expected, that is, in addition to the 158 which occurred; and as the estimated number of displacement crimes on the estate (including the burglary in privately-owned dwellings) was 49 this suggests a possible 'saving' of 50 crimes on the estate itself. In terms of *burglary* in the neighbourhood, including both those within the target estate and in the displacement areas, there was a putative saving of 76 burglaries ($99 - (2 + 2 + 19)$). Finally, combining all displacement crime and burglary there was a total saving of 29 crimes ($99 - (2 + 2 + 19 + 47)$), although it should be borne in mind that displacement crime in the displacement areas was not monitored and increases in these adjacent areas might have followed the containment of burglary on the target estate.

Alternative Views of the Level of Crime Saved

These data suggest that burglary was displaced more to other crimes within the target estate itself and rather less to the immediate neighbourhood. The probability is that the effects of improved security are

underestimated. This effect becomes clearer by calculating the annual figures from 1 April 1980, that is when 82% of the devices were in position (*Table 5*). The earlier date of 1 March had been selected in order to err on the side of under- rather than over-estimation by including the period of intensive fitting in the post-installation figures.

Although this change of base produces a startling change in the amount of crime 'saved' this is overwhelmingly due to the widening difference between the pre- and post-installation burglary rates on the control estate. Thus, amongst the other indicators, the burglary rate on the target estate, when taking the April—March year, showed a change of 1% rather than 9% as in the March—February year. The rate for Area A fell slightly while rising for Area B, and for both target and control estates the proportionate change for displacement crime was identical. The rate of increase on the post-installation burglary figures for the control estate, however, changed from 77% to 109%.

By comparison, therefore, the rise in burglary on the control estate was higher than in either of the displacement areas, implying that burglars on the target estate did not move away from their territory. In terms of burglary on the target estate, between 1 April 1980, and 31 March, 1981, the probable number saved was 165; the other crime on the estate attributable to displacement effects was 41. Thus, by this reckoning, the estimated saving of crime was the more substantial figure of 124 (i.e. $165 - 41$) or 122 if one takes into account the burglaries in privately-owned dwellings on the target estate only 2 of which could be attributed to a displacement effect.

A more realistic estimate of the impact of the security devices probably lies somewhere between the two accounts and the policy adopted towards the effects and the relative balance between the types of crime committed, either in allowing their continuance or extending policies in attempts to control them, would have to be evaluated in the light of both economic and social costs.

Summary and Conclusions

Factors influencing burglary on a difficult to let estate may differ from those either on other council property or in residential areas of owner occupation where security of the dwelling may have little deterrent effect. In the experiment evaluated here the upgrading of security had a positive effect for residents, especially in the first year. Whereas on the control estate and in the police subdivision encompassing the target estate burglary increased, on the target estate it steadied. In comparison with the control estate these benefits, although much reduced, extended into the second year. Furthermore, while the number of attempted burglaries reported to the police increased, the survey revealed, again in contrast to the control estate, a substantial decline. That this was due to the devices rather than the community policing is suggested by the fact that burglary rose in the two displacement areas where community policing also operated.

TABLE 5

Annual Police Crime Figures (1 April-31 March) for Burglary in Target and Control Estates and Displacement Areas and Displacement Crime in Target and Control Estates with Percentage** Increases*

| | Burglary | | | Displacement Crime | | |
|---------|-------------|--------------|-------------------------------|------------------------------|--------------|------------|
| | Target | Control | Displacement Area A (Private) | Displacement Area B (Public) | Target | Control |
| 1979/80 | 153 | 53 | 23 | 92 | 54 | 32 |
| 1980/81 | 155 (+ 1%) | 111 (+ 109%) | 41 (+ 78%) | 186 (+ 102%) | 116 (+ 115%) | 45 (+ 41%) |
| 1981/82 | 188 (+ 23%) | 104 (+ 96%) | 35 (+ 52%) | 124 (+ 35%) | 90 (+ 67%) | 43 (+ 34%) |

*Figures for 1981/82 include 11 months up to 28 February.

†Figures for attempted burglary are excluded for the target and control estates but included for displacement areas.

**Percentages are based upon 1979/80 burglary rates.

While containment of burglary coincided with the rise in burglary in two adjacent residential areas and in the pockets of private housing and other properties within the target estate itself, comparison with the control estate suggests that the increase in the surrounding neighbourhood could not be attributed solely to burglars deflected from the target estate. There was, however, a clearer displacement effect to other property crimes within the estate. Nonetheless the total amount of crime which could be attributed to displacement rather than to a general rise in the crime rate was not as great as the estimated burglaries inhibited by the security measures.

Although the aim of the experiment was the upgrading of security for an entire area, security was not complete. Firstly, the scheme was confined to ground floor points of entry and the analysis showed that there was a greater tendency for burglars on this estate, than has been found in other studies (Bennett 1982; Hampshire Police n.d.), to gain entry above ground floor level. Secondly, three other factors affected the density of the security: the design of the dwelling, the extent and adequacy of the installations and the use made of them by the householder. With regard to design, both the official statistics and the survey data revealed the vulnerability of glass in windows and doors even after general security enhancement. The continuance of the fitting programme throughout the evaluation, however, and the replacement policy of the local authority, implied a gradual increase in the density of security on the estate. That the burglary rate began to climb after stabilising for approximately one year suggests that, irrespective of a continuing inhibition of burglary when compared with the control estate, the effectiveness of the devices was beginning to be overridden either by more astute or a greater number of burglars, or by carelessness on the part of the householder, the latter possibility supported by the police statistics which showed a rise in access via insecure points.

