

SÃO PAULO LAKÁSPOLITIKÁJA ÉS ANNAK KÖVETKEZMÉNYEI A VÁROSKÉPRE

A Parque Novo Santo Amaro V. esete

THE HOUSING POLICY IN SÃO PAULO AND ITS OUTCOMES IN URBAN LANDSCAPE ARCHITECTURE

A case study of Parque Novo Santo Amaro V

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ABSZTRAKT

Ennek a cikknek az a célja, hogy tisztázza a jelenlegi São Paulo-i lakhatási politikának az építészetre és városkép-alakításra gyakorolt következményeit, különös tekintettel a fenntartható fejlődés irányelveire és a környezetvédelmi előírásokra, amelyek a városok minőségi átalakítását ösztönözték ökológiai és táji szempontok szerinti fejlesztéssel. Történelmileg a lakáshiány és az ezen a téren végrehajtott stratégiai szabályozások jelentősen befolyásolták az ország életminőségét és a társadalmi egyenlőtlenségek változását. Az analitikai módszertan összehasonlítja a hagyományos lakásfejlesztési stratégiákat és a VIGLIECCA&ASSOCIADOS által tervezett Parque Novo Santo Amaro V. esettanulmányában fellelhető nem konvencionális megoldásokat, kibontva a tájépítészeti menedzsmentre és egy szegény brazil közösség életkörülményeire irányuló beavatkozás fő szempontjait.

Ez a projekt olyan új állami lakásépítési és környezetvédelmi intézkedések eredménye, amelyek a város elhanyagolt területeinek fejlesztését és társadalmi fejlődését szolgálják. Ennek az elemzésnek a koncepcióját az a felfogás vezérli, hogy a várost – különösen dél-amerikai kontextusban – egymást átfedő rétegek bonyolult kölcsönhatása alkotja, azok konfliktusaival, széttagozottságával, feloldatlan ellentmondásaival és szembenállásaival. Előzetes eredményként megállapításra került, hogy a São Paulo-i Parque Santo Amaro V. esetében megvalósított innovatív megoldások hatékonyak bizonyultak arra, hogy a területet a város makró szintű struktúrájába integrálják, átfogó megoldást kínálva a lakáshiányra és a súlyos környezeti problémákra.

Kulcsszavak: várostervezés, városkép, szociális lakhatás, városi zöldinfrastruktúra, brazil építészet. ©

Figure 1: Sketch of the pedestrian overpass designed for Parque Novo Santo Amaro V.
SOURCE: VIGLIECCA & ASSOCIADOS, 2017



ABSTRACT

This article aims to clarify the consequences of the current housing policies in São Paulo on the architectural and urban landscape production, especially in the context of sustainable development guidelines and environmental regulations that have driven urban requalification in terms of ecological and landscape betterment. Historically, the housing deficit and the strategic policies performed in this field significantly impact the country's quality of life and the variation of social inequality. The analytical methodology compares traditional housing development strategies and the unconventional solutions found in the case study of Parque Novo Santo Amaro V, designed by VIGLIECCA&ASSOCIADOS, unfolding the main aspects of this intervention for landscape architecture management and the living conditions in a poor Brazilian community. This project is an outcome of new public housing and environmental measures aligned in favor of urban and social development of run-down areas of the city. The conception of this analysis is guided by the comprehension that the city is – especially in a South American context – a complex combination of layers, with its conflicts, fragments, unresolved contradictions, and

oppositions. As preliminary results, it was identified that the innovative solutions implemented at Parque Santo Amaro V in São Paulo proved to be efficient in integrating the territory into the urban macro fabric of the city, addressing a comprehensive solution to the housing deficit and serious environmental problems.

Keywords: urban planning, urban landscape, social housing, urban green infrastructure, Brazilian architecture.

1. INTRODUCTION

South American cities are composed of complex layers defined by unequal sociocultural backgrounds resulting in segregating and integrating territorial movements [1]. This dynamic condition establishes diverse and discontinuous patterns, especially in large urban centers such as São Paulo. The urban configuration is conducted by a set of processes (confluent or divergent from each other), such as agglomeration, political actions, class conflicts, profit maximization, or planning decisions [2].

