



PLANNING URBAN DESIGN AND MANAGEMENT FOR CRIME PREVENTION

HANDBOOK



**POLITECNICO
DI MILANO**

DiAP
Laboratorio Qualità Urbana e Sicurezza

with



Servizio Politiche per la sicurezza e la polizia locale
Servizio Riqualificazione Urbana



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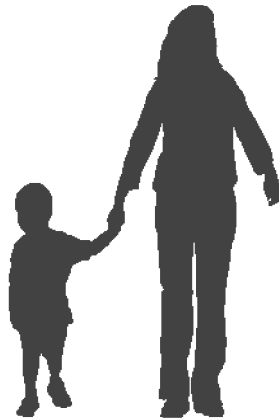
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PREFACE

A social call for safer cities and urban spaces is nowadays clearly voiced. Such a demand concerns directly all those who are responsible for urban development projects.

Now, a close look reveals that the principles governing the layout, functionality and management of the spaces that determine a project's urban quality are close to those that contribute to the safety of such spaces, as well as to their users' feeling of safety.

That is why security may become an accepted goal of urban development projects. Concern about urban safety converges with the preoccupation for sustainable development as a condition for the permanence of built spaces and as an element in the quality of urban projects.

The Action Safepolis seeks to guide the work of urban planners and project managers so as to help them take users' security into consideration. Nevertheless, its goal is not to recommend normatively particular urban forms, but, rather, to foster an understanding of how the forms to be chosen will have a positive or negative impact on safety. The goal of this handbook is therefore to elaborate criteria of city planning, urban design and management likely to promote security.

Design, implementation and management are the three stages at which safety must be taken into account. The project manager should create multidisciplinary teams, and bring together designers, future managers, those responsible for safety, inhabitants and users.

Such multidisciplinary work requires a certain organization. Two of the chief measures that might help in the process also represent two of the most pressing concerns.

First, since multidisciplinary work is neither natural nor to be taken for granted, incentives for it should be put in place. That is a major concern of those responsible for urban projects. As examples we may mention institutional processes, such as the French obligation to carry out safety studies at the outset of major urban projects; professional measures, such as the security charts drawn up for a specific project; methodological approaches, such as the work of the European Committee for Standardization, which proposes, rather than prescribes, elements of method and thought to which the Action Safepolis hopes to provide a technical contribution with this handbook.

Finally, and above all, it is necessary to promote the acculturation between security professionals and those responsible for urban development projects. Therein lies the merit of the European approach, which, beyond national cultural references, aims at improving our understanding of the relationship between security and urban planning.

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FOREWORD

The aim of this Handbook on guidelines of crime prevention by urban planning and design is to provide a technical support to practitioners (architects, planners, engineers etc.) and to decision makers in their commitment to make our cities safer.

The Handbook is meant as an explanatory document to Annex D of the Technical Report "Prevention of Crime by Urban Planning" produced by CEN (European Committee of Standardization) in 2007.

Several manuals dealing with environmental safety, published in different languages in Europe and America, provide criteria and design guidelines for crime prevention at the scale of buildings and public spaces; however the documents concerning urban design and especially urban planning are very few.

This Handbook tries to fill this gap, extending crime prevention criteria and guidelines also to the city scale. It therefore deals with both urban design and planning. The other innovation is a section on management.

The guidelines provided by the Handbook refer directly to the items listed in Annex D of the mentioned CEN Technical Report.

Practitioners and decision makers, in applying the guidelines included in this Handbook, should be aware that they have to be adapted to the specific context of the area or project they are dealing with.

This Handbook is the output of a joint work of experts in urban safety from three leading institutions in the field: Laboratorio Qualità urbana e Sicurezza of the Politecnico di Milano, the Mission Etudes Sécurité de l'Institut d'aménagement et d'urbanisme de la région d'Ile-de-France and Servizio Politiche per la sicurezza e la Polizia Locale e Servizio Riqualificazione Urbana of Regione Emilia Romagna. They have carried out together the Action "SAFEPOLIS", of AGIS, co-financed by European Commission funds, as per Contract JLS/2006/AGIS/208.

The content of this Handbook reflects the criteria and working methods of the authors which bear the sole responsibility of the guidelines set forth. The European Commission (Directorate-General Justice, Freedom and Security) is not responsible for any use that may be made of the information contained herein.

THE LINK BETWEEN URBAN PLANNING AND SAFETY

■ THE CONCEPT OF URBAN SAFETY

As it is the case with many urban problems, prevention of crime through urban planning and design in our cities may seem a complex issue because:

- it asks for different know-hows;
- it affects at the same time different services (planning offices, social services, police, maintenance services etc.)
- it implies the coordination of several decision makers (public authorities, private investors etc.).

■ HISTORICAL DEVELOPMENT

■ ENVIRONMENTAL CRIME PREVENTION THEORIES

■ CEN TECHNICAL REPORT: PREVENTION OF CRIME BY URBAN PLANNING

The Technical Report on Prevention of crime by Urban planning issued by CEN, has structured the various aspects of this apparently-complex issue into three types of strategies - planning, design, management – which are the three basic levels at which environmental crime prevention actions can be tackled. This has produced a schematic tool, useful to approach the problem correctly, simplifying the task of practitioners and decision makers.

■ HOW TO USE THIS HANDBOOK

Therefore, in this Handbook, three chapters deal with issues of planning, urban design and management, whereas this first chapter deals, instead, with crime prevention in urban areas in more general terms. It considers the link between urban safety and the environment and the basic theoretical concepts which underlie environmental crime prevention.

It further provides a minimal background for understanding the cultural and institutional steps that have led to the issuing of the Technical Report by CEN. It includes a brief summary of this Report, a list of the "basic principles" on safety shared by practitioners, and specifies the recommended procedure for carrying out safety improvement projects in our cities.

The concept of urban safety

Safety as an element of quality of life

Cities are the places where the effects of globalization – also those related to unsafety, fear of crime and changes in crime occurrence – appear in the clearest way. This fact represents a great challenge for cities, that are now increasingly in search of new ways to tackle these kind of problems.

Cities are places where people meet, where social life is more intense and complex, where culture is produced, where economic development together with technical and scientific changes are more evident. Some cities are well managed and "working well": they provide a good quality of life and a good way of living. Others have all kinds of difficulties: decline of inner cities, pollution of different kinds, social and health problems, high rate of unemployment and also lack of safety.

People are increasingly sensitive to the perception of social risks, including risks related to crime and victimization; in many countries, in the past twenty years, fear of crime seems to have been growing. Local governments have to face these new challenges and policy makers at local level have to tackle unsafety and vandalism and fear of crime with great determination.

Crime and fear of crime can affect the way a city works as well the attractiveness and functioning of some urban areas. When people feel threatened, they alter their life-style and consequently the ways they use the city on a daily basis. Many do not go out in the evening, do not use public transport in the slack hours, avoid underground car parks, do not use public spaces (parks, squares etc.) and shut themselves in armoured flats or gated communities. The more vulnerable sections of the population i.e. older people and women, feel particularly affected. The consequent lack of freedom is for them a heavy burden to bear. Quality of living is highly curtailed.

Local crime problems also make business activities and life in public spaces decline. Therefore, safety affects economic development.

A complex range of factors contribute to insecurity in the city. Economic conditions and social problems are generally considered as the main causes, but safety is also affected by the physical environment. It depends also on the way in which cities are planned, designed and built; the way in which people identify themselves with the environment which they live in, and the way in which urban spaces are looked after and managed. The layout and organisation of urban spaces influence their level of security: they can contribute to making them safer, but they can also contribute to making them more dangerous. A good or bad layout can contribute to making a city more or less safe.

What is meant by "urban safety"?

Research and experience in the field has shown that, when citizens ask for increased safety, they are referring not only to criminal behaviour, but to a number of factors that make the urban environment unsafe; these range from the real risk, to fear and uneasiness. Five main components can be identified:

1. The real risk of becoming the victim of intimidation, aggression or other acts of violence (whether it is with intent to rob or gratuitous violence);
2. Anti-social behaviour due to the breaking of the traditional codes of civil conduct (spitting, urinating in public, aggressive begging etc);
3. The lack of up-keeping of the area: maintenance of parks and public spaces, cleanliness, presence of police on the streets, doormen, repair of street furniture;
4. The feeling of not being safe, as opposed to the real danger, which is often connected to factors such as squalor, lack of easy routes, lack of vitality, poor street lighting etc.;
5. Fear and all factors along with it: fear considered as a subjective feeling, not necessarily linked to risk, but related to wider factors often far away from the specific site which one is afraid of.

Three approaches to urban safety

The policies, which are used today to guarantee environmental safety, stem from three main approaches.

The first approach deals with security, mainly in terms of law enforcement through the use of rules and police ("*law and order*"). Laws regulate people's actions and police forces watch that laws are respected.

The second approach concentrates its efforts on the prevention of crime in social terms. It acts to reduce the conditions of disadvantage and poverty which are often factors generating criminal/antisocial behaviour: unemployment, lack of family, mental problems, isolation.

A third approach concerns environmental prevention and is aimed at "preventing crime from happening". It deals with all those factors in the environment which can somehow affect a criminal act to take place.

In the past, these three approaches were considered as conflicting. Today the opposed positions finally seem to have been overcome. Recent experience shows that the integration of the three approaches is necessary to produce a cumulative effect and to obtain long-term results.

Historical development of environmental crime prevention

CPTED: crime prevention through environmental design

The first study on the relationship between urban environment and safety was written by the anthropologist Jane Jacobs in her famous book "*The Death and Life of great American Cities*" published in 1961.

Jacobs's theories may be summarised in two key concepts: 1) The eye on the street (the presence of activity, of movement, of buildings opening onto the street, of windows overlooking it) is the primary safety factor; 2) Urban safety depends upon territorial identity: a person defends and respects a place which belongs to him.

"The first thing to understand is that the public peace – the sidewalk and the street peace - of cities is not kept primarily by the police, necessary as police are. It is kept primarily by an intricate, almost unconscious, network of voluntary controls and standards among the people themselves, and enforced by the people themselves."

According to Jacobs, spontaneous surveillance of the urban environment by its inhabitants only occurs in a lively city where the streets are used both day and night, in which public spaces are well maintained and inspire confidence and a sense of belonging; a city made up of places that citizens like, that they identify as theirs and that are therefore ready to defend.

Ten years after the publication of Jacobs' book, Oscar Newman, Professor of Architecture at Columbia University, set out to transform her vision of safety in the city into practical tools for design and planning. In 1972 he publishes "*Defensible Space, crime prevention through urban design*". The guidelines for planning and design established by Newman are centred around two main assumptions:

- people defend the territory which they feel belongs to them (concept of territoriality)
- planning and design of urban spaces can reduce crime in space.

Therefore planning and design must conceive urban spaces so that they create and encourage a sense of territory, and be aware of which physical characteristics (such as being open or closed, visible or hidden, light or dark, accessible or inaccessible, public or private) allow or prevent the opportunity for a criminal act.

This new crime prevention approach, which takes the name of CPTED (Crime Prevention Through Environmental Design) is supported in the United States by prestigious institutions such as the Ministry of Justice and the Department for Housing and Urban Development and has produced in the eighties and nineties a series of interesting experiments all over the country.

Beyond CPTED: the "Safe Cities" approach

At the end of the 1980s the traditional CPTED approach is largely revised: new concepts are introduced in the CPTED crime prevention policies; it is the beginning of the so-called "Safe City" approach. The innovation comes from the City of Toronto in Canada, where an important experiment is carried out. The new way of tackling the problem of safety in the urban environment combines the founding principles of CPTED with a broader thinking about the way the city functions and the way citizens use its spaces and facilities.

Attention is not anymore focused on specific areas, but rather on the city as a whole: new spaces become the object of research and intervention, such as public spaces and public transport, that are essential elements for the vitality of the city. More importance is paid to the perception of safety and fear of crime is considered as important as crime itself. Particular care is given to the more vulnerable sections of the population (women, children, older people and minority groups). Crime prevention policies are tailored on them.

Environmental crime prevention in Europe

Europe, with the exception of the British Isles, does not take part in the conception and consolidation of CPTED. Interest in an environmental approach to safety starts only in the 1990s, when the phenomenon of insecurity begins to be felt in the cities of continental Europe.

An early warning that the situation in Europe is changing comes from the Council of Europe, which promotes in 1989 the first European Conference on this subject, "*Strategies locales pour la reduction de l'insécurité en Europe*". Almost ten years later, in 1997, the Congress of Local and Regional Authorities of the Council of Europe states in another large European conference "that crime, fear of crime and urban insecurity in Europe are major problems affecting the public (...) and that finding satisfactory solutions for them is one of the main keys to civic peace and stability".¹

The recognition that safety has become a major problem in European cities is followed by a series of official declarations from the European Institutions which reaffirm that safety is one of the basic rights of every citizen (as healthcare, work, housing etc.). The threat to this right requires strategies which would give it back again to the whole community. Since then the right to safety has been enshrined in many national and local crime reduction programs in Europe.

Among possible strategies "Crime prevention through environmental design" receives official recognition to be an useful and necessary approach. In 2001 the Justice and Home Affairs Council of the European Union agrees on the conclusion of a conference of EU experts stating that "Crime Prevention through Environmental Design (CPTED), or Designing out Crime (DOC), has proven to be a useful, effective, very concrete and feasible strategy to prevent crime and feelings of insecurity, integrated in a multidisciplinary approach. Best practices regarding CPTED/DOC should be collected, evaluated and made accessible for stakeholders. This process should utilise a common framework of concepts and processes, and transferable principles should be identified."²

Following this recommendation, the European Committee for Normalisation (CEN) has set up an international working group to establish criteria on "Crime prevention through Urban Planning and Building Design", to give all countries the opportunity to compare experiences, to orient their action and to harmonise procedures.

