The Implementation of Large-Scale Urban Development Projects in Brazilian Cities—Case Study: Rio de Janeiro/RJ

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Abstract: The planning and implementation of large-scale urban development projects (UDPs) tend to arouse expectations of increasing investments to urban and social improvements. However, these urban interventions have been less democratic and more elite-driven priorities, resulting in socio-spatial segregation in the city. In the case of the Rio de Janeiro/RJ, the urban interventions planned for the years following the 2016 Olympic Games have not yet occurred in the totality. In this sense, it is necessary to understand the impacts of this mega-event’s intervention when the legacy does not attend the expectations of improvements in the city. Thus, the analyses took into account official documents and the perception of residents close to the areas that received interventions for the Olympic Games, regarding the changes that occurred in these places. It is evident the importance of discussing the subject to later outline guidelines or strategies that aim to minimise significant impacts generated by this insertion in the urban environment.

Key words: Large-scale UDPs, mega-events, urban transformations, Rio de Janeiro Olympic Park/RJ.

1. Introduction

This paper aims to analyse the dynamics that have accompanied the implementation of the Rio de Janeiro/RJ Olympic Park in the years following the 2016 Olympic Games. Besides, this paper also discusses the impact of large-scale urban development projects (UDPs) resulting from mega-events in the current scenario, considering its relevance to contemporary problems.

The opportunity for a city to host a mega-event awakens the prospect of implementing social, urban, and economic improvements. On the other hand, as part of the “Neoliberal Urbanization”, the implementation of a large-scale UDP is poorly integrated into the broader urban process and planning system. As a consequence, their impact accentuates socioeconomic polarization created by the real estate market [1, 2].

After the announcement of the Rio de Janeiro as the host city of the 2016 Olympic Games, some areas of the city had their land ownership valued automatically, such as the Port Zone and Barra da Tijuca, as they would receive most of the sports competitions and therefore, the implementation of the main projects of this event. At the same time, local newspapers announced policy procedures to solve the city’s problems, which included, among urban transformations, forecasting tourist flows, receiving investments for the rise of economic power and urban regeneration as a legacy [2].

Rodrigues et al. [3] already warned of possible inadequacies of Olympic facilities with the strategies and development capacities of cities, which could, after the event ended, be abandoned and degraded. So Sinay et al. [4] emphasise the importance of the individual’s participation in decisions regarding public investment, in order to provide projects that foster community sport...
and leisure, since the construction of these spaces is carried out, in part, thanks to municipal taxes.

After two years of the primary use established by the Olympic Park of Rio de Janeiro/RJ, the games, the procedures of using some spaces, such as sports competitions in arenas, were administered by the Olympic Legacy Governance Authority [5] and the City Hall of Rio de Janeiro. However, the legacy proposal for the Olympic Park, established for the year 2018, such as the dismantling of facilities for the reconstruction of other public equipment, the promotion of the real estate sector with the creation of residential and corporate buildings and recreation and leisure centre, is paralysed [6]. According to Rocha [7], this restructuring depends on public and private administrations in order to foster different aspects that strengthen these spaces [5-7].

2. Urban Planning and the Rio 2016 Sporting Mega Event

Urban practice in Brazil has evolved throughout the twentieth century, initially discussing the concept of “ideal city”, from plans for beautification. The population growth guided the creation of infrastructure aiming at the operation of the city, promoted by the master plans and urban development plans [8, 9].

In the 1970s, the Brazilian context of authoritarianism and internal work of public managers intensified the process of land occupation by large-scale UDPs. Bortoleto [10] calls these mega constructions as large ventures in their physical dimensions and recipients of high investments, different from small public-private works. This typology of urban intervention is associated with the discourse of promoting the development of cities and the resignification of social distributions in the territory [10].

In the context of interventions for the Olympic Games, strategic plans supported the large-scale urban development project in the host cities. One of the best-known examples of this type of urban restructuring occurred in Barcelona. The Metropolitan General Plan (MGP) of 1976, assisted in the urban reordering of the Catalan city and was recognised worldwide after the 1992 Olympic Games. As an example for different countries, the revision of the Barcelona Plan aimed to create spaces that could have new uses after the 1992 Olympic Games, such as the Olympic Village, the Olympic Ring, the Stadium and the Palace of St. George, which became legacies for Barcelona [11, 12].

