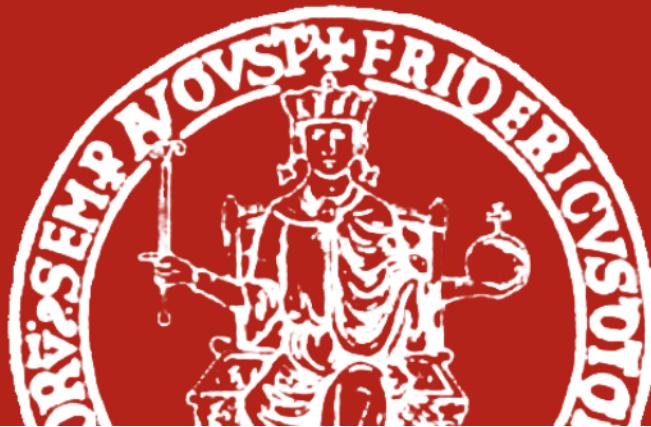


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## Urban public spaces. Concepts for safety and inclusion

*Spazi pubblici urbani. Concetti di sicurezza e inclusione*

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### ABSTRACT AND KEYWORDS

#### Urban public spaces

Unsafety, real or perceived, acts as an obstacle to the management and use of public spaces, limiting everyone's freedom and negatively affecting the quality of settlements. The pursuit of safe conditions, including from the various forms of threat and crime, requires the integration of the different existing approaches in order to achieve effective and lasting results. A specific consideration should be made in relation to the security conditions of urban green spaces. Previous empirical evidence has found that the cleaning and greening of empty lots is associated with a reduction in crime. The aim of this EU-funded project (Next Generation EU), with the PRIN projects 'SeTUP' and 'NatSolis', is that the results of this research will lead to the definition of models that can be implemented in policies, plans and regulations. This work is, in fact, an opportunity for a more careful reflection on the topic in order to identify the key aspects that allow Urban Planning to be oriented towards the environmental prevention of crime risk and towards the definition of specific actions, for the adaptation, over time, of urban spaces to security criteria.

**Keywords:** safety, urban public parks, security, urban public spaces, inclusion

#### Spazi pubblici urbani

La mancanza di sicurezza, reale o percepita, agisce come un ostacolo alla gestione e all'uso degli spazi pubblici, limitando la libertà di ciascuno e incidendo negativamente sulla qualità degli insediamenti. Il perseguitamento di condizioni di sicurezza, anche dalle varie forme di minaccia e criminalità, richiede l'integrazione dei diversi approcci esistenti per ottenere risultati efficaci e duraturi. Una considerazione specifica va fatta in relazione alle condizioni di sicurezza delle aree verdi urbane. Precedenti evidenze empiriche hanno rilevato che la pulizia e l'inverdimento dei lotti vuoti sono associati a una riduzione della criminalità. L'obiettivo di questo progetto finanziato dall'UE (Next Generation EU), con i progetti PRIN "SeTUP" e "NatSolis", è che i risultati di questa ricerca portino alla definizione di modelli che possano essere implementati in politiche, piani e regolamenti. Questo lavoro è, infatti, l'occasione per una più attenta riflessione sul tema al fine di individuare gli aspetti chiave che consentono di orientare la Pianificazione Urbana verso la prevenzione ambientale del rischio criminalità e verso la definizione di azioni specifiche, per l'adeguamento, nel tempo, degli spazi urbani a criteri di sicurezza.

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**Parole chiave:** sicurezza, parchi pubblici urbani, sicurezza, spazi pubblici urbani, inclusione



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## 1. Introduction

The theme of “urban safety” encompasses a wide range of concerns and issues. This concept covers access to nutritious food, stable shelter and comprehensive health care. In addition to these basic needs, the concept also addresses the hazards posed by natural disasters, including the devastating effects of earthquakes and cyclones that can devastate communities and infrastructure (United Nations Human Settlements Programme, 2007). However, in this contribution, “urban safety” will be understood as security against a wide spectrum of phenomena ranging from predatory crimes (robberies, thefts, muggings), to aggressions and behaviours such as simple infractions (e.g. of the highway code) or acts of incivility such as writing on walls, breaking bottles on the street, disturbing the public peace and, more generally, conditions of urban decay (Piedmont Region, 2013). The growing demand for urban security put forward by citizens calls for reflection on the methods adopted to deal with this emergency and on the possible aspects that directly or indirectly may have repercussions in this regard. What makes the city unsafe is not only the actual risk of being the victim of predatory crimes, but also the perception of insecurity felt in certain spaces and related to urban decay and social unease. The issue of urban security is a prerequisite for the creation of sustainable cities and communities as confirmed by the Sustainable Development Goals (SDGs) of the 2030 Agenda, in particular SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable. Unsafety, real or perceived, acts as an obstacle to the management and use of public spaces, limiting everyone's freedom and negatively affecting the quality of settlements. Determinants in this sense are the physical elements of the urban environment, related to the criteria according to which cities and spaces are planned, designed, built, and managed.