The result of this effort is the production of Norms and Technical Reports on "Urban Planning", "Dwellings", "Offices and Shops", approved by CEN and accepted by the different national standardisation committees (AFNOR; DIN; British Standard, UNI, etc.).

¹ Congress of Local and Regional Authorities in Europe (CLRAE), Erfurt 26-28 February 1997

² Towards a knowledge based strategy to crime prevention, Sundsvall, Sweden, 21-23 February 2001

Environmental crime prevention theories

CPTED is supported by specific criminological theories; it falls within the Situational Prevention approach which is the practical translation of the Opportunity Theories.

Situational Crime Prevention

Situational prevention (Clarke, 1980) is a criminological approach, originally developed in the UK and nowadays widespread all over the world, which seeks to reduce opportunities for committing crimes and is directed at very specific forms of crime.

Like CPTED, situational prevention is finalised to reduce crime and incivilities by improving design and management of the environment in order to decrease opportunity for offending; however it extends beyond environmental design using specific procedures, technologies and products to reach its goal.

Situational prevention aims at preventing the occurrence of crimes by reducing opportunities, increasing risks of being apprehended and minimizing benefits, making crime less excusable and providing assistance and information to potential and actual victims.

For example, "target hardening", could reduce the opportunities for the occurrence of crimes, making it more difficult to break into houses thanks to armoured doors or deterring shoplifting thanks to electronic tag surveillance systems affixed to merchandise.

A co-ordinated situational strategy would prevent additional crime and therefore be more cost-effective than imprisoning the few offenders that are currently apprehended by the penal system.

The criticism that has been raised is related to the fact that the improved protection of a specific area will merely displace crime into a less protected area; however the evidence of such a displacement has not been proved by research.

The opportunity theories

The theoretical base of situational prevention is composed of three crime opportunity theories: the "Rational Choice Perspective", the "Routine Activity Theory" and the "Crime Pattern Theory". The main features of these three different approaches are presented here below.

A. THE RATIONAL CHOICE PERSPECTIVE

The main assumption of the rational choice perspective is that offending is purposful behaviour, designed to benefit the offender in some way. Indeed it focuses upon the offender's decision making.

Before committing a crime, the offender assesses the different consequences: how many chances they have of getting caught, how severe the expected penalty will be, which is the value to be gained by committing the act, and his or her necessity to realize immediately that value.

According to the rational choice theory, the offender is represented by someone who thinks before they act, even if only for a moment, taking into account some benefits and costs in committing a crime. The rational process is however limited: the offender's valuation is based above all on what is most evident and immediate, while underestimating the indirect costs and benefits of crime or its avoidance. Thus the common offender pays rather more attention to the immediate pleasures reached by the offence than to eventual punishment.

The rational choice theory pays great attention to the ways of committing crimes. This analysis is evidently useful to situational prevention strategies addressed to reduce crime opportunities.

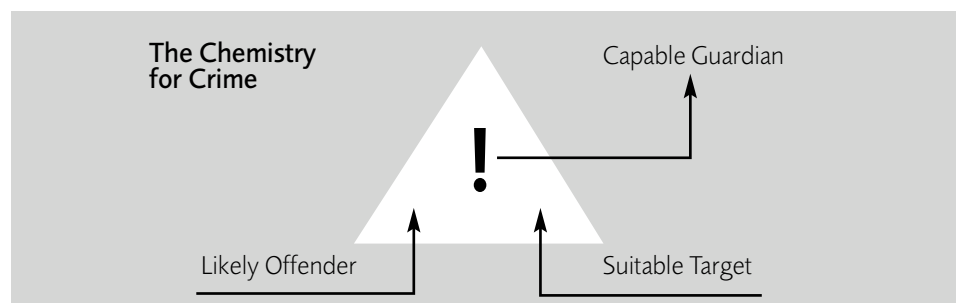
B. THE ROUTINE ACTIVITY APPROACH

The routine activity approach (Cohen and Felson, 1979) aims to explain predatory crimes. It presumes that, for such crimes to occur, there must be a convergence in time and space of three minimal elements:

1. a likely offender,
2. a suitable target,
3. the absence of a capable guardian against crime.

This approach does not focus its attention to the offender's motivation, but rather to other elements. The guardian is represented by someone whose presence or proximity should discourage a crime from happening. Surveillance could be formal or informal, it has anyway a strong impact in reducing crime. Targets of crime can be either a person or an object, the position of which in space or time could make him or it vulnerable to criminal attack, when guardians are absent. In conformity with the routine activity perspective crime is an everyday activity and depends on the opportunities available. If a target is not protected enough, and if the reward is worth it, some form of crime is bound to ensue.

The more a likely offender finds a suitable target in the absence of a capable guardian, the more predatory crime is likely to occur. Accordingly, even without more offenders, crime can rise if the number of targets increases or if offenders can get more targets with no guardians present. As a result, even without any increase in criminal motivation, community life changes can produce more crime opportunities.



C. CRIME PATTERN THEORY

Crime pattern theory (Brantingham and Brantingham, 1991) is a central component of environmental criminology. It focuses on how people and things (involved in some criminal event) move about in space and time. Local crime patterns show us how people interact with their physical environment, affecting the opportunities of committing crime in specific locations and at specific times.

This approach concentrates on how crime happens, on the offender and on the target set in place and time, highlighting the place of the criminal event. Such event can be understood analysing the context of people's normal movements in the course of the day, week and year. Everyday activities strongly outline crime patterns of both the offender and the victim (or target). This theory looks at pattern of crime at different scales from the city to the building level. It focuses on the analyses of crime statistics or the geographical distribution of crime and the daily rhythm of human activities, and neglects the offender's perspective.

Crime pattern theorists and other environmental criminologists have shown that the design and management of cities, public spaces and commercial areas can modify crime rates. In this perspective, crime can be reduced - for example - by monitoring traffic or orienting windows so that people can easily supervise their own streets.

CEN Technical Report: Prevention of crime by Urban planning

In the last ten years the European Committee for Standardisation (CEN) has decided to extend its documents and standards, originally intended only for products and tools, also to services and recently to crime prevention in buildings and public spaces as well.

A specific committee was established to study crime prevention; it has produced Standards or Technical Reports on prevention of crime by building design (dwellings, offices and shops) and by urban planning. Work on transportation, schools, gas stations, road blocks, is still under way.

The activity of the working group on "Prevention of Crime by urban planning" was completed in 2006 with the output of Technical Report CEN TR 14383-2, which was finally adopted by CEN in 2007. The Report is meant as a support for good practices and not as a standard with binding effect.

The Technical Report is based on two main concepts:

1. urban planning has an impact on crime and fear of crime,
2. crime prevention criteria are to be applied at different stages and scales of planning: overall city, infrastructures, urban design, public spaces, management.

It is addressed to architects, planners, urban designers, decision makers and stakeholders in general.

The Technical Report provides a useful framework for dealing with the aspects of crime prevention in urban projects. It defines a working method as a support to:

- introducing safety criteria in the rehabilitation of existing areas or in new projects;
- introducing safety criteria in evaluating projects in terms of safety.

Structured in different sections and four annexes, the Technical Report:

- recommends the consideration of:
 - the physical characteristic of the area and its relation to the city (*where*)
 - the problems of crime and incivilities in the area and in the surroundings (*what*)
 - the identification of the stakeholders to contribute to the process (*who*)
- outlines possible strategies for the different stages and scales of intervention in terms of urban planning, design and management
- suggests how to organize the decision and implementation process with the involvement of stakeholders (see chart on following page concerning the process)
- indicates a list of "basic principles" and provides a series of questions for a safety audit (Annex D).

THE IMPORTANCE OF ANNEX D

The Technical Report has 4 annexes: Annex A and B provide a framework to carry out crime reviews (for existing areas) and crime assessment (for new projects). Annex C deals with fear of crime.

Annex D provides a "*Safety audit framework of an urban project*" which is particularly valuable, as it contains the practical support for actions.

This is presented as a list of "basic principles" and a check-list of questions aimed at guiding the work of practitioners and decision makers, which helps to translate into practical actions the crime prevention strategies listed in the Technical Report.

The "basic principles" of CEN Technical Report (Annex D)

- Strengthening the user's identification with the place and the user's sense of belonging to the place enhances perception of safety and prevention of crime because people develop a sense of respect and protection for the places they belong to.
- Vitality of streets and public areas is a major factor for crime prevention, because the use of public spaces produces spontaneous surveillance. Mixed uses (commercial, residential, recreation etc.) and diversified activities imply different users at different times, thus providing constant spontaneous surveillance.
- Every measure concerning safety should take into account the most vulnerable population.
- Urban developments based on creating safer areas opposed to the outer world (perceived as a source of insecurity) are to be avoided because they will lead to exclusion and residential enclosure or inward oriented spaces.
- Places mainly used by temporary users (stations, interchange points, etc.) are generally more vulnerable to crime than other areas, due to the scarce sense of belonging to the place of the users. These places should be carefully considered.
- To improve crime prevention, planning and design should avoid creating deserted spaces (without vitality), as well as undefined or hidden places, because vandalism and other criminal acts tend to concentrate in these places. If un-avoidable, these places should be managed in term of safety.
- A continuous urban grid and a clear layout of public places improve users' self-orientation and their feeling safe. Visibility of pedestrian spaces and routes from surrounding buildings and streets improves crime prevention and the perception of safety.
- A clear delimitation between public and private space facilitate the management of the spaces.
- Planning and design of circulation routes to services and housing should carefully consider safety and accessibility for all kinds of population. If a circulation route cannot provide the sufficient safety or feeling of safety an alternative route should be offered.
- Decayed or abandoned buildings and areas, as well as dreary places communicate fear of crime and attract antisocial behaviours and crimes. Maintenance and other actions should be undertaken to prevent decay; once decay has started, these areas should be carefully monitored and treated.
- In some cases, to improve crime prevention it is necessary to support spontaneous surveillance (mixed uses, vitality etc.) also with organized surveillance, implementable in many different ways. The organization of spaces should be conceived in order to facilitate this type of surveillance and emergency intervention.
- Electronic surveillance (CCTV etc.) is not an answer to bad planning or urban design. It is useful only when it is a part of a general security plan.
- Temporary arrangements and situations (construction yards, detours, temporary barriers and fences) produce not only discomfort but also create potentially dangerous places. Therefore, during construction works next to used spaces, temporary situations and fencing shall be carefully studied and designed also in terms of crime prevention.

Process for integrating crime prevention in urban projects

For guiding the process to carry out a project or an action aimed at improving urban safety, CEN Technical Report 14383-2 provides a framework by which to operate with an integrated multi-agency approach.

LOCAL AUTHORITY (RESPONSIBLE BODY)

- officially declares commitment to urban safety
- formulates the mission objectives
- establishes a technical structure to support the Action (optional)
- appoints the Action manager (responsible person)
- creates the Working Group

WORKING GROUP

- establishes the Action program
- responds to the Local Authority
- defines consultation mechanism with other stakeholders
- carries out crime review/assessment
- defines which elements of the urban environment affect safety

PLANNING DOCUMENT

of the Working Group

- illustrates the scenario
- identifies the strategies and defines the actions
- estimates costs involved
- envisages effects and risks

DECISION OF THE LOCAL AUTHORITY

- strategies and actions to be implemented
- aspects to be studied further
- programme of implementation

AGREEMENT AMONG STAKEHOLDERS

- responsibilities of each party involved (who does what)
- detailed programme of implementation
- intermediate controls

ACTIONS AND IMPLEMENTATION OF WORKS

- each party carries out the actions he is responsible for
- controls of each phase of implementation

EVALUATION OF RESULTS

- definition of criteria and methods

POSSIBLE CORRECTIVE ACTIONS

How to use this Handbook

This Handbook provides guidelines in urban planning, design and management that reflect the questions listed in Annex D of CEN/TR 14383-2.

The set of questions of the above mentioned Annex D, cover the issues of crime prevention through urban planning and design that most experts of the field agree upon.

The general use in practical work of the guidelines of this Handbook requires some attention:

- guidelines refer to the "urban" environment, typical of large, medium and small towns, and are not applicable to rural and industrial areas;
- most guidelines are suited to the compact city fabric, common of central and southern European countries; however, with some caution, they can be applied also to other urban situations;
- physical features, climate and social networks vary case by case and interact differently depending from the situation; they must be thoroughly analysed in order to adapt guidelines properly;
- some peculiar conditions may invalidate a standard guideline: e.g. in normal conditions a bar is an "eye on the street", however in certain areas a bar may become a place of illegal activities, therefore a source of problems;
- some parameters used in urban planning, such as density and amount of green spaces, vary significantly from place to place according to geographical areas, traditions and culture: this has to be considered when applying them to safety criteria.

It is strongly recommended that when approaching the integration of crime prevention into urban planning and design, systematic crime reviews or assessments be carried out before considering and selecting the appropriate guidelines. These should be carried out with reference to the content of annexes A and B of CEN Technical Report.

URBAN PLANNING STRATEGIES

- CONSIDERING EXISTING SOCIAL AND PHYSICAL STRUCTURES
Urban planning deals with the distribution and physical organisation of activities and population in urban spaces; it can contribute to prevent phenomena of insecurity in our cities because there is a link between crime and the structure of urban spaces.
 - GUARANTEEING ACCESSIBILITY AND AVOIDING ENCLAVES
In fact, accessibility, density, mix of uses, integration, and vitality are key issues for crime prevention through urban planning. Planning documents can consequently handle safety through working on the distribution of functions and activities, the layout of infrastructures, the location and character of commercial districts.
 - CREATING VITALITY
Crime prevention criteria should therefore be considered from the early stages of decision making, at the scale of planning; strategic plans, master plans, local plans and urban regeneration programs as well as infrastructure projects all affect in their specific way urban safety.
 - PROVIDING MIXED STATUS
 - CREATING ADEQUATE URBAN DENSITY
In urban planning decisions are made on functions, density and activities which affect the vitality of public spaces and consequently the level of social cohesion and natural surveillance. Experiences show also that specific urban patterns contribute to safety, because they generate urban quality and an environment able to resist to the development of crime. On the contrary, some features such as mono-functional zoning, urban fragmentation, isolation and dereliction create negative conditions for a safe environment.
 - AVOIDING PHYSICAL BARRIERS AND WASTE LAND
In many cities, offices are concentrated in business districts which – being unpopulated at night – may become dangerous places that have no natural surveillance and are difficult to control even employing private police. Natural surveillance is lacking also in residential areas where housing density is too low to generate vitality and flows.
- Planning also implies decisions on the layout of infrastructure; in many cases road and transport routes fragment the urban structure, creating isolated areas or derelict lands, which become difficult to control.
- Locations of commercial structures are likewise decided at the planning stage: this affects the balance between commercial activities spread throughout the urban fabric and large suburban shopping centres.

