



SHOP FRONT SECURITY REPORT

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TOWARDS THE COST OF THIS REPORT.

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FOREWORD

SHOPFRONT SECURITY CAMPAIGN REPORT FOREWORD BY THE HOME SECRETARY



Iwelcome the opportunity to support the work of the Shopfront Security Group and to endorse this Report.

We must do all we can to prevent crime. This Report will be welcomed by retailers and others who have a part to play in improving the security of shopfronts and creating a safer shopping environment. For it is this message above all that the Report conveys - the successful prevention of crime requires action from a number of parties acting in partnership.

The emphasis given in the Report to the need for co-operation between developers, local planning authorities and the police in "designing out" crime is most welcome and reinforces the message in a forthcoming Government guidance circular on "Planning and Crime Prevention" to be issued by the Department of the Environment in conjunction with the Home Office. It also complements the guidance given to police crime prevention officers on design and security measures by the Home Office Crime Prevention Centre.

The combination of good design and security, along with measures to encourage people back into the high street when the shops are shut, can do much to make town centres pleasant and lively areas which are less attractive to criminals.

The Report offers sound advice to all those who have a responsibility for combatting crime in shops and around shopping centres. It is up to us all to make sure that the Report is widely read and its conclusions implemented.

Michael Howard

The Rt Hon Michael Howard, QC, MP

INTRODUCTION

The Shopfront Security Group was set up in 1991 and meetings have been chaired by Independent Consultant Ray Walker. Members of the Group have included Parliamentarians, Nigel Evans MP, Alun Michael MP, Lord Parry and Barry Sheerman MP as well as representatives of the organisations listed on the back cover of this Report.

The Report is a focused investigation into Shopfront Security in urban and rural areas but does not specifically encompass examination of the different types of locking or alarm systems currently on the market, or look into the development of retail parks and shopping malls.

The Group's objectives in producing this Report are to:

- 1) increase awareness of the number of attacks on shops, the resultant costs and the problems retailers face in protecting shops;
- 2) encourage retailers, the police, the insurance industry and national and local government to give the highest priority to the fight against retail crime;
- 3) remedy the lack of readily available independent advice to ensure shopfronts are more secure from attack;
- 4) highlight the problems which can be caused to the urban environment as a result of superimposing inappropriate or poorly designed and fitted security features to existing shopfronts and provide advice on ways in which security features can be better incorporated into the overall design of a shopfront;
- 5) provide advice to retailers on ways to minimise losses and the cost of damage to shopfronts;
- 6) to raise awareness of the issue amongst local planning authorities, many of whom have prepared, or are preparing, advice

notes on planning and shopfronts, and to help reduce the conflicts which often occur between retailers and planners;

- 7) highlight the need to consider security implications at the design stage of any retail development of retail areas and that economic viability of such developments will depend on this consideration;
- 8) demonstrate to all those other groups working in the urban environment the impact which their work can have on the security of retail areas (including crime prevention officers, town centre managers, security officers and others who are particularly concerned with the security and economic viability of town centres).

This is the first time that a group with such diverse, sometimes competitive, interests have pooled resources in a co-ordinated approach to look at problems of retail security within the context of the built environment with constructive ideas as to how these problems can be solved.

The Group would welcome comments on the Report, as well as any additional input. These should be sent to the Chairman at 50 City Way, Rochester, Kent ME1 2AB. In addition, any comments or suggestions for future initiatives would be considered for the Group's further activities.

1. STRATEGIC ISSUES

The Shopfront Security Report provides advice on ways in which shops can be made more resistant to attack, less tempting to potential thieves, and how the retailing area as a whole can be made less susceptible to crime.

Adopt a Comprehensive Approach to Shopfront Security

Close liaison should ensure that initiatives are sensitively implemented and the local environment improved. It is important that retailers should use experienced designers, shopfitters and manufacturers and should take expert advice, from insurers, the police and the local authority, before incorporating security into the design of a shopfront.

Create Retailer Based Forums

There is a growing tendency for retailers to cooperate on a local basis to fight some forms of crime, such as shop theft. The Group strongly endorses such initiatives which should also focus on shopfront security and the wider issues highlighted in this Report. Broadly based retail forums, including the police and local authorities and all those with a professional interest in security in the area can help by:

- alerting members to crimes as soon as they have been committed;
- sharing information on effective security;
- giving individual retailers access to security related information available to multiple retailers in the area;
- local lobbying and general liaison.

Reduce Crime Displacement

If a comprehensive approach is adopted, the level of crime in the community as a whole should decrease. However, some crime may just be displaced to other retail, commercial, industrial or domestic areas which have not been so secured. The implications of how crime will be displaced, and to where, should always be considered.

Information on Criminal Attacks on Shops

Ultimately effective liaison will be based on the availability of information collected through the monitoring of criminal attacks on shops. This information is not readily available. It is crucial that individual retailers and the police should keep detailed statistics on retail crime. In particular, national crime statistics should separately identify retail crime. Individual insurance companies should also make their information on attacks against shops available (within the bounds of commercial confidentiality).

Local Authorities

Local authorities have a major impact on the retail environment as planning, housing, highways and transportation and education authorities. They are in an ideal position to take the lead in confronting the problems of creating or maintaining secure and attractive town centres and other retail areas.

Everyone within local government should identify any ways in which their activities may impact upon retail areas and ensure that their policies are co-ordinated within the authority and between authorities. District councils should liaise on policies in their local plans on retailing and security and on any advice and guidance which is issued on shopfront design and security. Draft policies should be widely circulated for consultation and adopted policies extensively publicised.

Town Centre Management

The Group supports the growing adoption of town centre management and urges more local authorities and other potential participants to consider the likely benefits of which closer liaison between interested parties is key. Recent government planning guidance (PPG6) gives support to this view.

Enforcement

Practical advice on the incorporation of effective security in new shopfronts and adding further security measures to existing shopfronts, is available from police architectural liaison officers and crime prevention officers. They should liaise closely with local authority planning departments, when advising on security measures which would require planning permission, so that they do not recommend the installation of visually inappropriate fittings.

Insurers

Retailers often suggest when seeking planning permission that insurers require additional security measures. Regardless of the accuracy of that statement, and the British Retail Consortium (BRC) survey* (albeit a small sample), suggests that it is not such a frequent occurrence, the need to obtain insurance cover at a reasonable rate is a major consideration when retailers decide to improve their security.

* Section 2.4 page 5

It is therefore important that the staff of insurance companies, both at local and head offices, liaise with the local planning authority so that each understands the others' requirements.

Manufacturers

Secure glazing and shutters/grilles can be treated separately but should also be considered together. If a shop is fitted with a grille, the glass behind will remain vulnerable. Laminated glass should be used in all shopfronts when a safety and security glass is required. However, grilles behind the glass are increasingly being installed.

It is crucial that shutter manufacturers should continue to work on the aesthetic appearance of shutters which are also resistant to attack; allow continuing visibility into and out of the shop; and do not significantly deteriorate in appearance after extensive use.

EC Standards are currently being compiled on the design, construction and performance of shutters and glass (British Standards are in existence for glass) and this is welcomed by the Group. Any testing carried out should allow for the security provided by a number of security elements eg shutters and laminated glass.

Training

The incorporation of security related issues in Continuing Professional Development (CPD) courses is recommended for those professionals involved in the practical running of the retail environment such as planners, architects, highway engineers and retailers themselves. The education of the next generation of these professionals should include security as a major priority.

2. RETAIL CRIME

2.1 Retailing is a vital part of our economy. Over two million people, 1 in 8 of the workforce, are employed in Britain's 300,000 shops which have a combined turnover of £135 billion a year (BRC). But shopkeepers face a major and growing problem - crime. Crime in England and Wales has risen steadily for many years - 500,000 recorded crimes in 1950, 2.5m in 1980, 4.3m in 1990 and 5.6m in 1992 (Home Office). Retailers have to confront a whole range of criminal activities, including shop theft (shoplifting), credit card fraud (plastic card fraud in the UK now costs over £165 million a year [APACS]) and thefts by staff. It has been estimated that over two billion pounds are stolen from shops every year. To combat this the retailing industry employs 50,000 security staff (20% of all security staff in Britain). In 1993 280,000 incidents of thefts from shops were recorded by the police in England and Wales (Home Office, Commercial Crime Study Interim Figures).

2.2 Retailers also face direct, sometimes violent, attacks on their premises, usually in order to steal goods but sometimes just sheer vandalism. It is with these attacks, more particularly those on shopfronts, that this Report is primarily concerned.

2.3 Unfortunately, there are no separate figures for burglaries against shops. The Group recommends that the Home Office should ensure that such data is collected separately. However Home Office crime statistics are published for what are termed burglaries committed elsewhere than in dwelling houses. These rose from 323,000 in 1980 to 477,000 in 1990 to 647,000 in 1992. There is no reason to think that premises other than shops have been solely responsible for this increase - retailers are therefore facing a rapidly growing problem of burglary. On top of this there are the attacks on shopfronts, the 'brick through the window' variety, which may be attempted burglaries or which are frequently a result of mindless, often drunken vandalism - but which are also not separately recorded in national crime statistics. Indeed some attacks which cause minor damage may not be Reported at all, let alone recorded.

