

JARDIM ÂNGELA PASSAGES: AN INTERDISCIPLINARY AND COLLABORATIVE APPROACH TO RESTORE MOBILITY CONNECTIONS

Camille Bianchi
Luiza de Andrada e Silva

How to quote this text: Bianchi, C. M. and Andrada e Silva, L., 2016. Jardim Ângela passages: an interdisciplinary and collaborative approach to restore mobility connections. *V!RUS*, [e-journal] 13. Available at: <<http://www.nomads.usp.br/virus/virus13/?sec=4&item=3&lang=en>> [Accessed 00 Month 0000].

Camille Margaux Bianchi is architect and researcher at the Graduate Program of the Faculty of Architecture and Urbanism of the University of Sao Paulo. She teaches at the City of São Paulo School and coordinates the Jardim Angela Passages research project.

Luiza de Andrada e Silva is director of IVM Brazil - Instituto City in Movement, non-profit association that monitor the transformations of urban centers around the world and contribute to the development of a mobility culture that combines awareness and pleasure in movement around the cities.

Abstract

The following article presents the urban study of the Jardim Ângela Passages, which has been conducted since 2015 by the Instituto da Cidade em Movimento (IVM or City on the Move Institute) on the southern suburb of the city of São Paulo. The research focuses on the study of shortcuts and small urban connections to enhance pedestrian mobility. Using concrete actions in the region and collecting data of residents and local organizations, the IVM has studied the multiple role of these places that people use for transit, to spend time and for social-cultural exchanges.

The Institute then echoed the problems described in the new edition of V!RUS magazine, highlighting opportunities for mobility through the use of existing passages and always following the critical eye of the residents.

This article will present how this participatory process took place and what alternatives can be proposed to improve the conditions of access to the region.

Keywords: Passages; Micro-mobility; Macro-accessibility; Participatory urban reading.

Introduction

Since 2015, the Instituto da Cidade em Movimento (IVM) has been conducting the study Jardim Ângela Passages to foster the reflection and innovation of small connecting spaces such as intersections, overpasses, stairways and alleys. The research is based on a pilot study of micro-mobility in the region in order to develop concrete proposals. These proposals should restore and enhance the quality and social meaning of these passages, which form the essential links for mobility in a typical peripheral neighborhood in São Paulo with dense, low-income urbanization in a region with irregular topography.

This initiative is part of the international *Passages* program, launched by the IVM headquarters in Paris, which has promoted professional architectural competitions and short films, collecting data, public debates, publications and exhibitions on the subject. The main theme of these initiatives is to draw attention to urban spaces that serve as a transition, connection or to overcome barriers that are often forgotten or left without governance, but that determine the quality of our movement. The initiatives also seek to recover or even implement walkability and socio cultural value to the passages chosen for this study.

To conduct its research in Jardim Ângela, a region in the south zone of São Paulo, which belongs to the sub-prefecture (local administrative region) of M'Boi Mirim, the Institute chose an interdisciplinary approach. It invited a group of 20 researchers and professionals from the history of urbanism, architecture, mobility, children's transportation and cultural production to produce a year and a half long study on the current state of micro-mobility in the region. This area is being completely restructured with the implementation of a BRT corridor (Bus Rapid Transit) to improve the current traffic flow on the main road of M'Boi Mirim, which today is fully saturated. This project will bring benefits for the connection between the suburb and the city center, but will also impact on the local mobility of pedestrians, creating a significant physical barrier.

The IVM aimed to take stock of the existing dynamics of the territory, using the concept of passages as a general guide and observing the socio-cultural practices of residents to detect opportunities for interventions.

The passages are indeed spatial testimonies of those activities, as described by Marcos Rosa:

A concrete space is nothing without life, it will only be formed through the practice of life. The architectural differs from the architecture in these terms, by accepting the outcome of the discipline for relationships defined in a space that cannot be fully anticipated through the planning process. Thus, architecture is understood as a constructed and composed space based on social and cultural practices. We aren't just talking about a space that is available for things and uses, but a space created for more complex life processes (Rosa, 2015, p. 18).

To obtain the opinion of the residents on the conditions of mobility in the region, the IVM has created different ways to interact with the population: through questionnaires, discussions and on-site workshops. This article will present how this participatory process occurred and what alternatives can be proposed to improve the conditions of access to the region.