Similar to the process experienced by several European cities since the 1970s, São Paulo – which is one of the main economic centers in Brazil and South

Figure 2: Urban structure of São Paulo
 SOURCE: SÃO PAULO DEVELOPMENT PLAN, 2014 – EDITED BY AUTHOR

America [3] – has also been undergoing an intense change in social paradigms and spatial organization, because of the intensification of globalization trends and the decline of traditional manufacturing industries plus the consequent rise of the service sector [4]. This urban change and restructuring process reverberated unevenly in Brazilian cities, causing intense migratory waves towards the economic centers, triggering growing urban structuring and cohesion problems [5].

1.1. The emergence of new policies in São Paulo

The current Brazilian political circumstances have guided the country towards stagnation in housing production and the rehabilitation of consolidated centers. Recent indicators show the rapid growth of the housing deficit around the country, and especially in São Paulo [6].

The city of São Paulo is the largest housing hub in the country, home to about twelve million inhabitants. It is also a major economic and cultural center in Brazil. Most of the urban trends emerging in this city later spread throughout the country, including when it comes to social policies, social housing strategic implementation, and urban renewal experiments [7].

Taking this scenario into consideration, innovative initiatives are being undertaken by the local government in an attempt to take control of housing policies, especially where related to social interest. The alternatives are emerging with the support of legislation and guidelines that deal specifically with long term urban planning and sustainable development, such as the Urban Development Plan [8] and the Environmental Protection and Development Plan [9]. Thus, the Municipal Housing Plan of São Paulo [10] seeks to define housing programmes and strategies for action and articulate them in the formerly mentioned sectoral policies.

The social housing policies developed by the federal government were able to significantly impact the decline of the slum population in large Brazilian urban areas. Nevertheless, in São Paulo, despite the large investment in this area, the numbers reflect the opposite.

Accordingly, this study also seeks to highlight the differences between the national urban policies, which are currently decreasing in size and importance, and the local policies developed by the state of São Paulo, especially regarding architectural and urban landscape quality.

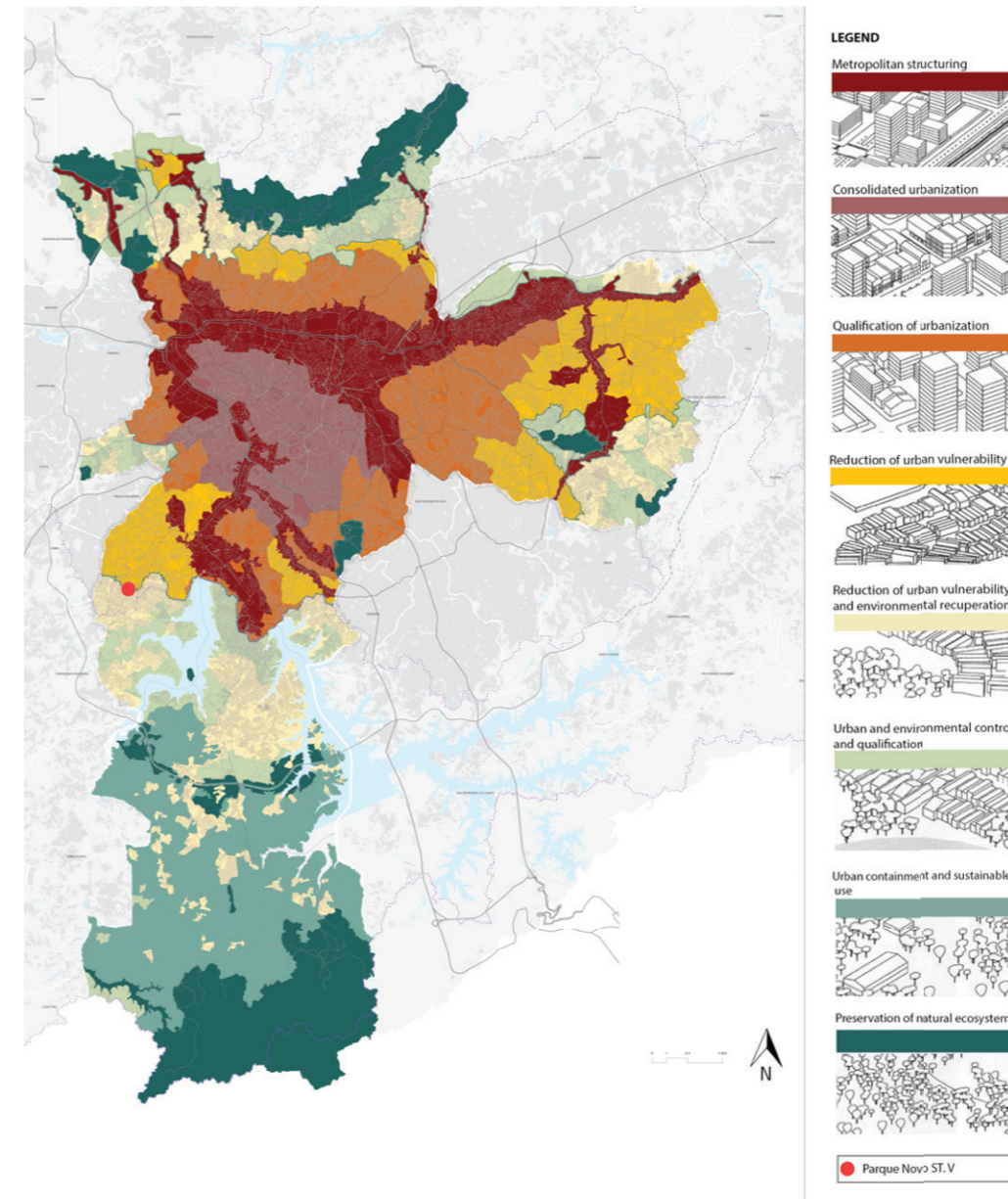
As a study case, the rehabilitation of Parque Novo Santo Amaro went much further than the partial demolition of the existing set of buildings and the construction of new dwellings, but it also improved the quality of the urban fabric of a consolidated slum area, promoting accessibility, creating open public spaces, and addressing technical solutions for environmental issues, beside the consequent amelioration of the urban landscape (see Figure 1).