The following guidelines aim to respond item by item to the checklist of questions presented in Annex D of CEN Technical Report. In some cases they may seem repetitive: Annex D does in fact make some overlapping of issues, which are necessary to cope with the complexity of the urban environment and its multiple interconnections.

Considering existing social and physical structures

The issue

The city is a living organism, where inter-relationships are the essence of urban life. It has been shaped over time by a self-regulating process. Any intervention affects the existing equilibrium and therefore the insertion of a new part requires careful evaluation in order to avoid rejection. New projects (regenerating an existing urban district or developing a new area) should become part of the whole urban structure.

To achieve integration a planner should consider both physical features and social ties.

Social inclusion and social cohesion are goals to be strongly pursued for preventing isolation and social exclusion, that lead to insecurity or at least are favourable grounds for crime.

Social integration and social ties are also important for reducing potential conflicts between inhabitants or users, for instance regarding cohabitation between former and new inhabitants. They can also help people to be concerned neighbours and thus generate sociability, involvement of the inhabitants with local life and solidarity. People in bad socio-economic situations can thus be supported by others and be deterred from falling into crime and anti-social behaviour.

Consider social networks

Any proposal for a new project or for rehabilitating a neighbourhood should take into account the existing social networks created by schools, associations, sports activities and informal meeting places (cafes, small squares, playground etc). The proposal should encourage local sociability, which in a neighbourhood is essential to induce spontaneous surveillance.

In addition, considering and sustaining existing social ties helps to prevent exclusion of incoming groups, which could become a reason of conflicts.

The design of this space and location of activities consciously support sociability and encourage informal contacts between all different age groups



Affecting social balance

Where a well-integrated social mix exists, the project should be careful not to alter it. When developing a new project within an existing neighbourhood, care should be taken to achieve an appropriate mix of different people, income levels, services, etc.

This playground has become an opportunity for people of different ethnic backgrounds to meet



The severe safety problems in this small town in Italy were tackled with the participation of the local population, the local police and the municipal services

Demands of the local population

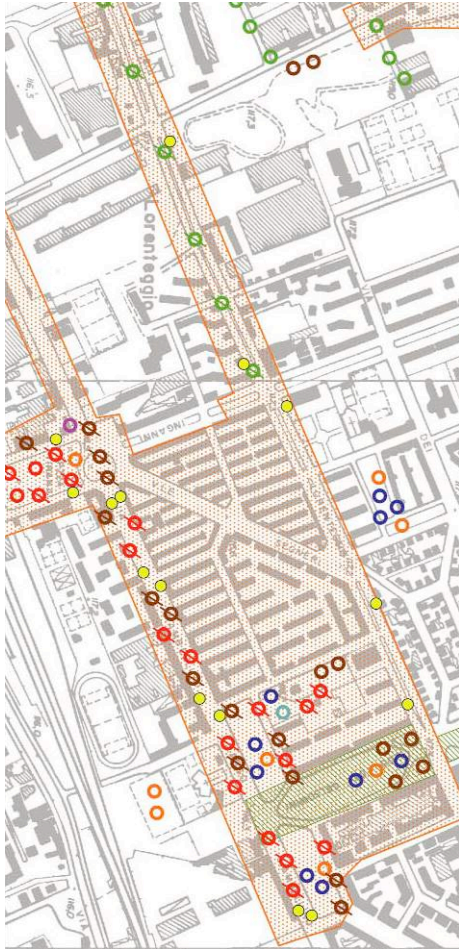
The project should respond to the identified needs and the expressed demands of the local population. To obtain this, the decision process should involve the participation of residents and users. Besides, participation enhances the sense of belonging to the neighbourhood which helps to prevent antisocial behaviour (vandalism, car racing, night rowdiness etc.) and leads to the reporting of crime. In fact people respect and tend to defend the spaces they feel belong to them.

Impact of changes

Every intervention in the urban environment has a physical and social impact on the immediate surroundings. It is therefore necessary to undertake specific actions to soften the impact of change. These actions may include specific information to identified groups, such as targeted information, gradual and reversible interventions on the physical environment, social mediation, organisation of events, interim economic incentives, etc.

Street parties are an excellent device to strengthen social ties and integrate newcomers





This survey of crime and anti-social behaviour was carried out to study location of bus stops

Crime problems of the surroundings

Proposed projects should take into account the crime problems (existing or envisaged) not only in the area of the project but also in its surroundings.

e.g.: A new multi-screen cinema and shopping centre in the proximity of a railway station may attract the marginal fringes of population and amplify the typical safety problems associated with railway stations.

Edges of projects

The borders of a project play a key-role in the connection with the surrounding urban fabric. Therefore borders should be planned paying particular attention to the character of the adjacent areas, to new and existing flows, and to compatibility of functions, in order to avoid fractures in the urban system.

Edges of projects are critical areas because they can create discontinuities and contribute the development of zones of dereliction.

- Spaccio di droga - attuale
- Spaccio di droga - in passato
- Consumo di droga e piccolo spaccio
- Prostituzione - attuale
- Prostituzione - in passato
- Extracomunitari senza fissa dimora
- Extracomunitari senza fissa dimora in passato
- Gruppi di giovani rumorosi
- Gruppi di giovani teppisti
- Risse in pubblici esercizi
- Fermate segnalate insicure dagli abitanti
- Zone di degrado
- Aree considerate a rischio dalla Polizia Municipale (dal 2005)



These two large housing projects break the continuity of the existing street pattern and interrupt flows

Fitting in the organisation of the existing neighbourhoods

The pattern of existing activities and movements in an urban area is a valuable asset for its cohesion and vitality and, therefore, for its safety. Any planned development should be checked in terms of its compatibility (ties) with the existing organisation of the neighbourhood. This helps to avoid fragmentation thus permitting the management of the city as a whole.

Continuity with the existing city structure

A project should not break the existing urban pattern: it should provide continuity of urban texture and flows (avoiding fractures) in order to enhance movements, which influence vitality and therefore natural surveillance. Continuity helps to prevent spatial fragmentation allowing the city to function as an integrated system.

Integrating new built form in its surroundings

The new built form should be well integrated into the surrounding urban texture so that it is not perceived as extraneous and becomes acceptable to the inhabitants. Only buildings and spaces felt as belonging to one are respected.

Wherever new densities or new building types are introduced, planners should check if they are compatible with the surrounding built form.

This public housing project built in the 50's is admirably well integrated in the surrounding urban pattern



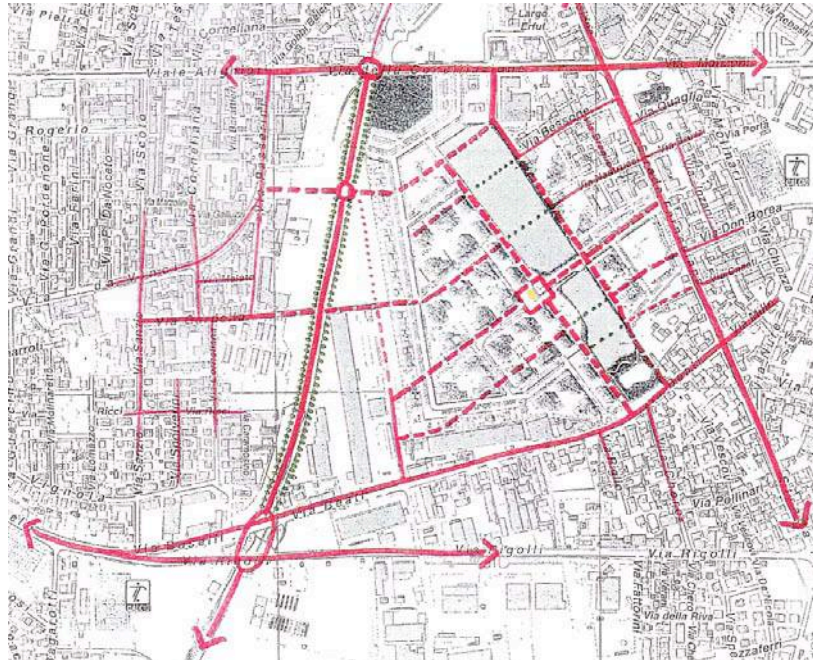
Guaranteeing accessibility and avoiding enclaves

The issue

Good accessibility and a capillary road network are essential to foster flows of movement which produce vitality, natural surveillance and therefore increase safety. To guarantee continuity of movements it is thus important to avoid fractures in the road and pedestrian networks.

Discontinuity can occur where a new development is not well connected to the city structure as a whole, also where a neighbourhood in the city is isolated by infrastructures or other barriers from the surrounding urban fabric. "Gated communities" which are voluntarily segregated from the city belong to this latter category.

Lack of accessibility can also contribute to social segregation, and can create enclaves or isolated areas concentrating social problems. The accessibility of an area should consider its links with the existing city structure and functions: connections to jobs, services (schools, hospitals, post-offices etc.), commercial and recreation facilities. Difficulties for public services to intervene (including services for crime and social prevention) should also be considered.



The sketch indicates how the street pattern of this new residential development should be shaped, so as to create continuity with the surrounding urban texture

Continuity of the street pattern

The street network of a new development should continue the street pattern of surrounding areas in order to avoid interrupting urban flows, which are so important for vitality and natural surveillance.

Outward-facing layouts and through routes

The concept and layout of a project should avoid "inward-oriented" developments: these are building complexes focused internally that turn their back on the surrounding urban texture. New developments should be outward facing and linked to their surroundings with a network of local through-routes. Both these elements allow permeability of urban flows which add vitality to public spaces.

The new residential development on this formerly segregated industrial site tries to open up toward the surroundings and connect to the network of local throughroutes





This isolated sector of the Milan urban fringe has become an area plagued by problems of crime and it is difficult for social services and police to operate there

Avoid creating enclaves

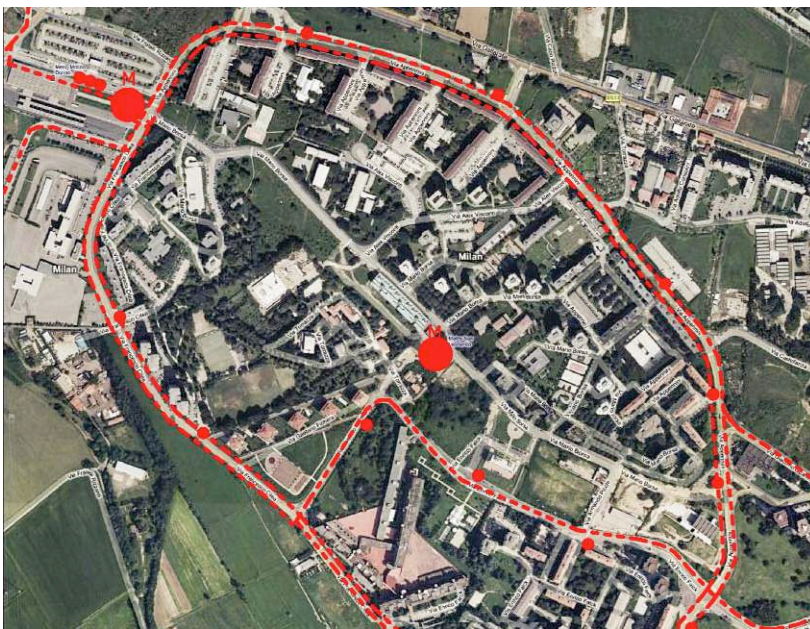
The structure and the street pattern of a new development or of an area being regenerated, should be planned to avoid creating urban enclaves.

These are detrimental because they cut urban flows through them, thus creating problems for the surrounding areas; they also generate weak internal movements. Both factors negatively affect natural surveillance and favour the development of marginal or illegal activities (where people have nothing to do, incivilities are more common). Where enclaves lack transportation and services, they may also become places of social segregation and deprivation, where it is difficult to intervene with social and crime prevention services, and where people are isolated and very vulnerable.

Provide good accessibility to the public transport system

To connect a project with the whole urban area, it is important to ensure good accessibility by public transport. Location of stops must be studied in detail: they must be reachable through clear and safe routes which should not cross areas without natural surveillance. The stops themselves must be close to housing or areas with activities.

Three metro stations and several bus lines provide a good accessibility to this high density residential district



Pedestrian malls in residential areas are lively during the day but can become threatening at night

Allow for some traffic flow on local streets

Slow and moderate traffic flows provide a valuable "eye on the street" which being dynamic is a powerful deterrent against crime. Therefore, pedestrian-only streets should generally be avoided except in very busy areas.

In residential areas the road network is usually designed to drastically reduce traffic flows. However when flows are too weak, there is a lack of natural surveillance.

Creating vitality

The issue

Traditional zoning practice tends to separate land-uses (residential, business, commercial, industrial, institutional). This creates districts with streets and public spaces which are not used some times of the day or days of the week, curtailing natural surveillance.

Areas with "mixed use" avoid this drawback and therefore should be preferred to single function zoning, wherever possible. Blending functions cannot however be applied everywhere: it requires careful evaluation as to whether the envisaged activities are compatible with each other.