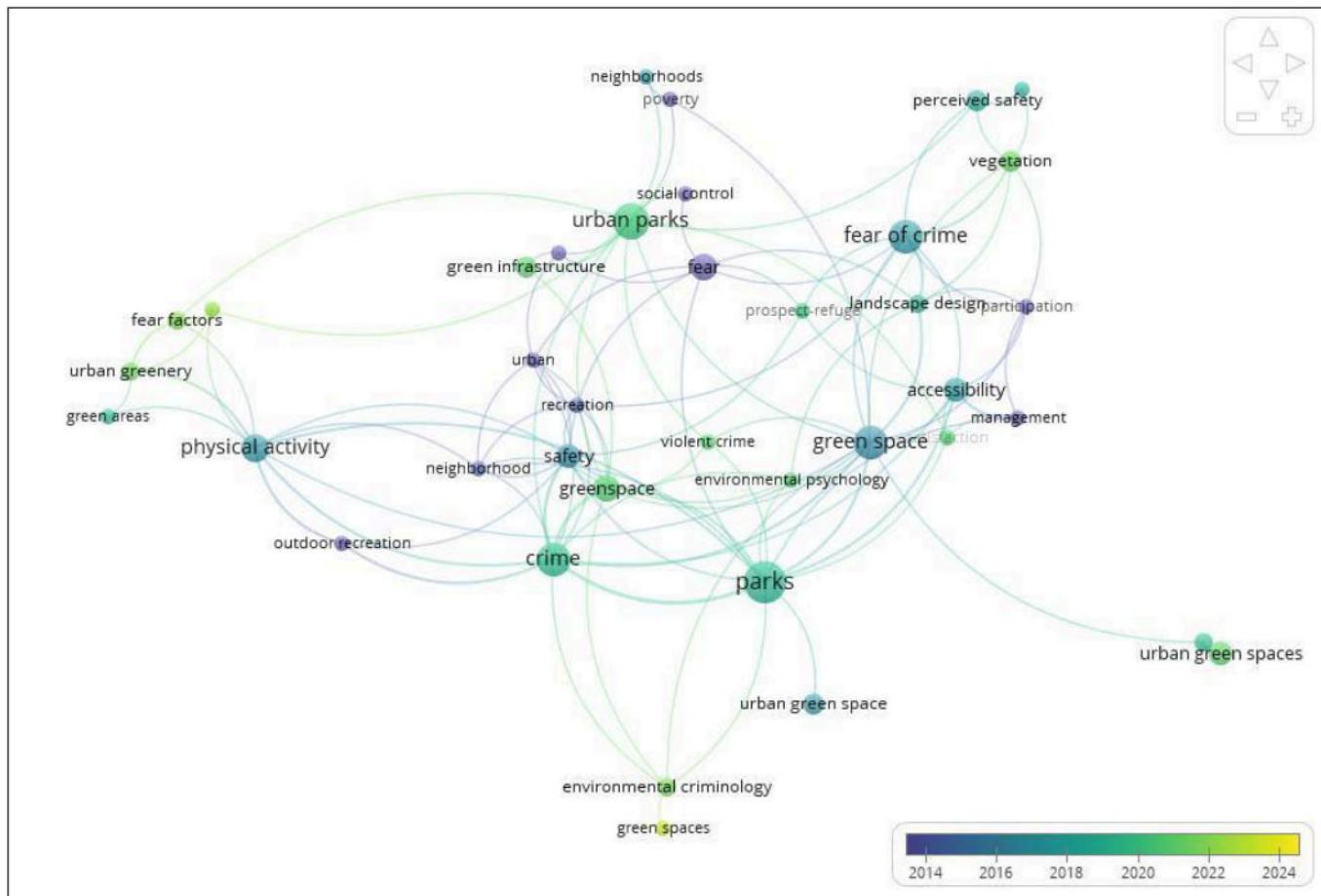
The pursuit of safe conditions, including the various forms of threat and crime, requires the integration of the different existing approaches to achieve effective and lasting results. Specific considerations must be made about the safety conditions of public spaces. Among these, a significant role in improving urban life by providing recreational ecosystem services (Chiesura, 2004; Gómez-Bagethun & Barton, 2013) and enhancing the quality of urban life is provided by green public spaces. The relationship between public space, crime, and urban greenery (Gobster & Westphal, 2004; Nasar & Jones, 1997) is a topic that highlights the interaction between the quality of urban spaces and the levels of safety perceived by citizens. Greenspaces refer to various public spaces including parks, gardens, greened thoroughfares, and sporting fields. This contribution investigates a specific type of urban public green space: public parks.

Urban design plays a key role in mitigating crime risks. The research, supported by the EU-funded projects “SeTUP” and “NatSolis,” aims to develop a methodology that relates the recreational ecosystem services offered by urban green spaces, particularly parks, with crime phenomena in public spaces to define applicable models in policies, plans, and regulations.

Studies of the relationship between crime and greenspace face several challenges, therefore, to understand trends in scientific research, a keyword search was carried out based on the following set of keywords: TITLE-ABS-KEY (“Crime” AND “Greenspace” AND “Park” / “Urban” AND “Safety” AND “Greenspace” AND “Park” / “Perception” AND “Fear” AND “Urban” AND “Park”). This resulted in a cluster of documents from the SCOPUS search covering a time horizon from 2014 to 2024. They were exported in .csv format and uploaded to the VOSviewer software. Once the file was uploaded to VOSviewer, a threshold was set for the minimum number of citations for keywords of 2, identifying 36 keywords.

Each keyword is depicted in correlation to a single bullet: the size is directly proportional to the number of citations found for that map. The arcs represent the correlations between the various keywords as a function of the documents in the cluster. The overlay map (Figure 1) allows us to see how, in recent years, scientific research has been interested in the relationship between green spaces and crime. Terms such as 'fear of crime', 'safety', and 'urban parks' are central and strongly interconnected, indicating that the relationship between crime, perceptions of safety and the use of urban green spaces is a relevant topic on which the literature focuses.

**Figure 1. Overlay visualization of author keywords, 2014–2024, in Scopus, based on total occurrences**



Source: Author's elaboration

Nevertheless, all these studies deal with the subject partially, considering one or more factors but not putting together an organic evaluation model that could be useful as a decision-support tool.

The concern that parks are safe to visit is an issue that concerns many responsible figures, such as urban planners, landscape architects, managers of urban open spaces, security officers, and public health experts (Sezavar et al., 2023).

Nowadays, there are still no specific guidelines for creating a safe urban public park. Starting from the concept of urban safety, the article investigates the public-private space dichotomy, dwelling on urban public parks, with the aim of defining groups of key factors for assessing their safety and of declining a series of actions useful for reducing the risk of criminal events in the city to be implemented in urban plans.

## 2. Public space safety and its factors

Public space is the most important element of any democracy, so it must be created, preserved, improved and defended against any kind of threat that might compromise its existence or its simple functioning as a place of gathering or pleasure, of union and friction. Safety/unsafe in public space depends on several factors: accessibility - visibility, integration with the context; form - size, pleasantness, care of the space; functions - vitality vs. decay, lack, suspension; ownership - public, semi-public, semi-private; users - different and responsible figures (Fasolino, 2024).

Unlimited open spaces within neighbourhoods attract antisocial behaviour (Newman, 1972). The relationship between the measurements of the street and buildings and the human scale influences the way and possibility of perceiving strangers (Gehl, 1980).

