

Safety in public space. Analyses of safety aspects on Grajaú- São Paulo

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Abstract.

The article describes my research on safety of public space in Brazil. The aim of the work was to analyse the elements and their parameters that significantly influence perception of safety in public space on an example of the Grajaú district of São Paulo. The primary method employed was field observation, empirical investigation, and documentation of the most common forms of greenery in the city. This research identified the most common problematic elements and potential indicators of safety or danger. Maps, street photos, and public opinion were used to select the seven most present aspects of security in Grajaú: steep streets, bad sidewalks, absence of places to hide, bad lighting, problematic crossover, no asphalt, and problematic trees. The research is part of a broader work of my supervisor Ing. arch. Gloria Abu Zummarová aimed at creating a procedure to generate a table of safety indicators based on a comprehensive analysis of public spaces which can be used to develop a methodical procedure to quantify the level of safety in public spaces.

Keywords. safety, public space, Grajaú, Brazil, São Paulo.

1. Introduction

This paper is a part of the Unigou Remote Program and a broader research project that examines the topic of safety in public spaces. Specifically, it analyzes and evaluates the safety of urban spaces, by addressing the main question: “What makes a place safe or unsafe?”

2. Research Methods

The primary methods used in the research were field observation and empirical investigation, followed by documentation of the most common forms of public space in the district. Data collection, analysis, and evaluation were also conducted to identify the most common design parameters and potential indicators of danger.

3. What is Grajaú ?

3.1 The beginning

“Grajaú is nature but also art, art inside each house, art in every place. It is constructed by people of every type, race, age, and culture. Grajaú is childhood and future”. This quote was shared by the teacher Jorge Bassani (Faculty of Architecture

and Urbanism from the University of São Paulo) during a visit to the area as part of the “Cultura e Paisagem no Grajaú” class, which was the initial stage of my research.

The tour allowed for the selection of a high number of interesting points, including a diverse range of art, the deep connection between the region’s residents and their sense of family, and the relationship between nature and society. However, are these citizens receiving adequate assistance? Is this location safe? Do the residents feel unsafe walking through it? These are the questions that have influenced this article.

3.2 Geographical and economic description

Grajaú is situated in the extreme south of the city of São Paulo, in the sub-district of Capela do Socorro, and it comprises symbolic neighbourhoods such as Jardim Gaivotas, Cantinho do Céu and Chácara Cocaia. The district is bordered by others such as Pedreira, Cidade Dutra, Parelheiros, and the cities of São Bernardo do Campo e Diadema. Additionally, Grajaú is surrounded by two dams (Represa Billings and Represa Guarapiranga), which are

significant for their cultural and natural aspects.

The district contains the avenue Dona Belmira Marin, which is considered the commercial center of the region. However, it is also one of the most dangerous avenues in São Paulo [1].

Moreover, according to statistical data, Grajaú has the highest population in São Paulo, with approximately 392 734 people [2]. Furthermore, the average income of the citizens is two minimum wages (2.444,64 reais) in contrast to the city of São Paulo average (3.488,06 reais) [3]. In addition, 53.000 people reside in unplanned or irregular occupations, and 37% of the inhabitants are engaged with social movements [4].

Additionally, in an interview from journal Mural [5], Taniara Ferreira, resident from Grajaú explains: “It’s a disregard for the population. People get up at 4 am, arrive home at midnight and are robbed along the way. It seems that the government forgot about this region. We need someone that cares about us, we have been asking for respect for many years” (translated).

3.3 Authoral photos

One of the methods used in the research includes a visit conducted on January 29, 2024. The visit was led by professors Jorge Bassani and Camila D’Ottaviano from the Faculty of Architecture and Urbanism- University of São Paulo, in collaboration with the social cooperative “Imargem” [6]. The tour was taken through the Jardim Gaivotas neighbourhood, which is the closest to the dam. Some photographs taken during the visit and their analyses are shown below.

