Planning Advice Note 6

Crime Prevention through Environmental Design

London Borough of Barking & Dagenham

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Crime Prevention Through Environmental Design

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Introduction

This document is a corporate approach for the improvement of community safety and is supported jointly by Barking and Dagenham Borough Council and the Metropolitan Police. The Police Borough Crime Prevention Design Adviser works along side the Council's Department of Regeneration, and is located with the Planning & Transportation officers commenting on the security and safety implications of planning applications. By combining best practice in the field of community safety and recognising the contribution made around this issue by Crime prevention through Environmental Design, the expertise of the Police Crime Prevention Design Adviser can influence projects ranging from small lighting schemes to public space CCTV to major regeneration projects.

The concept of Crime Prevention through Environmental Design (CPTED) uses the principle of designing out crime (or more accurately designing against crime) to influence crime levels, the fear of crime and anti-social behaviour within the built environment. Crime Prevention through Environmental Design recognises that the built environment can influence criminal behaviour for good or bad and can also help people to exercise control over their surroundings.

"The built environment" covers any area with physical features created, adjusted or influenced by human intervention. Therefore it includes buildings, roads, car parks, open spaces etc.

The 2007 publication of Lord West's review of safety and security in crowded places in relation to terrorism has a direct link with Crime Prevention through Environmental Design. Acts of terrorism are acts of crime committed by groups or individuals with extremist views. Terrorism can be committed with acts of different magnitudes and at its most extreme can include explosive devices, but it can be where an extremist group target a specific individual or site and commit acts such as criminal damage including putting graffiti on part of a development. The advice contained within this document is intended to reduce the opportunity for an offender to commit all forms of crime. If the proposed development has the potential to attract extremist activity, the key elements of this document including the arrangement of streets, building designs, public and private open spaces the levels of activities, movement and surveillance all impact on the security and safety of places but it may be necessary to include more robust security measures and design advice which will be formulated on a site specific basis taking into account the type of development, its location and the known or potential security risk. Particular attention should be given to Bars, Pubs, Clubs, Shopping Centres, Stadiums or Arenas or Visitor attractions.

A check list has been included at the back of the document as a tool to assist architects and developers to include the information contained within this advice note when designing a new or refurbished development. The check list is for guidance only and there is no requirement to complete and return it to the planning section when submitting plans/drawing for planning approval.

Legislative and Policy Background

A strong legislative and policy framework exists for considering community safety as part of the planning process. The 1998 Crime and Disorder Act, as amended through the Police and Justice Act 2006 strengthened the role of the police and council to tackle crime, disorder and anti-social behaviour. Section 17 of the Act places a statutory duty on the police and local authorities to exercise their functions with the likely effect on crime and disorder. The result of this is that local authorities must consider these issues when making planning decisions.

Planning Policy Statement 3, (PPS3) part2 - The Government's Objectives. In relation to ensuring that every one has the opportunity of living in a decent affordable home in a community where they want to live, the Government is seeking to; "create sustainable, inclusive, mixed communities in all areas. Developments should be attractive, safe and designed and built to high quality. They should be located in areas with good access to jobs, key services and infrastructure".

Planning Policy Statement 6, (PPS6) section 2.19, (Promoting High Quality Design and making Efficient Use of Land) states "it is essential that town centres provide a high-quality and safe environment if they are to remain safe and attractive. Well designed public space and buildings which are fit for purpose, comfortable, safe, attractive, accessible and durable, are key elements which can improve the health, vitality and economic potential of a town centre".

The aim of this Planning Advice Note

The aim of this planning advice note is to provide guidance for planners, developers and architects to assist them to design and develop new and existing communities where crime prevention and public safety are recognised as a fundamental part in achieving sustainable communities. The advice contained within this document is important guidance and it should be noted that Local Development Framework (LDF) section BC5 (Crime Prevention) requires applicants to detail the measures they will be implementing relating to the principles and practices of Secured by Design (SBD). Applicants do not have to follow the advice contained in this document to be granted planning permission but the decision whether to approve planning applications may be judged on their impact into public safety and crime reduction. Secure buildings and greater public safety do not have to compromise the architecture of a development and it is hoped that greater security and public safety can be designed in so that architects, developers and contractors can strive to achieve design awards and also Secured by Design for their schemes. How the principles are applied in a practical sense will be dependent on site specific applications and the levels and types of crime experienced in a particular area or neighbourhood.

Key Objectives of the document are to:

- Provide planning guidance that enables security issues to be considered at all stages of the design process (pre-application to full planning application):

- Assist developers to adopt designs for new developments that take security of people and property into account:

- Assist individuals responsible for the planning and design of the external environment to make design considerations about safety and security matters:

- Promote and encourage good quality design in all developments:

Design Principles for Community Safety and Crime Reduction

- Building design should deter criminal and anti-social activity
- Buildings, signs and public spaces should be designed to minimise the opportunities for vandalism and graffiti
- Public and private spaces should have clearly defined boundaries
- Opportunities for natural surveillance to reduce incidents of criminal and anti-social behaviour should be maximised
- The number and mix of people using the area should be maximised through a mix of uses and activities
- Security measures should be an integral part of the design
- Footpaths and cycle routes should be designed to encourage maximum use and prevent opportunities for potential offenders to ambush their victims.
- Landscape design should prevent opportunities for concealment and access to adjacent property
- Lighting should deter criminal and anti-social behaviour while paying due regard to the issues of minimising light pollution

Mixed-use development, especially including residential use, can assist in crime reduction by increasing the number of people living in or using an area which will produce a general feeling of safety. This is particularly important in less inhabited areas, for example, in the town centre. Increasing the number of people in an area will have mutual benefits in terms of safety and security for both residential and non-residential uses provided that the public and private areas are clearly defined. The emphasis on mixed-use development should not however compromise the quality of residential areas close to centres, or result in the inappropriate loss of commercial developments.

The following headings recognise key areas where good design principles can impact on safety and security and these should be taken into account when assessing and designing all types of developments.

- Layout
- Public and private space definition
- Natural surveillance
- Landscape
- Building Design
- Shop Frontages
- Lighting
- CCTV
- Car Parking

Layout

The way development layouts are designed impacts on the way places function positively. The design of key elements such as the arrangement of streets, buildings and public and private open spaces collectively affect the levels of activities, movement and surveillance which impacts on the security and safety of places.