Being alone in a space that offers no shelter and in which it seems impossible to count on the possible help of others causes the conviction of being exposed to risk, further strengthened if this happens during the night and, in particular, in poorly lit places. Urban security researchers generally agree on the need to avoid dead spaces, i.e. of little or no attendance, statistically more favourable to the commission of deviant behaviours, since the frequentation and vitality of the areas produce spontaneous surveillance (Jacobs, 1961; Sendra et al., 2020).

The decay, suspension or lack of functions involving the presence of people and animation make some public spaces convey real feelings of fear. This is what generally happens in areas without shops or bars, or when these functions end at the end of opening hours, causing conditions of real desertification. In order to make an area safe, it is essential to make explicit the purpose for which each space is designed, and citizens must be clear about this. Only in this way will they be able to behave appropriately and/or in relation to the function that space performs, which may also be explicitly multifunctional. Through designation (Newman, 1972; Crowe, 1991), the definition and design of space users can increase the sense of territoriality and operate a natural control of the area. Such control becomes particularly difficult in certain public spaces. Think, in particular, of some real attractors of potential criminal actions. These are often places generally affected by substantial flows of people and/or valuables: railway / subway stations; bus stop/bus terminal; pedestrian and/or cycle underpasses; Airports; harbours; schools and universities; tourist attractions (museums, sites, monumental complexes, etc.); urban parks; banks, post offices.

The sociological literature on the fear of crime has shown that the sense of urban unsafety is relatively independent of the risk of exposure to criminal events, but is often linked to perceptions of disorder, chaos, and degradation. Moreover, certain urban spaces are particularly unsuitable for vulnerable individuals who lack sufficient vigilance (children, mentally disabled) or physical fitness (elderly, physically disabled), or who may be subject to sexual violence (women, children).

As far as women are concerned, the problem of safety related to the practice of public spaces, and the related widespread sense of insecurity, arises in particular terms compared to other vulnerable categories.

As literature, especially foreign literature, highlights, being female is equivalent to being physically vulnerable (Creazzo, 1999). This would result in a constant attitude of fear, especially relating to acts of violence that would lead to preventive defence behaviours, consisting above all in avoiding situations considered at risk, such as crossing places that are not frequented, especially at night.

ISTAT data show that the perception of safety is not evenly distributed in the population, but varies according to gender and age. In 2023, the percentage of people

aged 14 and over who say they are very or fairly safe when walking alone in the dark in the area where they live is 62.0%. While almost three-quarters of men feel safe walking alone when it is dark in the area where they live, women account for just over half (52.1%). Considering also the age groups, the gender differences in favour of men are maintained in all age groups and are greatest among young people aged 14-24 years and among the elderly aged 75 years and over (ISTAT (Istituto nazionale di statistica), 2024).

Among the aspects related to the physical conformation of urban space, the focus is on accessibility, understood in topological terms, i.e. the ease with which a space can be reached by others. Conditions of accessibility define the greater or lesser vulnerability of spaces to the extent that they allow, or hinder, the possibilities of spontaneous surveillance of the territory, by residents or outsiders. This is influenced by the convex and axial organisation of spaces in an urban area and its interface with buildings (Coppola & Fasolino, 2021).

There emerges, therefore, the need to design and/or redesign urban spaces, streets and facilities that are usable, comfortable but also safe, in which everyone can feel included.

### **3. Public space and integration**

Public space plays a crucial role for immigrants in terms of integration. In this context, in fact, it is noted that "in childhood it is easier to share moments, spaces and opportunities for interethnic sociality, thanks to school, extracurricular activities, sports and religious areas, in the neighbourhood, in public spaces (parks, gardens, beaches, playgrounds, ...)" (Ambrosini, 2005).

Those who belong to the first generation of immigrants, i.e. those who were not born in the host country, have as a common trait the search to satisfy some primary settlement needs (housing, work, collective transport services). As the second generations grow, however, social networks tend to differentiate and specialize socially (homogeneity of wealth, culture and social class) and ethnically (homogeneity of geographical origin) (Esposito De Vita, 2008).

The sense of unsafety perceived by the urban community towards phenomena such as macro and micro crime, predatory acts and vandalism against collective spaces, is mirrored by environmental degradation, marginality and social distress (Body-Gendrot, 2000). The social repercussions of such a feeling of insecurity can be many: they can inhibit processes of social integration and discourage participation in prosocial activities; they can lead to withdrawal from public spaces (which in this way become even more prey to crime), increased costs (individual and collective) of security expenses, flight and migration phenomena (Patalano, 2006).

The multi-ethnic component increases the degree of complexity of the city system, whose transformation requires an operational methodology that is more attentive to cultural differences (Peters et al., 2010; Powers et al., 2022; Smiley & Yang, 2021). The demand for new functional, psycho-perceptual, affective needs requires a careful analysis and recognition of elements in the design phase, for example through: recombination, syncretism of ethnic differences, assuming them as a semantic richness for the design of the new. The need for a re-conceptualization and reformulation of the public space of the interethnic city is affirmed. All this while taking into account some aspects, including the relational system of the elements structuring the public space: buildings, trees, streets, squares, public lighting, public gardens, information and advertising systems (Petrella et al., 2008). Integration therefore becomes the action to reduce the vulnerability of all individuals in the city