According to Arantes [13] throughout the 1980s and 1995s, Barcelona considered the Olympic Games as the city’s “main cultural event”, to create strategic points throughout the city with the aim of connecting neighbourhoods and promoting the development of the region. One example of a connection point between neighbourhoods is the Estación del Nord Park, which connected areas of the city hitherto isolated. The goal was for, over time, the park to form a new centrality with multi-equipment [13, 14].

Based on the Catalan example, the urban restructuring of Rio de Janeiro—conceived since the 1990s—encouraged the formation of public-private actions in the Central, North and West Zones of the city. Thus, the real estate development of the region was fostered by the emergence of new urban concepts, on beaches and broader land. In this way, neighbourhoods such as Barra da Tijuca, Recreio dos Bandeirantes and Jacarepaguá needed the expansion of their infrastructure of commerce, culture and leisure, in order to welcome the inhabitants of other areas [15].

O’Donnell [16] analyses these urban changes as a reflection of the city of Rio de Janeiro’s effort to be a tourist reference in Brazil to other countries. This idea is justified by the beach coast, the precious nature and landscape, which are prominent points in Rio de Janeiro. With this, “Rio de Janeiro entered the international tourism route about half a century after the beginning of its development in Europe and the United States” [16].

Lassance [17] highlights the decline of the city after
the move of Brazil’s capital to Brasilia in 1960. The lack of government resources aggravated the city’s poor infrastructure conditions, which persisted until the 1990s [18].

In 1993, the municipal administration began the implementation of the Strategic Plan for the City of Rio de Janeiro (PECRJ), which enabled the partnership between the city and the Federation of Industries of the State of Rio de Janeiro (FIRJAN). This plan aimed to rescue investor confidence for long-term urban planning [19].

Based on this premise, actions for the development of the city should serve different interests and guarantee everyone the right to the city [20]. However, Vazquez [21] says that urban interventions that have occurred in the city since the 1990s have always involved the expropriation of urban spaces for real estate market speculation.

3. The City of Rio de Janeiro/RJ and the Olympic Project

Rio de Janeiro had hosted the Pan American Games in 2007, and already had sports facilities considered high-level. This fact collaborated with the proposal to host the Olympic Games, submitted to the International Olympic Committee (IOC). After the analysis of the projects by the committee, Rio de Janeiro/RJ became the first headquarters city in South America, for the 2016 Olympic Games [22].

On the other hand, in order for large-scale UDPs not to become a new problem for the city, its facilities must be designed for uses after mega-events. The report developed by the United Nations (UN) in 2010 showed the tendency of UDPs to direct the economic benefits to elite interests, to the detriment of the most vulnerable population [23].

In the case of Rio de Janeiro, it was necessary to subdivide the facilities for the Olympic Games, in order to meet the requirements required by the IOC for the performance of sports. In this sense, four sub-centres were created, located in Barra da Tijuca neighbourhood, Deodoro, Maracanã and Copacabana. In these places, the actions were requalification and the construction of new spaces for various sports competitions (Fig. 1).

In this context, the municipal management of Rio de Janeiro/RJ announced in 2011 the creation of an international competition for the choice of the Olympic Park project to be implemented at the Jacarepaguá Racetrack, located in Barra da Tijuca, west of the city. The winning project should contemplate two moments related to the realisation of the mega-event: the “Games”

Fig. 1 Subcentralities developed for the 2016 Olympic Games.
Source: prepared by the authors.
mode, related to the infrastructure needed for the event, followed by the “Legacy” mode. The latter should promote an inheritance to the city so that the Park could have new uses and be appropriated by users [24].

The company AECOM, winner of the competition, adapted the intervention area of 120 hectares, to receive about 150,000 people during the Olympic Games. As a legacy proposal, the project predicted the transformation of the Olympic Park into a linear park integrated with the city. The project also provided for the reuse of buildings built for the 2007 Pan American Games for the same competitions that would take place in 2016. In addition to the competitions defined for the Olympic Park, the venue would also house the transmission centres (Fig. 2).