It is important to:

- Provide good visibility along all thoroughfares but particularly paths and cycle routes.

- Provide generous width of footpaths (not less than 2 metres wide) and provide space on either side of the path, they should be direct and well lit.

- Ensure natural surveillance from neighbouring properties

- Routes need to be positioned away from the rear access of buildings, as this will provide escape routes for criminals.

- Cul-de-sac design should be a simple linear form so that good mutual surveillance from other homes is easy, preferably with sight lines from nearby streets.

- Existing well used and essential footpaths and public rights of way will help to maintain direct access for existing residents and users and should be preserved and designed into layouts at an early stage.

Avoid creating long routes that increase segregation or create a link between cul-de-sacs. This type of route often creates opportunity for crime to be committed by reducing the levels of intrusive surveillance that could repel those intent on criminal activity or its existence could provide an escape road for an offender.

Avoid long detours on foot with no natural surveillance as these will reduce the presence of people in the streets making places less hospitable and safe. People will naturally choose the more direct route and the longer route will be under used, potentially resulting in criminal and anti-social activity.

Public and Private Space

All buildings should be arranged to create a clear distinction between areas that are public and private.

As a general rule, as the degree of influence exercised by an individual over an area increases the more private it becomes. Four types of space are recognised:

- Private – under the total control of the occupant and not visually or physically accessible to the public e.g. a rear garden
- Semi-Private – under the control of the occupant but visually or physically accessible to the public e.g. the front garden of a house.
- Semi-Public– under the control of, or within the area of responsibility of, a specific group of occupants and accessible to the public e.g. communal parking area.
- Public – where the general public has access by right e.g. public open space, roads, footpaths.

There are significant benefits in terms of crime reduction in creating private and semi-private spaces where occupants feel they have a sense of control. Spaces that are unclear as to boundaries, ownership and responsibility are more likely to be prone to criminal activity and vandalism. Therefore, creating clearly defined boundaries between public and private spaces can assist in reducing criminal and anti-social behaviour. Similarly, good design which supports community interaction will help to deny criminals anonymity if strangers are likely to be readily recognised.

Fig1

Fig1 illustrates that where buildings abut directly onto public space and are not protected by any defensible space they can be targeted by criminal activity. This has forced the owners to cover the windows with a protective metal mesh to restrict deliberate damage. The mesh can look oppressive and can raise the fear of crime within the local community.

Wherever possible development blocks should be designed to enclose (internally) essential private activity whilst providing a clear interactive frontage to public routes.

- Backyards, rear gardens or inner courtyards that are private or communally shared are best enclosed by the backs of the buildings.

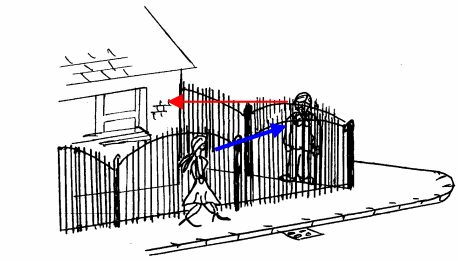
- Rear gardens should be strongly private areas as should private vehicle parking arrangements.

- Boundary treatments should convey a positive image through the quality of materials and design but provide satisfactory security.

- Good quality, attractive boundary treatment and gated entrances should give the impression of a safer and more private location increasing the potential for offenders to feel more vulnerable.

- Allow for transparency of enclosures to enable views into and out of a site and also through a site to reduce blind corners and the opportunity for offenders to ambush victims or accidental collisions.

Fig2



Avoid rear gardens backing on to side roads, service roads and footpaths. Offenders can target properties for potential burglaries from here with anonymity and escape quickly and easily.

Boundary Treatment

Boundaries should be clearly defined by using physical barriers including building lines, walls, fences and gates, which prevent unhindered access and easy escape routes. Where it is not possible to use physical barriers, the design should suggest a change in ownership, for example, through a change in road surface or a narrowed entrance. Anyone crossing such a 'boundary' should know instinctively that they are moving from a public into a semi-private or private area and need to have a good reason for being there.

The correct boundary treatment is an important element of defensible space. It is important that the intended treatment is robust, devoid of climbing aids, allows good through vision and is compatible with any intended Closed Circuit Television (CCTV) system. Solid structures will provide privacy, but what is private for the owner / occupier is also private for potential thieves and allows them anonymity. There is no opportunity for casual surveillance from neighbouring businesses or passers by as well as restricting the correct functioning of more formal surveillance methods such as CCTV and security patrols. A solid structure can also provide a canvas for Graffiti artists (see Fig3) and are often easier to climb.

Fig3

Avoid concrete panel fences. Concrete panels can be easily lifted away from the posts for unlawful ingress (see Fig4). Where the concrete panels connect can form a grooved surface, which creates the potential for easy climbing access.

Fig4

Some types of fencing can appear militaristic and oppressive and appear like a solid metal wall when viewed at oblique angles, which could create the opportunity for offenders to move around inside a boundary and avoid being detected. The inset photo illustrates a security guard who was behind the fence and obscured from view in the main photograph.

If CCTV is to be used, the main picture could represent the quality and the associated problems with the recorded images.

Fig5

Welded mesh provides good through vision at all angles and does not look oppressive, but care should be taken to fix the fence securely to the posts. Full length brackets illustrated in Fig6 can provide a secure fixing. Small retaining clips positioned at pre-determined intervals can be targeted by offenders as these are often easily damaged.

Fig6

Fig7

Open metal railings are often an appropriate form of boundary protection. It is important that they are climb resistant and high enough to restrict access by an offender. Open metal railings are particularly suitable around children's play areas as they allow good through vision but do not look oppressive. As a general rule the railings should be not less than 1.5 metres high, anything less allows an offender to simply step over it or reach over it and damage the adjacent property or even grab a child from within a play area.

Fig8

Fig8 illustrates how good quality open metal railings can be used to define an area of semi-private space in front of a residential development.

Close boarded fencing is often the preferred option for the demarcation of residential private space but there may be circumstances where more open fencing is required to allow for greater surveillance. The height of the fencing around vulnerable areas such as the side and rear gardens should be not less than 1.8 metres high. It may also be appropriate to top the fencing with good quality trellis where the property adjoins open land, footpaths, cycle routes and other public space. The trellis will help deter climbing and allow a degree of surveillance through it. Trellis can also be made more secure by using it as a frame work to carry deterrent planting.