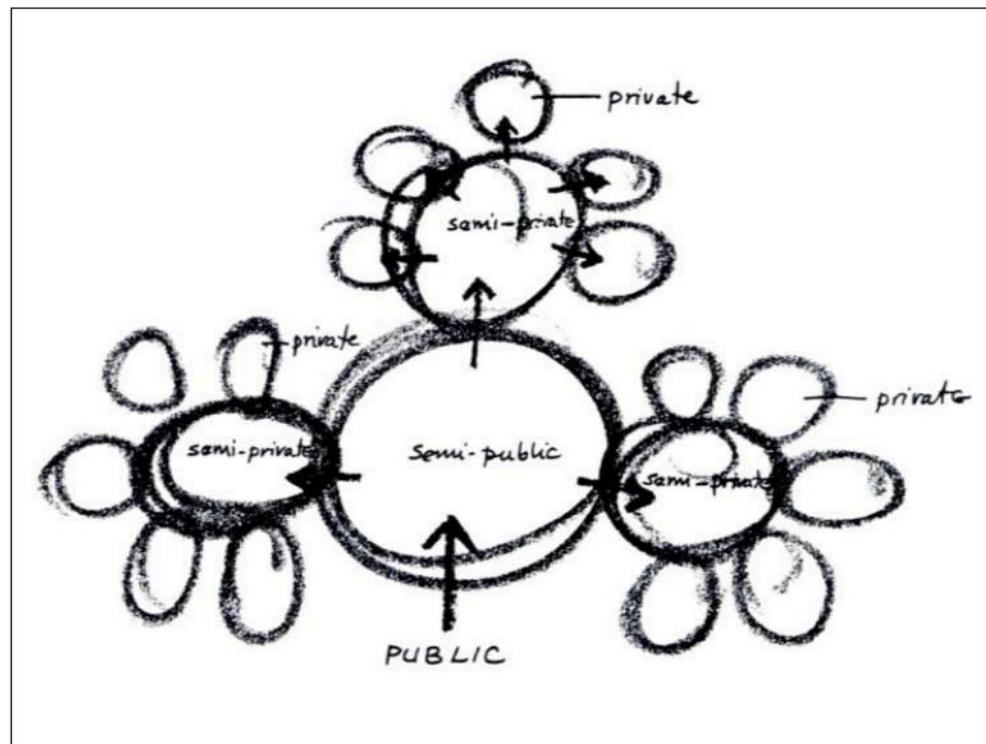
and, in particular, in urban public spaces.

#### 4. Ownership regimes and forms of limitation

Public space refers to the set of areas of a city intended for collective use such as streets, squares, gardens, parks. In relation to land ownership, there are two main ownership models that are generally identified: the private model (the owner is represented by private legal persons: individuals, companies or associations) and the public model (the owner is represented by the State at its different levels) (Chiodelli and Moroni, 2011).

However, this rigid dichotomy appears limiting when considering concrete urban realities. In this sense, it is more useful to speak of a plurality of ownership regimes. By public space we therefore mean a space accessible and usable by all, although the property can also be owned by private subjects, foundations, associations, etc. (Piedmont Region, 2013). Public and private property (Figure 2) are dense compounds (Smith and Low, 2006), so it is useful to disarticulate them into appropriate subcategories.

**Figure 2. Diagram of Hierarchical Spaces based on Defensible Space Theory**



Source: Newman, 1972

In particular, at least six can be identified, three relating to the public sector and three relating to the private sector:

1. public spaces *stricto sensu*: i.e. public spaces for general use. They are typically the connective spaces of a city (squares, streets, sidewalks);
2. specialized public spaces: i.e. public spaces intended for a particular public function or as places aimed at carrying out a specific activity of collective importance (public schools, hospitals, libraries, parks, cemeteries);
3. privately managed public spaces: i.e. publicly owned spaces that are granted to a private entity. The duration of this concession may be different, but it is always

temporary (beaches, ports, public areas for markets);

4. simple private spaces: i.e. private spaces for typically individual/family use; see the main case of private residences (apartments in condominiums or single-family houses) and more generally of all those places where individual activities are carried out without public value;
5. private spaces for collective use: i.e. privately owned spaces that perform a function of public importance, as places intended for commercial, recreational and recreational activities (bars, restaurants, hotels, shopping centres, cinemas);
6. complex private spaces: i.e. private spaces in which the use is granted only to members of a certain group, gathered in the form of an association or club; see the typical case of the different forms of contractual communities, such as community associations or residential cooperatives (Brunetta & Moroni, 2008), or of territorial-based clubs (sports clubs).

This typological gradation demonstrates that real ownership regimes are more articulated than the simple traditional demarcation between fee simple absolute (FSA), i.e. full private ownership, and open access public property (OAPP), i.e. public spaces with totally free access.

In particular, it can be observed (Chiodelli and Moroni, 2011) that the three private ownership regimes are never FSAs because, in reality, these rights are always subject to some form of constraint; and the three public ownership regimes, in turn, are never simple OAPP spaces.

Ultimately, there is no public property with universal access whose benefits are available to all without any limitation of use. Public property is always characterized by rules of use that impose on individuals the duty to respect particular rules of access and behaviour. FSA and OAPP are therefore ideal forms that, at least in urban space, never find concrete expression. In this sense, the extremes of a typological scale can be considered, of which the six categories identified constitute steps positioned precisely between OAPP (upper extreme: maximum right of public use and minimum right of exclusion) and FSA (lower extreme: maximum right of exclusion and minimum zero right of public use).

As regards restrictions on access and use of urban spaces, in general terms, the two types of limitations applicable by the owner of a space, whether a public or private entity, can be *a priori* and *a posteriori*:

a) *a priori* limitations (exclusion of access): entry is prevented to certain categories or people on the basis of certain characteristics or intentions (prohibition of access to a room to minors under 18 years of age). These restrictions relate to access, and are expressed in the form of a prohibition relating to certain categories or persons in relation to entry into a place;

b) *a posteriori* limitations (exclusion of behaviour): those who do not comply with the rules of use of the same are excluded ex-post from a space (a disturbing person is expelled from a library, if he or she does not want to interrupt his or her behaviour). These limitations refer to the behaviour to be held in a place and normally provide for some type of sanction in the event that the subject does not desist from the attitude in question.

With regard to property regimes and their respective forms of limitation, the proposed typological scale identifies different degrees of intensity of the right of exclusion. The ability to limit entrances and behaviours is generally associated above all with private property; however, it also characterizes public property regimes, precisely because, being places where, in theory, everyone can enter, they are continuously subject to the temptation of abuse (Webster, 2007).