2.4 One indication of the scale of the problem is to be found in a survey on shutters conducted by the British Retail Consortium in 1992. That survey received replies from retailers, ranging from single outlet operators to multiple retailers, who between them had 14,366 retail outlets (approximately 4.8% of

total retail outlets). In the previous twelve months those retailers had experienced 4,159 attacks on their premises, a ratio of almost one attack every three shops. The attacks include 214 ram raids, 2,099 smash and grabs and 1,846 other incidents of criminal damage to the shopfronts.

2.5 Hopefully, within the next few years, much more detailed information will become available which will help the fight against all retail crime. The Group welcomes the setting up of the British Retail Consortium (BRC) Crime Initiative. It is establishing a crime database whose broad objectives are:

- i) To foster pressure group activities - to gauge the true extent of crime affecting the retail sector and the resultant cost.
- ii) For operational purposes - to identify and monitor patterns and trends in retail crime which can assist in the development of appropriate responses at both national and local level.
- iii) To facilitate 'benchmarking' - to enable participating retailers to compare their experience of crime, and the strategies they adopt in response, with others in similar fields of retailing.

The figures on burglary in the retail sector compiled by the BRC Crime Initiative indicate that there have been 179,000 incidents in the last year, including attempted burglary, and that net losses are estimated at £322 million.

2.6 Sadly, with crime rising, the detection rate has been falling, 41% in 1979 to 32% in 1990. Burglaries, other than in dwellings had an even lower clear up rate, 26% in 1990, falling to 23% in 1991 and 20% in 1992 (Home Office Criminal Statistics for England and Wales). Those who burgle shops have a reasonable expectation that they can get away with it. This is certainly a view held within the retail industry;

'regrettably the experience of many retailers is that the police response is often slow; offenders are rarely caught; if they are, the sentences are not heavy enough to act as a deterrent to others..' (David Sieff, British Retail Consortium Security Conference, 26 October, 1992)

Ultimately it is the consumer who pays through higher retail prices.

2.7 Recently, the vulnerability of shops to attack has been highlighted both by terrorist attacks and by extensively publicised 'ram raids' in which stolen cars have been used to smash their way through shopfronts. A variation of this has been the use of 'JCBs' to remove safes and cash dispenser machines from a variety of premises. Such attacks make up only a small proportion of shop burglaries - although they show the lengths to which criminals will go.

"Shareholders will recollect that the dangerous level of crime has been a recurring theme of this review for some years. Increasing violence has joined the litany of ram-raids, burglary and hi-jacking" (Stanley Kalms, Chairman, Dixons Group plc in Chairman's Report, Dixons AGM 1993)

2.8 Other attacks on shops are less dramatic but far more frequent, even commonplace, in shopping streets the length and breadth of the land. They often cause a disproportionate amount of damage compared to the value of the goods stolen as well as taking an inordinate amount of police and staff time.

2.9 The scale of the problem facing retailers is not one which is widely publicised,

even if individual incidents are. In part this lack of awareness reflects the lack of readily available statistics - from the Home Office, retailers, individual police forces and insurers. But with insurance premiums rising, reflecting the increasing costs of crime and margins cut in an ever more competitive market, losses from crime cannot be ignored or shrugged off as an inevitable evil about which little can be done. Now, retailers such as David Sieff of Marks and Spencer (at the BRC Security Conference), who spent over £21 million on security in 1992, are talking about the need 'to mount a war against retail crime'.

2.10 It has been proved that it is possible to reduce the cost of burglary by companies /organisations developing partnerships and being committed to strategies relevant to their activities:

"In 1992/93 the cost of burglary for 1,600 [Threshers] shops was £179K yet six years ago before a cohesive strategy was introduced, the cost to 860 shops was £586K. However, to make a strategy work, it was necessary for Thresher to develop its own *Action in Partnership*". (Sir Michael Angus, Chairman of Whitbread PLC)

3. SHOPFRONTS

3.1 The shopfront is a crucial element in any retail area - it announces that here is a shopping street. The shop window is an essential part of shopfront design as it allows the goods or services to be displayed and creates interest for passers by - window shopping is a popular pastime and can lead to impulse purchases or bring a potential shopper back at a later date.

3.2 It was the ready availability of glass at affordable prices which made the modern shopfront possible. Until 1827 panes of glass were small and relatively expensive - but the introduction of plate glass changed that. By 1862 an article in *Chambers Journal* could comment that 'Enormous plate-glass windows, gilded or polished brass frames, expensive mirrors, polished mahogany frames and all sorts of fancy woodwork, sometimes crystal columns...these are the necessary decorations of a fashionable London shop of the nineteenth century.' Shopfronts as a feature in themselves, had arrived.

3.3 But there is nothing more transitory than retail design. In Edwardian England large expanses of plate glass were taken to indicate low quality goods so the obvious response for high quality traders was to revive the many-paned windows and give their shops an air of long established reliability and exclusivity.

3.4 A major challenge to shopfront design came with the emergence of chain stores which increasingly used a standardised corporate image on each of their shops. The growing use of the private car also had a significant effect simply because many potential customers now passed by at much more than walking pace. They had only a brief moment to take in what was on offer before a competitor's window came into view. So, the more prominent and striking the display, the better.

3.5 The need to make an immediate impact may well have contributed to a deterioration in the quality of many shopfronts. Crude, illuminated plastic fascias, sometimes giving more prominence to the sponsor than the retailer, were increasingly slotted in without reference to the shopfront or the building within which the shopfront was located. This legacy has been described as contributing, 'to the sense of indeterminate squalor in many British streets' and it prompted the Royal Fine Art Commission to issue a Report in 1986, 'Design in the High Street' which stated;

3.6 'Any study of our existing high streets could not fail to underline the lack of relationship between most shopfronts and the buildings into which they are set...The visual chaos caused by the insertion of shopfronts, unrelated both to the buildings which house them and the street to which they should contribute, is in every high street for all to see...the general tendency to try to shout more loudly than neighbours only results in everyone shouting and no one person being heard at all.'

3.7 Standards have been improving gradually since then but there are inevitable tensions between planning authorities and retailers. These are explored further in Section 7. But there are also tensions within retail firms between those whose primary concern is to maximise the effective display of their goods and, increasingly, those giving the greater priority to security. The use of large, single paned shop windows which have increasingly been developed for display purposes are vulnerable - to vandalism and because they provide the thief with what may be an easy route through to the goods he wants to steal. The balance between marketing and security considerations is now changing because of rising crime and the increasing costs which result. For example the insurance industry is responding to the higher costs of retail crime by refusing theft cover unless specified additional security measures are taken and/or by increasing insurance premiums.

3.8 Later this Report will focus on specific ways in which security can be augmented in existing premises or integrated into a new shopfront. That will only happen if security is taken into account in the design process and not thought about as a last minute, bolt-on extra.

3.9 But good design can not only make a shopfront more secure, it can also ensure that the cost of any damage to a shopfront which does come under attack, is minimised. In particular, replacing broken or damaged glass (and boarding up in the meantime) can be very expensive - well over £500 for a normal single sheet shop window. Indeed, if there is no insurance cover for that glazing, it will be a direct cost to the retailer. For a large retailer, the overall cost can be enormous - one such company discovered that it had spent £300,000 on glass in 1991.

3.10 Good design can significantly reduce the cost of making good criminal (or accidental) damage to a shop front by reducing the amount of glass installed and reducing the size of the panes which may have to be replaced.

3.11 One of the most important elements in any shopfront which can contribute to security is the stallriser. However the growing use of ceiling to floor glazing has led to the elimination, or virtual elimination of stallrisers, in many shopfronts. In an era when ram raiding is no longer unusual, a substantial stallriser with concrete or other reinforcement behind it, can be particularly effective. But a stallriser will also reduce the glazed area by up to 20% and have a similar impact on glazing costs. Yet a stallriser should not detract from the impact of the window display as can be demonstrated by thousands of shopfronts up and down the country.

3.12 A shopfront can be divided into several, still quite large, panes of glass by the use of vertical mullions and horizontal glazing bars. The mullions and glazing bars can be designed to make the shopfront stronger whilst not detracting from the visibility of the goods on display. As importantly, in the event of an attack, when it is likely that only one of the panes of glass will be broken, replacement glazing costs will be far less than had a single sheet of glass been used.

3.13 In the same way that good design can make a shopfront more secure, so can good construction and installation. Poorly constructed and badly installed shopfronts using cheap and ill-fitting materials can make unauthorised entry very much easier. The use of established shopfitters and glazing companies should always be part of the retailer's plan.