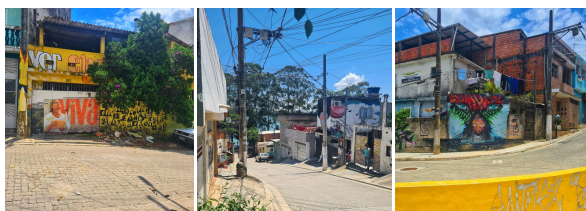


Fig. 1, 2 and 3 - Grajaú’s steep streets, where it is possible to notice art and Brazil’s main type of construction-“auto construção” [7].



Fig. 4- Connection between the dam and the region.

Fig. 5- No-asphalt street.

Fig.6- Natural view from a house made by “autoconstrução” (to build your own house without an

appropriate technique, in order to be cheaper) [7].

3.4 Videos from the Internet

One of the Grajaú’s essential features is its extraordinary personal aspect, which is characterised by a diverse range of art, culture, social projects, and joint activities with the inhabitants. In order to showcase this, a selection of some interesting internet videos has been made.

The first group of videos depicts in detail some complaints such as security related to robberies [8], infrastructure issues [9], and walkability [10]. There is also a media that contains drone travelling [11], where it is possible to see an overview of the territory. Additionally, it is interesting to highlight one of them, which discusses the death of a social community leader and its impacts [12].

The second part is related to people and culture. It includes some documentaries made by interviews with the population [13], historical videos [14], social projects [15], and a song from a famous Brazilian singer who describes some aspects of Grajaú as poverty, culture, social organization and urbanism problems [16].

4. What makes a place safe or not?

To answer the main research question, it was necessary to select some authors researching this topic, discuss them and categorize the fundamental aspects of safety.

4.1 A sense of security

In an overview,, P.hD. Dina Shehayeb [17] explicits in her article that the sense of security, besides being a basic human need, can also influence anti-social behaviour and attitudes and may even have stress-related outcomes.

In the same way, Jane Jacobs [18] explored the connection between physical infrastructure and the perception of safety. Based on this, this article attempts to select some of the most important design aspects of infrastructure in Grajaú such as public lighting, and well-maintained sidewalks.

Author O.Newman highlights the importance of mediating variables such as space use, social interaction and spatial handle to control the sense of uncertainty and fear. In other words, how the public space is used becomes crucial to comprehend the sense of security, as people feel safe when they see others feeling safe and actively using that area. For that reason, in this paper, one of the categories is “places to hide”, which includes commercial places that have people movement or that can be used as a hiding place in case of theft.

Additionally, S.E Merry links social factors such as solidarity and community to the sense of protection. This article aims to showcase these social feelings, which are highly present in the Grajaú area, through photos and videos shown in item 3.

4.2 An open view of safety in Brazil

In Brazil, analysing aspects of danger is a challenging task, because it is not only related to the absence of infrastructure and feeling of danger, but also to a broader scenario of poverty, social segregation and criminality existing in the country. Considering the complexity of these problems, this article will not discuss them, but will instead explain and highlight some of them.

Ermínia Maricato [19], in her article stated the question: “What are the hands that control the growth of the city, the occupation of the land, that control the investment in the city?” It also highlights the correlation between poverty stricken areas and the lack of government assistance. The text suggests that politicians tend to prioritize urban development projects in affluent areas due to their vested interests. And that is why, even though Grajaú is in the richest area of the city (South Zone), it still faces significant issues with basic resources such as asphalt and public lighting.

5. Analysis of each aspect using maps and photos

As the result of the analysis of the components mentioned in the previous chapter, some of them were mapped using Google Street View. The maps are numbered, and each digit refers to a group of photos that describes the region. The red triangle represents the closest train station (Terminal Grajaú), which is 8 km away from Cantinho do Céu. Additionally, a Google Drive with all the photos is available [20].