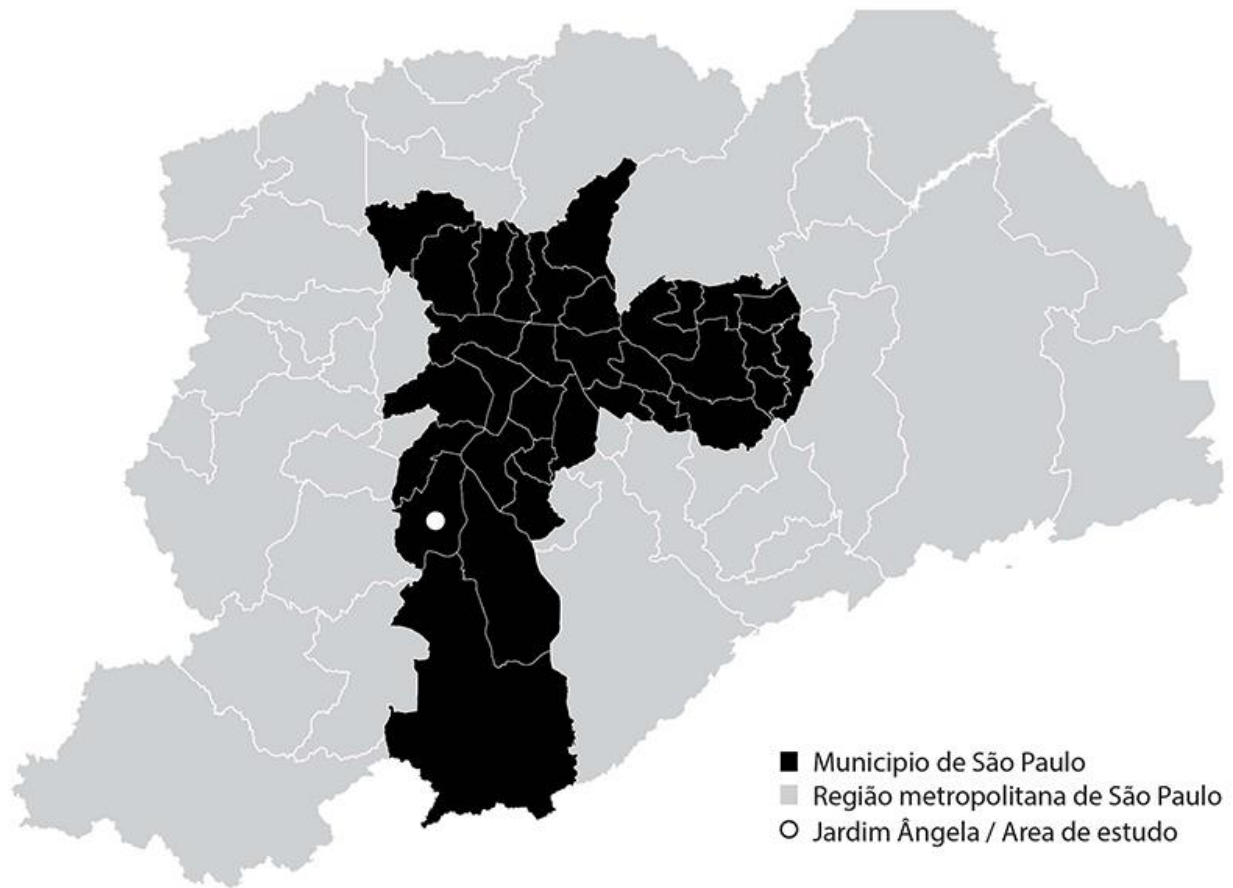


Fig. 1: General map of the city of São Paulo indicating the research area. Source: IVM- Readymake (SMDU data).