Avoid boundaries that obscure views and hinder surveillance of the street and public places.

Avoid low-level fencing (Fig9) to define areas of semi private or private space. These features can be easily stepped over or damaged and subsequently serve no useful purpose. They may also create a seat on which offenders may congregate and cause anti-social behaviour.

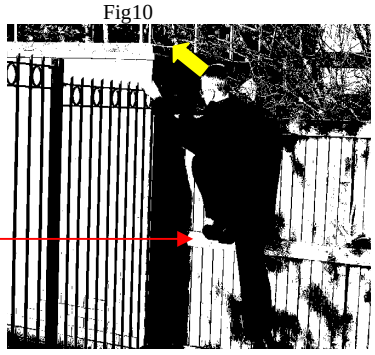
Fig9

Avoid negative design features such as razor or barbed wire. Aggressive and defensive security measures are capable of affecting the perception of an area and could influence future investment.

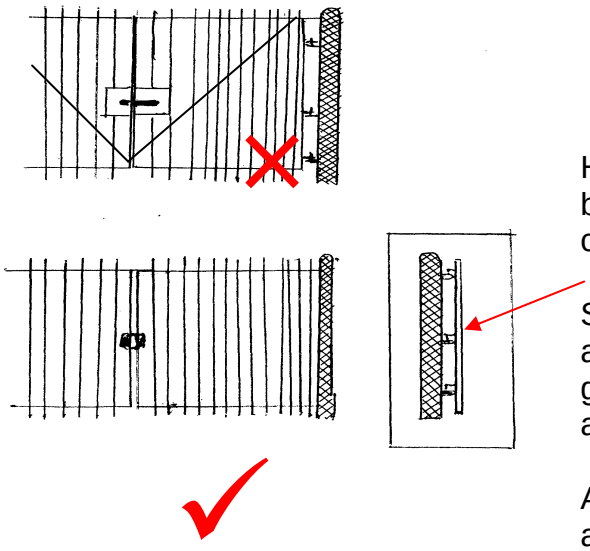
Care should be taken where boundary fences meet to avoid creating a climbing aid which may result in creating easy access for an offender.

The arris rails (supporting structure) on close boarded fencing should face the private space to restrict unlawful access.

Fig10



Care should be taken to avoid creating climbing aids within the gates where hinges, locks and supporting structures can provide foot holds and create a ladder for offenders to climb.



Hinges should be located behind the gate post to restrict climbing.

Supporting structure should be along the top and bottom of the gates and sufficiently far enough apart to restrict climbing.

Avoid creating a foot hold around the lock or locking mechanism.

Natural Surveillance

Safety of the street and security of dwellings can be improved by providing surveillance opportunities both to and from the street.

- Ensure maximum surveillance through out the day by providing a mixture of house types on new developments which cater for all age ranges within the community. If all residents are of a similar age and are at their place of work, there is little chance of an offender being detected.

- Ensure that design solutions for corner sites maintain natural surveillance and this could influence defensive planting and the choice of plants used.

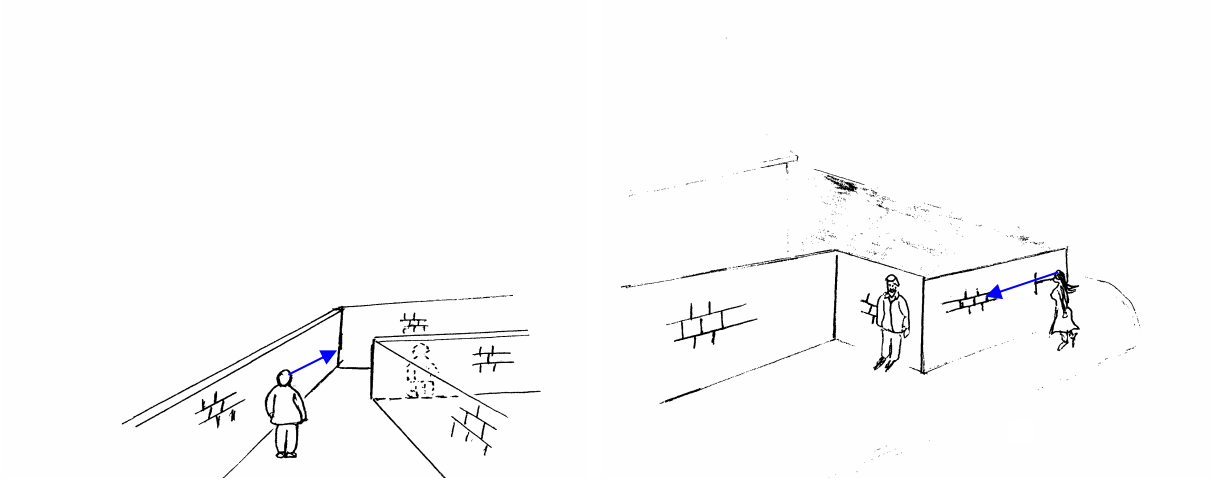
- Dwellings should have at least one habitable room, (not a bedroom or bathroom), facing the street at ground floor level. This enables residents to see visitors and tradesmen and control access to their properties and also gives opportunity for surveillance of the adjacent street or public space.

- Boundary treatment and landscaping should provide sufficient privacy but not obstruct views to the street. As a general guide bushes should be maintained below 1m in height and species of trees used which exhibit bare narrow trunks. Where other species of tree are desired, the canopy should be removed below 2m above ground level.

- Avoid locating street furniture or signage where it will obscure surveillance opportunities. By ensuring that all areas such as footpaths, open spaces and children's play areas can be viewed from adjoining properties and/or well-used roads, footpaths and cycle paths, criminals will feel vulnerable to detection and anti-social behaviour is discouraged. The greater the levels of public use of spaces and footpaths, the greater the level of surveillance achieved. Good lighting schemes can extend the effectiveness of natural observation beyond daylight hours

- Avoid creating blank gable facades, these will allow no surveillance opportunities and often become victim to graffiti.

Fig11 Fig12



Avoid sharp angular corners around solid structures where surveillance is limited and offenders may hide and ambush their victims.