Here are the limitations that usually characterize each category:

1. public spaces *stricto sensu*: there are usually minimal limitations, relating only to the protection of the open character of the space. Sometimes some limitations are applied a posteriori, in relation to specific behaviours that generate negative substantive externalities;
2. specialized public spaces: limitations are generally related to the specific function performed by the space in question. As far as a priori limitations are concerned, only those who go there for purposes appropriate to the specific function of the place can access it. In this regard, generic categories of eligible individuals (sick in hospitals, students in schools) are usually defined;
3. privately managed public spaces: the forms of limitation are similar to those of specialized public spaces and always connected to the particular function performed. The difference lies in the mechanisms of access selection, mainly linked to the private management of space: access is regulated above all by market mechanisms, and is paid for by everyone; there are normally no specific limitations of the catchment area. Behavioural limitations should be dictated only by congruence with the destination of the space granted for management;
4. simple private spaces: they are generally characterized by a maximum of excludability both a priori and a posteriori (of any access or unwanted behaviour). That is, any arbitrary choice regarding the right of access and, within certain reasonable limits, the conduct to be adopted seems possible;
5. private spaces for collective use: public restrictions are generally placed on the right to exclude and limit the behaviour inherent in private property. The state allows certain commercial activities to be carried out, but requires adaptation to public rules of access and use. The access limitations that the private individual can impose are thus mainly linked to the payment for the service rendered; the limitations of behaviour are based on the adequacy or otherwise with respect to the function performed;
6. complex private spaces: these places are often considered as places similar to simple private spaces (a sports club): in this case they are characterized by a high degree of limitation both a priori and a posteriori. In other cases (contractual communities) they are generally considered to be similar to public spaces *stricto sensu* or specialized public spaces: in this case, the public authority usually provides for some forms of limitation to the prerogatives of exclusion and limitation of behaviour typical of simple private spaces.

Ownership regimes and forms of limitation (Chiodelli and Moroni, 2011), in their articulation and complexity, represent an aspect that must be duly taken into account in the formulation of hypotheses of intervention for the purposes of urban safety.

## 5. Restrictions on the use of public spaces

As the most recurrent problems related to safety, a few years ago, the mayors of Italian cities reported, in descending order: 1. alcohol abuse, noise and harassing behaviour; 2. vandalism, writers, damage to public and private property; 3. the urban degradation of specific places in the city (neighbourhoods, buildings, stations, squares, public parks, abandoned buildings); 4. the consumption and sale of drugs in public areas; 5. commercial illegality and illegal occupation of public land; 6. prostitution in public areas; 7. stray dogs; 8. harassing begging; 9. the phenomenon of bullying and youth gangs (ANCI-Cittalia, 2009).

Mayors are on the front line with problems related to the safety of public spaces. Trade union ordinances<sup>1</sup>, contingency and urgent, for example, in the face of emergencies, related to traffic or air or noise pollution, or when due to extraordinary

circumstances there are particular needs of users or for reasons of urban safety, have the possibility of changing the opening hours of commercial establishments, public establishments, public services and public offices located in the municipal area.

In many cases, such ordinances raise problems of (in)tolerance. Tolerance, in general terms, means some form of acceptance of the plurality of conceptions of the good and lifestyles of various individuals (McKinnon, 2006; Galeotti, 2002). In relation to the different ownership regimes considered, the problem of tolerance arises in a differentiated way; that is, it implies the existence of a variegated topography of tolerance (Chiodelli and Moroni, 2011).

However, it is in relation to public spaces that the issue takes on particular evidence. In some trade union ordinances in Milan and Brescia in 2010, the containment of the opening hours of commercial activities was aimed at facilitating activities of protection of the territory by the police forces, for reasons of urban security and free use of public spaces (Milan) rather than for the purpose of prevention and repression of illegal activities and conduct (Brescia)<sup>2</sup>. In the hypothesis espoused by these provisions, it is assumed that a lower presence of citizens within public spaces is a factor that contributes to urban security, up to, in the case of Milan, the paradoxical assertion that the free use of public spaces would be guaranteed by a measure of prohibition of the main way in which they are habitually used.

It is evident how, in many cases, union ordinances affect the nature of the space they regulate. Almost all of them, in fact, place restrictions on the use of public spaces *stricto sensu* outside the limitations normally allowed for such places. In particular, they go beyond the simple regulation of behaviours that cause direct and tangible damage to others, to deal with the discipline of lifestyles and ways of life.

See, in particular, the case of those that limit access only to certain categories of people (non-resident pedestrians or women with niqabs), or those that impose limitations on behaviours that do not cause any obvious and overt negative externality (for example, the prohibition of sitting in more than two on public benches after a certain time or that of begging).

In legal terms, the reasons of public policy put forward to justify such measures mostly fall within the areas provided for by the legislation. The suspicion is that these measures are not actually aimed at regulating the space to protect its public character, but rather at hitting in this way activities or populations considered unwelcome in themselves (Roma, street vendors, immigrants), but which would be publicly unacceptable or legally impossible to hit with ad hoc laws.

In public spaces *stricto sensu*, all accesses and behaviours that do not affect the public character of the space should normally be tolerated. They are essentially the spaces where the areas of tolerance are (or should be) greater. It is normally accepted that only those activities, mostly prolonged over time, that generate significant negative externalities are excluded. The problem, in this case, is which side effects of the actions should be considered as negative externalities: what about, for example, systematically begging? Or of sitting on a bench at night in more than two? Reflection on the theme is still open (Blomley, 2009; Ellickson, 1996; Mitchell, 1997; Waldron, 1993).

Many authors agree that some specific behaviours can be prevented as long as, especially when they refer to vital functions (sleeping, eating, performing bodily functions), there are other places for everyone where these can be easily carried out. In essence, these limitations must not turn into criminalization of status (Mitchell, 1995). Although the question is open, what is nevertheless clear is that many of the ordinances on public space (in particular *stricto sensu*) raise problems in relation to personal freedoms and forms of mutual tolerance in today's increasingly pluralistic

and multiethnic urban societies.

## 6. Urban green areas and public parks

Urban green spaces include forests, urban parks and gardens, urban farms, tree-lined streets, urban meadows and hedgerows and are of paramount importance for the implementation of the Nature Restoration Law, approved by the EU in June 2024. These spaces play a significant role in modern theories of crime prevention, representing a crucial tool for improving urban security. Several criminological theories have explored the link between green spaces and crime reduction, highlighting how the design and maintenance of these spaces can influence human behaviour.

The presence and arrangement of vegetation influence the perception of safety (Lin et al., 2021). Previous empirical evidence has found that cleaning and greening of empty lots is associated with a reduction in crime, can help reduce stress and aggression while promoting prosocial behaviours (Fleming et al., 2016; Hadavi et al., 2021; Huai & Van De Voorde, 2022, Donovan and Prestemon, 2012).

Well-maintained and strategically placed vegetation, can improve visibility and reduce opportunities for criminals to hide, while overgrown and dense vegetation can have the opposite effect (Wolfe & Mennis, 2012). A well-kept green area with pruned bushes, adequate lighting and appropriate furniture, signals that the space is well maintained, encouraging users and residents to take care of it.