4. INTERNAL SECURITY

4.1 This section of the Report examines ways in which shops can be made less inviting targets for burglars and how, as a result, the impact of attacks by burglars can be minimised. Clearly, the less tempting premises are, the fewer security features will be needed and the less intrusive they are likely to be. A retailer who tries to make his premises less attractive to potential thieves should also be able to make a stronger case to a local planning authority if, because of continuing criminal attacks, he feels the need to fit additional security features.

4.2 Shopfronts can be particularly vulnerable to attack, whether in the course of a burglary or simply through vandalism. Retailers must therefore:

- a) seek to minimise the value of any goods which are stolen in an attack;
- b) ensure that the shopfront is as secure as may be reasonably necessary;
- c) try and ensure that the wider environment in which the shop is located is made as secure and as nonconducive to crime as possible.

4.3 Shopfronts are far more likely to be attacked with criminal intent if it is perceived that:

- a) there are goods of value on the premises;
- b) those goods are readily accessible;
- c) it will be easy to dispose of the stolen property;
- d) there is a low risk of being detected or caught.

4.4 Retailers should therefore try and minimise the value and accessibility of goods on display in the shop window and within the shop as well as seek to deter thieves with various security features. Clearly the options must be carefully assessed and balanced against the additional costs or burdens placed upon staff. Particular care should be taken if high value products, such as jewellery, electrical equipment or alcoholic drinks, are involved.

4.5 Because many of the ideas put forward in this section will require the active

involvement of staff for their effective implementation, they will need to be incorporated into staff training. Retail firms involved in formal staff training should therefore ensure that the issues and approaches explored in this part of the Report are actively pursued in both initial training and continuing staff development.

Minimising Value and Accessibility

Using Dummy Equipment

4.6 For some retailers it makes sense to use dummy equipment in displays. Either thieves are fooled and steal a product of little value (one firm has Reported that it loses more dummies than real products) or they will be less likely to break in if they expect to find mainly useless dummy display items inside. To avoid damage to the premises, it is probably more cost effective to advertise the fact that dummy goods are on show. However, not all manufacturers produce dummy equipment or change their product designs regularly. Goods in a retail display may also be treated as part of the stock and be available for sale if stocks run down.

Disabling Equipment

4.7 Where display goods can be disabled, and the missing parts made more difficult to obtain, this may again make goods less attractive to thieves. Manufacturers can help by identifying ways in which their products can easily be disabled whilst on display and giving appropriate advice to retailers.

Reduced Value Displays

4.8 There will always be a tension between the desires of the marketing and sales staff to maximise the impact of both window and internal displays and the need to keep the value of goods on open display to a minimum. But far more thought could be given to using fewer items of merchandise - products which are otherwise vulnerable to theft. It should be possible to create an effective display without requiring banks of expensive equipment or materials. Any shop display, particularly the window display, should therefore be evaluated not just on its visual impact but on the total value of goods on display.

Removal of Goods "Out-of-Hours"

4.9 Many attacks on shopfronts have to be quick because the means of entry are rather obvious and it may not be long before the police arrive. So the goods stolen are usually those which are readily accessible because they are on display, both in the window and, more particularly, within the shop. Retailers can either fit shutters or cages around high value displays or create a secure storage area and place display goods in it at night. Clearly, this latter option may well be a chore for staff but it is a routine procedure in shops such as jewellers and it could become increasingly routine in other shops.

4.10 Obviously, removing all the goods from the window runs counter to a desire to maintain a display. If there is nothing to see people won't stop to look at the shopfront, thus reducing the natural surveillance created by the attraction of out-of-hours window shopping. So there must be a balance between maintaining a display and removing some or all of the high risk/high value products.

Visibility

4.11 Thieves may break into a shop through the shop door rather than through the shop window (as well as through other parts of the building). As many shop doors are recessed it is possible for passers-by not to notice the damage caused. Once thieves are in the shop, open window displays, which allow passers-by to see into the body of the shop, have obvious advantages if criminals are to be detected. They can be equally valuable during shopping hours as attackers are more likely to be seen. If shop displays are open throughout a retailing area, as is required in some shopping arcades, then other retailers may also be able to see if something is going wrong in another shop and take appropriate action.

4.12 An alternative to enclosed shopfronts is an internal grille which would provide added security whilst allowing a high degree of visibility.

5. A SECURE ENVIRONMENT

5.1 Criminal attacks on shops are more likely to take place if criminals know that they are unlikely to be detected. To tackle shopfront crime effectively, the overall security of the retailing area must be improved, in addition to strengthening the defences of individual shopfronts. An insecure environment is one in which potential perpetrators know that:

- i) they are unlikely to be seen either by the public or by the police or other security personnel;
- ii) if seen, there is little likelihood of being identified;
- iii) there will be few people in a position to Report their crime in time for the police to be called and to intercept them;
- iv) they will be able to gain vehicular access to the shop (to ram it and/or to remove the stolen goods) and have a number of potential escape routes.

5.2 So a more secure shopping area is one in which:

- a) there are plenty of people, both residents and visitors, in the area, particularly at night (NATURAL SURVEILLANCE);
- b) various controlled surveillance measures are seen to operate (ORGANISED SURVEILLANCE);
- c) it is possible to see from outside what is going on inside individual shops whilst the area outside is well lit and there are few places to avoid observation, such as recessed doorways and side alleys (VISIBILITY);
- d) vehicular access to the front of shops is severely restricted, and direct access at speed, to inhibit ram raiding, is all but impossible (VEHICLE ACCESS);
- e) the possibility of trouble from the clientele of potential trouble spots, particularly those involving the consumption of alcohol, is taken into account when determining the location of such premises. (PLANNING).

5.3 Applying these principles in practice is always going to be difficult when a shopping area, particularly in a town centre, may have developed over hundreds of years. However it

should be possible to make areas more secure by a series of individual initiatives, particularly residential use above shop premises. Ideally these initiatives should emerge from a comprehensive review of the security of an area but they can be tackled piecemeal.

Natural Surveillance

5.4 Town centres and other shopping areas can be dead at night with few people living there and not many evening visitors. That trend needs to be reversed through positive action. The more people there are, even casually passing through the area to or from the cinema or restaurant, the greater the level of natural surveillance.

Resident Population

5.5 There are various ways in which more people can be given the chance to live in the centres of our towns and cities. The current depressed property market does offer some novel opportunities for converting unused office space, especially over shops, back into residential accommodation and should be encouraged. Housing associations, currently the major providers of new social housing, should also be helped by the Housing Corporation to build new or rehabilitate other town centre properties.

5.6 Great potential for creating more homes lies in the tens of thousands of empty flats above shops. People living over the shop add significantly to the security of shopping areas simply by their comings and goings and those of their friends. More importantly, they provide added protection to the shop over which they live. However, there is still a fear amongst some retailers that residents will be an added security risk and could add to the risk of fire. Whilst these fears are understandable, unoccupied premises are always more vulnerable to deliberate or accidental damage. Robberies by tenants living over the shop are unlikely, as tenants will know that they would be prime suspects. Just by being there, they cut off the route through otherwise empty upper floors and their presence may deter thieves from seeking to break-in from the front or the rear of the shop. They may also Report crime.

5.7 Flats over shops, many built fifty to a hundred years ago, became empty either

because individual shopkeepers preferred to live away from their business or because they were taken over by retail chains whose managers also tended to have their own homes. Having vacated these flats most retailers did not want to be residential landlords and used the space for storage or offices, particularly as private rents were low. Recently many former flats, which were subsequently used for storage or offices, have become vacant again because retailers carry smaller stocks, often replenished from central warehouses, or don't need the office space because these are now located regionally or nationally.

5.8 The flats have sometimes remained empty because the only current means of access is through the shop. But retailers may also not want to face the difficulties they associate with being landlords, particularly when they don't expect to gain much financially. However, many of the circumstances which made becoming a landlord so unattractive have been removed. Recent legislation has effectively ended indefinite security of tenure on all new residential lettings. Landlords can now grant either assured or assured shorthold tenancies which allow them to recover the property, should they wish to, after a short, set period. It also allows them to charge market rents. There are also many reputable organisations, particularly housing associations, which are now experienced in managing properties for private owners.

5.9 The Group urges retailers, banks, building societies and estate agents actively to seek to bring their empty flats back into residential use. Where retailers have no control of the vacant property above their shop, landlords should be encouraged to take appropriate action, partly to help enhance the security of the shop below. Local authorities could have a major role to play in encouraging new developments to include residential units above ground floor shops.

Transient Population

5.10 During working hours, Monday to Saturday, there will usually be plenty of people around in a retailing area. Indeed, with the advent of flexi-time in offices and with more shops staying open into the evening the working day is extending into the early evening (and increasingly so in the future as a result of recent legislation) adding to the number of people passing through. But, unless

there are attractive leisure activities open in the evening, and unless the area feels safe to come into after dark there will be a sharp fall-off in visitors. This is clearly bad for traders as it reduces the natural surveillance of their properties - it also reduces the numbers who might window-shop and subsequently return to make purchases.