Landscape Design

Landscape design plays an important part in creating an attractive environment that reinforces identity and enjoyment of a place

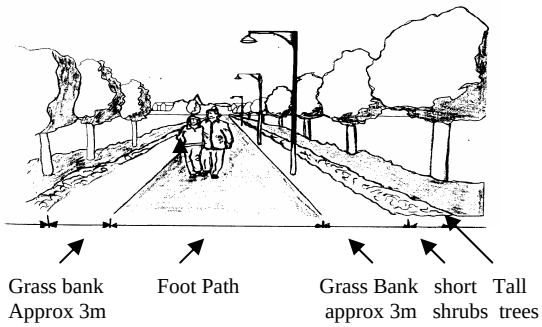
Inadequate landscape design proposals can compromise the safety and security of people and properties. The way trees and shrubs are poorly positioned and species inappropriately chosen and maintained can reduce visibility and create ambush places.

Good landscape design can contribute to the creation of a high quality environment, but the choice and position of planting is also important so that opportunities are not created for concealment or to provide easy access to buildings. The inappropriate location and species of trees can also obscure streetlights and hide views from CCTV cameras. Appropriate planting such as thorny shrubs, can actively deter crime by creating physical barriers between public areas and private areas that may be vulnerable to crime including domestic gardens. It is important that an appropriate balance is achieved between crime prevention and providing a high quality environment.

Landscape schemes need to consider the following criteria for external spaces to ensure better security.

Fig13

- Reduce potential hiding and ambush places.
- Design out overgrown shrubs and other thick barriers that are in close proximity to public footpaths, these may become ambush places for offenders.
- Grading vegetation along path boundaries so that there are small ground hugging plants adjacent to the path which then progressively get taller and denser over distance from the walkway will allow better surveillance opportunities for the users.
- Provide clear sight lines.



- Plant thorny or spiny shrub species in front of all vulnerable boundaries and buildings. This can assist in reducing graffiti and unlawful access to properties.
- Boundaries between public and private spaces should be clearly defined to deter casual intrusion.
- Design communal facilities so that nearby dwellings can provide supervision around them.

Trees in public spaces such as streets, parks and open spaces should not have any foliage below 2 metres above the ground. Bushes should be maintained below 1 metre in height, this will maintain a good field of vision

Fig14

Fig14 illustrates how the public have good clear views along the path and cycle route and also of the cycles and users of the cycle parking area.

Fig15 illustrates how inappropriate planting can remove surveillance opportunities.

Fig15

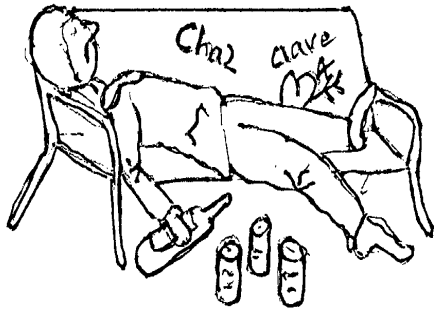
- The height of the plants in the front gardens restricts surveillance over the footpath and adjacent street from the ground floor windows within the houses.
- The planting around the base of the tree creates a place for an offender to hide behind and ambush a potential victim and negates the advantages of a wide footpath.

Avoid planting trees in locations where they may become climbing aids to properties or obscure surveillance from windows and doors.

Avoid private rear boundaries backing onto a public open spaces or parks. Offenders can target potential burglaries from here with anonymity and escape quickly and easily.

Fig 16

Avoid the inappropriate use of seats; these may be used by offenders for in-appropriate activity. Seats should include arm rests at regular intervals to restrict the opportunity for offenders to lay along them, or be designed to a shape/style that will restrict people laying on them. It is recommended that solid structures should be avoided to restrict the opportunity for graffiti.



Avoid locating seats close to buildings or boundary treatment where they may provide a climbing aid to assist offenders to gain entry to adjacent property.

Building Design

The design of a building, the space around it and the type of property boundary can significantly contribute towards crime prevention. The opportunity to increase natural surveillance should be taken when deciding on the number and position of windows, although a balance may need to be struck between the extent of the surveillance and any loss of privacy. Design features that might assist entry to the property such as street furniture, ornamental designs or flat roofed extensions which may allow a wall to be climbed or provide access to an upper window should be avoided.

Particular attention needs to be given to security measures in the design of development that is likely to be the target of criminal activity. In such cases, an increase in security may be appropriate including fencing, lighting and other devices to build a resistance to crime. This is an integral part of crime prevention through design but care needs to be taken not to create a hostile environment.

The design of housing layouts can make a significant contribution to the prevention of crime and reducing the fear of crime as well as deterring anti-social behaviour. Most crime in residential areas is opportunistic including burglary, theft, vandalism, and car-related crime. In designing new housing layouts developers are expected to take account of the following:

Dwellings should be sited in small clusters to encourage social interaction.

- A variety of dwelling types and sizes, including those suitable for retired people, should be provided within each cluster to facilitate natural surveillance.

- In all developments use doors and door sets tested to at least PAS 24 security standards. This is a minimal standard and high risk developments may require a higher standard.

- Windows should be tested to BS 7950 and use laminated glass in the outer pane for all ground floor and accessible windows.

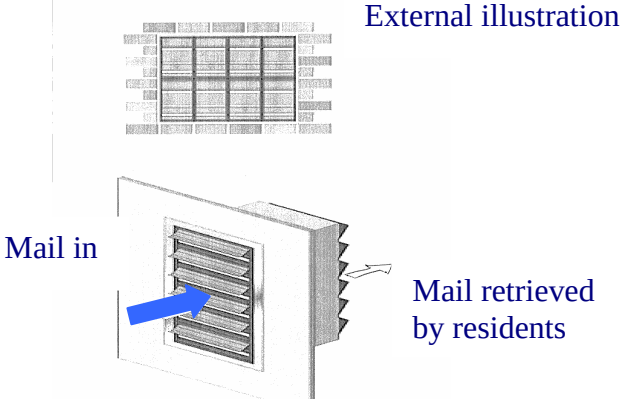
- Individual developments should be positioned to give surveillance into and across the public roads. This allows occupiers of buildings on both sides of the road to observe movement within the area and look after each others interests.

- Existing well-used footpath routes should be retained as part of new housing to integrate the development with established communities and to encourage pedestrian movement. Additional footpaths should be restricted to as few as possible. Unnecessary footpaths should be excluded, these might be used to gain unobserved access to properties and provide a means of escape for offenders. Where footpaths and cycle routes have to be located directly along the rear of residential properties, suitable physical barriers, such as quickly established thorny shrubs should be provided to supplement walls and fences to prevent access to rear gardens. Steps may need to be taken to ensure that litter caught in the planting does not blemish the area and potentially increase the perception of crime.