This kind of intervention is an unconventional alternative in using housing development as a mechanism to tackle cohesion hindrances in fragmented urban tissues and in an attempt to improve the sanitary and ecological conditions of communities located in areas of environmental sensitivity. Promoting the improvement of deteriorated urban areas and the support of low-income populations in central locations, facing the transformative force of the real estate market, are part of the "conflicts and unresolved contradictions" that the city's government is constantly dealing with.

1.2. General overview of São Paulo's urban structure

The city of São Paulo has a heterogeneous urban structure, resulting from a historically fragmented and multicentric expansion process, which gave rise to a segregated territory [1]. Although analyses of urban segregation are commonly performed from a center versus periphery perspective, in Brazilian cities such as São Paulo, this type of interpretation is not so evident since, in some cases, the wealthy zones are interspersed with less structured neighbourhoods, further away from the center of the city [11].

Despite this heterogeneous scenario, most of the formally planned zones with consolidated urbanization and the metropolitan structuring zones are located in the city's center, in its northwest region. Those zones are



where the main connection axes, dense public transport network, and the most extensive commerce and service hubs are found consequently. The poorest neighborhoods, described in the São Paulo Urban Development Plan as "areas of urban vulnerability," are concentrated in the eastern and southern zones, where there is also greater concern about experiencing disorderly urban sprawl in environmentally protected areas (see Figure 2).

2. REGENERATION OF URBAN FORMS WITH INNOVATIVE TOOLS AND TECHNIQUES

In 2018, the São Paulo government announced the construction of 3,895 housing units through the national housing program "Minha Casa Minha Vida" (MCMV), targeting low-income families. Given the estimated deficit of 368,000 homes in São Paulo, this number indicates the

Central Government's inability to manage the housing crisis in the country [12].

Besides the difficulties faced by the centralized national housing policies to meet the local needs for dwellings, the limiting conditions imposed by MCMV hinder diversity in urban forms, leaving aside the intrinsic complexity of areas of unplanned occupation. The local government also had low control concerning constructive parameters and the financing processes. Therefore, it is clear that the National Housing Programme, in addition to not meeting the expected quantitative expectations, also does not achieve the qualitative standards in terms of urban morphology and architectural typologies.

A new framework, better adaptable for the renovation of existing urban forms, which is more suitable for the existing spaces and/or buildings [13], has emerged in this panorama: a wave of innovative methods, aiming for new



financial backgrounds, and mainly grounded in the fact that the existing urban hubs can be restructured. Also, regarding urban green infrastructures, the core idea is to guarantee a comprehensive network of green public areas (in various scales and forms) for areas of extreme population density.