Research conducted in several cities has also shown a positive correlation between the quantity and quality of green spaces and the decrease in violent and property crime (Ha et al., 2024; Taylor et al., 2019). The results of the experiences reported in the international scientific literature indicate that the abundance of vegetation is significantly associated with lower rates of assaults, robberies and thefts, suggesting that increased surveillance in vegetated spaces and the therapeutic effects of green landscapes may contribute to reducing certain types of crime (Sezavar et al., 2023; Wolfe & Mennis, 2012).

High-quality green spaces are especially important for parents with infants, children, the elderly, workers, and nearby residents (Taylor et al., 2019). As mainly urban public spaces, greenery is a fundamental component of the social organisation of the territory, providing places for community interaction that instil a sense of belonging (Saraiva & Teixeira, 2023).

## 7. Methodology

The research focuses on urban public parks, oases of urbanized territories, but they can turn into points of concentration of crime if they are not sufficiently maintained, supervised or if they do not offer an environment conducive to positive activities.

Urban public parks (UPPs) - falling into the category of public spaces *stricto sensu* as defined in the previous sections - compete with railway stations for the social stereotype that the railway stations are an anxiety-inducing space, often isolated at night, not very vital and mostly frequented by disreputable people.

The aim is to explore how these spaces can turn into crime generators if they are not properly maintained, supervised and if they do not offer an environment that promotes positive activities.

To address this issue, a set of criteria has been proposed for evaluating UPPs to measure their level of security and identify those in need of professional supervision, renovation or other safety solutions. Starting from a literature review, 10 groups of

safety factors and 21 quantifiable estimation criteria were identified for assessing the safety of UPPs (Figures 3 and 4).

**Figure 3. UPPs safety criteria**



Source: Author's elaboration

The 10 groups are specified below:

- Surveillance.* The guards together with park workers, managers and shop/bar employees ensure surveillance of urban public parks, increase park maintenance and prevent criminal activities such as theft, vandalism, violence, robberies or arson. It should be pointed out that the optimal number of guardians and assistants varies for each country. For example, it is common for at least one employee of a café/store to be spotted at a UPP in a US city.
- Lines of sight.* Forward path visibility, well-maintained trees, and minimizing densely planted areas produce clear lines of sight. Proper planting design and incorporating thorny plants into planting mixes help avoid potential hiding places. Plants or shrubs that block the field of vision should be avoided; Dense planting of tall shrubs and large trees within 2 m on either side of the paths should also be avoided.
- Lighting.* It is an essential feature that ensures the safety of UPPs in the dark hours of the day. Places with well-lit entrances and corners are the scene of fewer criminal actions. For safety reasons, it is recommended that night use be avoided and that only the main routes are illuminated.
- Perimeter control.* The installation of a low roofing element or an open-type fence around the periphery of the UPP or in a particular space can be used to control the perimeter of the park and channel people towards the entrances. Large, easily readable signage at entrances to parks, recreation areas, and playgrounds also helps ensure the legal use of the UPP and increases the likelihood that people who witness a crime will respond by reporting quickly.
- Entrances.* A number of readable paths to and from areas of the UPP should be maximized to provide users with a choice of physical access. In a small UPP, the number of entrances should be at least two, but preferably more if the routes can all be connected to the urban network. The entrances should be visible from the street. Fences should be designed in a way that maximizes natural surveillance from the street and minimizes opportunities for intruders to hide.

- f) *Crimes.* The security of the UPPs cannot be estimated separately from its more general crime context. An increased crime rate can be noticed both in UPPs and within buffer zones. However, assessing safety in UPPs based on crime statistics alone can be misleading, as people usually do not inform the police of petty crimes such as disorderly youth activities, graffiti, drug dealing, or other illicit activities. Statistical data relating to negligible crime can also be influenced by citizens' avoidance of areas perceived as unsafe. However, crimes that occur in the vicinity of a UPP should be minimized to increase its security.
- g) *Paths design.* The network of paths in a UPP should be clearly connected to its surroundings. At least one paved path and other smaller paths, not necessarily paved, leading back to surrounding roads or parking areas should be available to ensure the safety of the UPP. Since secluded locations and unused facilities could become hotspots of criminal activity, the number of dead-end routes must be minimized.
- h) *Flow of people.* Objects of attraction for the public installed in the UPP ensure the flow of people, strengthen social bonds between visitors, increase natural surveillance. Examples of positive support for activities are family-friendly and picnic spaces, sports areas, gardens, plants, drinking fountains, children's play areas, other age-appropriate equipment, bars, art, cultural and visual enhancements, public events.
- i) *Maintenance.* Regular maintenance is one of the most critical factors impacting UPP safety. The poor care of the UPP together with the presence of dilapidated buildings, graffiti and rubbish give the impression that criminal activity or vandalism is tolerated. The clean environment, the aesthetics of the UPP, the low structures, the well-kept greenery and the satisfactory condition of the pedestrian paths are visible signs that indicate that the place is well-maintained, cared for and controlled.
- j) *Surrounding neighbourhood.* Studies show that neighbourhood density, real estate values, and the amount of youth concentration points (schools, youth centers, etc.) around the UPP indirectly affect the safety of the UPP. The number of residents living 400 m (5 minutes walk) from the center of the UPP can be used as a criterion describing the density of the neighbourhood. Juvenile concentration points can increase disordered behaviour in the surroundings; therefore, their number near the UPP should be kept to a minimum.

The condition of the streets and neighbouring properties plays a crucial role in defining the context of reference. An in-depth analysis of these conditions allows you to identify factors that can affect the safety and general appearance of the neighbourhood. Understanding traffic patterns and volumes on surrounding streets is essential to assess movement dynamics and identify potential hotspots that require special attention, outlining the impact of traffic on the safety and liveability of the neighbourhood. When assessing safeguards for pedestrian crossings, the presence of marked crossings and traffic lights, key elements for pedestrian safety, is examined. The evaluation of these factors helps to outline effective protection measures, ensuring the highest possible safety.