Among the proposals for the creation of the legacy of the Olympic Park were the replacement of equipment used only for the Period of the Games and the maintenance of the places for the population to perform sports practices. Also, another differential would be the possibility of planting trees and the cultivation of community gardens, in order to consolidate in practice a tree mass that improved the ambience of the site, since the city has high temperatures throughout the year.

The Rio Arena for gymnastics competitions and the Maria Lenk Water Park would also be maintained, to continue social policies to encourage sport. The open

![Fig. 2 Map representation of legacy projection for subsequent years [6]. Source: adapted by the authors.](image)
areas would have Kart lanes, hot air balloons for landscape contemplation and parking with structures for shading of cars composed of solar panels.

The legacy mode proposal also provided for an area for the Olympic Training Center (OTC), for the training of different Olympic modalities, and support for the national sport.

However, due to the pressure of private capital (especially contractors), the project initially conceived was changed concerning the provisions of the equipment throughout the Park. According to the Jornal Folha de São Paulo 2016, these changes occurred after the bidding of the work, without the proper formalisations, and the work was carried out based on the changed project [25]. After the development phase and adjustments in the design of the project, the works began in 2013 and were completed in mid-2016.

4. Materials and Methods

For the development of the research, two visits were made to the city of Rio de Janeiro to analyse the post-Olympic situation. The first visit for recognition of the object of study took place in May 2018, in order to apply one of the methods of Post-Occupation Evaluation (POE) on an exploratory basis. The second visit took place in August 2019, exactly three years after the Olympic Games. The objective of the visits was to understand the evolution of transformations in the Olympic Park of Rio de Janeiro/RJ in the view of managers and scholars of the urban transformations of the city.

In the first visit, the data were obtained through interviews with public agencies related to the administration of the Olympic Park, and researchers from the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), involved with the theme since the games were held.

Subsequently, the visit to the Brazilian Olympic Committee (COB) allowed contact with the very collection of literary works housing themes related to sports, the process of choosing the host cities of the Olympic Games and their physical structures. The Olympic Legacy Governance Authority (AGLO) responsible for some buildings of the Olympic park, provided information on what has been developed to maintain what they consider as a positive legacy after the Games.

In the second visiting an interview was conducted with members of the Undersecretary of the Olympic Legacy, as well as with the residents of Vila Autódromo about the implementation of the Olympic Park in the city (Table 1). The population living in Vila Autódromo suffered from interventions for the construction of the Olympic Park; part of the residents was relocated to other areas of the city, disarticulating the social movement they had to defend the community, in addition to altering all the routine that people had, work, education, and mobility.

From the on-site observations, as well as the application of semi-structured interviews managers and residents close to the Olympic Park, and walkthrough in the area, one could confront the interventions proposals (idealised) with those made,

<table>
<thead>
<tr>
<th>Interviews</th>
<th>Data</th>
<th>Local</th>
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<tbody>
<tr>
<td>Members of the RioNow research group, linked to the research project “Project Observatory: Major Events and Urban Transformations Underway in Rio de Janeiro.”</td>
<td>11/05/2018</td>
<td>Pontifical Catholic University of Rio de Janeiro (PUC-Rio)</td>
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<tr>
<td>Brazilian Olympic Committee (COB)</td>
<td>14/05/2018</td>
<td>Headquarters of the Brazilian Olympic Committee (COB)</td>
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<tr>
<td>Olympic Legacy Governance Authority (AGLO)</td>
<td>14/05/2018</td>
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<td>Undersecretary of the Olympic Legacy</td>
<td>08/08/2019</td>
<td>Rio de Janeiro Olympic Park/RJ</td>
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<tr>
<td>Residents of Vila Autódromo</td>
<td>07/08/2019</td>
<td>The Community of Vila Autódromo</td>
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highlighting the problems that persist.

According to Laville and Dionne [26] in his book *The Construction of Knowledge*, the application of the semi-structured interview meets with open questions, allowing the interference of both the interviewer and the interviewee in order to obtain the enrichment of research.