The parameters required by the traditional national housing policy stimulate suburbanization, demand urbanization of natural landscapes (requiring more extensive investments), and encourage architectural standardization. Under this regime, the urban green infrastructure is

not considered either, which results in poor or inexistent urban green network planning.

The MCMV residential programme does not demand any analysis of the pre-existing fabric, causing difficulties in the city's mobility system. There are no requirements for green space networks (see Figure 3). For this reason, this type of urban solution has a low percentage of green spaces and permeable surfaces, which also overloads the rainwater infrastructure. The construction legislation of São Paulo also does not limit the minimum distance between buildings within the same plot, which

Figure 3: Urban landscape MCMV in housing estate area – São Paulo
 SOURCE: GOOGLE MAPS

Figure 4: Comparison between favela occupation and MCMV housing developments
 SOURCE: BY AUTHOR

Figure 5: Parque Novo Santo Amaro V – implantation in urban context
 SOURCE: BY AUTHOR

significantly compromises the landscape quality in these areas (see Figure 4).

The demographic density of the São Paulo favelas was estimated, in 1987, at 446.2 people per hectare [14], a value that approximates the average found also in housing estates built through the MCMV programme (200 – 400 p/ha) in the central areas. Despite the similarity, these urban configurations are entirely different structures.

Still concerning the density analysis, favelas present relatively low building height due to the low level of construction technology. MCMV housing developments meet state contractual demands, seeking to reach the most significant number of housing units with the lowest cost possible. The majority of these residential developments consist of five-floor buildings, reaching the limit of the requirement for elevators.

A further difference that defines the two types of urban housing is that the housing estates are car-oriented – also a result of the requirements for accessibility and public security, and the determination that each unit must have at least one parking lot. In São Paulo's favelas, typically, most roads do not support the traffic of cars, and so the flow of pedestrians is possible only in narrow alleys – most of them between 1.5 and 3 meters wide [15]. The public transport axes are placed on arterial routes that cross or surround the territory.

In the urban conjuncture of MCMV housing complexes, the green space network is often restricted to mandatory preservation (green space for protection) of non-building areas due to high inclination, flooding zones, or environmental significance established by law. The São Paulo construction code also determines the minimum amount of permeable surfaces, which reflects in the implementation of interstitial grassy gardens. These areas are primarily for private or semi-public use, as they have restricted or prioritized access for the residents of the buildings. Their maintenance is also a private responsibility. For this reason, they are usually in a good state of management, despite the low biologically active surface typically found on this kind of designed green spaces in such circumstances.

This way, the Parque Novo Santo Amaro V project, located in the south of São Paulo, proposed by Viglicca & Associados, is a good example of social housing that has managed to overcome the barriers defined by extremely restrictive legislation and the low cost construction techniques, in order to achieve a better urban environment and landscape design (see Figure 5). In this case, the green system in this project is also wholly public, maintained by the state.

3. DISORDERED URBAN EXPANSION AND ENVIRONMENTAL IMPACTS

The disordered urban expansion of the metropolis, without the implementation of basic urban infrastructure, especially in the southeastern region, where water resources are more vulnerable to pollution, has resulted in environmental degradation. The occupation of slopes, riverbanks, streams, valley bottoms (conducive to seasonal flooding), and floodplains by slums and clandestine urban subdivisions has affected water quality and compromised the continuity of the public water supply for the metropolitan region of São Paulo.

In this sense, the Development and Environmental Protection Plan - PDPA [9] established, among other definitions, planning and management instruments for the Protection and Recovery of Watershed Areas (APRM). The PDPA's main intention is to monitor the application of specific APRM legislation and guide the actions of public authorities and the civil society, aiming at the protection, recovery, and preservation of watersheds of regional interest (see Figure 6).

4. METHODOLOGY

The city of Sao Paulo experiences exponential growth in its population and, consequently, in its urbanized areas. This process highlights the contradictory dynamics of continuous expansion, generating precarious suburbanization and territorial fragmentation.