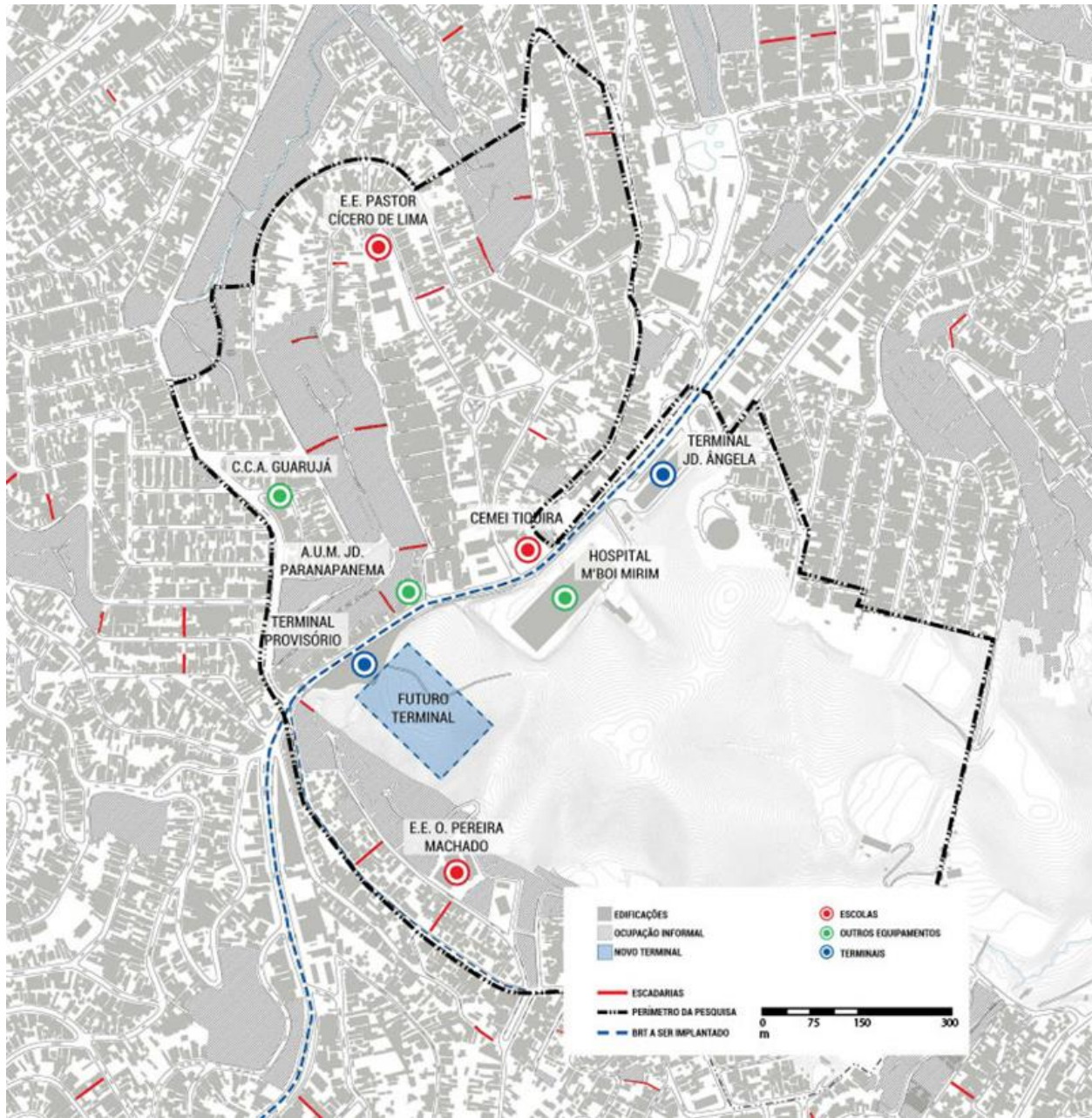


Fig. 2: Detailed map of the research area, including a 500-meter buffer around the M'Boi Mirim main road. Source: IVM-Readymake (SMDU data and field surveys).



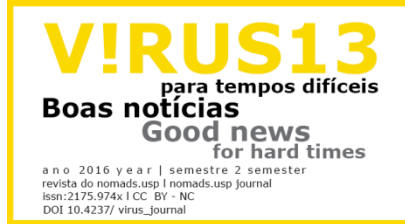
Fig. 3: Photo of the M'Boi Mirim main road. Photo: C.Bianchi.

Changing perspective

Considering the disorganized density of the urban fabric that has quickly taken over the area of Jardim Ângela, the remaining spaces are scarce and offer few opportunities to implement public spaces that can be enjoyed by the residents. The actual process of urbanization did not create the possibility to consider these empty spaces for the implementation of future public places, because the current fabric has been determined by uncontrolled, spontaneous and precarious urban movements. These movements have taken over the smallest available spaces until they reached the most inaccessible and complex areas, such as areas of risk, which are still very much present in today's territory.

The rest of the available spaces are areas of environmental preservation, inaccessible for any type of project implementation. This tension between the preservation of natural spaces and the lack of appropriate public spaces hinders planning policies and makes it necessary to rethink the interpretation of spatial opportunities in the region.

Reconsidering the notion of open space in the sense of a territorial gap, an interstitial and residual space of this unorganized urbanization, the passages form the territorial *Inframince*, as described by Marcel Duchamp, which stimulates a reflection on the improvement of these areas for the benefit of the population. Based on this change in perspective that regards the empty space as a substance to be revealed (Perrault, 2011, p. 115), the passages provide the framework of the definition of a reinterpreted urban landscape.



Scattered around the territory and constantly implemented to achieve the ultimate level of accessibility, the passages are recurring urban elements and, therefore, spatial tools that,

because of their diverse characteristics and the actual void that creates them, offer a selection of spatial opportunities. This opportunity builds on Bernardo Secchi's interpretation, when the author sees the series of urban fragments as a vector for building a comprehensible and unitary horizon, despite the apparent heterogeneity that comprises the recent urban landscape (SECCHI, 2006, p.129).

Based on this consideration, the IVM study proposes a new urban interpretation method, enabling the open space provided by the network of existing passages in the territory to serve as a base for multifunctional projects that go beyond the simple need of people moving from place to place.

Confirming the use of passages

Isotropic access to the territory

The existence of passages in Jardim Ângela is associated with the insertion of shortcuts to overcome the very rugged and steep terrain of the region. These primitive paths, originally made of dirt, and which preceded the construction of roads by the government, are now fragmented by the divisions created by the different roads that were built as part of the expansion policies for major car arteries in the mid-1970s.

Compounded by the integration with the future BRT, the road network crystallized a section between the different districts of the region and amplified the effect of territorialization, by impeding pedestrian crossings and transversal mobility.

The increased population growth that began in the 1990s led to an important densification of residential areas, including in areas of geomorphological risk that are completely disconnected from the road network. Here, the passages are still the only available guaranteed access.

Dictated by the needs of the residents to provide access to areas without street access, the passages present an alternative network that is virtually invisible on official area mappings, and therefore falls outside the priorities of public planning.

The first task step in recognizing the existence of these passages in the area required an assessment of these places to show the spatial networks they form.

The mapping of each passage highlighted the substantial presence of alleyways, shortcuts, stairways and alleys in the region, whose function of urban connection was depicted through the cartographies made by the research team. The team conducted a chrono-morphological analysis based on simulations of access to the territory on foot (average speed of 3.5 km / hour) over a span of 5, 10 and 15 minutes, with and without stairways, using the Network Analyst extension of the Arcgis program that maps an area's territorial coverage based on a specific route. The trajectories were simulated by using three specific locations in the area: the Hospital Moysés Deutsch, the new Jardim Ângela bus terminal and the Pereira Machado school, on the far side of the Jardim Nakamura valley, a community¹ in the region. The projections with stairways clearly demonstrated far superior access to the coverage area,

which we can call macro-accessibility based on micro-mobility, and confirm the need to consider this informal network when addressing the issue of general accessibility.