5.11 Efforts should therefore be made to improve the attractiveness of town centres in the evening. This must involve promoting existing facilities and encouraging new leisure facilities, such as cinema complexes and bowling alleys, to locate in the centre. There should be a range of facilities attractive to different age groups, not just younger people.

5.12 Equally important are the means of transport in and out of the centre. Attempts should be made to ensure that there are buses (and trains where appropriate) which run when people need them. Whilst local authorities can now do little to determine the level of service they can still seek to influence the provision of public transport. Most people are, however, likely to travel by car and what may be perfectly acceptable day-time parking may appear positively dangerous at night. In particular, many multi-storey car parks are totally uninviting during the evening - except to the criminal. Car parking design should be reviewed and, if necessary, steps taken to ensure that potential visitors are not inhibited from coming into an area in the evening.

5.13 Those who walk to the centre (or back to the car, bus or rail station) must also feel that they are safe. Proper lighting and a visible security presence (preferably beat policemen and possibly security cameras) are vital. Routes should also feel safe. Subways in particular may well frighten people.

Organised Surveillance

5.14 A policeman on the beat is still the most reassuring form of surveillance to members of the public. That reassurance is important if people are to feel that it is safe to visit town and city centres. Clearly, police patrols are also a deterrent to criminals, particularly those considering breaking in through, or damaging, shopfronts. It will be the frontages of shops that are most often patrolled (which detracts from the effectiveness of solid shutters as no one can see what is happening on the premises). A major police presence can

have a much more dramatic effect. The Commissioner of the City of London Police recently Reported that the security cordon around the City had, against the national trend, led to a 17% reduction in crime in the City compared with 1992. 'There have been some very good arrests made on the scanning points,' he added. (Guardian 30-8-93).

5.15 But police forces are stretched, few having enough officers to patrol all town centres on foot let alone throw cordons around them. So increasing attention is being paid to the use of remote controlled video cameras. Such equipment is also becoming more attractive as the technology has improved dramatically over the past ten years. For example, the sixteen cameras which police the centre of Newcastle-upon-Tyne are capable of identifying a vehicle registration plate at 200 yards in the dark - although not all equipment installed comes up to that standard.

5.16 Cameras can be, and are, operated from individual shops. However they are vulnerable and if the film is recorded within the premises thieves may simply steal this too. Cameras in individual shops are most effective for monitoring the inside of the shop rather than the area outside - particularly as the use of colour monitors makes it increasingly easy for staff to be alerted and able to identify thieves.

5.17 In more and more town centres the move is towards installing centrally controlled camera systems (CCTV). Such systems have a number of advantages. Firstly, they can be located in positions where they are difficult to disable and any attempts to do so can be monitored by other cameras. Those positions can be varied according to particular circumstances. Most importantly, correct positioning may allow people or vehicles to be tracked by a succession of cameras.

5.18 Secondly, by making them highly visible (in some cases "advertising" them on street furniture) they can provide reassurance to the public. For instance on the Toronto subway system, zones can be designated which are guaranteed to be constantly within camera view. Elsewhere it has been the public who have created such zones on an informal basis. In Birmingham the former senior police officer responsible for the CCTV system Reported that, at one or two locations, "young ladies wait for their boyfriends, openly waving

to the camera, acknowledging the comfort they derive from this protection. This is repeated later at night when all classes of people unashamedly wait in camera view for their transport home." Monitoring staff sometimes indicate to those congregated that they have the area under surveillance by quickly moving the camera.

5.19 Thirdly, in the long term, cameras are relatively cheap, at least compared with employing extra staff, and largely reliable - although, unlike a policeman, they can't respond to an incident, merely observe it. One police enthusiast for such systems says that he has, "an additional 16 officers on the beat, 24 hours a day, 365 days a year, and all are taking notes. None of these 'camera policemen' takes annual leave, none reports sick or takes refreshment breaks."

5.20 In practice it would be straightforward, if expensive, to respond to a growing crime problem by installing cameras everywhere. It would, at the very least, be a visible sign of a commitment to do something. However the Group would counsel caution, although we do recommend that serious consideration be given to the use of CCTV in major retailing areas with a definite security problem. If a system is being considered, the critical question which must be asked, is why is it being proposed. A clear set of policy objectives must be drawn up which is capable of being monitored. Critically important in any monitoring should be the issue of displacement. Crime might be reduced in the area covered by cameras and the public, in those areas, reassured - but crime might simply be displaced elsewhere, out of sight and, possibly, out of mind.

5.21 If CCTV is to be installed the initial cost is likely to be significant - although leasing may be an alternative to outright purchase. Partnership funding between shopkeepers, the local authority and insurers, for example, may sometimes be possible but setting up such an arrangement may be difficult. Traders and insurers may find it easier to act together with police advice.

Visibility

5.22 No matter how many people there are living in town centres or visiting at night or how much organised surveillance there

may be, security is only likely to be effective if there is a high degree of visibility, both of the shops and their interiors and of the surrounding area.

5.23 During the day or at night it is important that people should be able to see into a shop so that they can detect if there is anything wrong. Open window displays, good interior lighting and clear lines of sight to the most important parts of the shop, such as the cash desk, are helpful. Yet during the daytime many windows are wholly or partially obscured by posters and other material and may indeed be painted over. Open displays allow passers-by, residents, office workers above shops opposite and the occupiers of other shops to see when something is wrong and alert the police.

5.24 At night, good internal lighting has a dual benefit. Not only does it expose any nefarious activities inside, it also illuminates the street outside. This is a deterrent to the criminal and also increases the chance that a criminal attack will be seen. Furthermore, it makes the street lighter and generally more welcoming and will encourage rather than discourage people coming into the area at night. Obviously, lighting consumes energy and great care must be taken to specify energy efficient lighting.

5.25 Where possible retailers should consider co-ordinating their policies for window illumination to ensure that there are certain minimum levels of light from shop windows overall, levels which could vary according to the time of night.

5.26 Street lighting is also of obvious importance. There is now a sophisticated range of lighting equipment available. It may well be that lighting could be improved both to add to the attractiveness of the shopping street at night and to make it easier to identify people and pick out individual details.

5.27 But however well lit an area might be, and no matter what personal and camera surveillance is undertaken, there will always be places to hide and these should be designed out wherever possible. Camera surveillance in particular will be much less effective if

there are blind spots in the system, such as recessed doorways, which criminals and hooligans will quickly identify.

Vehicle Access

5.28 Cars are increasingly used in crime both as a means of escape with the stolen goods and, more dramatically, in ram raiding. Much greater consideration should therefore be given to the security implications of changes to shopping streets, particularly pedestrianisation.

5.29 Totally excluding vehicles from shopping streets is difficult unless there is proper rear access for delivery vehicles. Even then there will have to be provision for emergency vehicles. Total exclusion also has drawbacks as passing traffic adds to the natural surveillance of an area. Whilst pedestrianisation has been highly successful for many reasons, there may be circumstances where it may be helpful to allow traffic through in the evening to ensure that there is extra surveillance.

5.30 Clearly different security considerations will apply, depending on whether a street is open or closed to traffic. In fully pedestrianised streets the changes implemented may, in some cases, have made it easier to use cars and vans in the course of crime. Many pedestrianised streets have been paved over and curbs removed - inadvertently making it easier to ram raid shops unless other preventative measures are in place.

5.31 In pedestrianised areas the first priority must, if at all possible, be tight perimeter security in order to exclude vehicles altogether. High security, lockable bollards are one solution which allows both for the controlled entry of delivery trucks as well as access for emergency vehicles.

5.32 Where such perimeter security is either inappropriate or impossible to attain then careful use must be made of street furniture to make it extremely difficult for vehicles to gain the speed necessary in a ram raid or for them to make a quick getaway. For example, solidly constructed street planters etc. can play a very effective role.

6. SHOPFRONT SECURITY

6.1 Shopfronts can be made secure in a number of ways. Suitable alarms can be installed and good locks fitted to doors and any other openings. The overall design of the shopfront is also important as is the quality of its construction. The various structural elements can be constructed using materials which add to the overall strength of the frontage. The question of design is covered elsewhere in this Report, while advice on construction and materials can be obtained from established shopfitting companies. Suitable advice on locks and burglar alarms is separately available, particularly from the relevant major manufacturers and from Crime Prevention Officers.

6.2 This section of the Report therefore concentrates on two key security elements - glazing and shutters/grilles. It treats them separately but they should also be considered together. If a shop is fitted with a grille the glass behind it will still be vulnerable, particularly to the vandal. If it is agreed that a shutter is needed then a secure, laminated glass window is likely to be essential both during the daytime when the shutter is not in use and as a second line of resistance when the shutter is in place.

6.3 This Report therefore pays particular attention to shutters because there is a dearth of independent advice on shutters - the types available, their performance in practice and how they might best be installed. Equally, there is little information on the design of shutters and their integration into existing or new shopfronts.