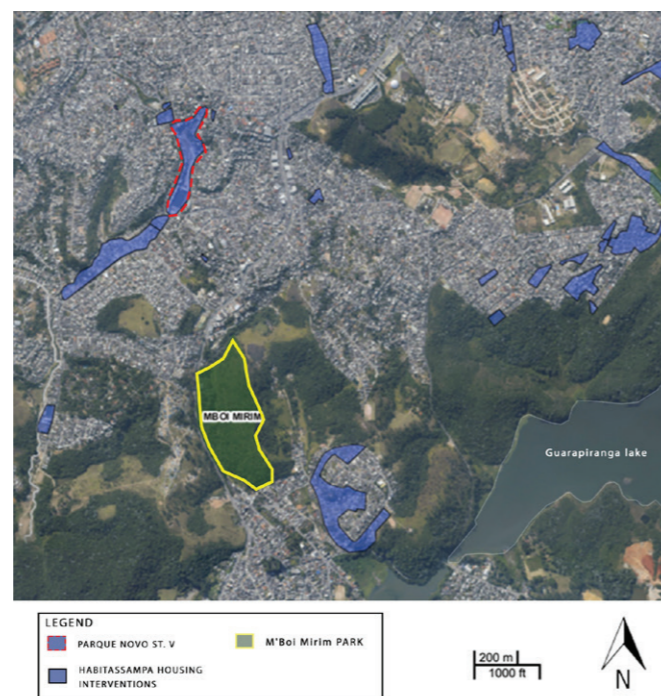
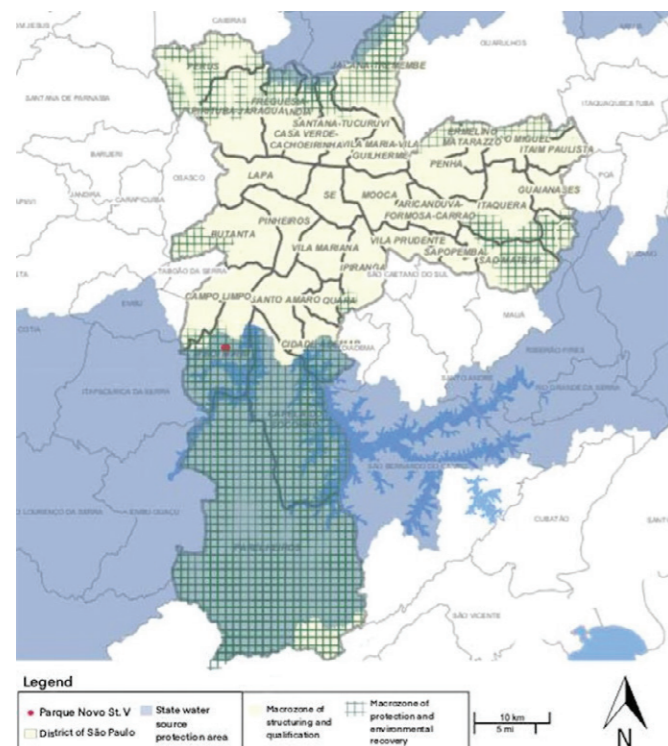
Considering the highly heterogeneous and complex pattern of the urban context of Parque Santo Amaro,

Figure 6: Parque Novo Santo Amaro V – location in the Water Source Protection and Environmental Protection zones

SOURCE: SÃO PAULO DEVELOPMENT PLAN, 2014 – EDITED BY THE AUTHOR

Figure 7: Parque Novo Santo Amaro V on the edge of Guarapiranga and M'Boi Mirim preservation areas

SOURCE: SÃO PAULO DEVELOPMENT PLAN, 2014 – EDITED BY THE AUTHOR



and because of the need to see the city as a whole and its parts [16], the regeneration of this district of priorly predominantly residential use, symbolizes a movement opposed to the disorderly urban sprawl, willing to implement focal infrastructural elements into the deficient urban environment. Thus, the project aims to radiate improvements in the territory by improving landscape and environmental conditions far beyond the delivery of only the necessary housing units.

Good "urban acupuncture" must promote the conservation or rescue of the cultural identity of a locality or community [17]. The project developed by VIGLIECCA & ASSOCIADOS considers the various layers that compose the urban structure of Parque Novo Santo Amaro V respecting important physical-environmental factors that guided the morphology of the original implantation and can also be considered relevant elements for the construction of the

community's identity, such as the inclined relief and the stream. This design conception was built along the lines of the "urban acupuncture" concept, based on physical and abstract elements that connect the city's layers and unify them, spreading the results of its improvement performed on a local scale instead of on a broader horizon.