Public facilities and services (schools, churches, sport-grounds, commerce etc.) are particularly efficient in creating vitality. Their location should be accurately planned in order to exploit their potential for natural surveillance. They should also be organised so as to enhance proximity and sociability, thus contributing to the avoidance of isolation and segregation both factors leading to insecurity.

Vitality is also important for social inclusion and cohesion, and thus for the potential reduction of crime.



The decision to locate the university in this old working-class neighbourhood has created a vital environment

Proper functions enhance vitality

Some functions are more efficient at providing vitality in public spaces than others: e.g. commercial and leisure activities create more lively places than office blocks.

Functions that are strong vitality generators such as schools, universities, public buildings, hotels and shopping areas should be located also with the aim of providing vitality.

Mixed use generates vitality and natural surveillance

Mixed-use zoning allows an area to have different functions. Each has different working hours, requires specific services and support facilities and generates specific flows of people and goods. All-together this creates an extended period of activity, a complex system of movements and an intensive use of services that generate vitality and consequently strong spontaneous surveillance.

The residential buildings combine with offices, shops, supermarket and the church to create a lively square all through the week





Separating flows decreases vitality

On local roads, cars, bicycles and pedestrians all together create flows which are usually sufficient to provide natural surveillance. If these flows are separated on different routes, each of these has a lower level of surveillance. Therefore, in terms of crime prevention, local streets with mixed traffic are preferable.

Where only primary roads connect neighbourhoods, pedestrian movements are discouraged, and vitality is reduced. A continuous network of streets allows the distribution of flows, and avoids separating cars from bicycles and pedestrians. However, pedestrian safety should be studied carefully.

Combining busses, cars, bicycles and pedestrians creates a good level of natural surveillance

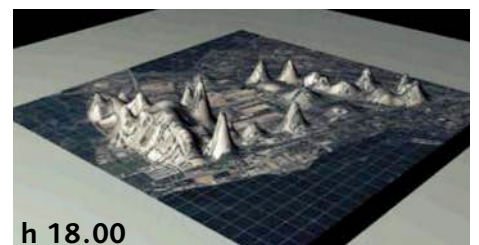
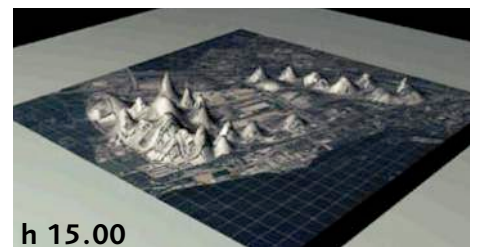
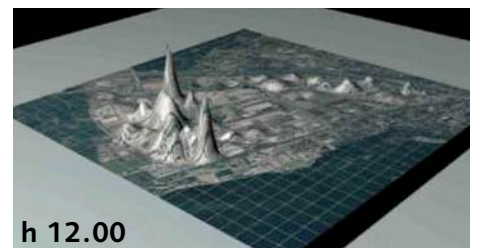
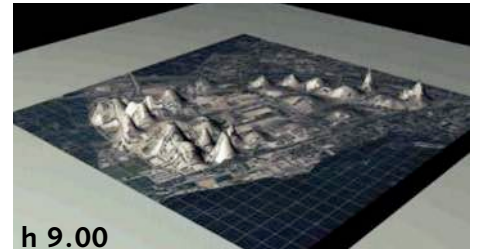


The intense night-life along the canal creates conflicts with the residents

Risk of conflicts among activities

Allowing different activities in the same area increases vitality, but may generate conflicts. Therefore foreseeable activities should be analysed in terms of their compatibility. Proper regulations should be devised and enforced. Night-life in a residential area creates vitality but also conflicts with the inhabitants because of noise and traffic.

Mixed-use requires planners to analyse activities in detail, and requires them to work with the different groups involved.



Dynamic crono-maps (time-maps) allow to study the temporal pattern of activities

All-day-long activities for vulnerable areas

Specific nodes of the urban network which are strategic for the functioning of the city, need to be supervised continuously to guarantee safe movements.

Natural surveillance of these places may be improved by locating specific activity generators e.g. recreation, commercial, hotels, health centres in selected key locations.

These activities provide vitality and natural surveillance in this isolated area located between two over-passes

Time and calendar of planned activities

Fixing land-use implicitly determines the rhythm of vitality because land-use defines activities, each having its calendar and timetable. Therefore in selecting land-uses, planners should check whether the anticipated activities taken together provide a reasonable temporal continuity of natural surveillance.



Providing mixed status

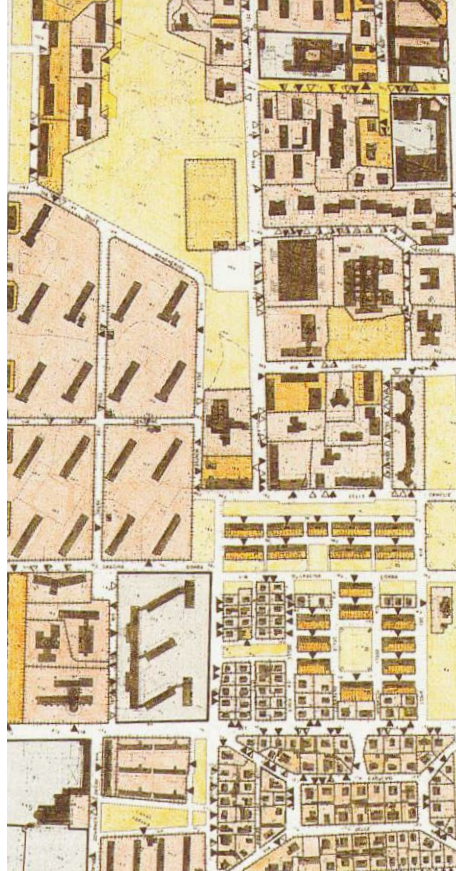
The issue

Deep socio-economic problems of residents, lack of services and facilities, physical isolation due to infrastructures barriers and lack of accessibility and transportation, poor quality of buildings are factors that combined together create conditions for urban decay and generate a favourable ground for crime and antisocial behaviour.

On the other hand, urban complexes with concentration of higher income groups, which exclude other groups, create isolated privilege areas and therefore social segregation. It is at the planning stage that these conditions can be avoided.

As stated in CEN/TR 14383-2, "Solutions based on the development of safer areas within and opposed to the outer world (perceived as source of insecurity) will lead to exclusion and enclosure." Therefore these solutions should be avoided.

Indeed, the city, to be safe and liveable, should not be made of separate isolated entities, but should rather encourage freedom of movements and social encounters. A safe city is a mixed and open city, with districts where different social groups live together.



This neighbourhood combines private residential buildings, public housing and single-family units

Encourage a careful mix of social economic groups

Providing diversified housing units on the same site attracts different economic groups and persons of different ages, with different habits, schedules and patterns of movements. This helps to create neighbourhoods with good vitality which improve safety.

Balance social economic groups with the surrounding

In order to contribute to sustainable urban safety, a project should consider the social composition of the surrounding neighbourhoods and try to achieve a balanced situation at a larger scale.

Avoid creating conditions which may lead to segregated low income areas

To avoid creating segregated low income areas, the location of social housing is important. Dispersing small units of social housing throughout the city is preferable to concentration in a large and confined site. Providing low-rent flats (social housing) mixed with medium-income housing units, is another way to achieve mixity and avoid low-income segregated areas.

Poor quality of buildings and urban decay are a favourable ground for antisocial behaviour and crime.

It is therefore important to avoid these conditions and to intervene promptly on the maintenance of the housing stock and of the environment, to prevent these phenomena from happening.

High density, low quality of buildings and urban decay have created a favourable ground for illegal activities in this housing complex



Creating adequate urban density

The issue

There is a correlation between urban density and natural surveillance. An adequate density is necessary to provide a sufficient number of people to support activities which generate vitality. Furthermore, higher density generates more flows and movements, which provide natural surveillance on the streets.

In low-density areas, where activities are lacking and flows are weak, safety on the streets and in public spaces cannot rely on natural surveillance, but needs to be provided by other tools such as organised surveillance, semi-organised surveillance (neighbourhood watch etc.) or technological means .

However, if density is too high, other problems may arise such as lack of public spaces and higher risk of conflicts among the inhabitants.

Sense of neighbourhood

Planning schemes should provide opportunities for enhancing, among residents and users, the sense of neighbourhood and of belonging to the place (squares, shops, landmarks, play grounds, historical symbols, social events etc.). In fact, people take care and develop a sense of respect and protection for places that they feel belong to them.

For a good sense of neighbourhood it is important however to prevent one group from monopolising public spaces and excluding other groups.

A good sense of neighbourhood makes life in this districts quiet pleasant



Intensity of land use

Density of activities together with diversity generate vitality for many hours of the day thereby providing natural surveillance. In order to prevent problems, land use should be intensive enough - wherever possible - to create opportunities for extended human presence and liveliness.

Private dwellings, shops, cafés and a hotel create a vital street in this residential sector



The linear parks are well located to serve the needs of the inhabitants in this high density district

Public spaces in high-density areas

In high-density areas planning schemes should foresee an adequate provision of public spaces in terms of amount, location, quality and possible use, as the concentration of people without sufficient spaces can increase potential conflicts.

Planners should be careful not to create open spaces which could turn into no-man's lands.

Public spaces should be planned avoiding:

- empty or out-of-scale places;
- large areas with a single use (driving, parking, walking etc.)
- completely confined spaces with limited access and visibility from the streets .

Avoiding physical barriers and waste land

The issue

Physical barriers may be due to natural features but also to landscaping, infrastructures, or to confined large estates. Barriers reduce connections between different parts of the city and interfere with movements. In many cases, infrastructure routes clash with the surrounding urban pattern, creating discontinuities and visual chaos which affect safety and the perception of safety.

Physical barriers require underpasses and overpasses or long diversions; it is generally acknowledged that these types of passages create safety problems.

Most physical barriers are defined at the planning stage when infrastructure routes and large facilities are decided. Therefore, before taking the final decision on a route, it is necessary to ensure that any barriers that are created in the urban fabric can be overcome in safe conditions. If well designed and integrated with the surrounding, infrastructures can become an opportunity for regenerating an urban district or for developing a new area.

Waste lands are unattractive areas which people tend to avoid. Therefore they lack natural surveillance and usually become places attracting illegal activities and antisocial behaviour.



The subway line combined with a fast traffic road create a strong physical barrier that divides the district

Proposed Infrastructures

The infrastructures linked to a project should avoid creating physical barriers, enclaves and waste lands in order to avoid places where safety is difficult to attain.

Infrastructure routes should be well integrated into the urban structure: they should be designed in a way that allows connections between the different parts of the existing urban fabric and that avoids breaks in the streets pattern or empty and deserted spaces.

Existing waste lands

Redevelopment plans should include strategies to recover existing waste lands. To reuse these lands, it is necessary to understand what caused them and which are the problems involved. Physical upgrading should go with the development of adequate activities to prevent future decay.

Waste lands at the edge of this residential district create drab and unsafe environment



Existing infrastructures

Where existing infrastructures create discontinuities, new projects should aim at overcoming infrastructure barriers with new safe connections.

This wide and comfortable underpass allows movements and flows beneath the metro line



URBAN DESIGN STRATEGIES

- CONTINUITY OF URBAN FABRIC
- LOCATION OF ACTIVITIES
- TIME AND CALENDAR OF ACTIVITIES
- VISIBILITY
- ACCESSIBILITY
- TERRITORIALITY
- ATTRACTIVENESS
- QUALITY OF MATERIALS TO PREVENT DECAY

Safety and the perception of safety are strongly influenced by the structure and organisation of spaces. Some places are pleasant and lively and transmit a sense of well being, some we walk through with indifference, whereas others transmit anxiety and even fear. We experience this type of feelings everyday and we modify our behaviour accordingly. Often, danger and fear limit our freedom of movements in the city, thus reducing our quality of life.

Urban design deals with the structure of spaces, the location of buildings, the use of ground and upper floors, the layout of green areas and public spaces, the pattern of streets, the location of transit stops and parking lots. It is consequently at the urban design level that concepts of safety are to be applied in concrete terms. Good urban design can improve citizen's confidence and make public spaces more liveable; instead, poor urban design can produce empty spaces, dreary environments, generate fear, attract incivilities and crime.

Where safety criteria are applied to urban design, many problems of safety can be prevented or controlled:

- spontaneous surveillance is increased;
- sense of responsibility is enhanced;
- police officers and security guards can better patrol spaces;
- management and maintenance can be organised in a better way.

To reinforce the effect of urban design criteria for safety, it is important that similar criteria be applied also to building design. Many manuals deal with this specific subject.

The following guidelines aim to respond item by item to the checklist of questions presented in Annex D of CEN Technical Report. In some cases they may seem repetitive: Annex D does in fact make some overlapping of issues, which are necessary to cope with the complexity of the urban environment and its multiple interconnections.

Continuity of urban fabric

The issue

Urban design defines the pattern of streets and the layout of buildings, which together create the urban fabric. For the sake of safety in the city, it is important to achieve continuity of urban fabric and streets, because this facilitates flows.

Wherever movements occur, there is vitality: eyes are kept on the street producing spontaneous surveillance.

If flows are interrupted, daily movements are curtailed: the city is less used and less known, and this can contribute to a general feeling of insecurity.

The traditional layout of the historical city offered continuous streets, aligned building fronts and clear sightlines that sustained spontaneous surveillance. The contemporary city is largely made of self-contained cells relying mainly on vehicular connections. This creates discontinuities in the overall city texture and routes.

Discontinuities curtail movements and flows and affect the daily acquaintance of people with the urban environment and their feeling of belonging to the whole city; this has an impact on the feeling of insecurity and on the use of public spaces, and consequently on the degree of spontaneous surveillance.

In addition, physical discontinuities often create spaces lacking specific use: no man's lands which easily become attractors for marginal and illegal activities.