5. Results and Discussions

The first interview was conducted on May 11, 2018, with the professor and also the coordinator of the RioNow research group, Ana Luiza Nobre, followed by a member and student of the Architecture and Urbanism course, Zeca Osorio, both belonging to the Pontifical Catholic University of Rio de Janeiro (PUC-Rio). In addition to instigating the interviewees about the different issues related to the implementation of the Olympic Games in Rio de Janeiro, access to the physical archive of the group was requested in order to consult the primary and secondary documents raised by the group members and other materials such as pamphlets and catalogs.

Initially, the master’s research was presented in development, highlighting the Olympic Park of the city as the object of study. When asked about the post-Olympic situation in the city of Rio de Janeiro/RJ, Ana Luiza related the current situation of the Park with Vila Autódromo. This place is considered a resistance centre of residents after going through several attempts at removals. The residents of the former Jacarepaguá Racetrack were relocated to various parts of the city between 2012 and 2013. In the book about populational removals in Rio de Janeiro, Faulhaber and Azevedo [27], points out that about 65,000 people had to move to another part of the city for the construction of the Olympic facilities.

According to the professor at PUC-Rio, there is no possibility to evaluate the Olympic Park of Rio de Janeiro without disregarding these removals, that is, “the Park does not exclude Vila Autódromo” in the dimension of this process of implementation of the facilities.

There were high expectations that the city’s social and economic problems would be solved. However, in 2013, it was realised that this would not happen due to political problems facing the country. According to the coordinator of the RioNow group, the works for the Olympic Games in Rio de Janeiro were nothing more than “sequelae”, in which the construction sites remain stopped among several promises that have not been fulfilled, such as the depollution of Guanabara Bay. The Port Zone was another “white elephant”². Many works paralysed, while others, did not even begin, leaving only the “intended legacy”. According to Professor Ana Luiza, what can be seen as positive for the city are the insertion of the light rail vehicle (VLT) system and the expansion of the stretch of the subway to Barra da Tijuca.

In addition to being connected to the rest of the city, the implementation of the Olympics has taken as indispensable the construction of “lodgings” to athletes and entourages from other countries. With this, there was a need to build the so-called Olympic Village or Athletes Village. For the interviewee today, after the Olympics, only 7% of the apartments were sold, while the rest are entirely disused.

When asked about the current situation of the Olympic Park about the proposed legacy, the teacher recalled the promise to dismantle the Arena of the Future for the construction of schools, something that did not happen.

Subsequently, one of the students and members of the research group also participated in the interview.

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¹ The file physical account with approximately 900 documents and includes work of newspapers, matters of newspapers and notes varied related to transformations urban of the city. The listing of all the files physical is available: http://rionow.org/arquivo.html.

² It is understood by “White Elephant” the space built overpriced with use and legitimacy restricted. Strategically thought no marketing that the environment can propose during as actions planned, usually as your facilities suffer dropouts further [28].
He was developing a conclusion of the course work (CCW) on the removals of Vila Autódromo and stated that legal battles took place between residents and the municipal government. Although Barra da Tijuca is essential for the real estate market, residents of Vila Autódromo received in 1998 by the state government, the right to remain in place for almost 100 years. However, even with this concession, some residents had to be removed, by the decision of the municipal government [29].

About the Olympic Park, the student interviewed said it is a vast space that does not have the necessary demand. According to him, the solution to deployment without significant problems would be to have spread the infrastructure projected to the entire territory of the city and not just at a specific point.

As at PUC-Rio, the visit to the COB also allowed access to documents to support this study. According to the librarian responsible for the COB collection, all material concerns sports, legacy expectations in the face of the coming of the Olympics, both digital and physical files, totalling about 20,000 titles. When asked about the influence of the COB in the promotion of the Olympic Games, the librarian declared that the agency has no direct relationship with the implementation of the event, but with the incentive and management of the sport in Brazil. An example of this is the use of the Olympic and Paralympic Athletes Training Center that takes place at the Maria Lenk Aquatic Center, built for the Pan American Games and reused for the Rio 2016 Games.

