

## **Contributions for safer places, a case study at the “Superquadras” (SQN 408 and SQN 208) of Brasília, Brazil**

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### **Abstract**

This research intends to contribute to security in the urban public realm by studying aspects related to urban design projects. The specific objective is to establish criteria and design arrangements that are capable of inhibiting certain criminal acts, such as robbery, and stimulate the appropriation of the public spaces by the community. The investigation process selected the “Superquadras” located at Plano Piloto, Brasília, for the present case study. Their physical, environmental and functional aspects were analyzed. This choice was based on their project peculiarities, such as the public pilotis, and the emerging use of electronic policing at the residential buildings. The methodology also took into account the official crime rates, what made possible the selection of two “Superquadras” (SQN 208 and SQN 408) for this case study, where physical, environmental and functional characteristics, such as accessibility, land use, community participation, recreational activities, public equipment and furniture maintenance, were analyzed and compared. Design guidelines were elaborated with the objective of turning the area between commercial and residential uses at SQN 408 (called Area 1), a place considered criminally vulnerable, into a safer place. This research aims to create safer and more inclusive public urban places, and at the same time offers the possibility of increasing the quality of life and sustainability in the cities.

*Keywords: urban criminality, urban design, sustainability, safe places, “Superquadras” of Plano Piloto, Brasília.*



## 1 Introduction

The thematic object of the present article presents itself as a challenge for the architect and the urbanist in the face of the responsibility to design spaces intended for public use, in light of the lack of procedures that evaluate, scientifically, the causes, influences and consequences of the corresponding physical interventions in the occurrence of criminal acts.

Moura [1] expresses that the presence of a feeling of insecurity and the results provoked by the increase of criminality are physically expressed in the architectural projects, in the gated communities, in the gradual preference for the shopping centers, in the condition that is staged to excluding socio-cultural exchanges, and in the generalization of the use of physical and technological barriers to obtain safety.

The dissemination of protective measures makes it evident that the association between qualified public spaces and safety strategies, achieved by means of urbanistic design, is a necessary path in obtaining safe spaces, and which are, at the same time, socially democratic [2].

In this sense, a great effort was made to combine literature that contributed to the formulation of a systematic analysis, with specific parameters (sensation of comfort, accessibility, maintenance and upkeep, natural vigilance, appropriation of spaces, territorial definition, type, intensity and diversity of use) that enabled its transposition to public space design.

For this, physical, environmental, and functional variables that constitute the public space were gathered, allowing the inference of which of these characteristics exert influence over the safety of these spaces.

Therefore, this article intends to contribute to the investigation of methods for collecting and analyzing the physical and environmental elements present in urban spaces, related to urban criminality.

It centers its analysis on the occurrence of theft, robbery and damage to public assets that have occurred in public spaces, of the “Superquadras” in the Plano Piloto of Brasília, Brazil, during the year of 2007, by describing the results obtained from the author’s thesis presented to the Architecture Department of the University of Brasília, Brazil [3].

## 2 Characteristics of the “Superquadras” in the Plano Piloto of Brasília

The urban plan for the city of Brasília elaborated by the urbanist Lucio Costa, is also called Plano Piloto, and presents exclusive peculiarities not found in other cities that make it unique. This study focuses on the residential area and among too many others relevant characteristics; these can be highlighted [4]:

- a) clear sectioning of activities made evident in the choice of the uses distributed along two large main routes, and also in the clear demarcation and separation between residential and commercial areas;



- b) residential areas named “Superquadras” and characterized by buildings on pilotis, allowing for permeability and accessibility possibilities to the interior public spaces; the allowance for large green areas, local commerce, public facilities which are a support for education, health and leisure. Attributes that favor the existence of largely diversified and concentrated activities, which constitute a rich urban background, with the purpose of offering comfort and quality of life to the residents;
- c) residential buildings with a public ground level, a factor in allowing for the conformation of a great space destined for collective use.

For these reasons it is believed that the “Superquadras” can be seen as a favorable *locus* to analysis of questions related to security, for it is possible to correlate criminality with the following factors:

- a) design, quality and upkeep of its public spaces;
- b) uses and types of activities present in the residential and commercial blocks;
- c) singularity of the accessibility characteristics provided by the pilotis.