Glazing

6.4 Glazing is essential in any shop window because it allows goods to be displayed and may also enable potential customers to see into the shop and to gain some idea of what else might be available. It can also provide important protection against attack. Although there are various forms of plastic glazing, some of which are extremely tough, they may scratch easily and detract from the quality of the display. Glass is therefore the only appropriate glazing material, but ordinary glass has three serious drawbacks unless suitably modified - it breaks easily; when broken it leaves jagged shards of glass which are extremely dangerous; and is very inefficient in energy terms.



6.5 It is therefore important that retailers specify glass which is both safe - to customers and passers-by - and Ordinary glass in shopfronts can be dangerous and accidents are more common than is generally realised. In one Reported case, 'a trivial boy-girl argument which began in a restaurant ended in a tragedy when a fifteen year old boy fell backwards through a shop window. A glass splinter cut a main artery.' In another case, 'a Cradley Heath father of seven walked through a shop display window because he simply failed to see the open shop doors. He almost bled to death because of severe lacerations to his leg.'

6.6 Since June 1992 there has been a legal requirement in the Building Regulations to use safety glazing when glass is used "as part of the erection, extension or material alteration of a building" (at present this does not apply to replacement glazing but retailers

are advised to act as if it did). The Regulations require that glazing with which people are likely to come into contact when they are moving about inside or outside a building shall -

- (a) if broken on impact, break in a way which is unlikely to cause injury; or
- (b) resist impact without breaking; or
- (c) be shielded or protected from impact.

6.7 There are two types of glass which meet the British Standard on safety glazing (BS 6206) - toughened and laminated. In addition, the approved document which accompanies the Building Regulations indicates that, 'some annealed glass is considered suitable for use in large areas forming fronts to shops, showrooms, offices, factories and public buildings.' It suggests that annealed glass from 8mm to 15mm thick can be used up to specified maximum dimensions.

6.8 Retailers should be aware that the Group has not been able to discover tests run on thicker sheets (more than 10mm) of annealed (ordinary) glass to establish how they perform under test conditions. Were an accident to happen, involving a shop window which was not constructed with glazing which meets the British Standard, then the retailer might be found legally liable.

6.9 Further regulations will come into force because European regulations are being drafted. However, there is as yet no date for their ratification.

6.10 The Building Regulations only cover safety and both toughened and laminated glass are stronger (therefore safer) than ordinary glass (due to the size of shop windows security film applied to shop windows is rarely appropriate and there can be problems with maintenance and clarity even when fitted to small window sizes).

[NB. Laminated glass also blocks UV-rays preventing merchandise fading behind the glass.]

Toughened Glass

6.11 Toughened glass is most likely only to be found in shop doors rather than shop windows because there are limits to the size which can be produced. It is usually made by

heating and rapidly cooling glass which has first been cut to the size required (once toughened it can't be cut or drilled). The stresses which this process create make the glass five times stronger than ordinary glass of the same thickness.

6.12 It takes a fair degree of force to break toughened glass but when it does break the whole pane collapses into small, blunt edged fragments as the stresses are released. This is clearly much safer than the jagged shards of glass which are left when ordinary glass is broken but it creates a major security problem. Once broken, the whole window is open and the would-be criminal has safe and unimpeded access to the premises. Most professional criminals will know what type of instrument is needed to release the stresses in toughened glass and to destroy the window.

6.13 Toughened glass cannot usually be ordered off-the-shelf because it cannot be cut to size once it is toughened. Waiting times can be as long as three weeks which means the loss of the display plus the additional cost of boarding up as well as reglazing.

Laminated Glass

6.14 Laminated glass gains its strength from two or more sheets of glass being bonded together using a special plastic interlayer called PVB. The more sheets of glass used and the thicker the glass and interlayer specified, the stronger the laminated glass will become. Installing laminated glass is straightforward but care has to be taken to ensure that the fittings which hold the glass in place also provide a similar degree of resistance and are not a weak point.

6.15 When attacked laminated glass will eventually crack and craze around the point of impact, but will still remain in place. This should prevent vandals getting into the shop and hinder the burglar who wants to make a quick getaway with the proceeds. Laminated glass does not need boarding up because it stays in place when the glass cracks, so trade can continue with minimum disruption. There is no additional heat loss and reglazing can be done at a more convenient time and not out of working hours when costs are high. Moreover, laminated glass can be bought 'off-the-shelf' because it can be cut by the glass stockist. There need therefore be no waiting

time for delivery, assuming that the particular thickness required is held in stock.

6.16 In essence, the thicker the laminated glass the stronger it is. It is the glass used for bullet and bomb blast resistant applications. However, in normal circumstances the three thicknesses of laminated glass recommended for shopfront applications are 7.5mm, 10.5mm and 11.5mm (and for safety, with an element of security 8.8mm and 10.8mm). Glaziers specialising in installing shopfronts will advise on the type of glass for the particular level of security required.

6.17 *Bullet resistant glass (25mm+) will resist a ram raid but the weight of the glass involved, the specialist framing required, and the ensuing additional cost means that it may not be appropriate. Anti-bandit laminated glass (from 7.5mm), properly fitted, and used in conjunction with other preventative measures, is probably more appropriate. It may still not stop the well equipped and determined criminal but the time taken, and the noise involved, will deter most burglars.

Shutters and Grilles

6.18 The original shopfront shutters were usually made of wood, being lifted in and out of position each day at the start and close of trade. The iron roller shutter, introduced around 1840, allowed one person to raise or lower a shutter easily. It also alleviated the need to store the shutter during business hours, as it could be retracted into a box at the top of the shopfront.

6.19 Shutters were commonplace until about 1870 when the advent of a professional police force and improved street lighting reduced the need for them - although a few trades, such as jewellers, continued to use them. However the current upsurge in criminal attacks and a heightened fear of crime, has created a new demand for shutters.

6.20 The use of shutters, particularly solid ones, can be controversial, not least because of the appearance of some of them. When no consideration is given to the design and aesthetic impact of a shutter it may be functional, but it may also be unattractive and intrusive. When a number of solid shutters are installed in the same area they can create a hostile and unattractive environment. As a result plan-

ning applications for shutters are increasingly being resisted by local authorities.

6.21 The poor design of some shopfront shutters may partly be explained by the fact that the companies who made them previously made shutters for industrial premises, where design was perhaps a less important consideration. When a new market for shopfront shutters developed it was not surprising that they were fabricated in the same way as industrial shutters. In addition, although there are a number of reputable manufacturers, all too often shutters are made up from stock parts by some fabricators with little interest in, or knowledge of basic design principles.

6.22 Shutters can be, and are, highly effective in resisting criminal attack - but solid shutters also have a number of security drawbacks:

- It is not possible to see if anything untoward is happening inside the shop. Where illegal entry may have been gained, other than through the shopfront, the thieves can continue unobserved.
- Where a significant number of shopfronts have been fitted with solid shutters, and especially when they are of an untreated finish, it conveys a message that the area is vulnerable to crime. Not only is this an important indicator to the criminal, it also discourages the general public from entering such areas and thus the benefits of passive surveillance are lost.

Also would-be customers cannot window shop outside business hours. This can have a detrimental effect on trade at a time when the retailers are fighting hard to increase custom.

And solid shutters also provide a blank surface for graffiti which additionally conveys a message that the area is vulnerable to crime.

6.23 There are no statistics on precisely how many shutters have been installed in shops. However, the BRC survey referred to in paragraph 2.4, revealed that 5,235 (36.4%) of the 14,366 shops in the survey had some form of shuttering:

(Appendix A gives a breakdown of the types in use)

* only security and security glazing specialists should recommend and install bullet resistant measures.

The shutters cost an average £3,870 to instal and in 204 cases (3.9%) the shutters had been stipulated by the insurer.

6.24 The term shutter is often used to cover both shutters and grilles. The BRC survey found both in use (See Appendix A).

Shutters

6.25 A shutter is generally constructed by sliding together slats/laths of aluminium, steel or plastic (or a combination). There is a variety of shutters on the market and in this section of the Report the main types are briefly described. A key difference between them is visibility. Some allow no light to pass through whilst others do, either by the incorporation of holes or by the use of polycarbonates which are strong but also allow light to pass through.

6.26 Shutters can also vary in the robustness of any decorative finish. When they are rolled up, lath to lath contact is made, and any paint will, to a greater or lesser extent, become marked or defaced. Powder coated shutters do give greater resistance to this problem but will eventually be effected. Pre-coated steel lath will provide the longest initial resistance but, unlike painted or powder coated shutters, will then be the most difficult to renovate. Many shutters constructed of plastic or polycarbonate components are subjected to the same action and therefore can be scratched, with some designs being affected by discolouring as well.

6.27 Solid Flat Lath Shutter: Manufactured in aluminium or steel, this type should provide the greatest security. But, being solid, it eliminates visibility and, being flat, provides the best surface for graffiti. It is particularly obtrusive in its natural finish such as galvanised steel or mill finished aluminium. However the metal can be pre-colour coated, anodised or powder coated to any British Standard or RAL colour - although usually at extra cost. It will then readily accept logos, messages or murals.