- Utility meters should be located outside the venue within the front garden area. This removes the need for the utility companies to enter the venues and reduces the opportunity for burglary relating to bogus officials. The letter plate (the aperture within a door) should be located at least 400mm away from any locks to stop access to the locking system through the aperture. Front entrances must be well lit externally.

- Where the development consists of residential apartments, letter boxes (a depository for mail delivery) should be incorporated into an external wall adjacent to the main entrance. There must be a system of retrieving the mail from inside the venue but no requirement for the post office to enter the development to deliver it. Utility meters should be located outside the venue or within a controlled sterile entrance area.

Fig17



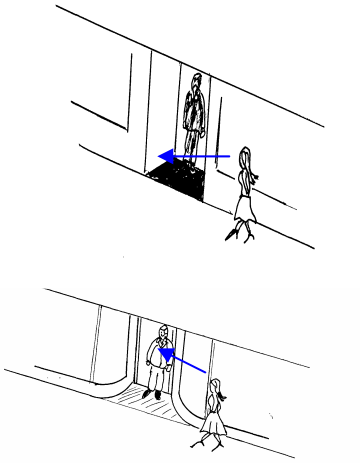
- Avoid creating several rear pedestrian accesses to properties. (*Please note:* Care should be taken to avoid the design conflicting with the requirements of fire regulations). If this is necessary then a lockable and climb resistant gate should be provided and either keys held by individual residents or a suitable tamper proof internal emergency release should be fitted.

- Avoid designing recessed areas such as doorways abutting the public domain or sharp angular corners where offender can hide and ambush their victims, see Fig18.

Fig18

- If recessed doorways are essential, splayed or rounded corners combined with the minimal necessary recess can increase visibility. Surveillance opportunities can be enhanced by extending windows around the corners into the reassessed area, see Fig19.

Fig19



- Avoid locating bedrooms and bathrooms on the ground floor with windows abutting public and semi public areas. These windows may offer a place of entry during hot summer weather if occupiers need to sleep with a window open or cause the occupier to be observed by the public.

- Fire exits are frequently abused for the purposes of:

  - Smoke breaks
  - An exit for a short cut
  - Additional ventilation by wedging open the door
  - Unlawful ingress and egress

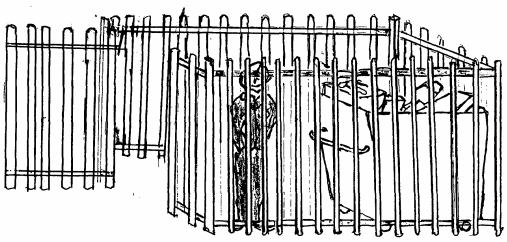
  Single action push bar mechanisms are open to abuse, simply because there is no control over its primary use. This is a relaxed method of security which can inadvertently compromise the security of the building, by allowing the opportunity for thieves and dishonest employees a method of unchallenged ingress and egress. Break glass detector or a similar device should be used and not a push bar. All external fire doors should operate an alarm when opened which should be independent of the intruder alarm and transmit a signal directly to the reception / security. Appropriate signage should be displayed stating that the doors are strictly fire exits only. Emergency escape doors and frames should be manufactured from steel and be manufactured without visible external ironmongery.

Bin Stores

Un-wanted rubbish can provide ammunition for an offender to use to either damage or gain entry to buildings or property. Where rubbish is allowed to build up close to buildings or boundary treatments it can also provide a climbing frame which offenders could use to access an area.

- Where a site consists of multi-occupancy buildings or commercial properties, rubbish should be stored in dedicated bin stores. The bin stores should either be an integral part of the building or a purpose built compound located a minimum of 2 metres away from both the building and boundary treatment. The purpose of the gap is to restrict the rubbish or the structure of the bin store creating a climbing frame and also reduce the opportunity for arson attacks.

Fig 20



- The design of external bin stores should be as open as possible to allow for surveillance of the users or possible intruders and also provide ventilation.

- It is recommended that either open metal railings or separated panels are used with sufficient spacing to allow surveillance through them, vertical railings can restrict climbing access see *Fig 20*. Any supporting structure/frame work should be located as close to the bottom and top of the structure as possible to further restrict climbing.

- Avoid putting a roof on external bin stores as this can create a potential shelter for offenders to use to commit crime or anti-social behaviour.

- In developments where a bin store is incorporated within the development design as a dedicated internal room, care must be taken to avoid the bin store creating a “short cut” into the building which could be used to bypass the main entrance and security. For ease of collection an external access will generally be required and in many cases this access may also be appropriate for the users to deposit the rubbish. If an internal access to the bin store is also required it is recommended that this access should be from a secure foyer area within the main entrance to the building.

Cycle Parking

Cycle use is increasing in popularity and if there is a desire to actively encourage cycling as a method of transport, it is important that there are not only well designed cycle routes but also safe and secure cycle parking facilities. A bicycle is stolen every 71 seconds in England as nearly 440,000 were reported stolen in 2006.

Source: Halifax Home Insurance.

In order to truly encourage cycle use, individual storage provision must be made for bicycles. Riders of expensive machines, with easily removable accessories, will be reluctant to leave their machines in a communal shelter. The majority of today's society rotates more and more upon the convenience of things in order to make use of them, this is human nature; hence we have 'desire' lines where pathways ought to be. If the flat owner/occupier has the inclination to cycle, their cycles are highly likely end up being stored either within the flat itself, within the communal entrances or nearby to the flats outside in spite of any central provision for cycles and management policies. This is likely to lead to unnecessary and unsightly clutter about the development and could hinder escape in the event of an emergency such as a fire.

Fig 21

- Where many cycles are stored together, this can result in a jumbled mess where offenders can target valuable cycles, or damaged cycles can be left unwanted raising the fear and the perception of crime.

- Large communal facilities could become an additional store room used for general storage. Many areas are busy removing old pram sheds from older estates because of abuse. Cycle parking spaces allocated to individual dwellings is the ideal. Where a development consists of apartments, cycle parking should be allocated for no more than fifteen flats for a parking area. This will encourage the residents to recognise the other users of the facility and also recognise potential intruders or offenders. It may be necessary to have more than one parking area within a development.

