



COVID-19 PANDEMIC: THE SANITARY SAFETY OF PUBLIC SPACES AND URBAN FURNITURE

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INTRODUCTION

The criticism about contemporary cities' configuration—which are globalized and standardized—is mostly based on public space investment. This investment is strongly linked to the capitalist and competitive economic system, and thus promotes exclusive and elitist zones in the urban fabric. Regarding this, the highlighted demands stand on urban mobility, the vitality of urban public spaces, and quality of life, among other aspects.

In 2020, the COVID-19 pandemic marked a moment of major changes in the collective use of public spaces, a yet unprecedented topic in urban studies. Initially, the health authorities' orientation to fight the aggravation of the virus spread and mortality rates was to establish social isolation. This caused, at this first moment, the sudden emptying of public spaces and the permanence of people in their homes, since it also has its physical dimension. In addition, because of the virus spread, further guidelines were released, such as hygiene measures, the use of protective masks, and compliance with safe distances between people. Effectively, these guidelines have changed people's behavior not only in their private environments, but also and mostly in public ones, as the latter involve daily activities in collective spaces.

Thus, we draw on the idea that the daily use of public spaces and the encouragement of sociability they provide together with the difficulty of doing some activities inside residences has motivated the population to rebuild their bonds with public spaces. So, it is necessary to highlight that such inadequacy of private spaces shown during the COVID-19 pandemic has repositioned public spaces as important places for leisure and sociability of the population. As a result, the adaptation of public areas to the security measures—such as delimitation of isolation areas, demarcation of safe distances, creation of hygiene methods for furniture, and expansion of opening hours—has redirected the debate to the construction of safe, sustainable cities and infrastructure to everyone.

Therefore, this debate aimed to discuss safe ways of interaction, locomotion, and socialization in collective ways, especially in relation to the restrictions of the existing



equipment and to the proposals of new elements to support daily activities that could become permanent. This way, seeking to contribute to the subject of inclusive, safe, resilient, and sustainable cities, as exposed in the 11th Sustainable Development Goal of the 2030 Agenda, the objective of this study is to analyze the relationship between this goal and the challenges imposed by the COVID-19 pandemic by examining old and new questions about public spaces, with emphasis on the urban furniture.

MATERIALS AND METHODS

The methodology of this study is based on three approaches: i) literature review about the use and appropriation of urban public spaces nowadays, -especially since the COVID-19 pandemic; ii) documentary research with data and information collection in primary sources to select news in both national and international media, as well as in secondary sources; and iii) descriptive research through systematic observation of everyday life in public spaces.

We present the city of Juiz de Fora, Brazil as the spatial focus. This city has an estimated population of 573,285 inhabitants, according to the Brazilian Institute of Geography and Statistics (IBGE, 2017), and it is considered medium-sized by Brazilian standards. Also, Juiz de Fora is located between the three main metropolitan centers of Brazil: São Paulo, Rio de Janeiro, and Belo Horizonte. In addition, the city is frequently studied by the research group of the authors of this article (Ágora Research Group/School of Architecture and Urbanism/Federal University of Juiz de Fora/CNPq).

Briefly, with the literature review we highlight the studies by Borja (2006) and the comprehension of public spaces as a multicultural place of exchanges and experiences and as a result of the collective appropriation of society; Carmona (2018) and the understanding that the different shapes and scales of public spaces are a result of the diversity of lifestyles and variety of demands by different urban populations, and also an opportunity to offer something for the collectivity; Gehl and Svarre (2018) and the urging need to develop modern tools in urban practices to establish cohesion between the variety of lifestyles, making the life in the city and its public spaces more complex and versatile; and Honey-Roses et al. (2020), whose uniqueness lies in the urgency to discuss the COVID-19 impacts on public spaces.

Regarding documentary and descriptive research, we started from the contextualization of the proposed framework, both theoretical and spatial. On-site observations of the public space use and appropriation were made throughout 2020, with special attention to Halfeld Park, the first public space in Juiz de Fora and one of the most important places in the public and everyday urban life of this city. In addition, we consulted the main journalistic medias in the city, the newspaper "*Tribuna de Minas*", and municipal decrees, highlighting the policies adopted on public spaces to promote social distancing and use restrictions, especially squares surrounded by metal railings and urban socialization furniture (such as tables and benches) isolated by nets or tapes.

RESULTS AND DISCUSSION

The crisis caused by the COVID-19 virus spread worldwide revealed the danger of free locomotion and appropriation of public spaces in a pandemic context. However, the protection provided by staying home during lockdowns has proved to be a luxury in the poorest countries with housing deficit, thus exposing a major social inequality. The same happened in Brazil, where, according to a study conducted by the João Pinheiro Foundation (2021), in 2019 this shortage reached 5,876,699 homes, about 8% of the total number of



permanent private households. Furthermore, it is noteworthy that the housing deficit is composed of 3 indexes: (a) precarious housing; (b) cohabitation; and (c) excessive rent burden. Precarious housing and cohabitation are situations related to housing conditions and represent almost 50% of the composition of this deficit. In this scenario, 25.2% refer to precarious housing, considered rustic or improvised, that is, with deficiencies in living conditions, largely due to unhealthy circumstances. The cohabitation index, which represents 23.1% of housing deficit, refers to living in rooms such as tenements or rooming houses and outbuildings that are set up for family members who are descended from the legal representative of the household. This composition refers to inadequate housing situations, whether due to the environmental conditions, such as precarious or non-existent infrastructure (e.g., improvised materials), or due to the excessive number of people inhabiting the same room.

Facing the inadequacy of housing conditions in Brazilian cities, the population frequently transfers activities from private to public spaces. This way, discussions about the efficiency and quality of public space became a demand as the pandemic was established. This global public health crisis has highlighted the importance of public spaces for carrying out daily activities, especially when the residences are precarious in terms of access to urban infrastructure and internal space dimensioning, with inadequate ventilation and insolation.