5.1 Ramp/Steep streets

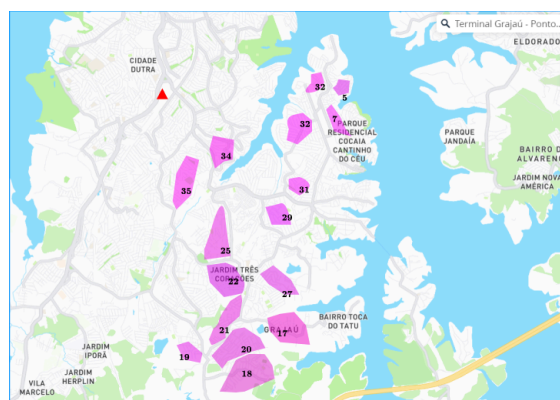


Fig. 7-Map of steep streets.

Observing the map and the selection of photos, it is noted that inclined streets are strongly present in the region. Even though this type of street is common in all countries, they configure a safety question when located in socially affected places such as Grajaú. In this sense, because of the population vulnerability and the default of adequate public transport [21], the population is conditioned to move by walking [22].



Fig. 8 and 9-Photos from areas 5 and 19, resp.



Fig. 10 and 11 -Photo from areas 35 and 27, resp.

Beyond the steepness, some paths of the district also have discontinuous or negligible sidewalks, as registered in figures 8 and 9. This characteristic submits walkability and safety into a difficult point, because it forces pedestrians, who seek for a same level way, to walk on the asphalt among the cars or to move between the obstacles.

Finally, image 10 reports an interesting contrast between an indication of a wheelchair user and the extremely steep street next to it.

5.2 Bad sidewalks

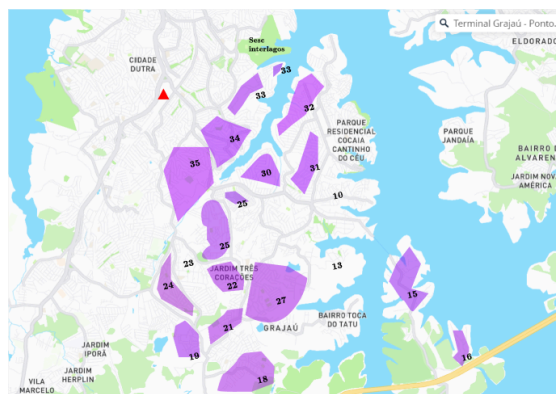


Fig. 12 - Map of bad sidewalks.



Fig.13 and 14-Photos from areas 17 and 35, resp.



Fig.15 and 16-Photos from Centro Cultural Grajaú (area 36) and area 25, resp.

Observing the map and the photos, it is stated that an enormous part of the district has bad sidewalks, and they are classified as it because of different conditions. Some of them are the presence of vegetation that blocks the sidewalk, different levels of pavement, and objects blocking the way.

In more detail, figure 13 represents the first case, where the vegetation canopy size and height block all the way, which transforms the sidewalk as non-existent. Moreover, figure 14 and 16 symbolize sidewalks with obstructions, such as irregular garage, stairs and construction materials. Both of these aspects configure the sidewalk as useless and unsafe, due to the fact that inhabitants have to walk in the asphalt among vehicles, as explicit in figure 16.

In opposition, figure 15 represents an example of people using a good sidewalk. This classification is based on the great width of the sidewalk and the presence of basic structures as good pavement, no obstacles and tall trees that don't block the way. Moreover, in the same picture, the O. Newman quote is reported due to the presence of a cultural center, which increases the movement in the sidewalk and consequently the safety.

5.3 Problematic crossover

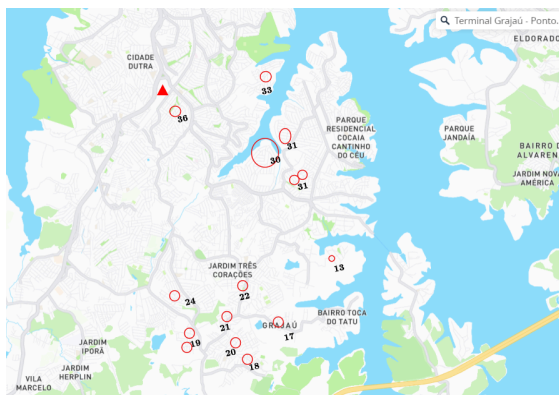


Fig. 17- Map of problematic crossover.