The criteria presented are evaluated, some quantitatively, others qualitatively. The methodology, which is multi-criteria in nature, is based on the construction of a decision matrix that has as many rows as there are parks analysed and for columns the 21 safety criteria. In order to express the result by means of a single final value, among the various multi-criteria methods existing in the literature, the choice fell on the TOPSIS method (Technique for Order of Preference by Similarity to Ideal Solution) (Hwang & Yoon, 1981), one of the most widespread of the MCDM (Multi

Criteria Decision Making) methods. This method was chosen, firstly, because the analysis of the phenomenon under investigation is based on indicators that must be interpreted according to a comparative reading due to the lack of threshold values, and secondly, because of its ability to generate a ranking of the alternatives analysed, making it possible to clearly define the level of safety of the urban parks examined. The method is based on the assumption that the alternative to be selected is at the shortest distance from an ideal alternative, which represents the best alternative, and at the same time, is also at the greatest distance from the anti-ideal alternative, which represents the worst alternative. Therefore, the ultimate goal of the method is to define the two virtual solutions (ideal and anti-ideal) and to measure the relative distance of each real alternative against these. By applying the TOPSIS method, it is thus possible to obtain a final ranking of the analysed sample according to the level of perceived safety in the parks.

**Figure 4. Some of the factors for assessing the safety of an UPP: a) Perimetral control b) Entrances c) Lighting d) Paths**



Source: Author's elaboration

## 8. Public lighting

Public lighting is one of the first factors that come to mind when discussing the safety of urban parks. The immediate association with safety highlights its relevance; this deserves more in-depth consideration to underscore its importance and explore its many aspects. It is commonly believed that less public lighting leads to increased crime rates and makes public places less safe (Peluso, 2024). A well-designed public lighting system for a given urban area increases natural surveillance and also improves the image of the area which will be particularly cared for and, in this way, will encourage that feeling of belonging which, in the theories of Crime Prevention Through Environmental Design (CPTED) (Jeffery, 1971) and Defensible Space (Newman, 1972) is expressed by territoriality.

Studies conducted in British contexts where street lighting improvement projects had been implemented found a significant decrease in crime of 38% in areas where public lighting had been made more effective and functional (Welsh & Farrington, 2007; 2008). These studies also showed that, in areas where no lighting was carried out, violent crime increased by 41%, while property crime increased by 58% (Clarke, 2008). And this is, evidently, the consequence of the so-called displacement, whereby crime is not reduced but, simply, moves, the effect of an action from which, to varying degrees, none of the approaches in terms of urban security escapes. Therefore, any action alone would not be suitable to reduce criminogenic factors but only to move them to less controlled and protected areas (Weisburd et al., 2006). From the most recent studies, it can be argued that street lighting reduces crime, although it is not easy to meaningfully compare the results of the studies analyzed given the diversity of the latter (Struyf, 2020).

The issue is controversial, both from a methodological and a statistical point of view, since, from the results found, it would not be possible to argue that street lighting can decrease or increase crime rates (Marchant, 2004, 2005). It is also necessary to represent that some studies have shown that the savings due to the reduction of crime have exceeded the costs incurred by local authorities for the improvement of existing public lighting (Welsh and Farrington, 2007; Zavadskas et al., 2019).

One of the objectives of policy makers is to reduce the amount of lights present within the urban fabric by focusing on the quality of lighting to ensure a correct balance between dark and light (Di Sora, 2009). The choices of administrators, therefore, are not simple having to reconcile the obvious benefits for the environment and the economy deriving from reduced public lighting and the possible impact of this on the occurrence of crimes (Green et al., 2015).

The improvement of public lighting does not involve any form of privatization of public space and does not constitute a form of exclusion of certain segments of the population, representing an advantage for the whole community since it does not create physical barriers that can limit the freedom of individuals (Welsh & Farrington, 2008).

To save energy and reduce light pollution, the use of digitally controlled lighting systems allows a better adaptation to the environment by connecting light to human behaviour avoiding violations of privacy and sleep disorders (Saraiji and Oommen, 2012) by activating lighting or turning on additional lights in the presence of only movement or noise.

## 9. Actions in local urban plans

The Social Design Theory (Wood, 1961) is based on the idea that careful urban planning can contribute to the livability of working-class neighbourhoods, the development of social relations and the prevention of crime. The design of public and semi-public space around houses is considered an essential factor. For example, ensuring the presence of spaces for sport, leisure and play that are clearly visible from the surrounding buildings; To this end, it is good to avoid very tall buildings, because those who look out from the upper floors are not able to communicate or distinctly see who passes on the street. The social project is also implemented through the simple design of the benches aimed at encouraging socialization and spontaneous control; or with "vandal-proof" equipment. A way to strengthen the protection of the territory in areas of hardship can also take place through the organization of events and the enhancement of spaces (Sendra et al., 2020).

The urban design represents the morphological structure of a portion of the city at

the level of a neighbourhood/block, which details the shape of the urban space at the design level, with a precise definition of public spaces, street furniture, and road sections. The urban planning tools of reference are those for the implementation of general and detailed municipal urban plans such as the agreed urban implementation tools. Starting, therefore, from the elements of physical and functional organization that have shown greater relevance in promoting urban safety, specific actions have been outlined for the Structural Plan (SP), for the Operational Plan (OP) and for the Urban Planning Regulation (UPR) (Fasolino et al., 2018). This distinction is to be understood as a general reference, not referring to specific plan declinations. Instead, it is intended to emphasise a strategic-structural approach to planning that encompasses both long-term and short-term perspectives.

In the SP, the need to strengthen security conditions is addressed with actions aimed at orienting the structural location choices of forms and functions (functional zoning) through which to influence the vitality and timing of the city, thus conditioning the informal surveillance of the urban space. For instance, the proposed actions (Table 1) include: the preparation of an adequate functional and social mix (Graziuso et al., 2024), taking into account the settlement capacity of the territory or the correct location of public spaces (parks, recreational areas, children's play areas, etc.) in areas with a high population density.