6.28 Solid Curved Lath Shutter: This is really an industrial shutter intended for warehouses and factories but which has found a place in the shopfront market because it is cheap. It has many of the characteristics of the flat lath type in that it can achieve good

levels of security but eliminates visibility and, in its natural galvanised steel finish, can have a damaging effect on the environment.

6.29 Punched Lath Shutter: Flat or curved lath shutters can be punched with a series of slots to create visibility. The slots are usually punched to create a brickbond pattern. A recent variation is to punch the slots in vertical lines to create a more open appearance and give the impression of a vertically built product, as opposed to the horizontal effect of the standard type. Because of the slots, access can be gained to the glass in the shopfront and damage caused. Unless special features are incorporated, the shutter can be pulled off by passing ropes etc through the slots. It is less prone to graffiti attack, although where punched to floor level, trouble can be experienced with the depositing of unwanted items through the slots into the shop doorway or onto window sills. In these circumstances solid slats can be used to provide a solid bottom to inhibit street rubbish from passing through.

6.30 To try and overcome the security weaknesses, aluminium punched lath shutters have been adapted to include a polycarbonate infill strip behind the shutter to deny access and inhibit the burglar or vandal. The polycarbonate is prone to scratching and can be damaged by heat. However, the infills can be replaced without the need to purchase a complete new shutter.

6.31 Perforated Lath Shutter: This design takes standard full laths and perforates them with hundreds of small holes, approximately 2-3mm in diameter. It is less vulnerable than the punched lath shutter and creates the illusion of there being no physical barrier - if there is adequate back-lighting. The best effect is achieved if the shutter is finished in a dark colour. It is less vulnerable to graffiti using fibre tip pens etc., but spray paint can be a problem.

6.32 Polycarbonate Panel Shutter: This is the latest type of shutter to come onto the market. The shutter is constructed from long sheets of polycarbonate connected by aluminium strips. Its main aim is to give excellent vision, whilst at the same time providing a physical barrier. It is impact and fire resistant (class 'O' flame spread). Its primary use is in arcades and malls where it often replaces

the shopfront itself, although such shutters have been used over traditional glazed units. Its disadvantage is that it is easily scratched. Large areas of polycarbonate also create static which attracts dust. In addition, the headroom required is normally greater than traditional roller shutters and the cost is somewhat higher.

Grilles

6.33 Manufacturers produce grilles in differing patterns, from varying materials, using many construction processes. The most common design is the brickbond, open-pattern grille made of aluminium, steel or plastic horizontal rods and tubes connected by vertical links. The brickwork design is varied by many manufacturers in both size and pattern to create individuality or reduced access. This type of grille has the obvious disadvantage of allowing some access to the glass behind. A grille is therefore best used internally behind the glass to provide a visible and physical barrier whilst allowing good visibility.

6.34 Polycarbonate can be fitted behind a grille to increase security and enable it to be installed externally - although, like other products using polycarbonate, it is prone to scratching and static.

Choosing a Shutter or Grille

6.35 The question of design is explored further in Section 7 but there are certain features which apply to all shutters, no matter what the design, and these must be considered carefully before a choice is made. Wherever a shutter is fitted it will conflict less with the surroundings if the mechanisms are designed as an integral part of the shopfront. To reduce the visual impact the roller mechanism can be housed on the inside of the shop even if the shutter is installed outside (possibly in guides recessed into the side jambs). This requires the shutter manufacturer and shopfront designer to liaise to ensure that the necessary space is allowed for at an early stage. As space requirements vary for each manufacturer late changes in the choice of supplier can be costly.

6.36 In dealing with a manufacturer certain principles apply:

- a) Always deal with a reputable manufacturer with an approved quality system whose interest is to provide quality products. Approval of the manufacturer under the BS 5750 quality assurance standard may be an important indicator in this context.
- b) Involve the manufacturer at the initial design stages so that the shutter or grille can be incorporated into the shop frontage itself.
- c) Investigate or identify the potential level of attack to which the premises concerned may be subjected and discuss with the manufacturer his product range that will suit the particular application from a security aspect.
- d) Discuss with the manufacturer how his products can be manufactured in such a manner as to harmonise with the building in question.
- e) Establish that the manufacturer is aware of any local authority policies on shutters and has taken them into account.

Performance Standards

6.37 Up to now it has been difficult for retailers to establish easily just how effective any shutter is that they might be considering buying. Currently there is no official British Standard on the testing of shopfronts for security or burglar resistance. However, the European CEN Technical Committee (TC33) is working on draft documentation on burglar resistance which, when approved, will become a European standard which will be adopted in the UK.

6.38 In October 1993, the Loss Prevention Certification Board (LPCB) introduced a new scheme for testing, approving and classifying the burglary resistance of doors, windows, shutters and grilles in domestic, retail, commercial, industrial and high security premises. It draws on the draft standard produced



by CEN and is therefore a valuable proxy until European standards come into force (which the LPCB will then incorporate in its testing standards).

6.39 The Loss Prevention Council laboratories at Borehamwood will use both mechanical tests and manual test which simulate the ingenuity of an attacker. Shutters, as well as other products, will be graded on a scale from one to six, with six being the highest classification applying to situations where there is a high security risk. As manufacturers submit their shutters for testing an increasing number of shutters will then be available whose performance has been established and graded.

6.40 Products which have been tested and approved will then be listed in the Loss Prevention Council's 'List of Approved Products' which is widely distributed annually (with quarterly updates) to architects, designers, public authorities and insurers.

7. RETAIL SECURITY & THE PLANNING SYSTEM

7.1 Changes to the external fabric of a shopfront will usually require planning permission. Additional security features, particularly external shutters, will certainly need permission. Individual retailers may well believe that shutters are vital, having experienced several attacks against their premises. They may well resent having to apply for planning permission at all. They will certainly expect to be given it, and the decision made quickly. However, for planning authorities a primary concern is to protect and enhance the appearance of individual buildings and the local environment as a whole. They are therefore unlikely to welcome applications for shutters, particularly solid shutters, because of their visual impact, even though planning permission may ultimately be granted.

7.2 Because of their differing priorities it is not surprising that retailers and planners can come into conflict. The local authority may refuse planning permission and the issue be taken to appeal - which can be a time consuming and expensive process. If, in the meantime, the shop premises have not been given additional security by other means, the retailer may well feel extremely vulnerable and aggrieved.

7.3 In some cases retailers put up shutters without first seeking planning permission - perhaps because they do not know that planning permission is required or because they have decided to act because of the perceived urgency of their security problem. When the planning authority then seeks to enforce the removal of the shutters, or at the very least requires the retailer to apply for retrospective planning permission, there is again a recipe for conflict. This conflict can and does tend to involve local groups representing shopkeepers and amenity societies and further adds to a sense of resentment and distrust. All the evidence suggests that the potential for conflict is increasing as the security situation worsens and more retailers feel compelled to instal shutters. It is therefore particularly important that retailers should discuss proposals before submitting a formal application.

7.4 However, the relationship between retailers and planning authorities is not necessarily characterised by antagonism and conflict. Some local authorities have developed policies in consultation with retailers and conservation groups. Both have a common inter-

est in fighting crime and its blighting effect on the community as well as maintaining and enhancing the vitality of a shopping centre and reducing the fear of crime. Conflict between retailers and planners is wasteful, expensive and time consuming. It reduces the likelihood that the two sides will be able to work together to achieve more effective security in the high street. Only by working together, and with other agencies, can better security be provided to the retailing area as a whole and therefore to individual premises. Local authorities and representatives of local businesses should therefore meet together to discuss security and, where possible, draw up best practice.

7.5 The Group recommends that all retailers are conversant with the relevant planning controls and that planning authorities are fully aware of the security problems which retailers face and the options open to them to combat retail crime.

7.6 The Report has already examined the security problems which retailers face, so what are the planning controls on shutters? A planning authority must decide whether a proposed change to the external appearance of a building constitutes what is called a 'material alteration'. So, the fitting of a roller shutter to the exterior of a building will almost always be said to be a material alteration but the fitting of a shutter behind the shop window would probably not be deemed to require planning permission. The fitting of metal grilles or timber shutters which are completely removed when the shop is open might not be taken to be a material alteration, but that interpretation could well vary between authorities. Other security features, such as the replacing of ordinary glass with laminated glass, would not require planning permission. However, the reconstruction of a shopfront to include a stallriser and smaller panes of glass would need planning permission (although it would be much more likely to be granted if the applicant had consulted the local planning department first and been guided by any published advice on shopfront design issued by the authority).

7.7 In conservation areas the same rules apply, but local planners are likely to be even stricter in interpreting them because they are required in law to have special regard to the preservation or enhancement of such areas. If

the conservation area includes a retail area then the authority will have a policy on shop design which might be expected to include a section on security.