Fig.18 and 19-Photos from areas 26 and 20, resp.

As a consequence of the presented media, "problematic crossover" involves many diverse situations, and due to this it was impractical to point out all of them in the map.

In this context, image 19 introduces a crossover that configures an intersection of many different directions, which increases the number of vehicles and possible accidents. Moreover, there is also an absence of pedestrian crossing which influences people to cross it in a disorderly way and this configures traffic and walkability to more danger.

Furthermore, figure 18 contains the last aspects, but also the sidewalk is very thin and has light poles as an obstacle, which influences the pedestrians to walk among the vehicles instead of using the sidewalk.

5.4 Places to hide

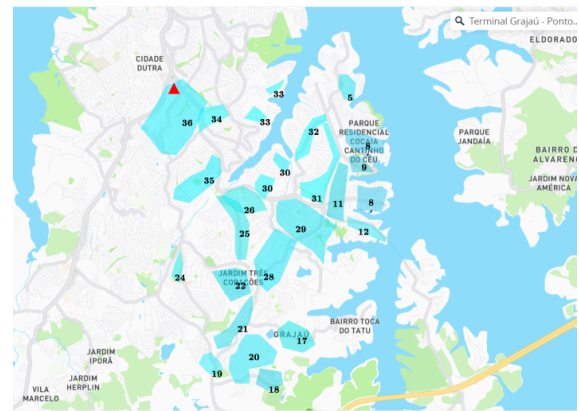


Fig. 20 - Map of places to hide.



Fig.21 and 22 -Photos from areas 36.



Fig.23 and 24 -Photos from areas 5 and 21 .

Even though both pictures are indicated in the same map, they configure different scales of place to hide. According to GeoSampa [23] the main land cover of Grajaú is low and medium standard residential and that is related to figure 23 and 24, where some commerce is noticed along the residence. Consequently, the majority areas coloured in the map are categorised by residence and commerce in the same building, which don't configure the best scenario of place to hide and safety.

This is related to the studies of Jane Jacobs where it is pointed out that a varied trade of commerce is recommended because it prevents people from going to a single place and then moving on. That is exemplified in figures 21 and 22, where, probably, the people walking in there are going to more than one place, and consequently, guaranteeing movement and security. Moreover, at figure 21 it is possible to identify a good example of sidewalk, and that points to the argument that places of extreme use, such as commercial streets and avenues, are potential streets to receive good sidewalks, which is confirmed also by overlapping the figures 12 and 20.

5.5 Bad lighting

Even though lighting is a primordial safety aspect, it is difficult to evaluate using Google Street View because it would be necessary to cover all the streets completely.

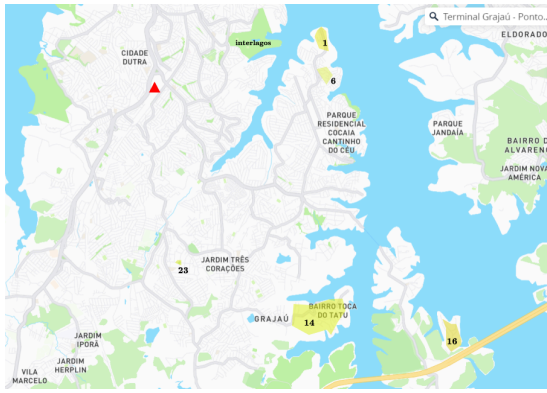


Fig. 25 - Map of bad lighting.



Fig. 26 and 27- Photos from area 6.