- It is preferable that cycle parking should be incorporated within the development design as a dedicated internal room or rooms, care must be taken to avoid the parking creating a “short cut” into the building which could be used to bypass the main entrance and security. One point of entry to the parking area from a private/residents only part of the development is recommended.

- Avoid having both an internal and external access to the parking which could be used to bypass the main entrance and security creating the opportunity for offenders to target the cycles and also the development.

- Avoid external cycle storage for residential developments, nationally 51% of cycles that are stolen are taken from gardens and garden sheds (Source: Halifax Home Insurance) and within Barking and Dagenham this figure increases to 83%. If there is no alternative other than to include external storage, the cycle parking must be located with in a secure private area which is afforded maximum surveillance opportunities over it by the residents. The parking facility should be enclosed and include a good quality secure door.

Fig22

Fig22 illustrates an enclosed design of cycle shelter where it is possible to secure the cycles but also allows surveillance into and out of the compound. In the event that an offender gains access to the compound they can be seen while inside targeting the cycles.

- In public areas where cycles are parked for short periods of time while the owners are nearby, the cycle parking should be located in a prominent position to maximise the natural surveillance within the adjacent street and buildings. In these circumstances the cycle parking should be as open as possible to maximise the natural surveillance opportunities.

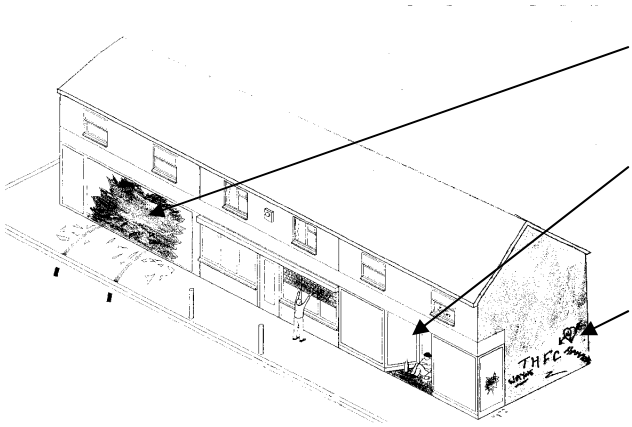
Fig23

Fig23 illustrates a tubular steel cycle stand, this type of stand is frequently used in public areas as it offers good surveillance opportunities around it and a cycle can be securely locked to it using a standard bicycle lock or chain. The stand should be mounted securely to the ground and be strong enough to resist a physical attack.

Shop Frontages/Town centres

Town centres in general are lively places during the day but at night become much quieter with little activity allowing greater opportunity for burglary and vandalism to occur.

Fig24



Ram Raiding: locate bollards, planters and other street furniture to reduce the opportunity for ram raiding.

Recessed Doorways: provide shelter and hiding places for offenders.

Graffiti: maximise natural surveillance opportunities include first floor windows in gable ends. Climbing plants producing spiteful heavy cover can be used against blank walls/boundaries to reduce graffiti.

The key to reducing theft, vandalism, burglary and anti-social behaviour that is often associated with shopping centres is to achieve greater pedestrian activity, especially by increasing the use of the centres in the evening and by discouraging the creation of dead and hostile street frontages. This may be achieved through:

- Entrances and shop frontages should be well lit.
- All shutters whether internal or external should be as transparent as possible and should incorporate large round punch holes or be of a lattice design to optimise visibility both ways. They should be powder colour coated for durability and better visual affect.
- Consider using alternatives to glass in shop windows, such as poly-carbonates. This type of material can be resistant to damage and reduce the need for shutters, creating a friendlier environment and allowing the potential for window shopping after the shops are closed.
- Remove unnecessary recessed areas and doors.
- Bollards, planters and other street furniture can be used to reduce the opportunity for ram raiding. Care should be taken not to unintentionally create seats on which offenders may congregate and cause anti-social behaviour. For example, 1.5 metre high bollards with rounded tops are less likely to become a seat than a 1 metre high flat topped bollard.

Mixed use solutions can help to increase the presence of people in the streets. Combining a mix of activities and higher densities will increase the presence of people.

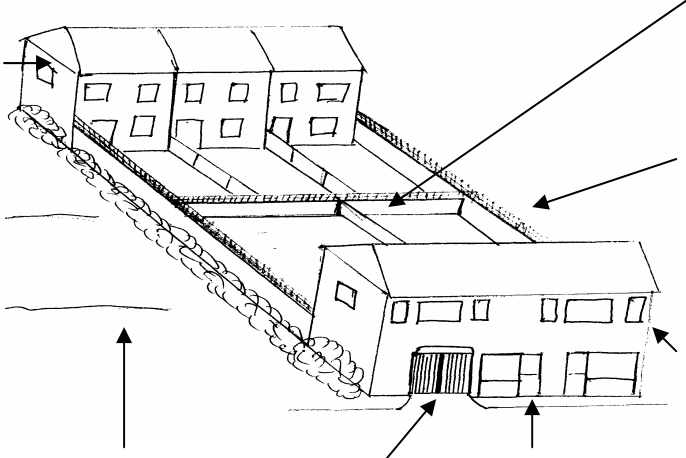
- Mixed use developments should be located close to the nearby shops and other amenities to encourage interaction between the users and facilities.

- Provide separate entrances for private and commercial activities within individual developments into the public street.

- Living rooms of residential upper floors should face the public street to increase natural surveillance. Where there is private rear access, a proportion of active rooms should face the back of the premises to increase natural surveillance.

- Private rear parking and gardens should have controlled access, giving the impression of a safer and more private location and increasing the potential for offenders to feel more vulnerable.

Fig25



Lighting

The key function of public lighting is to ensure that road users and pedestrians are seen and that their health and safety is not put at risk. The correct application of lighting will deter crime, enhance safety and reduce the perceived fear of crime. In order to achieve the best results, the lighting requirements need to change between uses and in some circumstances they may not be necessary. For lighting to be effective, the exact lighting need must be determined together with the most effective siting of the lamps for each scheme.

Effective lighting should be sensitively applied, providing an even and generous distribution of light with the maximum reduction in shadows. Lighting should conform to BS5489.

The human eye can see objects in light levels between 0.01 lux (the country side at night lit only by the stars), to the brightest day light of 100,000 lux. Problems often occur when people move between areas of brightness and darkness; their eyes take time to adjust to the changing light levels which can facilitate the opportunity for crime to be committed.