This motivation becomes even more justifiable, due to the current phenomenon of closing off a part of the areas at the pilotis by means of low fences and hedges, under the allegation of contributing to the safety and social control within these spaces (Figs. 1 and 2) [5].



Figure 1: Hedges at SQN 408.



Figure 2: Hedges at SQN 208.

Alongside this, there is the occupation of the space under the buildings by, garages, bicycle storage rooms, party rooms, gyms and playrooms, which have configured a restrictive factor to pedestrian accessibility and visual amplitude in the blocks, contributing to sometimes labyrinth-like and sometimes excluding spaces.

It is also possible to observe the growing presence of social control and private security mechanisms in the area under the buildings, like security cabins and surveillance cameras, which makes the problem of criminality more obvious.

Therefore this study has strived to analyze the number of police occurrences in the “Superquadras” presents at the residential quarter named Asa Norte, related to crimes of robbery, theft and damage to public property, verified in the

period from January to October 2007. The said analysis showed that the “Superquadras” named SQN 408 and SQN 208, in spite of being neighboring residential blocks, presented a large discrepancy regarding criminal occurrences registered with the Bureau of Public Security of the Distrito Federal (Brasília) [6]. While there were 18 occurrences of theft against passers-by in SQN 408, there were only 3 such occurrences in SQN 208.

From this statistical finding, the motivational reasons were questioned, and also whether they would be related to the characteristics of urban design and of the use of the residential blocks in question. These doubts led to the need to gather and analyze data in SQN 408 and SQN 208, which would allow for a diagnosis of the physical aspects related to the design and use of these blocks or comparison.

### 3 The method used in collecting and analysing data

Based on certain theoretical referential such as Jacobs [7], Fundación Paz Ciudadana [8]; Shaftoe [2]; Brantingham and Brantingham [9]; Romero [10], Romero *et al* [11], variables were established, which should be observed for the creation of safe spaces: accessibility, upkeep, urban furnishings and equipment, visual connections, stimulus of the sense of belonging, clarity of demarcations, care with spaces represented by nodes, paths and edges, stimulus to leisure and social interaction.

With the goal of researching variables, *in loco* visits and photographic analysis were made, which allowed for the gathering of data related to the type and diversity of commerce and of public or private institutions which offer support to the community of the blocks, such as clinics and schools.

Besides that, valuation charts were filled out where there were observed the presence (X) or lack (-) of the following aspects in the public spaces of the “Superquadras”, including the pilotis of the residential buildings, see Table 1.

### 4 The analysis of the results

It was verified that the spaces belonging to SQN 208 have a number of security devices. The boundaries of this block are closed off, there is a constant limitation to access imposed by hedges that surround almost all of the buildings. The presence of cameras and of motion detectors is noticed in all of the buildings, as well as security booths with uniformed watchmen.

Alongside this, there is a clear demarcation of the limits between the area destined to commerce and the residential area, by a grove of trees, vegetation and a pronounced difference in the level of the ground.

As for pedestrian access, neither of the blocks offers clearly defined and marked paths that are integrated with the surroundings, however, SQN 208 is more closed off from access to its internal public spaces.

As for the upkeep of public spaces and urban furnishings, SQN 408 shows graffiti, lack of cleanliness and bad upkeep of public equipment and furnishings (Figs. 3 and 4).

Table 1: Valuation chart for SQN's 208 and 408.