However, some areas, for example 6, present a lack of lighting, which problematizes basic human actions such as walking in the night and house living. Moreover, figures 26 and 27 from area 6, also show other precarious aspects, such as a deficiency of asphalt and good sidewalks. In this sense, this area is classified as unsafe because it contains almost all the criteria studied.

5.6 No asphalt

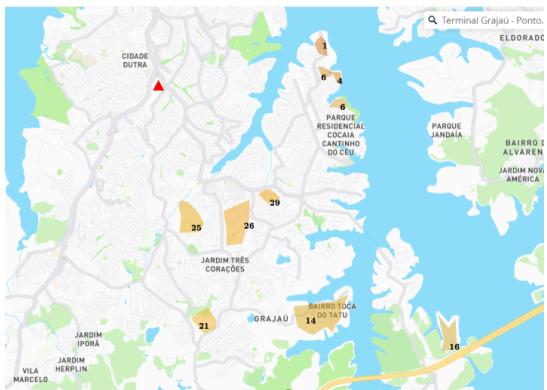


Fig. 28 - Map of no asphalt.



Fig. 29 and 30- Photos from areas 4 and 14, resp.

Asphalt is a fundamental resource, since without it, the presence of other means such as sidewalks, lighting, and adequate housing construction turns out to be difficult.



Fig. 31 and 32- Photos from areas 25 and 1, resp.

Figure 29 represents a woman and a child walking through a no asphalt street along with problematic trees and bad sidewalk. That situation exhibits a contradiction between population use and presence of basic resources of safety. In the same way, figure 30 combines the same criteria, but also bad lighting. In both of them, the lack of infrastructure configures the feeling of danger, as explained by Jane Jacobs.

Moreover, figures 31 and 32 detail the situation of no asphalt in opposition to appropriate housing construction, which is related to “auto-construção” [7]. Additionally, because of “auto-construção” there are many construction resources blocking the way and blending in with the pavement because of a lack of separation which would be possible by asphalt.

In this sense, it is possible to point that an amount of people live in this place, and consequently use the street as a pedestrian, which means that they walk in this area with danger due to bad or blocked sidewalks caused by no-asphalt.

5.7 Problematic trees

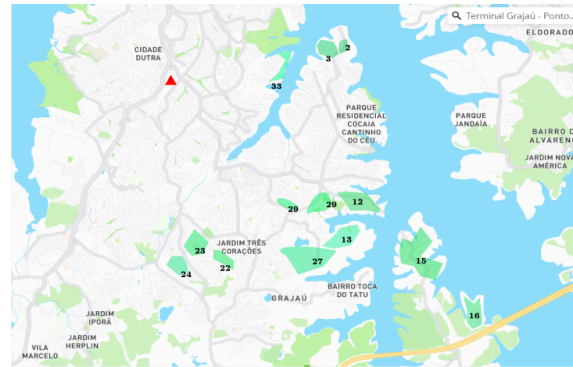


Fig. 33-Map of presence of problematic trees.



Fig. 34 and 35- photos from area 16.

Exploring the photos, figure 34 and 35 contains roads with low vegetation and dense tree crowns, which are unsafe because they configure the sidewalk as useless and obligate pedestrians to put themselves into a dangerous situation.



Fig.36 and 3- photos from areas 29 and 23, resp.

Contrary to the images mentioned above, figures 35 and 37 are not roads, but contain areas of habitation, and consequently more people movement by foot. In this case, the presence of problematic vegetation is even more dangerous because trees with dense crowns can be a potential place for robbers to hide.

6. Final Thoughts

Grajaú is a diverse and unique territory with rich culture, natural landscapes and a strong sense of community. Even though that, the space still suffers from lack of safety based on seven criteria: bad lighting, problematic crossover, lack of asphalt, ramp street, bad sidewalks, no place to hide, and problematic trees. These different sides of the same territory and their discrepancy are the main focus of the research. This paper takes importance because it tries to look deeply into Grajaú and can be used to study the area and improve social aspects.

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