**Table 1. Actions for safety in PS and OP**

Structural Plan (PS)	Operational Plan (OP)
Functional mix (residential, commercial, recreational)	Urban regeneration aimed at introducing activities (ground floors, residential buildings) and public facilities in strategic points.
Social mix (diversification of housing supply)	Reorganization of the road network: road design that discourages high speed. Public transport stops located near businesses, not in isolated and marginal areas.
Continuity of the residential fabric, road layout, cycle-pedestrian network and public transport system. Localization Infrastructure: Be careful not to create physical barriers, enclaves and marginal spaces.	Reorganization of the cycle-pedestrian network: replacement of underpasses and elevated bridges with paths at street level. Reorganization of public spaces and oversized green areas. Possible splitting of green areas and concession to residents for management.
Location of Public Space (parks, recreational areas, children's play areas, etc.) in densely populated areas.	Location of commercial activities and public services: distributed in such a way as not to create marginal areas.
Recovery of marginal areas and elimination of potential enclave situations.	Public spaces: multiple entry/exit points, located near homes and businesses

Source: Adapted from (Fasolino & Coppola, 2018; Graziuso et al., 2024)

In the OP, the need for greater security can be declined through rules that affect the organization of urban spaces, green areas, parking lots, roads, etc., to ensure an adequate functional mix, to strengthen the sense of territoriality and the possibility

of exercising both informal and formal surveillance. Some example of possible actions are: the reorganization of the cycle-pedestrian network by providing for the replacement of underpasses and elevated bridges with paths at street level; the reorganization of oversized public spaces and green areas (Table 1).

In the UPR, the need for safety can (and must) be addressed with regulations aimed at improving the visual permeability of spaces and strengthening the comfort of places by reducing their tendency to degradation. Among the proposed actions (Table 2): creating low and transparent fences for at least 50%; prefer, in the delimitation of paths and spaces, tall trees rather than hedges; guarantee transparencies for lifts and parapets, shelters of public transport stops, shop windows.

**Table 2. Actions for safety in the UPR**

<b>Urban Planning Regulation (UPR)</b>
Fences: low and transparent (about 50%).
Visual barriers: walls, unevenness of the ground and low hedges, urban furnishings that do not obstruct the view.
Urban green: tall trees in the delimitation of spaces and paths.
Transparency: lifts and parapets (public stair and ramps for the disabled), shelters of bus stops, shop windows (not completely opaque shade).
Lighting: lighting fixtures, not dazzling, placed in such a way as to guarantee the distinction of faces at 10-15 m of distance, without creating shaded areas. Shop lighting active at night.
Construction type: prefer low types (isolated houses, terraced houses) or houses in line. Avoid buildings with long galleries.
Pedestrian routes: minimum width sufficient to guarantee the movement of more people and disabled people in both directions.
Access/entrance private and public buildings: on the road and not on the back
Finishes: light colors for enclosed spaces such as underpasses, pedestrian tunnels.
Borders: retracting housing compared to the roadside max 3 meters.
Parking spaces: light-colored finishes for the closed parts.
Public transport: shelters of the stops placed in front of the two lines.
Roads: materials and elements that discourage high speed.
Routes and public/private areas: diversity of material, finishes, eventual difference in height or symbolic indication.

Source: Adapted from (Fasolino & Coppola, 2018)

The contents of the three types of urban planning tools described above, articulated and progressively detailed from medium to very large scale, contribute to covering all aspects useful for reducing the risk of criminal events in the city.

## 10. Conclusion

The problem of urban crime and the feeling of insecurity is closely linked to the spatial and functional organisation of the city, with consequences on planning and

design criteria as well as its management and maintenance. It must be tackled systematically, using an integrated approach in which socio-economic actions go hand in hand with physical and functional interventions on the built environment, in accordance with crime prevention strategies.

The above reflection is on the topic specifically within the relationship between urban green spaces and crimes in order to identify the key aspects that allow urban planning to be oriented towards the environmental prevention of crime risk (Fasolino et al., 2018; Grimaldi et al., 2023).

This EU-funded research aims to show that careful planning, taking into account spatial, environmental and specific characteristics of urban parks, can help reduce crime levels and make these places safer and more attractive to citizens. The design action assumes considerable importance as the project becomes the prevention tool capable of interrupting that causal mechanism that determines a criminal act.

It is believed, in particular, that the strategic integration of public green spaces into urban planning represents an effective approach for crime prevention. Not only does it contribute to safer urban environments, but it also promotes the mental and physical health of citizens and the construction of more cohesive and resilient communities.

Starting from the understanding that the demand for safety is linked to a plurality of factors that influence and alter the perception of urban spaces, making them appear unsafe, the article explored some of these aspects to begin to outline a solid framework within which to develop a methodology for assessing the level of safety of public parks. A methodology that would provide a hierarchy of priorities for public park safety interventions would be a valuable tool, even given the high costs of renovating urban parks, leading to the definition of actions that can be implemented in policies, plans and regulations.

Thinking about future application, it will certainly be contingent on the availability of crime data. Indeed, although in some cases police forces use geo-referencing data, there is no possibility of accessing it. Undoubtedly, the difficulty of finding crime data in Italy is a significant limitation for the application of any methodology that has this specific type of content.

In conclusion, the promotion of public green spaces must be seen as an essential component of urban security policies, integrating maintenance measures, participatory planning and community involvement to maximize the benefits in terms of crime prevention.

#### Notes

1. Trade union ordinances are authoritative decrees of the mayor that do not follow the normal procedure of discussion and approval of other local public regulations, but are immediately valid and binding. In particular, it seems objectionable to transform an instrument originally intended only for extraordinary cases and, in any case, with temporary validity, into a current instrument that imposes indefinite restrictions on the use of (public) space.
2. In the aforementioned ordinances, the identification of precise commercial activities usually exercised by ethnic entrepreneurs (takeaways, kebabs, mini-markets, massage parlours, phone centres), and the delimitation of an urban territory inhabited mainly by immigrants in which to make controls on leases particularly strict, affirm, in fact, a differential treatment that classifies certain populations as risk factors and subjects responsible for urban decay and insecurity.

**Author Contributions**

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**Conflicts of Interest**

The authors declare no conflict of interest.

**Originality**

The authors declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere, in English or any other language. The manuscript has been read and approved by all named authors and there are no other persons who satisfied the criteria for authorship but are not listed. The authors also declare to have obtained the permission to reproduce in this manuscript any text, illustrations, charts, tables, photographs, or other material from previously published sources (journals, books, websites, etc).

**Use of generative AI and AI-assisted technologies**

The authors declare that they did not use AI and AI-assisted technologies in the writing of the manuscript; this declaration only refers to the writing process, and not to the use of AI tools to analyse and draw insights from data as part of the research process. They also did not use AI or AI-assisted tools to create or alter images and this may include enhancing, obscuring, moving, removing, or introducing a specific feature within an image or figure, or eliminating any information present in the original.

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