	SQN 208	SQN 408
<b>Accessibility control and territorial demarcations</b>		
Closing of the block boundaries by means of walls, hedges, fences or uneven grounds.	X	-
Accessibility limitations.	X	-
<b>Surveillance</b>		
Electronic surveillance (CCTV).	X	-
Watchpersons in uniform.	X	-
<b>Accessibility for pedestrian</b>		
Buildings, furnishings, vegetation, fences, hedges, walls or pronouncedly uneven grounds that obstruct or hinder the access of pedestrians and passers-by.	X	-
Well-defined pedestrian paths, in good upkeep and with appropriate signs.	-	-
Integration with the surrounding areas.	-	-
<b>Public space and urban furniture maintenance</b>		
Graffiti	-	X
Acts of vandalism.	-	X
Illegal appropriation or invasion of public spaces.	-	-
Adequate handling of garbage.	X	X
Cleanliness of the public areas.	X	-
Upkeep of urban equipment and furnishing.	X	-
<b>Natural surveillance / Visual integration</b>		
Fences, gates or walls that impeded visual integration.	X	-
Vegetation that impeded visual integration.	-	X
Buildings, furnishings that impeded visual integration.	-	X
Nocturnal illumination	X	-
<b>Sense of belonging</b>		
Care with garden and green areas.	X	X
Convivial areas.	-	-
<b>Use of space transition</b>		
Presence of physical elements that indicates the changing of uses for the area.	-	-
<b>Diversified activities</b>		
Diversified commercial activities.	-	X
Spaces for multiple uses.	-	-
Diversified recreational activities.	-	-
Leisure spaces.	-	-
Diversified night time activities.	-	-
<b>Presence of nodes, paths and edges of high activity</b>	-	X



Figure 3: Graffiti at SQN 408.



Figure 4: Lack of upkeep and cleanliness at SQN 408.



Figure 5: Massive vegetation impeding visibility (SQN 408).



Figure 6: Urban equipment impeding visual integration.

As for natural surveillance, SQN 408 is more vulnerable as it presents vegetation and buildings which obstruct visual integration, and less than adequate lighting at night (Figs. 5 and 6).

Considering the level of appropriation of the public spaces in the blocks by the community, it is noticed that, in the blocks studied, there is no evidence of the utilization of public spaces for group activities. The sense of appropriation is limited to the gardens surrounding the pilotis, a factor that was observed in both blocks, and in different levels of aesthetic appeal (Figs. 7 and 8).

The territorial definition in the interior of the blocks is restricted to the buildings' immediate surroundings, and is constituted, generally by hedges, gardens and differentiated pavement.

In the frontier between the residential area (SQN 408) and the commercial area (CLN 408), there is a change in use (residential/commercial), however, no symbolic devices were found that clearly represented this differentiation in the use of the grounds.

On the contrary, in the case of the neighboring residential (SQN 208) and commercial (CLN 208) regions, a clear isolation between these two areas can be verified.



Figure 7: Garden in SQN 408.



Figure 8: Garden in SQN 208.

However, the commercial block (CLN 408) neighboring SQN 408 is much more diversified than the commercial block equivalent to SQN 208 (CLN 208), as it is very homogeneous, specializing in computer equipment, a fact that restricts its customers and its working hours.

Through this, it is possible to conclude the existence of great differences present in the design, in the forms of appropriation and the upkeep of the spaces in SQN 208 and in SQN 408.

It is believed that SQN 208 is safer due to the conjunction of several factors, among which are electronic surveillance devices, uniformed watchpersons, care and upkeep of the spaces. However, relevance is attributed to the obstacles present around its limits, which impede generalized access on almost all sides of the block, for making it almost impermeable.

This factor, if allied with the fact that local commerce is undiversified and relatively unattractive, devoid of spots that would generate traffic, renders low attractiveness to the region.

These perceptions contrast with presuppositions which defend the intense use of the public spaces and support to the social exchanges to obtain security and social enrichment, which leads to the consideration that the security obtained in SQN 208 is effective, however, of an excluding nature which goes against the principle which govern the rehabilitation of contemporary public spaces.

Besides offering spaces with limited access restricted to the residents and passers-by when referring to SQN 208 these perceptions go against the democratic urbanistic proposal made by Lucio Costa for the “Superquadras”.

On the other hand, the block that suffered the most from the criminal acts covered in the research, SQN 408, displays a number of potential indicatives that alert to its vulnerability. Among them are found:

- a) the proximity of highly used urban equipments such as the university, schools and supermarket;
- b) ambiguous demarcation of territories for different uses;
- c) the absence of appropriation and use of several free collective spaces;
- d) little upkeep of equipments, furnishings and public spaces;
- e) vegetation and equipments that obstruct visibility;
- f) the absence of convivial spaces that encourage common experiences;

- g) a high turnover in residents due to the presence of student dorms in neighboring areas;
- h) the existence of bars, which attract a large consuming public as well as others who come and go, which do not have a set time to close, and which promote the consumption of alcoholic beverages.