The new housing development site (top right) breaks the continuity of the existing urban fabric

Continuity with the existing streets and pedestrian routes

The design of a new development should not interrupt the existing pattern of streets and movements, but rather assure connections and continuous flows, to enhance vitality, and consequently spontaneous surveillance.

e.g. In redeveloping a former industrial area, the proposed street pattern should be consistent with the surrounding urban texture and create continuity with the adjoining streets. The design should blend with the urban fabric in order to improve the flow of movements in the area.



5

The clear layout of this mall allows pedestrians to cross the area in safety © IAU Île-de-France

Easy and safe walking through a site

The layout of a new development should allow it to be walked through safely day and night, by creating clear routes provided with natural surveillance.

Unfortunately, design of residential or commercial developments often create obstacles to walking through safely (in respect to mugging, assaults, threats etc.), which end up requiring an extensive use of CCTV. Instead, electronic devices should be used only where natural surveillance cannot take place (underpasses, footbridges etc.).

Clear orientation of pedestrians

The ability to grasp immediately the organization of a site and to see what is ahead along a route is important to feel safe and to be safe. In fact, not being able to find the way creates anxiety and increases vulnerability to assaults, because persons focusing attention on finding their way reduce their awareness of danger. In addition, a confused layout makes escaping more difficult.

The layout of a new development should have a clear organisation and provide easy orientation for all users.

In existing areas, if clarity and continuity are lacking, some design elements should be introduced to improve the sense of orientation.

The organization of this square allows people arriving from the Ferry Building to find their way clearly © ROMA Design Group



This modern building fits in well in the historical center of Milan © Studio Architetti BBPR

Built form compatible with the surrounding

If one or more buildings do not fit in the surroundings, people will have a tendency to "reject" and avoid the place, and they will not consider it as part of "their" territory. Jane Jacobs observed that pedestrians tend to avoid sidewalks with discontinuous building frontage, contributing to make them unsafe.

Architects should ask themselves how the users will accept the new spaces they design. Will people develop a sense of belonging? In terms of safety this is important, because people respect and protect places they feel as theirs.

Location of activities

The issue

Activities include shops, cafés, restaurants, services, recreational, cultural and social facilities as well as what happens spontaneously in streets, parks, pedestrian and bicycle paths (gathering, resting, events, vendors etc.).

Activities add vitality to streets and public spaces, and provide an efficient "eye on the street". They are therefore one of the most powerful tools for creating spontaneous surveillance.

As activities are so important for the general safety of public spaces, urban designers should consider them as key elements in their projects, because activities determine who is going to use a place and how. They should study in detail their location and create the conditions for activities to take place.

Besides urban designers, it is important that owners, developers and other decision makers as well as public bodies responsible for civil services, culture and recreation consider activities as a powerful tool for urban safety, and act accordingly.

Sufficient activities to provide spontaneous surveillance

A project for regenerating an existing area or a new development should envisage enough activities to generate spontaneous surveillance on as many streets and public spaces as possible.

To provide safety one should avoid concentrating activities in a single place because this would produce a small vital precinct but would reduce vitality to the remaining urban fabric. Instead, in order to provide an extended control of urban spaces, activities should be spread along main routes or located at street corners.

Locating specific activity generators at key points allows to cross problematic areas in better safety conditions.

To encourage people to use public spaces, recreational activities and events should also be promoted.

Ground floor activities along the main streets provide an "eye on the street" and therefore safe routes for residents

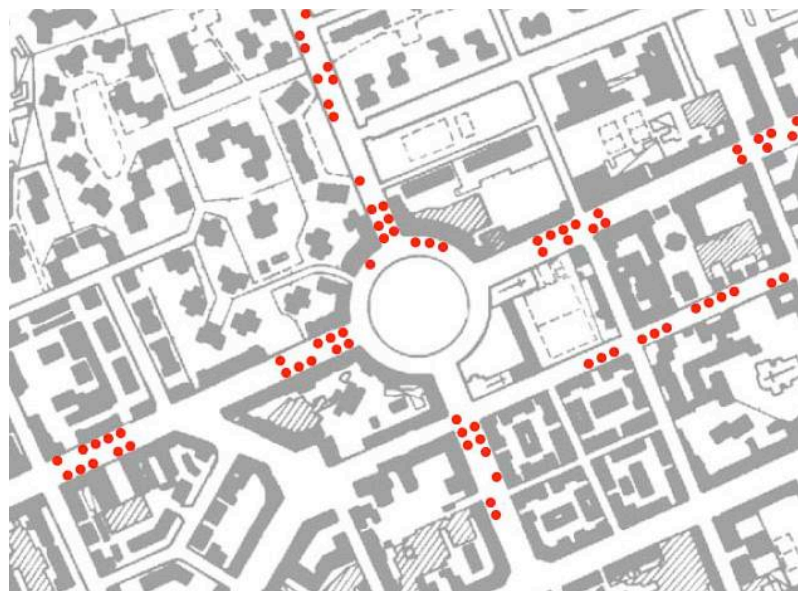


The church, located at the end of a boulevard, becomes a reference point in the neighborhood

Location of public facilities to enhance vitality

Public buildings and facilities such as post offices, municipal offices, schools, universities, etc. should be located in squares or on the axes of the urban structure where the flows that they generate contribute to vitality and natural surveillance.

Entrances to public buildings should be well marked in order to emphasize the sense of public presence in the urban scene.





Ground floor shops at street corners substantially increase natural surveillance

Commercial fronts along streets

It is preferable that commercial facilities be located facing public spaces rather than enclosed in private malls: in fact a shop facing a sidewalk adds an eye on the street, whereas, shops organised around an internal court turn their back to the street, reducing natural surveillance on the public space.

Rules and regulations

Planning and building regulations should allow and encourage cultural and recreational facilities such as clubs, non-profit associations, vocational schools etc. to be located on the ground floor, with openings facing the street.

Most public housing complexes do not have any activity on the ground floor; regulations should be modified in order to allow facilities to be introduced on the ground floor.

In residential buildings, the height of the ground floor should be such as to allow to switch from residential to commercial use or viceversa. This allows to replace activities which close down with dwellings, and avoid the sense of abandonment and the lack of surveillance generated by empty ground floors.

The ground-floor height allows for a change from commercial to residential use by simply raising the floor



The transparent openings provide good surveillance of public spaces © IAU île-de-France

Surveillance from services linked to housing

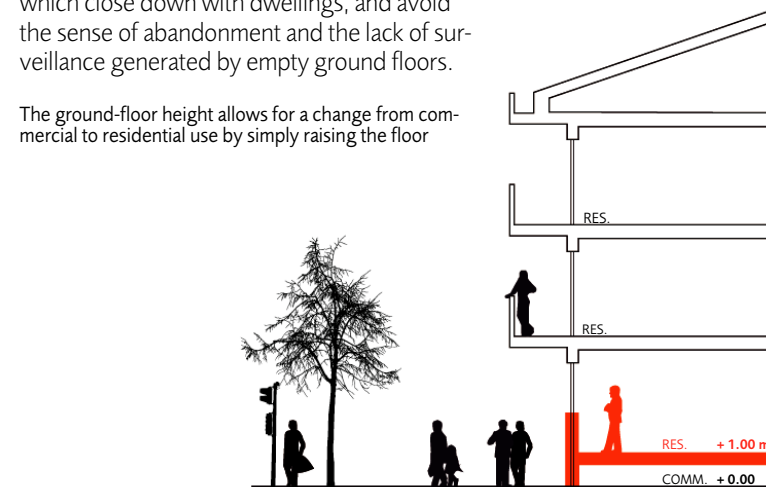
In residential buildings, meeting rooms, day-care centres, laundries, children playrooms, clubs for the elderly, bicycle deposits should be on the ground floor, located so as to contribute to natural surveillance. They should have transparent openings on public and semi-public spaces.

Contribution of pedestrian and bicycle routes to vitality

Pedestrian and bicycle routes bring flows that enhance vitality. Their location should be studied in relation to activity generators so that they reinforce each other in producing vitality.

Mixed routes (30 Km/h) which combine car, bicycle and pedestrian movements create a density of use which generates vitality and therefore spontaneous surveillance.

Mixed pedestrian - bicycle routes create vitality and natural surveillance



Time and calendar of activities

The issue

Urban spaces are used differently at different times of the day and of the week. This causes spontaneous surveillance to increase, decrease or disappear in accordance to time and calendar.

Commercial activities have different opening hours; offices are closed during the evening and the weekend; residential units are inhabited most of the day; cafes, cinemas and leisure facilities may be open at night. Altogether they can provide a continuous surveillance and convey a feeling of security. However, where some of them are absent, gaps of surveillance may occur.

As urban design deals with the detailed location of functions and activities (all with different working hours), it implicitly sets time schedules that affects the level of spontaneous surveillance.

To evaluate the continuity of spontaneous surveillance, one should analyse schedules and calendar of local activities in order to verify whether they complement each other in keeping an eye on the public spaces. To reduce time gaps in natural surveillance, it is advisable to mix uses and encourage the development of activities with specific opening hours at key locations.

How to improve the time span of natural surveillance

The development of specific activity generators with the desired working hours can be encouraged by different means:

- regulations (by laws);
- facilitating the start-up of specific activities;
- providing municipal services at reduced charge etc.

The time span of natural surveillance can be extended also by:

- re-scheduling of traditional activities and services;
- locating new complementary facilities and services;
- promoting events and cultural activities;
- allowing licensed street vendors

In this area where vitality is lacking, the vendor provides a watchful eye on the street



The lighting of this alley communicates a feeling of security and discourages antisocial and criminal acts

Night time

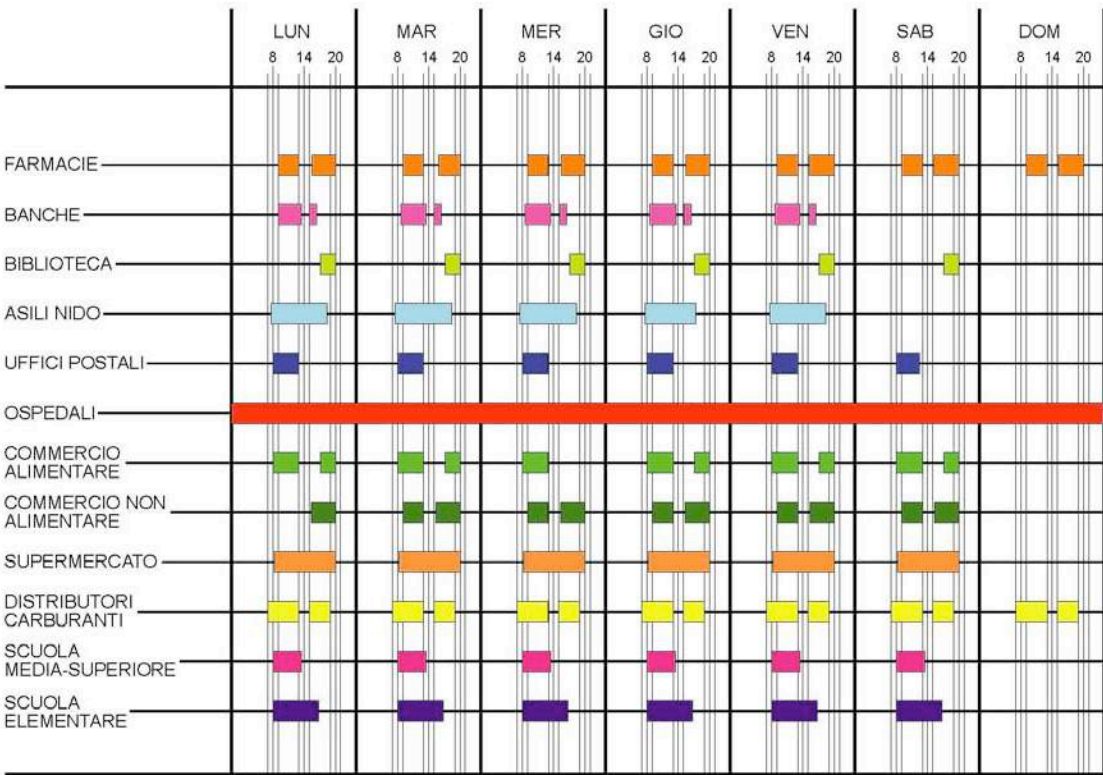
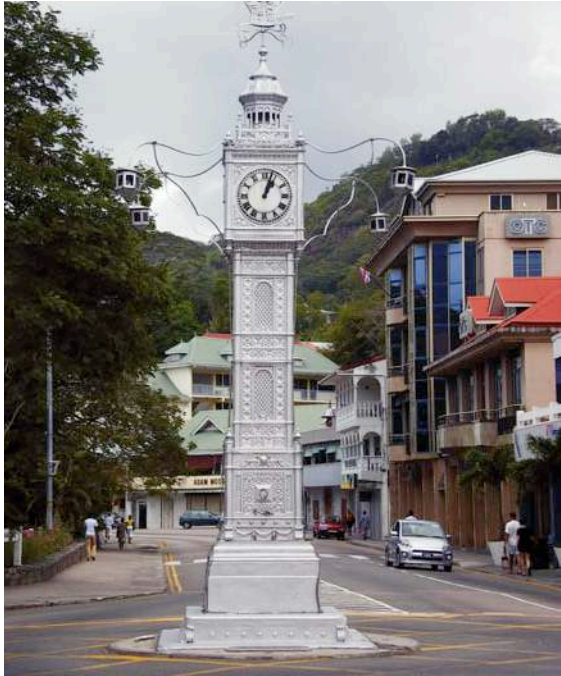
Lack of activities during night hours can be compensated by good lighting, which reduces anxiety and fear. Besides, experience shows that good lighting can favour the development of activities at night. At vulnerable places, strategic activities (kiosks, taxi stands, etc.) should be encouraged to improve surveillance.