4.1. Parque Novo Santo Amaro and the use of housing policies to govern landscape, environmental and social restructuring

Because of the growing housing deficit of the city of São Paulo, Parque Novo Santo Amaro V is a pertinent example of governmental strategies for providing dwellings, however also achieving environmental rehabilitation of fragile areas. Due to its economic power and relevance in the national and international context, the city's municipality

Figure 8a-b: State of the local stream before and after the intervention

SOURCE: VIGLIECCA & ASSOCIADOS, 2012

Figure 9a-b: View from Coelho Lousada street in 2009 and 2021

SOURCE: GOOGLE MAPS, 2022



has assumed an avant-garde role in experimenting with new opportunities in this field.

"São Paulo has the largest number of favelas in Brazil, with 1,715 locations registered by the Municipal Housing Secretariat (SEHAB). They are estimated to hold 391,000 households and more than two million residents, equivalent to 11% of the city's population" [14].

Community-led housing concept was used as the foundation for most of the actions. Per definition, it is "(...) a housing project that is focused mostly on affordable homes for the benefit of the local community, either individually or in co-operation with a builder or other local housing provider (...) The community group will take a long-term formal role in the ownership, stewardship or management of the homes" [18].

The policies of the city's Urban Development Plan determine the requalification of degraded urban areas

[19]. In the case of the study area, the strategy developed goes beyond the need to recondition the landscape and environmental state by implementing a Community-led housing estate. In this sense, the instruments found in environmental protection guidelines were considered priority factors in this process. On the map below (Figure 7), it is possible to observe that the Parque Novo Santo Amaro is located in the "Macro zone of recovery and environmental protection" and the other urban areas of subnormal occupation inserted in zones of greater environmental relevance.

The construction of the residential buildings and their surroundings began in 2009 and was completed in 2012, conceived under the requirements of the Alto Tietê Water Supply Environmental Sanitation Programme. The intervention area has a total area of 21,900 m², with a built-in area of 14,600 m² [20].

Figure 10a-b: Aerial images - Before and after the Parque Santo Amaro intervention

SOURCE: GOOGLE EARTH (MODIFIED BY AUTHOR)