7.8 Should a shop be contained within a building which has been listed as being of architectural or historic interest then listed building consent *as well* as planning permission will be required for any proposed changes, including internal fittings. An authority is required to have special regard to the desirability of preserving the building or its features of special interest and is therefore likely to be strongly resistant to the installation of shutters and possibly to grilles.

7.9 As well as dealing with individual planning applications local authorities are required to draw up local plans which set out detailed policies for the development of their area. They can also produce more detailed policies on specific local areas or individual topics (known as supplementary planning guidance).

7.10 Local plans will contain detailed policies on retailing. However, some do not address security in retail areas and the potential to reduce crime by good design. The Group recommends that, in the preparation of local plans, local authorities should consider the security implications of their policies on retailing areas. Where they have not already done so, they should consider preparing supplementary guidance on design in retail and other commercial premises. Such guidance should include detailed advice on ways in which security can best be incorporated without being unduly prescriptive. The existence of clear and relevant policies, drawn up in consultation with local retailers should ensure that fewer applications are taken to appeal. If appeals are made it should be much easier and quicker for matters to be resolved and a consistent approach maintained.

7.11 National planning guidance is placing increasing emphasis on crime prevention. Planning Policy Guidance Note 1 (PPG1), 'General Policies and Principles' promised advice on crime prevention, to which regard must be given in development plans. PPG6, 'Town Centres and Retail Developments', published in July 1993, made only passing reference to the issue of security, suggesting that town centre management strategies should include, among other things, crime prevention and safety improvements.

7.12 However, in October 1993, the Department of the Environment and the Welsh Office published a draft circular, 'Planning and Crime Prevention', the final version of which should be published in 1994. Among other things the draft:

- a) acknowledges that, although good planning cannot solve the problem of crime, when co-ordinated with other measures, its contribution can be significant;
- b) accepts that crime prevention can be a material consideration when determining planning applications;
- c) stresses the importance of including crime prevention policies in local plans;
- d) emphasises the need for a multi-agency approach to crime prevention;
- e) suggests that local authorities take the lead in co-ordinating area-based crime initiatives, particularly in historic areas and town centres, with financial assistance from retailers;
- f) notes the potential of street furniture, bollards and strengthened stallrisers to deter ram raiding, the potential of laminated glass to safeguard against 'smash and grab' attacks, and the contribution which CCTV and security lighting can make.

7.13 The section on security shutters urges local authorities to adopt a sympathetic approach to the needs of applicants and to seek mutually acceptable solutions. The draft suggests that the attractiveness of retail areas can be maintained by shutters which let light onto the street outside normal trading hours. Planning authorities are advised that the fact that a shutter may be in use only when the shop is closed, and would be relatively unobtrusive at other times, may be a material consideration in determining a planning application. The special circumstances surrounding conservation areas and listed buildings are set out with the advice that proposals should be taken on their merits.

7.14 The Group recognises that, at the time of publication of this Report, the circular was only a consultation draft and is hopeful that its Report will be a significant influence on the final version of the circular.

7.15 It is important for retailers, designers and other interested parties to understand those considerations which planning authorities are likely to take into account in drawing up retail planning policies and in determining individual applications. In the concluding part of this section consideration has therefore been given to those aspects of shopfront security features which local authorities are likely to find objectionable as well as identifying a more positive approach which may be welcomed.

7.16 In practice too many of the security shutters which have been installed are wholly inappropriate to the building in which they are located, particularly in terms of their scale, colour and texture and because of the deadening effect which they have.

- a) Overall Relationship with the Building: - many security measures are taken as a direct response to a particular crime, and are installed quickly to meet the circumstances; they therefore tend to look what they are, a tacked-on afterthought totally unrelated to the rest of the shopfront.
- b) Scale: - the front facade of most buildings, particularly in traditional shopping areas, will be formed by a number of different architectural elements, the walls, windows, roof etc., which in turn comprise a number of more detailed elements, such as glazing bars and window arches. The insertion of a large solid shutter across the whole of the ground floor introduces an element that is larger than, and out of scale with, other individual components of the facade, completely divorcing the ground from the upper floors.
- c) Texture and Colour: - the colour and texture of many metal finishes, particularly plain or highly polished finishes, are usually at odds with the more textured finishes of masonry and timber.
- d) The Deadening Effect: - solid shutters remove all interest or visual stimulation at pedestrian level; cumulatively they can deaden whole streets.

7.17 Retailers spend millions of pounds on their corporate image. If the right image sells, then it must be in everyone's interest to ensure that incorporating security in retail premises is not only functional but also visual-

ly appropriate. To incorporate security measures successfully into any shopfront the basic principles of good shopfront design and good shop fitting practice apply. Whether designing a modern or "traditional" shopfront the basic approach should always be the same. The shopfront should:

- be considered as part of the building as a whole, and the building as part of a street;
- relate to the building in terms of its scale, materials, detailing, colouring, and textures;
- never obscure any original features.

Standard, off-the-peg components will rarely provide a visually acceptable solution. Furthermore, what works on one shopfront in a particular location will not necessarily look good on another.

7.18 In a new retail development or a refurbished shopfront, security considerations should be an integral part of the design process. Security measures must always be taken into account, even if the need for security is not immediate. Adequate room should be left in the bulkhead or ceiling to install retractable grilles or shutters if either should become necessary at some time in the future.

7.19 Two elements of the traditional shopfront, stallrisers and glazing, can add greatly to shopfront security. Stallrisers traditionally gave protection to the lower part of the shop window, and visually anchored the shopfront to the ground. They are usually made of panelled timber, but in some areas brick, tile or local stone can be used. In any event a stallriser can be constructed in timber, with strengthening behind it. Stallrisers vary in size and care must be taken to ensure that they are in proportion to the shopfront as a whole.

7.20 The glazed area of a shopfront has traditionally been subdivided by the use of mullions (vertical bars) and transoms (horizontal bars). These add interest and variety to the shopfront, and break down the visual effect of the glazed area. Smaller panes of glass give the potential thief poorer access to the goods on display if broken, and are cheaper and easier to replace. Glazing bars can be strengthened by introducing T section steel

bars faced with timber. Transoms at a high level can, in some cases, be glazed in obscure glass to hide a low bulkhead or shutter housing.

7.21 But shutters and other security features are most often fitted to an existing shopfront as a direct response to a specific incident. Sometimes the level of additional security is greater than is needed. Planning authorities will be looking for a level of security which is commensurate with the level of risk which the retailer faces. The Group therefore recommends that, before incurring the costs of putting in expensive security measures consideration should be given to:

- a) upgrading the existing shopfront by strengthening the stallriser, creating a solid raised area behind the glass, inserting mullions etc;
- b) positioning any additional security devices behind the glazing whilst minimising any restriction of views into the shop; grilles, meshes or shutters that have transparent panels are preferable.

7.22 Sometimes external shutters will be the only solution to severe vandalism and security problems. If they are to be used

- a) every effort must be taken to avoid an unrelated, tacked-on appearance;
- b) shutter boxes should never stand proud of the fascia nor hide any architectural features but should be fully incorporated into the fascia;

- c) any original housings on the fascia for either blinds or roller shutters should be utilised;

- d) on listed or very old shopfronts, where evidence of original timber shutters exists, the possibility should be examined of reinstating the shutters and perhaps strengthening them with steel plates.

- e) perforated, punched, combination solid and grille shutters or aluminium and polycarbonate shutters should always be considered first in order to maximise visibility and the spread of light onto the street;

- f) every effort should be made to reduce the scale of the shutter, especially by introducing vertical elements into the design;

- g) shutters should preferably not cover the whole shopfront but only protect the glazed area;

- h) graphics on solid shutters should be considered as a good means of reducing their overpowering nature;

- i) the use of plain metal finishes should always be avoided; anodised or powder coated matt finishes are preferred - gloss finishes will usually contrast too sharply with traditional shopfront finishes.

8. SUMMARY

Crime costs retailers £2 billion every year.

There are no separate police figures for burglaries against shops although the figures on burglary in the retail sector compiled by the BRC Crime Initiative indicate that there were 179,000 incidents in the last year including attempted burglary. Net losses from burglary totalled £322 million. Almost six in ten retail outlets surveyed had been attacked in the previous year.

Shopfront Security

Secure glazing and shutters/grilles can be treated separately but should also be considered together.

Single paned display windows are vulnerable to vandalism and provide the thief with an easy route to goods. Replacing such glazing is not necessarily expensive but good design can reduce the cost of criminal or accidental damage by reducing the amount of glass installed and the size of individual panes.

Plastic glazing can be extremely strong, but scratches easily. Glass is therefore the only appropriate glazing material.

Retailers should use safety glazing in new shopfronts. Toughened and laminated are both safety glass but toughened glass breaks safely into small, blunt edged fragments, giving would-be criminals safe, unimpeded access. Most professional criminals know how to break toughened glass.

Laminated glass is a security and safety glass. The thicker it is, the stronger it will be. Laminated glass, of whatever size and thickness, may still not stop the determined criminal but the time taken, and the noise involved, will deter most burglars.