Activities in buildings facing public spaces

To contribute to urban safety, functions and activities of buildings facing public spaces should be selected taking into consideration the time they are in use. Altogether they should provide a continuous "eye on the street" or minimize time gaps of surveillance. Specific time-use diagrams of the functions in the area (residential, office, shops etc.), mapping daily and weekly schedules, are a useful tool to detect gaps of spontaneous surveillance.

Time-use diagrams of site activities enables the detection of gaps of spontaneous surveillance



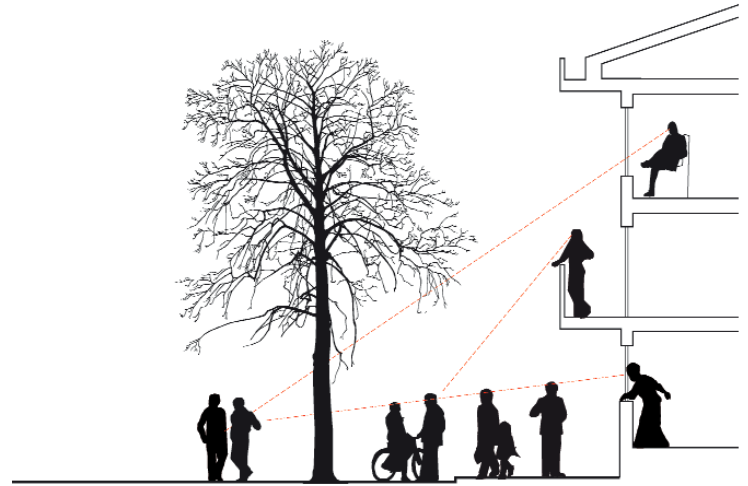
Visibility

The issue

Visibility allows people to see their way (and thus avoid dangerous situations) as well as to be seen as they use public spaces, thus making spontaneous surveillance possible. Visibility also facilitates the task of police or other forms of surveillance.

Everybody has experienced feeling uncomfortable or scared by having to walk along a blind wall, or for having to wait for a bus where one cannot be seen. Moreover, offenders know where they can be seen and recognised, and therefore avoid visible places.

For the purpose of safety, public spaces should be designed with visibility in mind: be visible from adjoining buildings (windows and storefronts), have clear sightlines, not have visual obstacles and closed views (solid parapets, sharp corners, screens, bushes etc.). Although total permeability is not always possible or desirable, its relevance in terms of personal safety should always be considered.



Windows and transparent parapets foster spontaneous surveillance of public space

Views from buildings on public spaces

Public spaces and sidewalks should be visible from upper floors of buildings (wide windows, balconies with transparent parapets), from shop windows, from building entrances and doorman lodges (where existing). Blind walls and buildings with empty ground floors should be systematically avoided. Where direct visibility is not possible, specific hardware (security mirrors, reflecting panels, etc.) can provide indirect visibility.

Landscaping, vegetation and sightlines

Landscaping should not reduce visibility in order to allow surveillance. Although articulated landscaping and grade differences (slopes and retaining walls) are often proposed for aesthetic reasons, they should be checked in respect of drawbacks on personal safety. Vegetation should have high permeability. Trees and planting should be selected and maintained so that they allow visibility from streets, do not block sightlines, do not hinder natural surveillance, do not provide cover for offenders and do not create entrapment spots.

Tall trees allow wide visibility and do not offer places to hide





Uniformly good lighting of walkways makes pedestrians feel safer

Lighting

Good lighting reduces fear of crime. Individuals feel safer if they can easily see and evaluate other people in the street. Lighting is considered adequate if a face can be easily recognised at a distance of 15 m.

To obtain good visibility, a high level of lighting is not enough. The distribution, the position and design of fixtures are also very important. Lighting should be homogeneous along sidewalks; these should be lit more than carriageways, thus avoiding the use of few high-intensity lamps that may create blinding effect and dark/shadow zones. Lights from shop windows, commercial signs, private buildings, can also provide a good contribution to public lighting.

Bus stops, entrances to parking facilities and metro stations

Entrances to parking structures and metro stations as well as bus stops should be located in places well visible from the surroundings. This because access points to public transport and parking facilities are places that everybody needs to use; therefore they should not be unsafe places.

Stops of public transport in each direction should be facing, so that persons waiting can see each others; shelters should be transparent and located far from entrapment spots. CCTV of metro stations and parking structures should cover also their entrances and surrounding spaces.

Bus stops located in front of shops and entrances provide a safer environment for people waiting



Transparency of shop fronts and visibility of building entrances

Shops are a valuable eye on the street. Their fronts must be transparent, without obstacles, to allow surveillance on public spaces and to enable persons to call for help.

Windows of shops and supermarkets should not be obstructed by shelves, opaque films or other visual barriers.

Building entrances should be well-lit and highly visible from the surroundings, because many persons are attacked just when they are opening the house door. Even slight recessions of the building fronts can create dangerous situations.

This entrance positioned between shops and clearly visible from the street is a fairly safe place



Accessibility

The issue

A safe environment is made of safe places and of safe connections between them. It is therefore important that roads, interchange points, parking facilities, pedestrian and bicycle routes be designed considering also the personal safety of users.

A clear layout of local roads and access routes to housing and facilities improves circulation and orientation, generates a feeling of safety in the users, improves visibility, facilitates spontaneous and organised surveillance. Safety of users is further increased if alternative routes are provided.

Bus stops, entrances to underground stations and parking structures generate flows of people that create vitality. For urban designers they are precious elements and they should be located so as to enhance other elements of natural surveillance.



Transport routes

Transiting trams and buses provide a dynamic "eye on the street" which is a powerful deterrent to potential offenders. Therefore transport routes should be located in streets where surveillance needs to be improved.

The bus route provides a valuable "eye on the street" in this area where level of activity is low

Access to public facilities

Public facilities must be accessible to everybody in safe conditions: access routes should be safe (eye on the street, well-lit, no entrapments, no decay) and entrances should not be from back streets or areas where natural surveillance is lacking.

By being located on a major street, the entrance of this hospital for elderly people is easily accessible to the local population



Transport stops

The location and arrangement of transportation stops should be studied in detail because persons are particularly vulnerable in these places.

Bus stops and entrances to underground stations and parking structures should not be located in areas where natural surveillance is lacking.

Attention must be paid to dangerous spots people have to go through such as narrow passages, underpasses, overpasses, parking lots etc.

To improve safety at bus stops, good information on time schedules is useful to reduce waiting time and thus decreasing vulnerability. Stop identification numbers, vicinity maps, and emergency phones also help users to feel safer.

The small fruit market open 24 hours improves safety for the users of the metro station





Criminal behaviour is discouraged by proximity of house fronts and "overlookability" of space

Pedestrian routes

The layout and design of buildings should allow for the creation of safe pedestrian routes, paths and alleys; therefore design should:

- provide a clear layout rather than relying on signage;
- allow pedestrians to be seen from adjoining buildings;
- allow sight views to the surroundings;
- avoid tunnels and foot bridges which, in any case, should be as wide as possible;
- avoid dark alleys and entrapment spots;
- avoid organizing pedestrian movements on different levels separating flows;
- provide good lighting;
- avoid separating flows if they are weak (e.g. avoid separating public access from service access).

Parking facilities

For the personal safety of users, linear parking on local streets is preferable to parking lots. Location and design of parking lots must incorporate crime prevention criteria:

- create many small parking areas rather than large ones;
- avoid locating them in marginal areas: they should be visible from adjacent buildings or activities;
- avoid depressed lots or surrounding solid parapets which reduce visibility.

Cars parked along sidewalks are visible from dwellings



Access for disabled people

Paths and ramps provided for disabled persons to overcome grade differences should be checked also in terms of crime prevention. They should be visible from streets, shops and windows, have transparent parapets, and be well-lit.



The gates of this cul-de-sac are closed at night, thereby restricting access

Control or restriction to problematic spaces

Private and semi-private outdoor spaces should be designed so that they can be access-restricted or fenced, if the need arises. In some public spaces access restriction (at night) may also be necessary. There is no general rule to be applied, and fencing should be used considering the specific local situation and the peculiar problems of the area. Dangerous spaces like access to underground areas, narrow passages, dark alleys, etc. should be video controlled.

Security and emergency services

Outdoor spaces should allow good access and easy manoeuvres to police and other emergency services. Design should not create obstacles to their circulation; the need to backup must be avoided.

Police and emergency services have easy access to this pedestrian mall



Territoriality

The issue

The degree of safety of a place – public or private – depends considerably on the sense of belonging of the users and their identification with the place, because people respect and protect the places they feel as theirs.

This concept is generally referred to as "territoriality": e.g. the shop owner is likely to intervene if vandalism takes place in front of their shop because they consider this area as their "territory", whereas in an undefined space between large buildings nobody would intervene because it is nobody's territory.

Urban design decisions strongly affect territoriality. For instance, isolated high-rise residential buildings in a large open space or repetitive building-slabs create an environment without identity that people do not feel as theirs. Therefore territoriality should be considered in the early stages of urban design rather than at the stage of detailed design of public spaces.

Public spaces that are out of scale or that lack of identity and character, or that have a poor definition of boundaries, are perceived as nobody's territory; they tend to be avoided in terms of use and neglected in terms of maintenance: this causes lack of spontaneous surveillance and decay.



Simple decorative elements are used here to define the boundary between public and semi-public spaces
© IAU île-de-France

Definition of limits between public, semi-private and private spaces

Public, semi-public and private spaces should be clearly defined in order to be used properly and legitimately, and to allow people to know who is in charge, so that they can efficiently report possible problems. Limits do not necessarily need to be fences; clear symbolic markings are also useful for the purpose.

Feeling of ownership

The character (layout, shape and treatment) of outdoor spaces should induce a feeling of belonging in the users, in order to enhance their feeling of civic responsibility and respect of the place.

In this public space, users feel at ease and relaxed as in their private garden





A well-defined organisation of space can diminish conflict between different activities

Define the purpose of a space (for different target groups)

In designing a public space, one should not deal only with aesthetic criteria, but bear in mind the purpose of the space, that is the type of activities which will take place there. Some spaces are conceived for a large range of functions in which all citizens may participate. Other spaces are conceived for specific target groups (children, youngsters, families etc.) and need to be clearly identified. Where necessary, separation or transition areas should be provided. Regulations stating what is prohibited should also be posted.

All this helps to prevent conflicts and make people feel more comfortable and safe. In addition, it facilitates the task of guards and police.

Scale of public spaces

The sense of territoriality is affected by the scale of a space in relation to its use: e.g. pedestrians feel more comfortable in public spaces with human scale, whereas they would feel uneasy in a larger area, and consequently not develop a sense of belonging. For this reason a public space should not be out of scale: its overall size, the dimension of landscaping elements and facilities should correspond to the amount of expected users and to the type of activities which will take place.

A space with an appropriate scale is likely to be "adopted" by residents and users, be taken care of, and protected against misuse and vandalism: all conditions that prevent decay, incivilities and crime.

This square on top of an underground car-park has maintained a human scale



Attractiveness

The issue

Beauty speaks to the soul and bears a profound message which everybody is sensitive to (J.Hillman).

Therefore beauty indirectly has an influence on safety.

An attractive place, instils respect, enhances the sense of belonging and civil responsibility of the users and inhibits mis-behaviours.

In order to generate these feelings and attitudes, it is more important to create attractive and useful spaces for people, rather than searching for an abstract sense of aesthetics.



The friendly character of this public space creates a pleasant place for people to meet

Friendly character of public spaces

The character – shape and treatment – of public spaces should look friendly for the users and reflect common sense rather than the designer's footmark, in order to enhance people's appropriation and their feeling of civic responsibility.

Allow for spontaneous activities

Public spaces, in order to be attractive, should allow for many activities, both planned and spontaneous. These however should not become a nuisance for some category of users or inhabitants (skateboards, dogs, screaming groups of youngsters etc.). Their density should be controlled in order not to exceed people's tolerance.

Avoid nuisances

Specific features and elements of public spaces, such as ramps to underground parking, fire escapes, garbage collectors, electrical substations, ramps for disabled, if poorly designed, can induce nuisances that reduce the attractiveness of the area.

All these elements must be studied in detail and incorporated into the project before the design is finalised and not be added afterwards.

Besides affecting attractiveness (and indirectly safety), these nuisances often become sources for other problems of safety: entrapment, arson, accumulation of garbage and excrements etc., all contributing to decay and fear of crime.

The ramps of this underground car-park are well integrated into the large sidewalks



Quality of materials to prevent decay

The issue

Quality of materials in shop fronts, pavements, walls, fences and street furniture etc. has indirect impact on safety.

In fact, materials that deteriorate easily, that break, or that are difficult to maintain, trigger decay which is acknowledged to affect crime, vandalism, disorder and fear of crime.

Places where maintenance is poor and where landscaping and furniture of public spaces has deteriorated, communicate that care is lacking. For potential offenders this is a clear sign that they can act undisturbed, as nobody supervises the place ("Broken Windows" concept).

It is therefore important to use proper materials that help to prevent decay. Good quality of landscaping elements and materials communicates a positive message which induces respect and care.



This robust well-designed trash-basket is a pleasant piece of street furniture

Robustness and attractiveness

Robustness and resistance of landscaping elements and materials should not reduce the attractiveness of public spaces, in order to avoid the sense of rejection which causes people to desert public spaces.

Selection of materials

Architectural concept and design of public spaces, including ground-floor building fronts, should provide for durable construction in order to minimize deterioration and the need for costly repairing.

The selected materials should be robust (not break easily), should not get dirty and should be easy to clean, should not deteriorate, should be simple to replace, and should be resistant against arson and vandalism.

The surface of materials and construction elements should discourage graffiti (be corrugated, with climbing plants etc.) and/or be easy to clean through the application of appropriate coating.