Unlike the COB, the Olympic Legacy Governance Authority (AGLO) is tasked with running some Olympic Park facilities and promoting “legacy mode”—in return to “game mode”. The municipality, created after the extinction of the Olympic Public Authority, has the responsibility to draw up proposals for the reuse of the Park.

The municipality will be able to do technical studies and research, develop plans and projects, establish contracts to enable the use of Olympic legacy structures and develop programs that use this legacy for sports development and social inclusion. AGLO will also have to enable the use of sports facilities of games for high-performance activities; promote studies for the adoption of a sustainable management model in the economic, social and environmental aspects; and establish partnerships with the private initiative for the operation of facilities [30].

The booklet released by the Ministry of Sport in 2017 presents the proposals to be developed by AGLO and expresses that “the implementation of a legacy plan in the countries that hosted the Olympic Games is not immediate. London took two years to use the facilities. Brazil is on the right track [30]”. The fact is that this study questions.

When contacting one of 3 the managers of AGLO, there was confirmation that the COB is responsible for the Maria Lenk Training Center. According to him, where today is the “Jeunesse Arena” (before, Arena Rio), is under the possession of a private company, which receives different types of events, from sports competitions to concerts.

Regarding the management of Arena Carioca 3, coordinated by the City Hall, the interviewed manager of AGLO says that the multipurpose space is regularly used by school competitions and training of some federations. The Arena do Futuro, the Aquatics Stadium (currently disused) and the Olympic Way are also under the administration of the City Hall. On the other hand, the Tennis Center, velodrome, Arena Carioca 1 and Arena Carioca 2 are being supervised by AGLO (Fig. 3). This same information was also confirmed in an interview with the engineer of the Undersecretary of the Olympic Legacy of the City of Rio de Janeiro, this year 2019.

According to the AGLO interviewee, one of the changes already made was the reduction of 16,000 places in Arena Carioca 1 to 7,000, because to behave...
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more people can be used maracanãzinho. To this end, the Aquatics Stadium was designed to be dismantled and would have no sense to continue existing, since there is the Maria Lenk Water Park that was once built for the 2007 Pan American Games. When analysing the statements made by the interviewee, it becomes questionable the construction of these two stadiums, and there were already others that could meet the needs of the event.

The Arena do Futuro, managed by the City Hall, is on private land. In the initial project were its dismantling and the construction of schools from their structures. According to the manager, the City Council considers much more expensive to promote this new use, resulting in another vacant space for the Park.

For the residents of Vila Autódromo—the community nearby to the Olympic Park—the insertion of the Olympic Games in this area directly affected the housing of 300 families and also, in the disuse of an ample space that could be very well used by the commune of Rio de Janeiro.

6. Conclusions

The understanding of urban planning in the city of Rio de Janeiro, especially it is adaptation and remodelling for the reception of the Olympic Games, becomes paramount to discuss urban transformations in the city of Rio de Janeiro. Thanks to the application of the methodology of semi-structured interviews, it was possible to understand the limitations and advances obtained in the years following the mega-event.

Among the changes in urban mobility for the implementation of the mega event, were the creation of the VLT system and the expansion of a stretch of the subway to Barra da Tijuca, where most sports modalities were developed. For the benefit of urban revitalisation, the Museum of Tomorrow and the Rio Art Museum (MAR) were also developed, requalifying the city’s port area. On the other hand, some proposals were not implemented, such as the depollution of Guanabara Bay and uncompleted works in the Port Zone.

Also on the process of insertion of physical facilities for the event, it can be seen that, as mentioned above, there was a high cost for the lower classes, that is, socio-spatial segregation was promoted near the urban periphery of the city. For classes of higher purchasing power, the works did not cause significant changes in their daily lives, because the way they appropriate the
urban space differs from those who seek public means to get around, for example.

So, it is possible to conjecture that the idea of legacy remains far from that idea disclosed by the authorities and the media at the time. This year 2019 is completed three years of the event, little time compared with other realities or events, but it is permissible to ponder that tensions and private actions characterised this reality that presents itself about this space in the city of Rio de Janeiro/RJ.

Acknowledgement

To the research grant offered by the Coordination for the Improvement of Higher Education Personnel (CAPES) through the Graduate Support Program of Private Educational Institutions (PROSUP).

References

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