Figure 11: Parque Novo Santo Amaro V – zones of use and mobility axes

SOURCE: BY THE AUTHOR

Figure 12: Topographic analysis – Parque Novo Santo Amaro V

SOURCE: BY THE AUTHOR

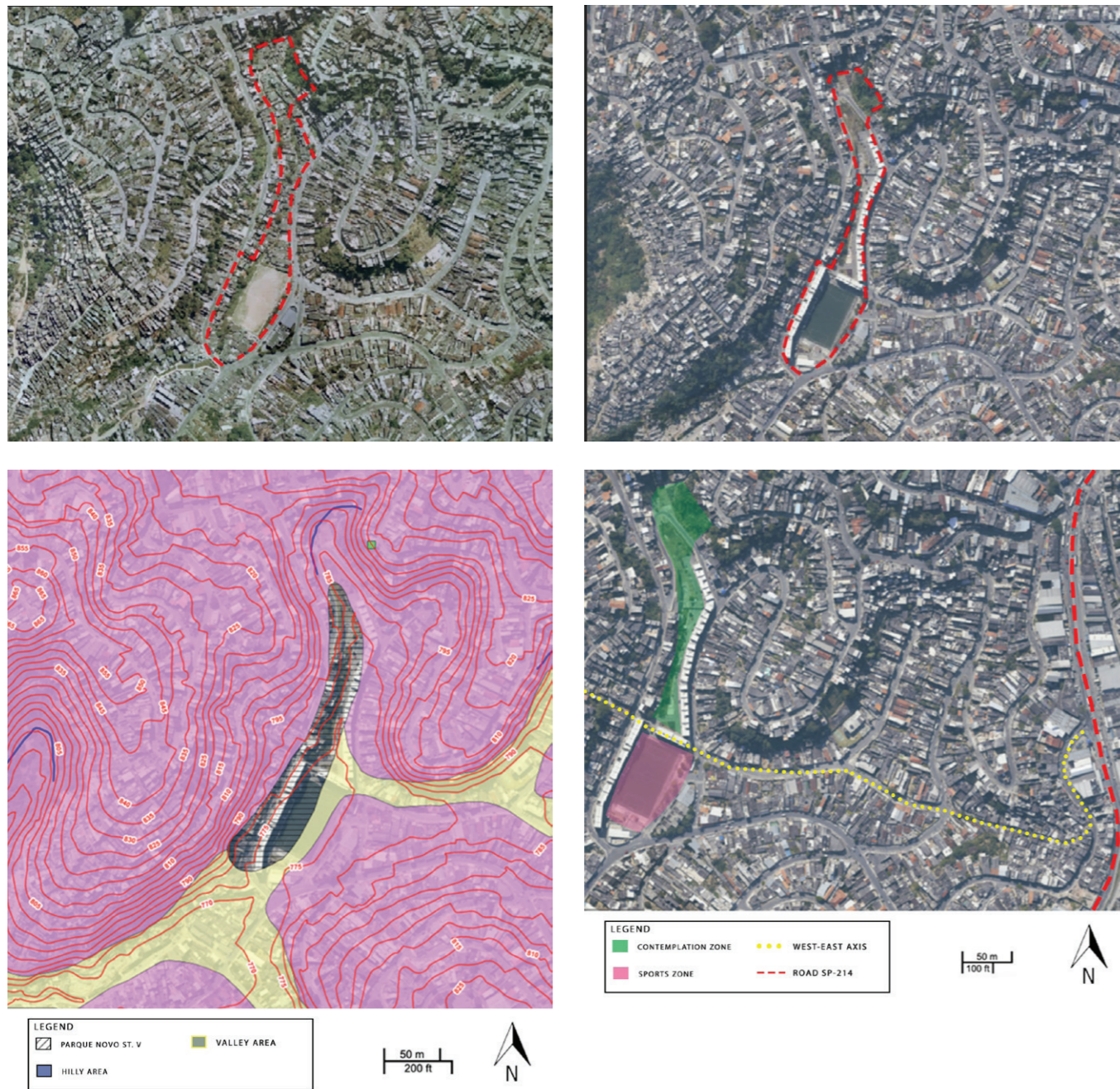


Figure 13: Parque Novo Santo Amaro housing estate

SOURCE: VIGLIECCA & ASSOCIADOS, 2017



The housing density of Jandim Ângela, a neighbourhood part of the district of M'Boi Mirim, in which Parque Novo Santo Amaro is located, is around 79 res/ha - below the average of 90 res/ha in the district. The Itaim Paulista district, located in the city's western periphery, has the highest population density among all the districts, with 171 res/ha [21]. From this perspective, it is essential to highlight that the project density is approximately 405 res/ha, resulting from the growth of building height (see Figure 8 and 9).

The goal of this urban approach was to increase the density and simultaneously free up space to provide public spaces equipped with urban green elements - as visible in Figure 10. Besides that, the built-up area is equivalent to slightly more than 2/3 of the total project area, and these results could be reached with a longitudinal building structure five to seven storeys high, which is also

adapted to the local topographic conditions in terms of accessibility and landscape composition.

Given that this is a zone of high density and low territorial permeability, a typical characteristic of this urban typology in Brazil, the priority, in terms of urban mobility, was to improve pedestrian traffic routes. Therefore, a new east-west axis was implemented, connecting the main public transport route to the inner portion of Parque Novo Santo Amaro (see Figure 11).

The aforementioned proposed axis crosses the new residential buildings, using its structure as a bridge to connect different levels, separated by the relief. This is a peculiar feature of the project, which had an impact on the organization of the building's layers of use and, at the landscape level, subdivided what could be a single visually continuous public space into two smaller ones - despite the direct physical connection that exists between



Figure 14: Parque Novo Santo Amaro housing estate – schematic section
SOURCE: VIGLIECCA & ASSOCIADOS, 2017
Figure 15: Parque Novo Santo Amaro housing estate – schematic section
SOURCE: VIGLIECCA & ASSOCIADOS, 2017
Figure 16: Aerial image – urban insertion
SOURCE: VIGLIECCA & ASSOCIADOS, 2017



them, since the ground level of this section of the building is completely open. The functions that involve physical activities were placed in the southern zone of the project, due to its favourable geometry. In contrast, the public functions related to contemplation were designed in the northern and most longitudinal zone.

For the rehabilitation process of Parque Novo Santo Amaro, professionals had to bear in mind the unique dynamics of the physical conditions that define the space. The character of the relief is the main aspect considered in the implantation of buildings and for the design of public spaces and their materials. The valley area where the project is located is susceptible to flooding during torrential rain periods. Therefore, it was essential to maintain the land's natural slope, despite the new paved, partially permeable, or unpaved surfaces distributed in the proposed plateau system.