Fig26

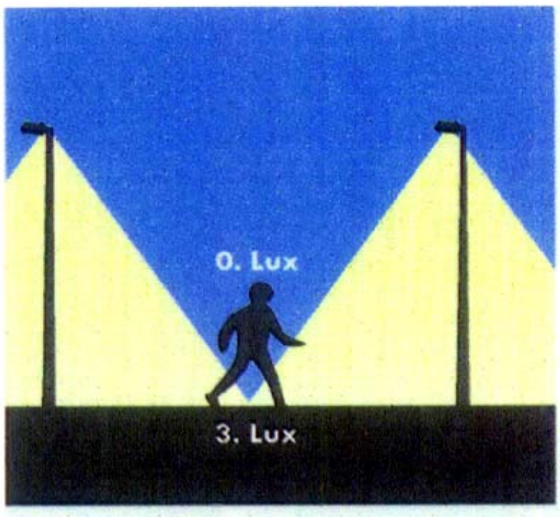


Fig27

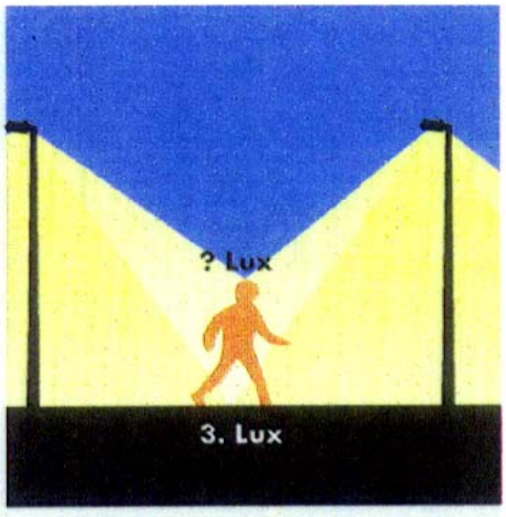


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Fig26 represents inadequate lighting resulting in shadow areas. It may be possible for offenders to hide within the shadows. ***Fig27*** illustrates a good uniform spread of light where the person can clearly see and be seen.

Uniformity and white light are both features of natural day light in which the human eye functions best. The standard BS5489 provides advice and minimum standards.

Fig28

Metal Halide lamps provide good quality colour recognition. The light produced is a white light which is reminiscent of day light. The adjacent photograph illustrates the advantages of Metal Halide lighting as the colours of the parked cars are clearly evident.

Metal Halide lighting is more expensive than low pressure sodium lighting and has a shorter life but the quality of light for the users of an area may help to reduce the disadvantages.

Metal Halide lighting may be especially appropriate in areas requiring a higher level of security or where there is a perceived crime risk. The good quality colour recognition not only makes people feel safer but it provides greater evidential value when used in conjunction with closed circuit television (CCTV) systems.

- Types and style of lighting need to be considered for different situations.

- Lighting should be mounted on smooth substantial columns that are difficult to climb. The columns should be protected at their base to avoid deliberate or accidental damage.

- All external doorways should be lit by luminaires that are mounted out of easy reach and secured to the fabric of the building, using clutch head screws. Sufficient provision must be made to protect against vandalism.

- Bulkhead lighting can be controlled by photo-electric cell, a time switch or passive infra red detector. The use of low consumption lamps is recommended with units positioned to reduce glare, light pollution and possible attack. Good appropriate lighting will deter offenders.

- Low-level lighting (bollard style) should be avoided, as it is particularly prone to deliberate or accidental damage.

Although it is important to avoid creating pools of darkness, care should be taken to ensure that the impact of light spillage or light pollution is kept to a minimum. In particular, it should not detract from the street scene; cause a problem for residents or a have a harmful effect on the character of the more rural parts of the Borough.

Closed Circuit Television Systems (CCTV)

CCTV has a place in the monitoring and prevention of crime in town centres, car parks and sensitive areas where crime rates are high. CCTV should be used as an integrated approach in crime prevention along with other design measures.

Where CCTV is used within a development it should include a recording ability. Colour systems must be used and consideration must be given to the balance and compatibility of CCTV, lighting and landscaping.

Specific crime risks and the type of location will influence the choice of camera type. A traditional camera design enables people to see that they are being monitored and these are useful in areas such as shop entrances where people entering know immediately they are being monitored. An offender is also able to observe the area monitored and to conduct their activity away from view. Dome cameras offer an additional deterrent value, as offenders are not able to distinguish the area being monitored and consequently, there is a greater element of risk for the offender.

Cameras should be of a vandal resistant construction and be sighted in locations where they can monitor each other and not be interfered with.

Residential Parking

- Private parking should be in close proximity of dwellings.
- Residents should have un-restricted views over their vehicles.
- Garages or parking located at the rear of properties should have controlled access via a private gate for safety and security. The perimeter of the car park should be secure to prevent unauthorised intrusion.
- Parking courts should have residences abutting the court with habitable rooms providing surveillance over the parking area.
- Any artificial illumination should where possible, provide high colour recognition.
- Car parks should be designed to reduce opportunities for inappropriate use such as easy and quick escape routes for offenders.

Car Parking Facilities

Car parking areas are vulnerable to theft from and of cars. The fear of other crimes including muggings and physical assault within car parks and on footpaths leading to car parks is common amongst vulnerable sections of the community, including the disabled, women and the elderly. Good design, management and maintenance of car parks go hand in hand. In order to create facilities where people feel safe and secure account should be taken of:

- Car parks should be designed to reduce opportunities for inappropriate use such as easy and quick escape routes for offenders.

- Car parks should lead directly to the street or main entrance of a building served by a car park.

- Where there is open access at ground level consideration should be given to securing the perimeter of the car park to prevent unauthorised intrusion.

- Surveillance should be maximised by nearby buildings and is essential in areas where the car park is used more frequently at night.

- The presence of a member of staff at or visiting a parking facility offers a valuable form of surveillance. Where a member of staff is permanently located at a parking facility consideration should be given to their personal safety. They must be able to secure their immediate area of operation/office using robust methods of construction including suitable windows, doors and locks. A suitable audible or panic alarm should also be considered.

- Pedestrian areas should be clearly defined and visual markers used to direct users and increase ease of movement.

- Parking bays, paths and circulation routes should be well lit and signage clearly visible.