Anti-bandit laminated glass, properly fitted, and used in conjunction with other preventative measures, is most appropriate in premises vulnerable to ram raids.

Shutters can be highly effective, but solid shutters do not allow for visibility of anything untoward happening inside a shop or window shopping by would-be customers outside business hours.

Shutters, particularly solid ones, can be unattractive. A number of solid shutters in the

same area can create a hostile and unattractive environment and convey a message that the area is vulnerable to crime. Grilles allow some access to the glass behind and are best used internally. Polycarbonate can be fitted behind a grille to increase security.

Some shutters allow light to pass through either by the incorporation of holes or by using some polycarbonate.

Any decorative finish can be damaged over time when shutters are rolled up. Plastic or polycarbonate components can be scratched.

A reinforced stallriser can be effective against ram raiding and reduce the amount of glazing which would have to be replaced following any attack.

A shutter should be designed as an integral part of the shopfront and the roller mechanism housed inside. The manufacturer should be involved at the design stage so that it can be properly integrated.

The new Loss Prevention Certification Board scheme for testing, approving and classifying the burglary resistance of shutters and grilles means an increasing number of shutters will be available whose performance has been established and graded.

Internal Security

Retailers could minimise the value and accessibility of goods on display in the shop window and in the shop.

The use of dummy equipment in displays is appropriate for some retailers.

Display goods can be disabled, and the missing parts made more difficult to obtain. Manufacturers can help by identifying ways in which their products can easily be disabled.

Retailers can fit shutters or cages around high value displays or create a secure storage area for night time storage. There must be a balance between maintaining a display and removing high risk/high value products - if there is nothing to see, people will not window shop, reducing natural surveillance.

Open window displays allow criminals who have broken in at some other part of the building to be detected. During shopping hours an

attack inside a shop is more likely to be seen. An internal grille at the back of a window display can give added security and delay a burglar's entry.

A Secure Environment

To tackle shopfront crime effectively, the overall security of the retailing area must be improved.

There should be plenty of residents and visitors in the area, particularly at night.

Great potential for creating more homes lies in the tens of thousands of empty flats above shops. The Group urges retailers, banks, building societies and estate agents actively to seek to bring their empty flats back into residential use. Housing associations should be helped to build new or rehabilitate other town centre properties.

Efforts should be made to improve the attractiveness of town centres in the evening to encourage visitors and increase natural surveillance.

Many multi-storey car parks are totally uninviting during the evening - except to the criminal. Car parking provision should be reviewed and, if necessary, steps taken to ensure that potential visitors are not inhibited from coming into an area in the evening.

Proper lighting and a visible security presence (preferably beat policemen and possibly security cameras) are vital. A policeman on the beat is still the most reassuring form of surveillance to members of the public.

Centrally controlled camera systems (CCTV) are increasingly being installed. They are relatively inexpensive, at least compared with employing extra staff, and largely reliable - although, unlike a policeman, they cannot respond to an incident.

Serious consideration should be given to the use of CCTV in major retailing areas with a definite security problem. However camera surveillance will be much less effective if there are blind spots in the system, such as recessed doorways.

Good shop lighting illuminates the street, is a deterrent to the criminal and encourages people to come into the area at night. Retailers should consider co-ordinating their policies for window illumination to ensure minimum levels of illumination according to the time of night.

Passing traffic adds to the natural surveillance of an area. It may sometimes be helpful to allow traffic through a pedestrianised area in the evening to ensure extra surveillance.

Preventative measures in pedestrianised areas such as high security lockable bollards which allow controlled entry of delivery trucks and access for emergency vehicles, and the use of street furniture, can also make it difficult for vehicles to gain the speed necessary for a ram raid or to make a quick getaway.

Planning

External changes to a shopfront usually require planning permission. Additional security features, particularly external shutters, will certainly need permission. All retailers should be conversant with the relevant planning controls, and planning authorities fully aware of the security problems which retailers face, and the options open to them to combat retail crime.

Retailers and planning authorities should have a common interest in fighting crime and its blighting effect on the community as well as maintaining and enhancing the vitality of a shopping centre and reducing the fear of crime. Conflict between them is wasteful, expensive and time consuming. Only by working together, and with other agencies, can better security be provided to the retailing area as a whole and therefore to individual premises.

In the preparation of local plans, local authorities should consider the security implications of their policies on retailing areas. Where they have not already done so, they should prepare supplementary guidance on design in retail and other commercial premises including advice on ways in which security can best be incorporated.

Security shutters may be inappropriate to the building in which they are located because of their scale, colour, texture, and the environment which they can create.

Before putting in expensive security measures consideration should be given to upgrading the existing shopfront and positioning additional security devices behind the glazing.

Perforated, punched, combination solid and grille shutters or aluminium and polycarbonate shutters should also be considered first in order to maximise visibility and the spread of

light onto the street.

Plain metal finishes to shutters should always be avoided. Graphics on solid shutters should be considered to reduce their overpowering nature.

If shutters are used, every effort must be taken to avoid an unrelated, tacked-on appearance. Shutter boxes should never stand proud of the fascias nor hide architectural features.

APPENDIX A

British Retail Consortium Survey

The British Retail Consortium's Shutter Survey was conducted in 1992 in order to ascertain the use of shutters by retailers to establish details regarding the types of shutters being selected by retailers. The data collected relates to 1991.

External door shutters	4,210	29.3%
Internal door shutters	1,729	12.0%
External window shutters	3,733	26.0%
Internal window shutters	1,651	11.5%
No shutters	9,131	63.5%

External Shuttering - Doors

Roller shutters with solid horizontal slats	2,531	60.1%
Roller shutters with punched hole slats	614	14.6%
Roller shutters with perforated slats	237	5.6%
Roller grilles with open brick sections	140	3.3%
Removable mesh grilles	426	10.1%
Other	262	6.2%

Internal Shutters - Doors

Folding grilles with open brick sections	446	25.8%
Rollers grilles with open brick sections	523	30.2%
Other	760	44.0%

External Shuttering - Windows

Roller shutters with solid horizontal slats	2,158	57.8%
Roller shutters with punched hole slats	555	14.9%
Roller shutters with perforated slats	202	5.4%
Roller grilles with open brick sections	154	4.1%
Removable mesh grilles	403	10.8%
Other	261	7.0%

Internal Shutters - Windows

Folding grilles with open brick sections	690	41.8%
Roller grilles with open brick sections	792	48.0%
Other	169	10.2%

APPENDIX B

Applications for laminated glass

Protection of people against accidental impact	from 6.4mm 3 ply: 1 x 0.38mm PVB 2 x 3mm glass	Entrances to buildings French windows / internal doors Internal partitions / verandas Conservatories / Public buildings Showers / furnishings Overhead glazing / Glass floors
Prevention of people falling through glass barriers	As above, provided glass is framed	Staircase bannisters Balustrades Safety barriers Parapets
Basic protection against brief attacks	From 7.5mm 3 ply: 1 x 1.52mm PVB 2 x 3mm glass OR from 10.5mm 5 ply: 2 x 0.76mm PVB 3 x 3mm glass	In specialist applications where valuable objects are involved, mainly at ground level
Vandal resistant	As above	Shop windows (low value items) Public transport Public buildings (eg museums) Bus stop shelters
Protection against premeditated attacks (*)	Multi-ply glass	High risk windows or shop windows displaying small objects / Museum display cases / Prison / Psychiatric hospitals / Computer rooms
Protection against all types of attack (*)	Multi-ply glass	High risk shop windows
Bullet resistant (various types of weapon) (*)	Approved products from 25mm Multi-ply glass	Bank / Post offices Official / Military installations Security counters
Explosion resistant (*)	Custom manufactured	Residential / Non-residential Public / private

(*) please consult a specialist

BIBLIOGRAPHY

DESIGN IN THE HIGH STREET

Gordon Michell, Royal Fine Art Commission/Architectural Press 1986

THE RETAIL STORE - DESIGN AND CONSTRUCTION

William R Green, Ban Nostrand Reinhold, New York 1986

SHOPFRONTS

Alan Powers, Chatto and Windus 1989

LIVING OVER THE SHOP

Ray Walker (Ed), National Housing and Town Planning Council 1990

LIVING OVER SHOPS

Chris Griffin (Ed), National Housing and Town Planning Council 1992

LIVING OVER THE SHOP: A HANDBOOK FOR PRACTITIONERS

Ross Fraser & Ann Petherick, University of York 1992

BOOK OF DETAILS AND GOOD PRACTICE IN SHOPFRONT DESIGN

English Historic Towns Forum 1993

SHOPFRONTS AND ADVERTISEMENTS IN HISTORIC TOWNS

English Historic Towns Forum 1991

RETAIL SECURITY - A BEAT OFFICERS GUIDE

Home Office Crime Prevention Centre 1992

TOWN CENTRE MANAGEMENT - PRACTICE NOTES

Association of Town Centre Management 1992

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National Housing and Town Planning Council 1989

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