The northernmost area of the project, separated by Zâbia Street, has more prominent vegetation, with a greater number of trees and consecutively more biologically active surface than the rest of the project, where there is a relatively high percentage of paved areas. As it is a stretch with a steeper slope (see Figure 12), vegetation is used to promote soil retention and prevent landslides. This design decision minimized the costs with no need for implementation of another retaining wall, in addition to being ecologically suited to the urban context.

Another important element for the spatial definition was maintaining the 140x50m soccer field. This facility

was kept precisely in its original position with the same dimensions. This decision is based on the fact that this element is a constituent part of the identity of the local population and their cultural expressions. Nevertheless, it is also an element that makes part of the neighborhood's leisure infrastructure.

The building is divided into blocks to facilitate the implantation in the inclined terrain, avoiding earthworks and using this peculiar physical characteristic of the place as a design tool. This technical decision defined criteria for accessing the blocks, making several separate access points necessary and allowing the creation of public passages between the blocks. The project has a diversified programme, including the primary residential function, skateboarding park, playground, water features, square, commercial spaces, a community center, and recreation areas (see Figure 13, 14 and 15).

The increase in the percentage of permeable surfaces is one of the project's focal points, which follows the guidelines of the previously mentioned project to improve the environmental conditions of watershed areas in the region of São Paulo. Elements of public infrastructure were also implemented on the site, such as access ramps, pavements, and lighting on pedestrian roads and rainwater drainage system, as this is a flooded valley area.

After nine years of occupation, it is still possible to identify the improvements implemented through this project. However, some aspects indicate the vulnerability of the existing complex social situation. Due to the

insecurity arising from the difficulties in managing the traffic of non-resident pedestrians and problems in the use of public spaces, such as large crowds of people on weekends generating disorder and noise pollution, the residents decided to request the closing of the space, configuring thus, a closed condominium. This decision weakens the original concept of urban mobility and territorial integration for social transformation.

In addition, the water feature designed to deliver clean spring water to the residents was disabled when the insufficient flow from the spring led to stagnant water, causing outbreaks of insects and disease [22].

5. CONCLUSION

The city of São Paulo is composed of a complex and fragmented urban structure resulting from the Brazilian segregationist social conditions. In spite of this background, the local government has been adopting innovative measures to regenerate and integrate consolidated areas of social interest into the city's urban fabric. Despite the political and financial limitations, acting against the rapid and disorderly growth of the city has become one of the operational guidelines of the city, aiming to reduce environmental and landscape impacts and improve living conditions in peripheral areas [23].

The Parque Novo Santo Amaro project emerged from the need to articulate the requirements determined by environmental protection and requalification legislation introduced by the Urban Development Plan [8]. This was made through a residential and urban infrastructure project, seeking to meet several local demands, such as the need for more housing units, the improvement of water management and environmental conditions, and the implementation of urban mobility elements.

Finding alternative measures to deal with conflicts, fragments, and contradictions intrinsic to cities is essential for their management and progress [24] – especially in the context of South American urban centers. São Paulo has found opportunities for the solution of specific social dilemmas, and they have been able to align alternatives that overlap several layers of the urban structure. Through the complex application of small and medium-sized interventions, it is possible to see results that radiate on a large scale in the urban territory and landscape.

As a result, the improvement in spatial layout and the quality of the urban landscape is illustrious. The architectural and urban design provides solutions for some of

the significant social and physical problems in the Parque Novo Santo Amaro project. However, the site's current state does not reflect some of the aspirations initially sought [22].

Even though the functions were rationally distributed in the spatial layout in confluence with the newly established flows, conflicts emerged from use. The commercial spaces initially planned for the maintenance and improvement of local commerce are currently maintained by external traders, and this also implies confrontations in the management of the space. The quality of the green infrastructure elements and the maintenance of public spaces, in general, do not reach expectations after years of use. This is a typical scenario, especially in state developments in Brazil's social fragility areas [25].

As the main lesson to be learned from this housing project for future interventions in similar context, it can be stated that in order to meet social demands in fragile urban areas, it is also necessary to address solutions for environmental conditions. This way, the project becomes more resilient, intertwining physical (tangible) aspects with social and cultural values (intangible). However, after years of implementation, it is now evident that projects such as Parque Novo Santo Amaro V cannot achieve their full transformative potential in isolation. For this, they must be connected with an extensive network of congruent interventions. ©



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