- Any artificial illumination should where possible, provide high colour recognition.

Avoid dead ends, blind corners and solid walls that reduce visibility, or locating footpaths close to high walls or densely landscaped areas.

Landscape planting should not obscure views, cars or create potential hiding places.

The Safer Parking Scheme is an initiative owned by the Association of Chief Police Officers (ACPO). The aim of the scheme is to reduce crime and the fear of crime within parking facilities and to provide car parking where users can instantly recognise that the parking facility has been designed to be as crime resistant as possible.

A range of parking facilities are covered by the scheme which include cars, Caravans, Lorries, Buses, Coaches, Cycles and Motorbikes

The British Parking Association (BPA) manages the scheme on behalf of ACPO. This involves:

- Administering the scheme
- Employing the Development Managers who work along side the Police and help operators bring their sites up to Safer Parking Scheme standards ready for Assessment.
- Working with ACPO, the Home Office, to continually develop, improve and promote the scheme.

Secured by Design (SBD)

Secured by Design (SBD) - the security of developments and their design should meet the principles of the Police initiative "Secured by Design". Developers are encouraged to initiate Secured by Design (SBD) approval prior to a planning application being submitted.

Improving security to individual dwellings is an important part of achieving social sustainability for residents within developments. The aim of SBD is to encourage architects, surveyors, developers and builders to adopt sensible crime prevention measures in all property refurbishment and new developments. The Crime Prevention Design Advisor (CPDA) should be consulted during the initial planning phase, they will be aware of any local security issues that are not covered in general SBD guidance. More detailed advice can be found on the Secured by Design web site www.securedbydesign.com.

The Association of British Insurers (ABI) has recently published a detailed survey relating to the cost of impementing SBD and the potential savings that can be made from the scheme for house owners/occupiers. The research states “The average cost of SBD target hardening is £630 per home and The average cost of a burglary claim is £1,040, almost identical to the £1,033 average cost of property stolen and damaged during burglaries as reported by the Home Office. The analysis takes account of different types of newly built homes, including detached and terraced housing, and apartments, each of which require a different number and type of security features. The schedule of additions for security measures are drawn from SBD and include security for doors and windows, lighting, intruder alarm spurs and CCTV entry systems (the latter for apartment buildings only). Windows are specified to meet Part L requirements for insulation.”

The findings are based on an annual household benefit from SBD measures at a 50% reduction in burglary rate. Case studies were conducted in West Yorkshire, Glasgow and Gwent and the average reduction of crime for the three studies was taken to be 50%.

Reported crime rates on two West Yorkshire estates reduced by 67% and 54% post SBD refurbishment. New-build estates reported 6% fewer crime events per home as compared to non-SBD estates and burglary offences were twice as high within the non-SBD sample.

Source: Home Office, An Evaluation of Secured by Design in West Yorkshire, 2000.

Glasgow Housing Association's action of installing SBD 11,500 doors and 7,500 windows into homes reaped significant benefits. Homes with SBD showed a 75% reduction in burglary and, in those areas where SBD was installed (where not all houses were fitted with SBD doors and windows), burglary reduced by 63% as compared to an increase of 6% in non-SBD areas. In the evaluation sample area no burglar accessed a property via a door, highlighting the effect of target hardening.

Source: Glasgow Housing Association: Evaluation of Secured by Design Installations in GHA Communities, 2005.

A two-year study by Gwent Police into recorded crime data in areas covered by six housing associations provided details on 9,173 properties in Gwent (representing 4% of the total housing stock). 81.7% of the properties were non-SBD and 18.3% were SBD. Cross referencing these properties with recorded crime data revealed that SBD properties suffered at least 40% less burglaries and vehicle-related crime and 25% less criminal damage than the non-SBD properties.

Source: Brown, Jon, An Evaluation of the Secured by Design Initiative in Gwent, South Wales , 1999 (unpublished).

All new developments can be entered for the Secured by Design award and these include commercial property, schools, hospitals and dwellings.

Checklist

- ☐ Pre-planning application with Barking and Dagenham Development control
- ☐ Pre-planning application with the Crime Prevention Design Advisor
- ☐ Defined entrance using real or symbolic barriers, these may include changes in road surface colour and texture.
- ☐ All access routes are designed to be well used with good natural surveillance.
- ☐ Single well defined entrance into development
- ☐ Footpaths and cycle routes are located away from the rear accesses to buildings
- ☐ Surveillance opportunities are included within end plots such as windows at first floor level within the gable ends or wrapping end houses around the corner.
- ☐ Active frontages – dwellings face and over look public spaces
- ☐ Uncomplicated building shape to provide clear sight lines, remove hiding places and maximise natural surveillance
- ☐ Unobstructed views of neighbouring properties to create reciprocal natural surveillance.
- ☐ Care taken to identify and remove potential climbing aids which may compromise development security, such as low level flat roofs below windows, trees planted adjacent to walls or in-appropriate boundary treatment.
- ☐ Clearly defined boundaries create defensible space where residents are provided with a semi private front space and a private securable rear area.

- [ ] Side access has been protected with lockable gates with a minimal height of 1.8m and as close to the front building line as possible.

- [ ] Meters in multi occupational dwellings located externally within a semi public space or within a sterile area within the ground floor to restrict casual intrusion into the building.

- [ ] Letterboxes in multi occupational dwellings located externally within a semi public space or within a sterile area within the ground floor to restrict casual intrusion into the building.

- [ ] Subject to Fire Safety Regulations, fire escape doors to be alarmed and fitted with anti tamper devices

- [ ] Street lighting conforms to BS5489

- [ ] Lighting Functions correctly and is not obscured by trees

- [ ] Lighting is designed to achieve a high level of uniformity avoiding pools of darkness or glare.

- [ ] Lighting columns can not be used as a climbing aid to adjacent premises.

- [ ] Lighting is provided for external doors, common areas and vulnerable areas.

- [ ] Defensive planting (spiteful Shrubs) are used to protect vulnerable boundaries and buildings to restrict unlawful access.

- [ ] Climbing plants producing spiteful heavy cover have been used against blank walls/boundaries to reduce graffiti.

- [ ] Landscape provides clear sight lines and avoids the creation of hiding places.

- [ ] Surveillance from doors, windows and CCTV is not compromised by trees and bushes.

- [ ] Trees are not sited where they can be used as a climbing aid.

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