The smooth and resistant material of these benches provides durability and facilitates cleaning



MANAGEMENT STRATEGIES

- MAINTENANCE A well-managed place sends a clear message of care and safety that both dissuades offenders and is reassuring for the users. Good management also reduces the feeling of insecurity by acting on the consequences of crime and vandalism.
- SURVEILLANCE The design and treatment of spaces has an influence on their management and it can either make management easier or make it more difficult.
- RULES GOVERNING CONDUCT IN PUBLIC SPACES In order to ensure good management of a site, it is necessary to introduce management criteria and to make the appropriate choices right from the initial planning and design stage. The quality of the project can be judged on its ability to facilitate the job of the eventual manager.
- RECEIVING PARTICULAR GROUPS
- COMMUNICATION WITH THE PUBLIC
- TARGET-HARDENING Managing a site in terms of safety, implies five main tasks: site maintenance, site surveillance, regulation of its use, communication with users and the provision of appropriate measures for vulnerable groups. All these activities demand a complex interaction between the different stakeholders, in which the site managers play a key role, as do the other stakeholders with different responsibilities.

The owner and contracting authority of a project should involve these stakeholders in their decisions in order to take into account their tasks and needs previously identified in the preliminary studies, the programmes and in the urban design options. In addition, the urban development project provides an interesting opportunity for the establishing of links, and the mobilisation of stakeholders who will operate in the site once it is completed.

Maintenance

The issue

The maintenance of the public spaces involves cleaning, and cleanliness programmes (viz. collection of domestic waste, bulky scrap, selective sorting, etc.) repairs and maintenance (viz. replacement of damaged furniture, roadway and surface repairs, dealing with wrecks) to be undertaken by the site manager supported by other services, both private and public.

With regard to objectives focussing on safety, good maintenance management makes it possible to reduce elements that are detrimental to the space (malfunctioning, degradation, filth, risks that increase the likelihood of accidents, etc.) and that represent a source of anxiety for users and an encouragement to crime and vandalism.

The management policy for maintenance would consequently aim to:

- reassure the user by providing a high quality space that is clean, well maintained, comfortable and functions effectively,
- make the users aware of the manager's ability to react in such a manner as to encourage them to respect the place and dissuade them from behaviour, which would be detrimental to its general effectiveness.

Basic maintenance strategies for safety

Attractive space for a positive atmosphere

A high level of maintenance contributes to a welcoming atmosphere, which satisfies the users and promotes respect for the site. There is an implicit contract between the user and the manager in which the latter provides a high quality facility, and the user respects both his role and the service he provides.

Quick response

The prompt intervention by the manager in cases of, say, vandalism, demonstrates the ability to respond to and eliminate behaviour which would be detrimental to the spaces effectiveness. Vandalising behaviour if caught early and dealt with, often 'runs out of steam' and can reduce the chance of it being repeated.

Maintenance well adapted to the use of spaces

Manager's resources should be adapted to the individual characteristics of the space. For example, a space that is destined to be intensively used, requires rigorous maintenance in order to guarantee its continued attractiveness and to anticipate degradation resulting from its intense use.

Uniform quality of maintenance within an area

At the same time it is important to pursue a policy of homogeneity and harmony in the management of different spaces within the overall area.

This is in order to avoid differentiated approaches which might result in stigmatisation with say two sites adjacent to each other; one being a well maintained space, and the other neglected and degraded.

Special attention to vulnerable places

Certain technical facilities are frequent, and vulnerable targets: public lighting, electricity and telephone systems, etc. They require specific protective measures and reactive intervention in the case of malfunction or damage due to vandalism. Particular attention should be paid to spaces such as wasteland, and construction sites on the outskirts of cities surrounded by neglected sites, whose location and situation, makes them vulnerable.

The organisation of a shared approach and partnership between managers

Harmonisation or optimisation of the management of maintenance, over a group of spaces within an area, requires the coordination of several different services or departments, possibly the pooling of some interventions. Partnership is thus essential but it has to be organised through a defined process. This will help firstly to clarify the different aims and responsibilities secondly to identify the stakeholders concerned, and finally to define the intervention procedures and tools such as framework document, terms of agreement, financial partnership, etc.

The good level of maintenance of this space transmits a welcoming atmosphere



Practical instructions for project decision makers

The influence of the urban design decisions on the maintenance potential

Urban design decisions can facilitate or alternatively diminish, the effectiveness of space maintenance.

The clear status of properties and their boundaries makes it possible to determine who is responsible in terms of maintenance, viz. who maintains what, who maintains where.

The ease of access to spaces for the services responsible for their maintenance is a decisive factor. For example, it concerns the location of the premises destined for the collection of domestic waste, or the width of roads to permit the transit of service vehicles. Agreements can also be signed between the owner of the space and their services to allow their access.

Particularly during the project design phase, a study of the layout and size of the pedestrian paths is vital in avoiding deterioration resulting from incorrect anticipation of flows and behaviour patterns.

A rapid intervention in case of degradation shows the manager's capacity to fight vandalism
© IAU île-de-France



Considering maintenance from the first stage of the project

Whether or not the contracting authority will provide the future management of the site, it is important that it involves those bodies who will have the responsibility for maintenance management in the future. This is necessary so as to take into account their tasks and the constraints they may face, and also to provide for the feasibility of their intended interventions.

The involvement should start with the preliminary site analysis and the diagnostic phases for identifying needs or potential difficulties with regard to maintenance. This would allow to identify the sources of future problems, such as faulty design of spaces, lack of organisation of maintenance tasks, lack of necessary means.

The contracting authority can also provide consultancy for the stakeholders responsible for maintenance in order to formulate choices relative to urban design according to their impact on the feasibility of maintenance tasks (cf. above)



Easy access of services allows for good maintenance.

Surveillance

The issue

Different modes of surveillance may be envisaged depending on the specific issues arising from the place. The design of the space will inevitably have a significant impact on the feasibility, and effectiveness of the modes chosen.

Natural surveillance refers to informal human surveillance or spontaneous processes of mutual observation between users. It also includes specific local professionals or representatives who are in direct contact with the public such as public service employees, resident's representatives (including community organisations, resident's intermediaries, etc.) or some grassroots authorities (religious figures, etc.)

Formal human surveillance is exercised professionally by the police, by private security or by the manager of a space, such as the 'keeper' of a square. Mediators, social and youth workers participate in this human surveillance even if this is not their primary objective. Sometimes other roles, for example a building caretaker whose primary task is quite different, participate indirectly in surveillance. All these roles have their own functions viz. regulation of uses, respect for rules, compliance with the law, and operate in different ways such as continuous presence, patrols by foot, bicycle and vehicle.

Technical surveillance concerns the material or technical systems used for monitoring, and protecting a space. They primarily utilise video systems; however systems related to control of access or technical protection such as alarms also play a part.

Basic surveillance strategies

Assessment of the different modes of surveillance

Each means of surveillance should be evaluated and compared to possible alternatives in order to determine those best suited to meet the issues of the site. This analysis should identify the stakeholder's responsible (police, private services, security organisations, mediators, etc.).

Public facilities are of strategic importance for a city, and their points of entrance and access need particular attention in terms of surveillance, night and day.

Coordination of modes of surveillance

The juxtaposition of different modes of surveillance requires coordination and even, sometimes, the introduction of a specific linking system whose function is to facilitate this coordination, possibly through regular meetings, covenants, etc.

This, for example, might mean promoting a dialogue between those working in social prevention and law enforcement bodies, or organising a joint work of those monitoring a site with those taking care of the video surveillance system.

Accompanying natural surveillance

Natural surveillance depends on the quality of the space as it is perceived by the users. Nevertheless, means can be sought to re-enforce it, particularly via the activation of neighbourhood relations through specific systems ('residents' delegates, neighbourhood charters, etc.) or activities (street parties, local area festivals, etc.). However natural surveillance must be handled with care. The feeling of belonging (summarised by the 'territorial principle' cf. chapter 2) can lead to the appropriation of the space by one group of users to the detriment of others and of the notion of shared space. Likewise the drive for high intensity use to stimulate natural surveillance can also lead to increased risk of conflict between users.

The complexity of video surveillance

To date, the cost/benefit ratio of video surveillance remains unproven. The study of how appropriate this kind of system is in comparison with other possible modes of surveillance is still to be undertaken.

When deciding to use a video-system, it has to be considered that there are costs not only for the equipment but also for human resources, highly trained and prepared.

If video surveillance appears necessary, the study, and definition of its uses and condition of operation, must be examined carefully.

What are the objectives of the system (pro-active, real-time surveillance via direct viewing of images, or by intervention based on a later viewing of recorded images)?

What are the means, organisational and human, that must be deployed to achieve the desired objectives?



Guards riding in a park: horses make the work of these guards more friendly to the users © IAU île-de-France

Practical Instructions for project decision makers

The objective is to ensure that the project provides for the way in which the surveillance of the spaces will be made possible.

Influence of urban design choices on surveillance effectiveness

The space must be designed in such a way that facilitates the implementation of the measures listed above. These measures must address the following:

- **The clarity of the properties and their boundaries:** a clear definition of space and real estate provides a basis for identifying the responsibilities and the competences of the stakeholders in charge of surveillance.
- **The visibility of the spaces:** the design of the space impacts on the capacity to 'see and be seen' with regard to both the human and technical surveillance modes.
- **The accessibility of the space for those in charge of surveillance:** surveillance capacities are dependent on it. If access to an area is not physically possible, clear sightlines can improve the quality of visual surveillance from outside the site.



Maintenance workers provide a valuable surveillance in parks

Considering surveillance tasks since the first stages of the project

The involvement of those stakeholders responsible for surveillance at the conception of the project will make it possible to consider the feasibility of their tasks, their modes of operation and the constraints. This involvement can result in a preliminary draft of a partnership agreement actionable from the earliest stage of the project, for example an agreement enabling the police to enter the site.

With regards to the technical systems, it is possible to plan for the conditions under which a technical surveillance system may be implemented, by deciding on the routing of the electrical network at the initial onset of the project. It is also possible to plan ahead for a future decision to install such a system by either keeping open the possibility of a link to an existing electrical network, or of the installation of a completely new system.

The clear status of properties and their boundaries clarifies who is responsible in terms of maintenance and surveillance © IAU île-de-France



Rules governing conduct in public spaces

The issue

Rules governing conduct concern the management of the public in terms of the way the space is used. From the safety perspective, they can play a role in preventing different types of nuisances that contribute to the feeling of insecurity (minor disorders, vandalism, etc.), and in addition contribute to minimise the risk of conflict between the different needs of the various users.

Several elements are essential to achieve the drafting of well-suited rules that have a chance of being complied with.

They include:

- the involvement of users in their definition so as to develop collective rules that users will accept,
- the flexibility of these rules in accordance with the potential changes in the way the space is used,
- the resources allocated in support of their implementation.

Basic regulation strategies for safety

The definition of rules of uses

The management of the place should firstly define its expectation with regard to the way users may use the space. Clear expectations lead to clear rules and their equally clear application. Whereas the law defines behaviour in public spaces, specific spaces need additional rules. They may be formulated in different ways: in the form of internal rules and regulations, in the form of a contract such as a neighbourhood charter, or in the form of a lease agreement. Communication with the users, residents or not, or their involvement in the definition of these rules, is essential in obtaining their support.

The communication of rules to users

The visibility of rules contributes to a policy of making users feel welcome to the site. These rules may therefore be communicated along with other types of information such as the functioning of the site, emergency assistance, etc. There are multiple vehicles for this type of communication, but the experience of managers demonstrates that posters have limited affect in comparison to direct, person-to-person communication, such as, for example, the reminder of the rules by a caretaker. At the same time, if these rules have been written jointly with the users, and the design and management of the site are clear for the user, the assimilation of these rules occurs almost naturally.

Applying the rules

Rules that are not obeyed because the manager is negligent, send a message of permissiveness to potential offenders. At the same time, a certain flexibility in the application of these rules (i.e. tolerance) must be embodied into their application together with a degree of adaptability to the changing needs and expectations of the users. Communication with users makes dialogue possible for the purpose of finding common ground, for example through negotiations and agreements entered into within the framework of mediation initiatives.

The involvement of the institutional stakeholders

Certain events can require means other than those possessed by the site manager. Contacts or contracts can be established with the police or legal institutions to ensure that each act of offence or vandalism results in a commitment to appropriate action and follow-up.

In this way the site manager sends a clear message about the obligation of complying with site rules. With the police, the main issue is the organization of the registration of complaints and their follow-up in order to avoid situations, in which no further action is taken; for example a simplified complaints registration process for building caretakers, or the appointment within the manager's staff of a person responsible for liaison with the police.

In some European countries, the site manager can create partnerships with legal services in order that penalties and disciplinary penalties imposed, depending on circumstances, take the form of 'criminal reparation' to be done on the site where the act was committed.

The principal objective is to prevent second, or repeat offences from occurring. On a more general level, it forms both part of the penalty administered, and contributes to the educational monitoring of potential delinquents.

Rules governing conduct in a park must be adapted to the needs of the users to obtain their support (for instance walking on the lawns) © IAU île-de-France



Practical instructions for project decision-makers

Clarifying the function of the space

The rules governing use correspond to expectations in terms of the users' behaviour and conduct in a certain space. These expectations can only be fulfilled if conditions are right, in particular if the purpose of the space, its function and its status are clear and immediately legible for the user, and for the manager responsible for enforcing compliance with the rules.

Special events require exceptional maintenance services



Taking future uses into account during the 'set-up' phase of a project

The preliminary study phases, including the diagnosis, are crucial in the evaluation of the needs and expectations of the future users (their activities, itineraries, use of spaces etc.) This will be useful to define the design concept and to take adequate urban design decisions; it is therefore important that users' surveys obtain adequate funding.

The project monitoring and post-delivery observation are not always included in a contracting authority's programme. Nevertheless they are necessary for the readjustments that affect the quality of the project. They make it possible to verify the degree to which the project is suitable for real uses and to identify gaps, malfunctions or major problems that require further intervention.