Fig. 4: Photo of the Jardim Nakamura community, which is part of Jardim Ângela, seen from the main access stairway. Photo: C.Bianchi.

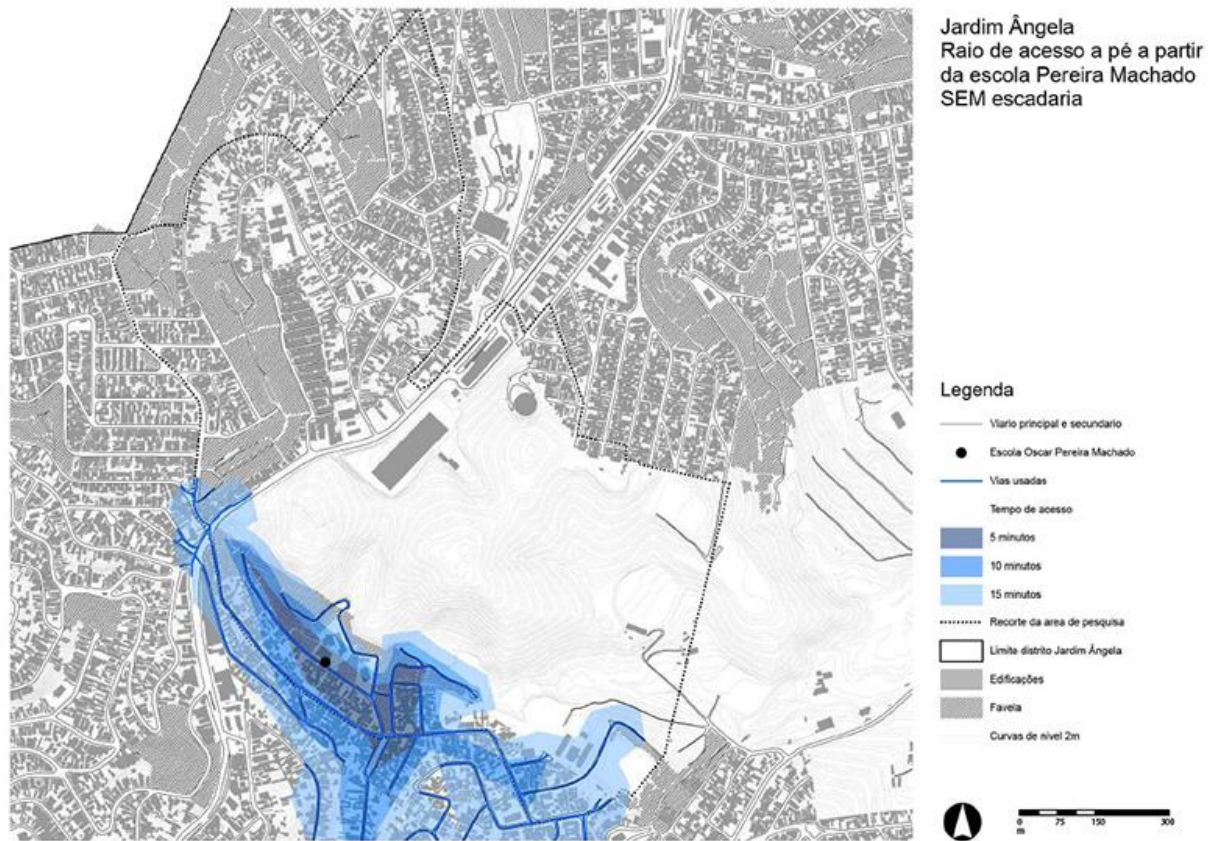


Fig. 5: Simulation of the accessibility of a 5,10 and 15 minute walk from a school in Jardim Nakamura without considering the passages and stairways. Source: IVM-Readymake (SMDU data, field surveys and *Network Analyst* simulation).