Such an interpretation, however, should be treated with caution. Firstly, the installation of ground floor security was not carried out systematically; secondly, where devices were installed and efficient they were overwhelmingly used; and, finally, some burglary victims referred to broken and unreplaced devices notwithstanding the replacement policy of the housing authority.

Installation of security, therefore, cannot be assumed to be complete even following a rigorous initial installation policy. Security must be maintained and factors influencing the maintenance of security need careful consideration. An extended monitoring of the progress of the devices in their maintenance, effectiveness and use would perhaps provide information useful to the implementation of future schemes.¹⁰

A set of questions, also raised, concerns the cost of target hardening and the economic and ethical questions of containment and displacement. Such questions also lead to major political and social implications of designing out crime and their environmental effects which go beyond the brief of this study.

Finally, as in similar studies (Hope and Murphy 1983), the most

difficult problems encountered lay in the co-ordination and practices of the agencies necessarily involved in an exercise of this kind. Greater consideration of these issues is necessary to the implementation of crime prevention schemes as well as to the construction and pursuit of effective research designs for the evaluation of action projects.¹⁴

Notes

- ¹ The police recommendations were: automatic rim deadlocks or five lever mortice deadlocks on front and back doors where appropriate; in some instances chains were recommended; two mortice bolts for the majority of rear doors; staylocks to be fitted on hinge windows and dual screws on sash windows. The cost was £27,000 at approximately £34 per dwelling.
- ² The Home Office system of classification makes no distinction between burglary and attempted burglary. The distinction, however, was necessary in order to assess the effectiveness of the security devices in preventing entry to the dwelling. Burglary, therefore, was defined as incidents where entry was gained whether or not anything was stolen; and attempted burglary defined as incidents where there was evidence of an unsuccessful attempt to gain entry. Reference was made to crime reports in order to extract attempted burglary from within classifications 28 (burglary of dwellings), 29 (aggravated burglary of dwellings) and 56 (arson) which would take precedence in coding if accompanied by burglary. Additionally burglary of empty dwellings fell within classifications 30 (burglary of other premises) and 31 (aggravated burglary of other premises). The focus was on the effect of security whether or not the dwelling was occupied; again recoding had to be done.
- ³ The smoothing convention adopted was influenced by the smoothed curves proximity to the raw data and the absence of any inversion effects (Velleman and Hoaglin 1981, pp. 159-99).
- ⁴ In the second year, to preserve comparability within estates, the target and control estates were approached in the same order and respondents were asked about incidents of burglary and attempted burglary suffered since the previous March (1980). From the data, however, the apparent absence amongst the respondents on the control estate of any incidents during March, April and May 1980, plus reporting of incidents in April and May 1981, suggest that the recall period was taken as 'over the last year' or 'since the last interview' rather than from the slightly earlier period. For the control estate there were seven burglaries and six attempted burglaries recorded beyond 1 March 1981, for the target estate one burglary and six attempts. Furthermore, no check could be made on the recall period adopted by respondents in their first interview since only the date and details of the last incidence of any type of victimisation had been recorded.
- ⁵ The fitters' worksheets were available but not the police dwelling survey; there had been a change in personnel and the survey was unearthed in June 1982, in the last weeks of the project. Because dwellings were not uniform reliance could not be placed solely on the worksheets; and when police specifications could be set alongside them they did not always marry because of differences in the mode of recording. There was also no information on prescribed and executed repair work.
- ¹⁴ The definition of burglary used in the British Crime Survey includes both successful and unsuccessful attempts to gain entry; the 34% unreported

burglaries revealed by the British Crime Survey includes both categories (Hough and Mayhew 1983, pp. 50, 11).

- ⁷ Multiple burglaries raised this figure to 37, indicating that the sample was reasonably representative of the total — 155.
- ⁸ Burglary figures for the displacement areas were based upon total burglaries, for occupied and unoccupied dwellings but, unlike the extractions for the target and control estates, included attempted burglaries. The data for target, control and displacement areas, therefore, are not strictly comparable but, as noted, the reporting of attempted burglary tended to be low.
- ⁹ The estimate of the saving or inhibition of crime is based upon the comparison with the control estate. The percentage rise on the target estate (or displacement area) is deducted from the percentage rise on the control and the result multiplied by the raw 1979/80 figure for the area for which it is being calculated. Thus the calculation for the estimated number of burglaries 'saved' on the target estate for 1980/81 is $(77\% - 9\%) \times 145 = 99$.
- ¹⁰ Northumbria Police (1982, Part II) conducted a follow up study of all burglaries on the estate. Householders' use of locks, however, was difficult to assess because of the problem in gaining responses.
- ¹¹ The research was funded by the Home Office and conducted by the North East Centre for Community Studies, School of Social Work and Community Studies, Newcastle upon Tyne Polytechnic.

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