Adaptability of the project

The adaptability of the project, with regard to future developments and needs, contributes towards making the city more sustainable. The notion of 'interim measures' is interesting in this context. Options such as the closing, opening or partitioning space, creating new itineraries, or a second access, installing new lighting, creating new green space, installing a new network, etc. all might be possible. From this point of view, the legibility and knowledge of the property boundaries, including underground networks, represent a major advantage contributing to the potential of spaces to respond positively to future demands.

Rules governing conduct must be clearly stated; in this park sun-bathing is allowed © IAU île-de-France



Receiving particular groups

The issue

Specific groups such as homeless people, drug addicts, prostitutes, people excluded from society, as well as certain groups of users such as seniors, children, women need particular attention in the management of a space, with regard to their vulnerability, their specific needs or the potential risks of conflicts. It is thus important that the project takes into account the whole population for whom the spaces are intended so as to be ready for any further potential difficulties in dealing with these particular groups.

Basic strategies for safety

Anticipating the presence of particular groups

The identification of future users should cover comprehensively all those groups likely to use the space.

There are particular groups of users (homeless, drug addicts, prostitutes, etc.) that have to be specifically considered in terms of their relation with public spaces. On one hand, their presence can conflict with other groups of users or activities; on the other hand, it makes no sense to consider them as "undesirable" as they do have their place in the public domain like any other citizen. Other groups of users (notably seniors, women, children, disabled...) are considered vulnerable a priori. It is therefore important to take into account their specific needs in terms of safety, as this can also be valuable for the whole population. However, these populations should not be over-stigmatised. For example, sociological studies show that not all women suffer from feeling insecure in public spaces, but that these feelings are primarily felt by women who are insecure in their family lives, or who have been victims of aggressions as well as those in critical socio-economic situations.

In residential buildings, a major issue concerns occupants suffering from social exclusion and precarious situations. These groups can generate nuisances to the neighbourhood, for instance not maintaining their lodgings, and this can result in their rejections by the neighbours, thus exacerbating the exclusion.

Identifying needs and appropriate measures

These particular groups require specific measures with regard to receiving them and supporting them. Possible measures might be: dedicated reception and information centres, adjustment of the rules with specific groups of users, mediators and social services, health points (e.g. for drug addicts), specific cleaning service. Initiatives can be targeted by the manager of the place and committed to, in partnership with the competent stakeholders such as social partners. However, beforehand, it is important to be familiar with the problems they can face. For example, a social housing manager, might find the need to carry out a socio-economic monitoring of residents in order to anticipate and prevent the empowerment of certain tenants, possibly by sending them to, or working with, the appropriate social services. A manager of a recreational open space, might take surveys of potentially vulnerable users so as to identify their particular needs with reference to protection. These might include community meetings, interviews and a safety walking-tour: a guided tour of the site with the target populations, in order to identify elements that generate insecurity.

Senior citizens are regular users of parks; it is important that they can feel safe.



Practical instructions for project decision-makers

Any urban project can have an impact on these difficult social situations. This impact can be both direct (through the quality of the spaces produced), and indirect (through the planning strategies).

Planning strategies helpful in combating exclusion

Provision of mixed housing of different sizes and prices makes it possible to guarantee a mixed population, thus helping to combat social exclusion.

The housing authority can provide a particular offer or be adapted to the special needs of a group that experiences exclusion (handicaps, particular social situation etc.). The buildings provided can include those necessary to host public or social services needed by a group in difficulty (employment subsidy services, social assistance etc.) and include specific reception arrangements (emergency accommodation etc.).



Volunteer social workers assist old people who have been victims of violence
© Comune di Roma Ass. Sicurezza

Urban design choices aiming at comfort of use

The legibility of spaces, in terms of their capacity to provide orientation and to indicate the spatial location of places, contributes to making the space easier to use for groups that feel vulnerable and uneasy when they move around.

Effective signage and lighting are additional factors for the comfort in using spaces. The establishment in public open spaces of a "reception point", where users can find information and assistance, contributes to the improved well being of users.

Urban development projects as opportunities

Competences of the project owner, depending on the structure for which they are responsible, are becoming increasingly open to new aspects. There is a move from urban development projects, focused on architectural and physical aspects, towards territorial projects, linking spatial interventions with economic and social projects. For example, projects with economic development and attractiveness as their objectives, deal also with the establishment of businesses or employment subsidies, as well as partnerships with training bodies, for the purpose of working with non-qualified residents, the unemployed etc.

The urban development project as a vehicle of information

During the preliminary study phase, the project owner can participate in identifying the uses that may be vulnerable. Even if it does not manage directly the reception of particular groups, it can involve competent stakeholders for planning ways to deal with these difficult social situations.

A "Safety walking-tour" in a park with seniors may help to identify elements in the design that could generate insecurity for this specific group © IAU île-de-France



Communication with the public

The issue

Communication with users aims to involve them in the project's development process. Processes for communication range from the provision of simple information, to the full participation of users and inhabitants. This can prove an effective safety approach with regards to the prevention of minor disorders (vandalism, nuisances etc.) in addition to encouraging respect for the rules governing the use of public spaces. Consequently, communication seeks to trigger mechanisms of positive appropriation in users, of their involvement in the proper functioning of the spaces once they are built, and the promotion of a sense of responsibility and respect for those spaces.

Basic communication strategies for safety

Providing information on preventive measures

Rules established to govern the use, modes of surveillance, and mediation systems are more effective when the users are aware of them, both in terms of reassurance for the user himself and in terms of dissuasion of potential offenders. Nevertheless, the visibility of these measures, notably the means of surveillance, needs to be carefully considered. Video-surveillance can suggest site vulnerability to some users, who perceive it as being the proof of a high level of insecurity.

Communication to increase users' sense of responsibility

Communication makes it possible to establish a relationship of proximity and trust between the site manager and the user with regard to the functioning of the site. Sense of responsibility and support from users are first requirements. Thus, the privatisation of an entrance hall, the establishment of a bicycle garage or the implementation of selective sorting may be prepared together with the users concerned. Their involvement guarantees their support for the project, and community agreement is obtained with regard to the planned *modus operandi*.

However, the appropriate moment for this communication is a delicate matter. It is a case of involving them upstream in order to leave them with genuine room to manoeuvre, while at the same time succeeding in guiding them towards community issues that are more important than individual agendas. Certain required results of the project are however, not negotiable.

Furthermore, there is also the question of to whom the communication should be addressed. Associations of tenants, users, or co-owners are not necessarily representative of the groups concerned. Moreover, when users prove difficult to mobilise, communication with front-line agents is doubly useful from the point of view of the information relayed to residents, and also from that of their own involvement in the defined safety strategies such as systematically registering a complaint in the case of vandalism, or informing the services concerned in the case of incidents.

Participating in the functioning and the management of the site

Communication can also go further and aim at encouraging active participation by the users in the functioning and the management of a site. One well-adapted strategy involves the employment of the local population, in particular young people, in the construction phases of a project and in the operation of a site. The site manager can then work with the local bodies involved in subsidising employment.

In these districts problems of anti-social behaviour and rules are discussed with the inhabitants
© Comune di Roma Ass. Sicurezza



Practical instructions for project decision-makers

Making provision for information necessary for the use of a place

Readily and easily-accessible information, help, and assistance, should be committed to, right from the design stage of the spaces, by making provision for the facilities required (information terminals, signboards, maps, signposting etc.) and adequate human resources and services (human presence, security post etc.)



A workshop with users of a park to identify the best solutions in term of renewal; their involvement guarantees their support for the project © IAU île-de-France

Spreading the communication throughout the different phases of the project

In particular with regard to safety objectives, the value of communication lies in the user's genuine support for the project. As support is developed through participation, the involvement of users should consequently be developed at different periods in the project: during the study phase (in the diagnoses), the programming phase, or the urban design phases (in the form of workshops, for example). It cannot be reduced, however, to a simple consultation once the decisions have been taken.

Generating a positive urban atmosphere

Urban atmosphere is produced by the quality of a project and it contributes to communicating a positive image of the place. It refers back to various aspects of the physical and functional urban context: the design of the site and its appropriateness to the expectations of users and the way they use it, the convenience of use of the place, (access to information, signing, lighting, etc.) the quality of maintenance, the offer of services, and community dynamics etc. The urban atmosphere also results from a wider policy of measures aimed at communicating with the residents, for example through reception meetings in town halls for newcomers, sufficiently extended consultation times with elected representatives, or the means for disseminating local news etc.

The renewal of this social housing created premises at the ground floor to provide information and assistance to the tenants © IAU île-de-France



Target-hardening

The issue

The aim of target hardening is to prevent a potential offender from acting in spaces that have been identified as critical spaces or as specific targets of crime. As a criminological concept, target hardening refers to the strengthening of possible targets of crime, with the aim of preventing an offence by reducing, or minimising the risk of attack. It, therefore produces the need for the potential criminal to make a greater effort to commit crime.

However, not all the spaces can be considered as targets of crime. A safety audit will highlight spaces with a high risk-factor as evidenced by previous repetitive offences, or because they generate problems in terms of uses (conflicts among users, misuses, accidents...). Other spaces can be considered as critical because their strategic function made them important for the way the city works. Technical places where facilities such as electricity, gas, water and telephone systems are located are particularly worrying. All these spaces need specific protection or management with regard to their security and their design must also be planned with this critical character in mind (see section on design strategies).

Basic strategies for target hardening

Identification of high-risk spaces and potential targets of crime

A safety audit, part of the whole process of the project, can highlight which spaces are high-risk or specific targets of crime.

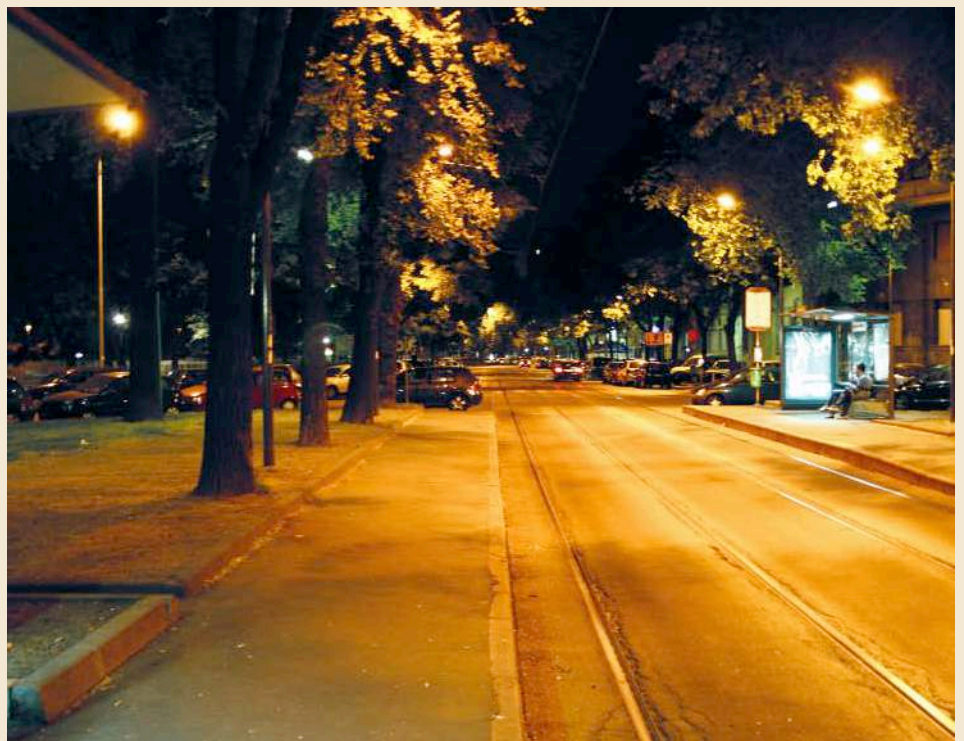
Providing for specific measures of protection and surveillance

A safety plan of action aimed to protect these critical spaces and services, can include both human and technical measures, i.e. formal surveillance as well as access control for instance.

Physical target-hardening

There are different ways of achieving target hardening, including different systems of physical security reinforcement such as: perimeter fencing, walls, strong exterior doors, deadbolt locks, secure basement windows, bars, adequate lighting and alarm systems (one of the most diffused method of protection). It has to be considered that target hardening is costly and that it is impossible to harden everything. In the light of this consideration, target hardening should be used as a selective measure primarily to deter, or delay a criminal attack.

Adequate lighting can be an efficient way of target hardening



Practical instructions for project decision-makers

Location of potential targets and vulnerable systems

A careful choice of the location (for technical services in particular, such as trash cans) can minimize the risks of potential offences. They can be located in such a way as to favour natural and formal surveillance and to facilitate maintenance interventions.



The entrance to this social housing has been redesigned with access control, in order to prevent small disorders and vandalism and to encourage appropriation by the residents of this semi-private area © IAU île-de-France

Design of vulnerable places

At the outset, and most importantly, the design work of the project must take into account the potential "vulnerability" of spaces. Accessibility, protection and compartmentalization of these places can be planned accordingly.

The specific issue of "access control"

Control of access to high-risk places must be studied in detail. Different questions referring to the uses of the space must be dealt with: why do we want to control access? Who is allowed to come into the place? How will it be achieved? For instance, a residential area can be designed with an access control to allow only residents to come in. But, mail boxes and trash cans must be reachable by the appropriate services. This accessibility must be agreed with the manager. It also can be planned into the design (through the design of the entrances of buildings, see section on design strategies). A project can also be planned so as to keep open all public spaces, however it should be planned for the possibility of closing some of them in the future, if the need should arise, so as to deal with new situations (for instance providing the possibility to raise a physical barrier (fence, wall) between two type of spaces for the purpose of making the boundaries clean and clear).

The limited access to the station reduces risk of aggressions on passengers







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