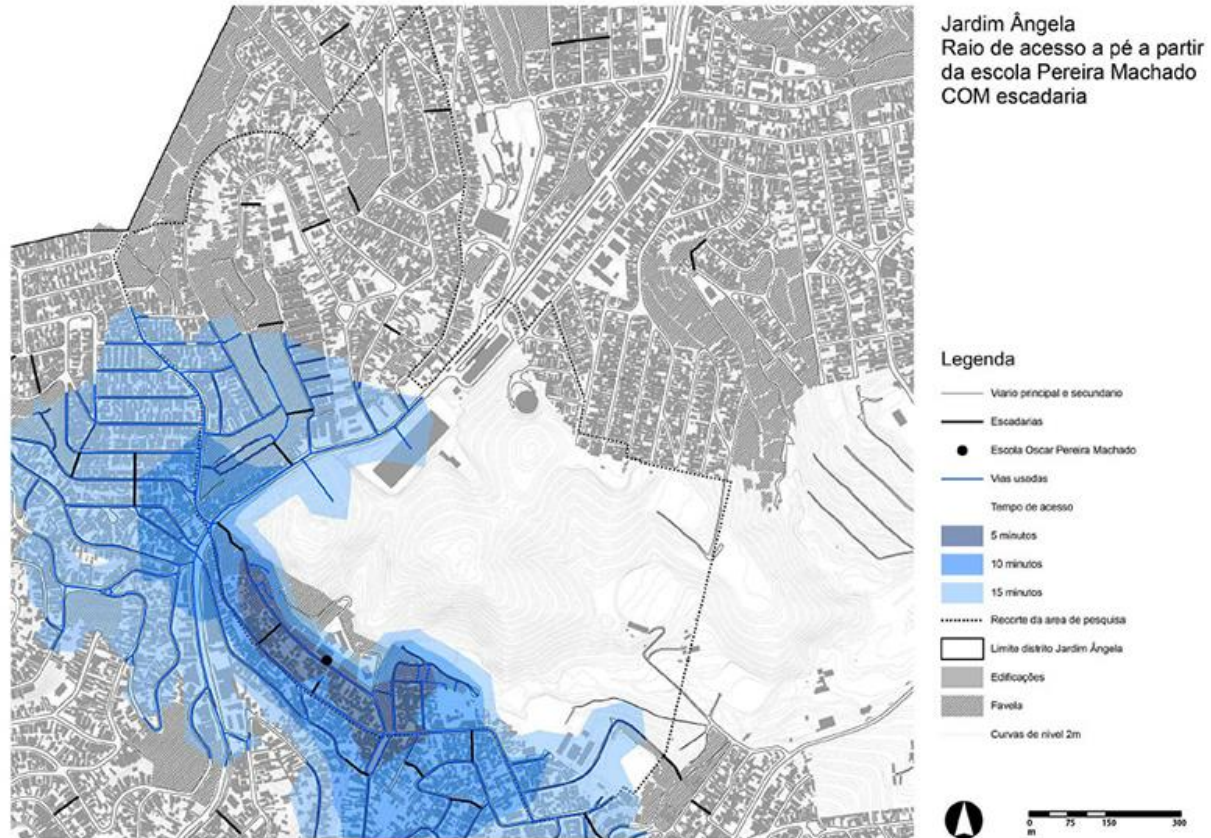


Fig. 6: Simulation of the accessibility of a 5,10 and 15 minute walk from a school in Jardim Nakamura when considering the passages and stairways. Source: IVM-Readymake (SMDU data, field surveys and *Network Analyst* simulation).

The alternative use of passages

Furthermore, in addition to offering a network for people to move between locations, the passages also form the only available public space for the use of the population. The passage serves as a meeting place and its hybrid function promotes spontaneous places where people can spend time.

The cultural spaces demonstrated a great capacity to spread throughout the territory and challenge the lack of adequate facilities. This cultural network promoted its own increasingly dense and more impactful synergy, using the passage as a playful platform of cultural expressions that exceeds the initial role of the street, narrow alleyway or staircase.

Some of these manifestations in the region that today form the social landmarks in the heart of communities have been implanted directly into the residual space of existing

passages. The example of the *Cine Degrau* (translation: Cinema on the Steps) in Jardim Guarujá, where people occupy the stairway to watch movies, and the Samba da Rua 2 (Street 2 Samba), where samba music is played in an alley of the Jardim Nakamura community, perfectly illustrate the appropriation of residual spaces once deemed undesirable (the stairways were notorious for robberies and Rua 2 was known for being a frequent body dump), transforming these spaces into the main cultural stage of the favela.

The passage is also a transitional space that delivers goods to areas where official companies don't deliver. Researchers observed alternative delivery modes for correspondence, products and orders that were the direct result of resident initiatives. For example, a human chain was formed to transport building materials from a street to the inaccessible part of the favela, by passing the materials from person to person. Or a parallel mail distribution system through a centralized mailbox that redistributes mail to the rest of the community that doesn't have an official mailing address or that is inaccessible to the conventional mail system.

A culture space, a place to allow for the movement of people and goods, each passage is connected to others and outlines an urban landscape that illustrates how people get around and live in the territory. But this landscape is fragile and threatened by the physical precariousness of these routes that are often difficult to access, dangerous at night, and even occupied by organized drug gangs.