In 2020, right after the health crisis was classified as a pandemic, it was also possible to access discussions and research on social distancing, as well as use and adequacy of public spaces and environments. Here, we highlight the research published by the Danish architecture and urbanism office Gehl Architects (2020), carried out in 68 countries remotely, with the participation of local professionals, which pointed out the need to adapt public spaces in response to the several circumstances and perspectives imposed by the pandemic.

As for today, Gehl's research remains relevant for its comparison of two scenarios observed in four Danish cities: the lockdown and the reopening periods. In the first scenario, the researchers observed, among ten main points, the decrease in commercial use of public spaces in contrast to the increase in the presence of children and older people on the streets for recreational purposes, such as playing games, walking, and doing outdoor exercises. They also identified that some places are so popular that it was difficult to apply social distancing rules. In the second scenario, the researchers point to an almost normal re-establishment of daily urban life as activities increased, but still different from before the reopening period. Moreover, they observed a redistribution of users and uses of public spaces: the spaces that are closest to the users' houses remain popular in the neighborhoods.

In the last two years, there have been several proposals for adapting public spaces to the new scenario imposed by the pandemic, guided by social distancing strategies and proposals for new elements of urban furniture or adaptation of the existing ones. These strategies were designed so that the entire population could access public spaces while following health guidelines to prevent COVID-19 infection. In order to mediate the adaptation of such areas into accessible spaces, allowing safe shared use, we point out urban furniture as one of the elements that contribute to achieving the 11th Sustainable Development Goal of the 2030 Agenda.

Despite the understanding of a large part of civilians, the scientific body, and the media about urban open areas as a response to the ills of confinement and social distancing, restrictive measures taken by municipalities on urban furniture were noted as ways to follow the isolation and distancing guidelines in public spaces such as squares and parks. As

identified by Rocha et al. (2021), Halfeld Park, the main public space of Juiz de Fora, had its perimeter surrounded by metal grids and its urban furniture (benches and chess tables) interdicted by nets.



Figures 1 and 2: Interdicted urban furniture in the city of Juiz de Fora, Brazil (left) and Halfeld Park surrounded with temporary metal grids (right). Photo: Authors' collection, 2020, and *Tribuna de Minas*, respectively. Retrieved on October 05, 2020, from <https://tribunademinas.com.br/noticias/cidade/21-03-2020/parque-halfeld-e-fechado-com-gradis-por-tempo-indeterminado.html>

However, in this context, it is also evident the need for professionals such as architects, urban planners, and designers to think of effective and safe solutions, both in the short and long term, to adapt these spaces so that people may keep the restrictive measures and social distancing. In this sense, the protection of vulnerable social groups also came into the agenda with the provision of information and basic hygiene supplies (running water, soap, hand sanitizer, and masks). Here, we highlight actions such as the distribution of masks and kits of personal hygiene products promoted by the Federal University of Juiz de Fora. For instance, on April 22, 2020, university groups visited places used as shelters for homeless people to distribute handmade masks and personal hygiene kits consisting of soaps, toilet paper, sanitary pads, toothbrush, and toothpaste to people in social vulnerability in Juiz de Fora (G1 Zona da Mata, 2020).

We also identified propositions within the urban furniture design, such as the proposal of the Brazilian architect Leonardo Fernandes Dias, winner by popular vote of the international award Coronavirus Design Competition, from the GoDesignClass platform. The totems in downtown São Paulo, in addition to offering a way of washing hands on the street, would also serve as an information platform and a memorial to COVID-19 victims.



Figures 3 and 4: Disinfection and informational Totem in São Paulo, Brazil (left) and a civilian using a Disinfection Totem in São Paulo, Brazil (right). Photo: *Estado*, Retrieved on September 18, 2021, from <https://sao-paulo.estadao.com.br/noticias/geral,com-totens-sao-paulo-ganha-memorial-para-as-vitimas-de-covid-19,70003419213> and *ArchDaily Brasil*, retrieved on September 09, 2021, from <https://www.archdaily.com.br/br/948133/sao-paulo-recebe-totens-urbanos-de-conscientizacao-higienizacao-e-memorial-as-vitimas-da-covid-19>, respectively.

CONCLUSION

Most of the proposed interventions to adapt the public spaces for the pandemic scenario were carried out in an intuitive and sudden way, aiming at efficient responses, but with a short execution time due to the rapid spread of the virus. In addition, although these interventions are important and adequate, there are still few of them to, in fact, provide security in public spaces given the pandemic magnitude. In this paper, we highlighted the need to discuss and seek alternatives to provide the entire population access to safe public spaces and housing with adequate basic services and communities with good urbanization infrastructure. These issues are not new, but they have become more prominent as unsanitary environments were pointed out by scientists as one of the propitious situations for the spread of the coronavirus.

More than two years after the Brazilian decree instituting the beginning of the pandemic in March 2020, several cities seem to have returned to the habits from before the pandemic, and many of the issues that have been discussed about public spaces seem to have been left behind. With this, the urgency of thinking about the increasing number of people in social vulnerability in Brazilian cities and the spatial focus researched is left behind.

We consider that the pandemic crisis is still present, even if with less severity, highlighting the role of urban public spaces as mediators to safe conditions of collective sociability in addition to having proved this scenario to be quite new for public management itself. Furthermore, to continue the search for safer, more inclusive, sustainable communities and cities, more proposals to improve and adapt public spaces are needed, such as the projects and actions presented in this paper. Such proposals demonstrate how cities can become more resilient with the work of professionals together with public management and are also shown as a way to expand the concepts of sustainable cities and communities.



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