There is also no consistent form of electronic or personal surveillance or control, represented by TV cameras or by watch booths with watchpersons in uniform.

Besides this, SQN 408 is a block that is permeable to pedestrians and automobiles, not offering greater obstacle to the free access of its interior spaces. This factor, when added to those aforementioned, tends to produce spaces that are more vulnerable to criminal offenses, also causing a bigger sensation of insecurity.

## 5 Guidelines for design and use of land

In the quest for a solution, guidelines were elaborated with its sights on interventions in an area considered as vulnerable, found at a dividing point between the residential and commercial areas of SQN 408, here called "Area 1".

The said area was environmentally analyzed based on the use of the bioclimatic sheet [10] which added elements to the suggestion, in a general sense, of the following guidelines: making use of the pavement of the pedestrian pathways to establish a better differentiation between areas for different uses; incentive to the appropriation to the unused areas found between buildings to expand gardens and provide convivial spaces; replacement of the hedges which restrict access to the area under the pilotis for gardens which allow for the differentiation between the apartment buildings; the use of the party room present in the pilotis for non-commercial activities offered to the community, especially in the evenings; intensive upkeep of the existing equipment and furnishings; replacement of the dense foliage which obstruct visibility for an aesthetic combination that is more sparse and less bulky; control of nocturnal activities, with an investment in regulations which demand a stipulation of a closing hour for the bars in the area.

## 6 Conclusion

Some mishaps occurred in the method utilized, especially for requiring adjustments to characteristics that are specific to the spaces, i.e.; it is impossible to foresee its concrete efficiency, if transposed to areas outside the "Superquadras" in the Plano Piloto of Brasília. This is due, preponderously, to the fact that criminality is a state that is dependent upon the aspects evaluated in this paper, or of its evident connection to singular social values related to cultural, economical, and institutional expressions of each community.





Furthermore, the proposal of guidelines here suggested, have not been implemented up to the present moment, in a way that the control of its effectiveness is still found in construction phase.

Though there is the perception that, theoretically, the composition of accessible areas would result in safer spaces, the results of the findings has suggested a diverging answer, which points to the less accessible block (SQN 208) as the more secure one, according to statistical findings, in relation to the crimes isolated in the research.

Based on this finding, it can be inferred that the free access of pedestrians to the internal public spaces of the blocks, as conceptualized and approached in this study, has advantages and disadvantages, depending on its combination with other factors and on the composition of the surroundings.

In this aspect, less accessible spaces allied with the presence of watch cabins, watchmen in uniform and electronic surveillance, the absence of nodes, paths and limits composed of spaces of great activity and a use of space which discourages criminal acts (the absence of bars), confer a positive result of higher security to the block in relation to the crimes of robbery and theft, as occurs in the case of SQN 208.

It is not known, however, up to which point said security can be attributed solely to the characteristics of accessibility, or if, it is actually the result of the grouping of all the factors listed above. On the other hand, there is the disadvantage of conditioning and limiting sociocultural exchanges exclusively to the residents of the block.

Without doubt, the diversity of commercial and institutional activity is larger in SQN 408. For this reason, finding measures that grant higher safety levels to the public space, without compromising its gregarious and democratic function is definitely the ideal. In this aspect, instigating the reduction of access and ostensible social control would be a mistake, especially when seen under the prism of sustainability.

These findings lead to a great challenge and to the urgent necessity of establishing a connection between architectural and urbanistic studies and other academic disciplines, so as to enrich the research instruments with a focus on public security in the cities, under the viewpoint of altering the physical and functional characteristics of the public spaces.

The search for solutions in the fight against violence and urban criminality has been undergoing an evaluation of the most encompassing characteristics of a community, be they of a social, economical, institutional, or cultural nature or even if referring to the physical and environmental aspects of the public spaces. For this reason, the evaluation of urban design represents an important auxiliary tool.

It is believed, therefore, that the present research represents a small step, of introductory nature, to a future improvement that leads to the systematization, application and evaluation of physical, environmental and functional guidelines in the public spaces of the "Superquadras" in the Plano Piloto, and, perhaps of other localities, in order to make the effective constitution of safe public spaces possible.



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