Vertical mobility

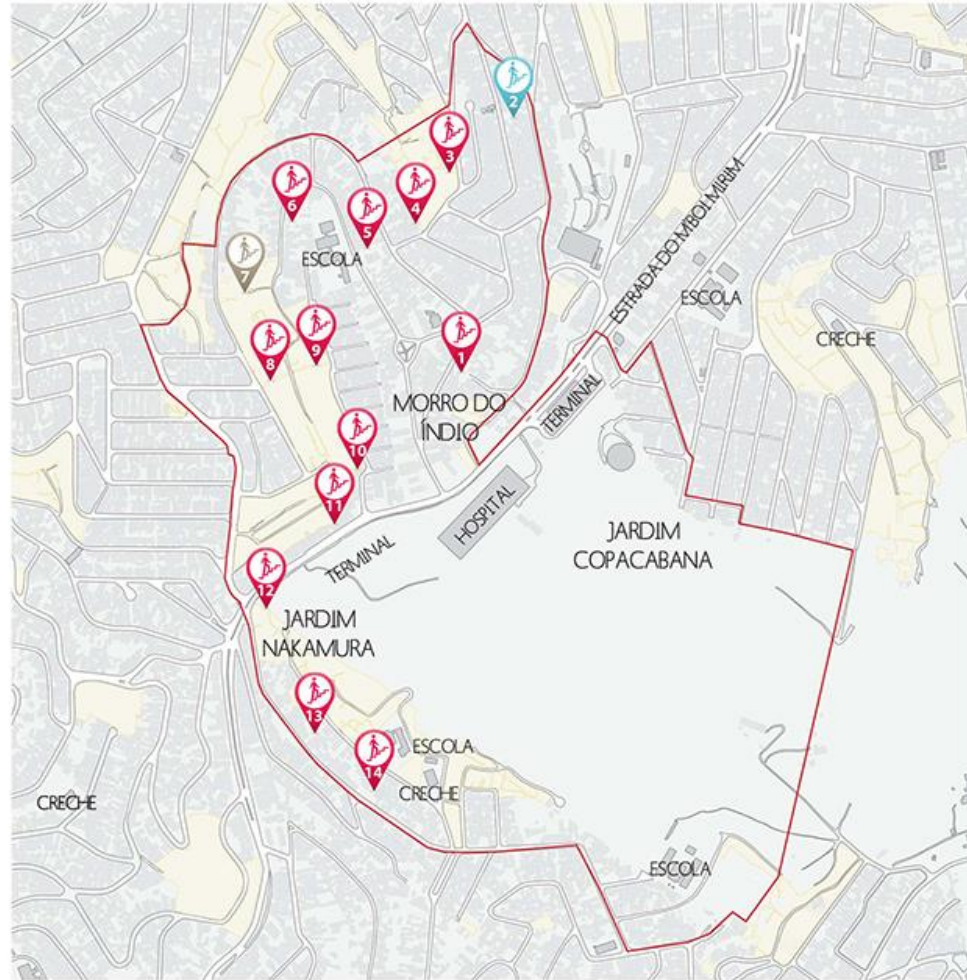
The first axis of the participatory research process was to register the type of use of the passages, and what opinion have the residents about those spaces, to determine the implementation of priority actions.

Within the initial area defined by the study, the team of Olhe o Degrau (from the Cidade Ativa collective), experts in restoring urban stairways who are part of the IVM group, identified fourteen stairways around the M'Boi Mirim main road, that provide either direct or indirect access to this road, interconnecting the more distant residential areas.

V!RUS13

para tempos difíceis
Boas notícias
Good news
for hard times

ano 2016 year | semestre 2 semester
revista do nomads.usp | nomads.usp journal
issn: 2175-974x | CC BY - NC
DOI 10.4237/virus_journal



- | | |
|----------------------------------|---------------------------------|
| 1. ESCADARIA PALHAL | 9. ESCADARIA RIBEIRÃO CABRAL |
| 2. ESCADARIA SEFARIM GASPAR | 10. ESCADARIA FRADES TRAVESSA 3 |
| 3. ESCADARIA VIELA DO CARMO | 11. ESCADARIA CABRAL |
| 4. ESCADARIA VIELA BOJADOR | 12. ESCADARIA NAKAMURA |
| 5. ESCADARIA VIELA CINCO | 13. ESCADARIA AGAMENON |
| 6. ESCADARIA RIBEIRÃO DOS FRADES | 14. ESCADARIA PEREIRA MACHADO |
| 7. ESCADARIA CIPOTUBA ZIGZAG | |
| 8. ESCADARIA GABRIEL CAROZZA | |

Olhe o Degrau Jardim Ângela

Fig. 7: Map of the stairways included in the research area. Source: Cidade Ativa (SMDU data and field surveys).

The study evaluated the perception of the users of these stairways and the technical information provided by the team. Both assessments were based on seven criteria: safety, protection, accessibility, versatility, attractiveness, connectivity and resilience. Four of these stairways were then selected as a relevant sample of the different configurations and

typologies of stairways in the region. Next, the study measured the flow of people and conducted a geometric

assessment.

The flow measurements showed a peak in the early hours of the morning as people use the stairways to go down to the bus terminal Jardim Ângela, a key point for local mobility and located at the M'Boi Mirim main road, while the number of people going up at night decreases, due to the physical difficulty usually encountered on stairways without a resting place. The stairway near a school saw an intensification of the flow of users before the start and after the end of the two daily school sessions. The children interviewed on this stairway indicated the lack of a place close to school where they could spend time, play and interact with their friends before going home.

The stairs in the area feature a variety of geometries and contexts: straight, zigzag, with or without a landing to rest, enclosed between two walls, or connected to the entrances of homes. However, they all share a precarious state with a lack of adequate lighting at night and handrails, irregularly shaped steps, a lack of trees to shade the passageway from the sun and the lack of a drainage system which makes the stairways impossible to use on rainy days. In the interviews, most residents complained about these issues and made very basic suggestions for improvements – change the lighting, install a bench or a handrail...- that affirms the lack of comfort in these places. Most residents also noted the issue of a lack of safety. Depending on the time of day, residents ask a family member to accompany them or they change their route to avoid a passageway that is known for robberies or drug dealing.

Degraded and covered in garbage, the stairways are not seen as a common space, but as a place that doesn't belong to anyone, except to drug dealers or criminals, restricting the use of what should be a shortcut or an access route for some people. That is, the lack of security or minimal material conditions end up eliminating the essential nature of these passages (Smets, 2014).

V!RUS13

para tempos difíceis
Boas notícias
Good news
for hard times

ano 2016 year | semestre 2 semester
revista do nomads.usp | nomads.usp journal
issn:2175.974x | CC BY - NC
DOI 10.4237/virus_journal



Fig. 8, 9 and 10: Photos of stairways and passages in the region. Photos: C.Bianchi.

6. ESCADARIA RIBEIRÃO DOS FRADES



escadaria ao longo de casas ou comércio térreo



BAIRRO: Morro do Índio

VIA DE CIMA: -

VIA DE BAIXO: Rua Cipotuba

cidade ativa

morador

	<i>cidade ativa</i>	<i>morador</i>
SEGURANÇA	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
PROTEÇÃO	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
ACESSIBILIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
VERSATILIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
ATRATIVIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
CONECTIVIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
RESILIÊNCIA	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁

a escadaria não é insegura - só está insegura agora porque a luz queimou e, desde então, tem menos gente passando por ela

José, 47

7. ESCADARIA CIPOTUBA ZIG ZAG



escadaria zigzag



BAIRRO: Morro do Índio

VIA DE CIMA: Rua Cipotuba

VIA DE BAIXO: Rua Tijuape

cidade ativa

morador

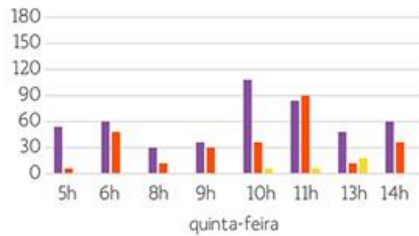
	<i>cidade ativa</i>	<i>morador</i>
SEGURANÇA	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
PROTEÇÃO	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
ACESSIBILIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
VERSATILIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
ATRATIVIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
CONECTIVIDADE	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁
RESILIÊNCIA	☹️ 😐 😊 😄 😁	☹️ 😐 😊 😄 😁

depois que arrumaram a escada o pessoal passou a usar bem mais do que antes

Raimunda, 49

Fig. 11: The result of the technical assessment and the resident evaluation of the selected stairways. Source: Cidade Ativa.

ESCADARIA CABRAL



GRÁFICOS DE FLUXO

Gráficos que resumem medições de fluxo realizadas pela Cidade Ativa.

Crédito: Cidade Ativa

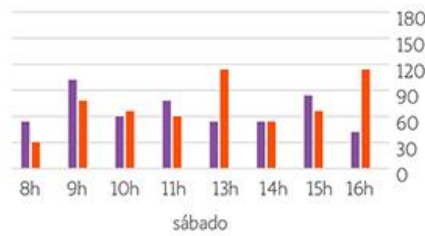
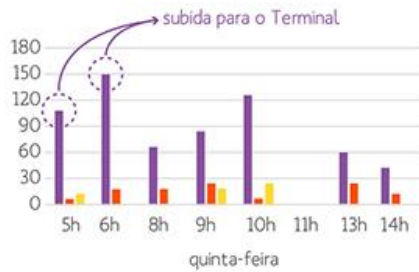
ESCADARIA PALHAL



ESCADARIA PEREIRA MACHADO



ESCADARIA NAKAMURA



LEGENDA

- pessoas subindo
- pessoas descendo
- pessoas que entram e saem (fazem as extremidades mas não completam percurso)

Fig. 12: Charts of the flow on the selected stairways. Source: Cidade Ativa (on-site measurements).

Getting to school

The children's perception of walking through the area was part of the scope of the study as a determining factor to encourage the safety of pedestrian urban infrastructures and adapt these to the most vulnerable residents. Architect Irène Quintáns identified the Escola Estadual Oscar Pereira Machado as a pilot school for interviewing the children. Located in Jardim Nakamura, the school has 1424 students, including primary and secondary school students. 300 students, ranging from grade 1 to grade 8, participated. Using a questionnaire, the goal of the study was to determine how the children get from home to school, what their impressions are along the way and to try to translate their perceptions of the urban environment, its qualities, defects, insecurities etc.

The results showed that 80% of the children's trajectories were made on foot. Most children indicated a sense of danger as they walked along the main roads and the difficulty in crossing the road due to the inadequacy of traffic lights and an insufficient number of crosswalks.

These observations have an impact on the children's territorial perception, depending on whether they live on the one side or the other side of the main road: those who "live on the inside" feel they are part of Jardim Nakamura, while those who live on the other side of the main road feel like they are outside of the community, which indicates how the main roads of Agamenon and M'Boi Mirim are seen as physical barriers.

In fact, even for short distances, the trajectory to school is usually conducted by school transportation, to prevent the children from having to cross these roads. However, the choice of safer transportation has a greater impact than simply increasing traffic; motorized transportation disassociates the children from their urban environment and distorts their spatial perception. The study has shown that many students misrepresented their home-school-home itinerary, describing much greater distances and more complex trajectories than in reality.

When the children travel on foot, they describe the itinerary very accurately, both in terms of the distance and the details along the way, as is the case of the main stairways located in front of the school, which features in various representations.



Fig. 15: Excerpt from a video of the interviewed residents. Source: IVM.

Engaging in actions with the population

In addition to the collecting data and field meetings, the study included participatory workshops with the population

The team of *Olhe o Degrau* held a workshop entitled “*Escadão dos Sonhos*” (translation: Stairways of our Dreams) in partnership with the State School Oscar Pereira Machado. At this workshop, students were invited to participate in transforming the stairway that provides access to their school with poetry and painting activities. The purpose of this meeting was to gather ideas and data on what the “stairway of their dreams” would look like to the users, by using simple questions about what they would like to do on the steps, and what they would like to have there.

After analyzing the students’ wishes for the stairway, the activities that received the most votes were watching movies and using mobile phones and apps. Listening to and playing music and exercising also received many votes. In terms of the most desired elements for the location, the highest voted items were a soccer field, wi-fi and power outlets. The presence of soccer on the stairways, despite its apparent incompatibility with the steps, raises an interesting reflection on what the passages symbolize as the only available free spaces for children, and the potential characterization of stairways with other activities besides just as a place of transit.

Caminho Escolar’s analysis on the children’s pedestrian mobility was completed by a workshop entitled “*Curativos Urbanos*” (translation: Urban band-aids) with eighth grade students from the same school. This workshop identified the problems and the

improvements to be made around the school, especially along the Agamenon and M'Boi Mirim roads.

The most frequent comments were recurring criticisms of the difficulties in crossing the roads and the lack of pedestrian safety, which demonstrates the acute awareness that children have of their surrounding urban environment. The observations also focused on the issue of managing public space, suggesting simple actions such as garbage removal, implementing recycling bins, improving crosswalks and fixing traffic lights.



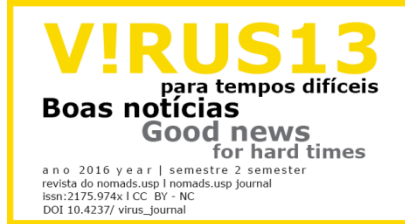
Fig. 16 and 17: Photos of the workshop with the children at the school's staircase. Source: Cidade Ativa.



Fig. 18: Photo of the *Curativos Urbanos* workshop. Source: Caminho Escolar-Red Ocara.

Foster concrete interventions

The current context of the review of the Regional Plan of the São Paulo local municipal government offers an ideal framework for participatory conversations and more ambitious actions to solve the recurring problems raised during the research. Taking advantage of this agenda, the IVM will launch a competition for concrete solutions in four exemplary locations in Jardim Ângela, that is, four passages that present different characteristics and challenges.



The competition will select projects and test sites that establish innovative formulas to improve the existing passages in terms of sociability, the movement of people and goods, the ability to spend time there, safety and environmental sustainability. To achieve this, the participation of diverse teams will be required: architectural firms and urbanization companies and collectives of young professionals will work together with groups of urban activists from the Jardim Ângela region. By combining the efforts of professionals and local players, the competition wants to enable simple and inexpensive interventions and promote the exchange between residents and government entities, to ensure that this process can be replicated in other urban contexts.

As the pilot project will rethink the existing passages, the dynamics of the competition will imply an interest in the current individual context of the selected Passages, and then translate the spatialization of the specific expectations that are capable of reviewing the role of the shortcut as a viable option for mobility. This means that it will be accessible at any time, day or night, provide a comfortable and safe environment, offer facilities for people to spend some time and facilitate mobility. Rephrasing the words of Marcel Smets, the improvement of passages allows people to choose their way and gives them the freedom of access:

The creation of the passage enables a choice and leads to a distinction between a passage that is mainly used for movement and an itinerary associated with recreational activities, leisure and rest. [...] The deliberate choice to take a scenic route instead of a major road, or to follow a route that crosses the space between main roads, is motivated by the quality of the alternative route (Smets, 2014, p.9).

The passage, well beyond its primary function, is seen here as an enhanced space, subject to different spatial interpretations, a symbol of urban versatility that impregnates the most undervalued places where free space is scarce and, therefore, has a great potential for intertwined uses.

Notes

¹ translator note: the term “community”, “neighborhoods” or “favela” in this study refers to areas that began as informal or illegal settlements and over time or through population growth have become permanent settlements.

References

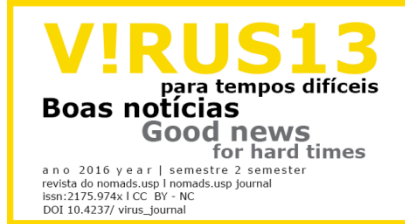
Caminho Escolar, 2015. *Relatório final da pesquisa Passagens Jardim Ângela*. December.

Cidade Ativa – Olhe o Degrau, 2015. *Relatório final da pesquisa Passagens Jardim Ângela*. November.

Perrault, D., 2011. *Metropolis? Bordeaux, Lyon, Marseille, Nantes-Saint-Nazaire, Paris, cinq métropoles en regard du grand Paris*. Paris: Carré.

Rosa, M., 2011. *Micro planejamento: práticas urbanas criativas*. São Paulo: Editora de Cultura.

Secchi, B., 2006. *Première leçon d'urbanisme*. Marseille: Parenthèses.



SMDU, 2016. *Plano Regional de São Paulo*. São Paulo.

Smets, M., 2014. *Passages, article de fond, Institut de la Ville en Mouvement*. February-April.