

Evaluating the quality standard of Oscar Freire Street public space, in São Paulo, Brazil

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Abstract - This article evaluates the quality standard of Oscar Freire Street public space located in São Paulo, Brazil. In 2006, the street underwent the reconfiguration of the public space consisting of five commercial blocks, through a public-private partnership. Twelve quality criteria, proposed by Jan Gehl in his book "Cities for People" related to comfort, safety and pedestrian delight, were used to analyze the quality of the public space. The study shows that the street already met some urban quality criteria even before the urban intervention and passed to meet other quality criteria, in addition to the previous ones. Finally, conclusions are presented through table and text, which shows significant improvement of urban performance and demonstrate the validity of the methodology employed.

Keywords—public space, city planning; urban design; public life

I. INTRODUCTION

This article aims to evaluate the Oscar Freire Street urban space quality. The street is located in the southwestern region of São Paulo city, a high and middle-income area. The development of the São Paulo city urbanization took place from an initial historical core. From this core, trails propagated radially limited by hills and regional watersheds. It was only with the advent of the railway, from the 1860s, that the urban expansion had accelerated and exceeded these limits (fig.1). The railroad brought the coffee grower elite and settled them in the city, developing a tertiary core to conduct institutional, administrative and financial functions of the agro-export model. This formed aesthetically qualified spaces for this new prestigious position brought to the development of the economy [1]. In parallel, with the increased wealth of the proceeds from the coffee-growing activities, the industry was established along the railroad and the floodplains of Tamanduateí River, east of the center, along with the popular classes. Urbanization focused on elite began to the north, next to the Luz Station. However, epidemics of the late nineteenth century changed the direction of the

urbanization away from the floodplains of Tamanduateí and Tietê rivers and redirected it to the high and healthy lands located southwest of downtown [2]. Higienópolis District and Paulista Avenue, with new streets were formed according to best urban standards. The importance of the elite location for the establishment of local patterns of the most important activities in the city, in developing countries, is explained by the large share of participation of this social segment in the composition of aggregate consumption demand and its political importance in the location of private companies and public facilities [3].

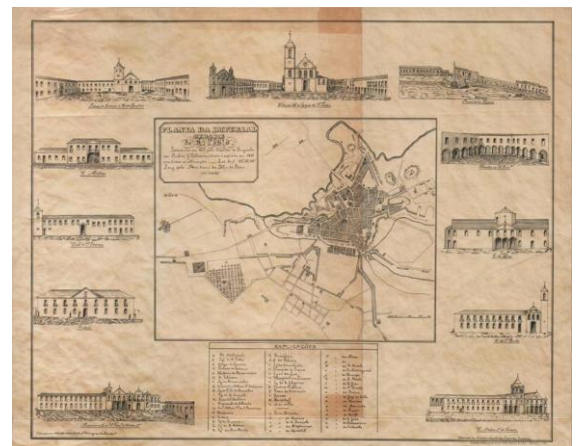


Fig 1. São Paulo city in 1841.
Source: METRÔ de São Paulo.

The elite districts were located in the southwest of the historical center since the end of nineteenth century. Oscar Freire Street is located in this oriented elite urban growth. Two maps, one from 1897 and the other from 1914, clearly show the original configuration of the street and its final appearance, three kilometers long, respectively. In the first map (fig.2), the street originally named Santo Antonio Street ends at Rebouças Avenue. In the second map (fig. 3), the Oscar Freire Street appears completed, heading to nearby Jardim America District, one of the most important initiatives of Cia. City (City of São Paulo Improvements and Freehold Land Company Limited), of English origin, geared for residential use by the elite.

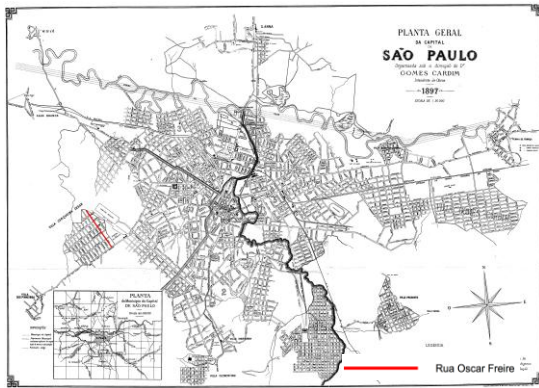


Figure 2. São Paulo city in 1897.

Source: Arquivo histórico da cidade de São Paulo.

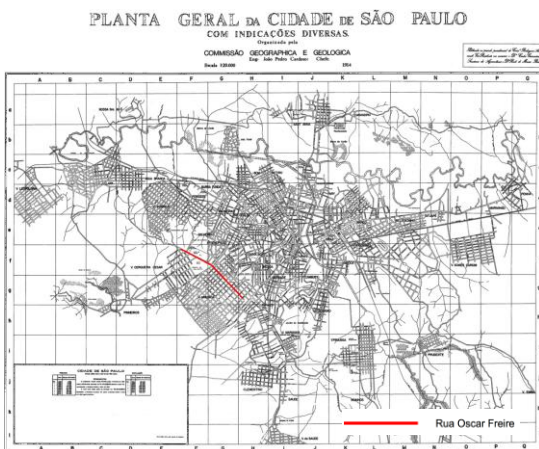


Figure 3. São Paulo city in 1914.

Source: Arquivo histórico da cidade de São Paulo.

Articles on Oscar Freire Street appear in the archives of São Paulo newspapers starting from 1880. But it was only 70 years later that the street began to stand out as a meeting point for leisure and sophisticated businesses in São Paulo:

“In 1959, even the sidewalk with cobblestones, has seen crowded shops. In the early 70s, the city government wanted the area to become strictly residential, but local businesses resisted. As a result, Oscar Freire ended up stealing the Glamour of Augusta Street. The nightclubs that lived its glory days in the Center also migrated to Oscar Freire Street that now is busy day and night. The old facades of the 50s gave way to the windows of famous brands, transforming Oscar Freire Street in one of the fashion runways in the Jardins Districts. At night the street is one of the busiest points of the region.” [4]

In the 80s, the street was consolidated as the most upscale fashion-shopping street of the city:

“With the opening scheduled by the end of the month, the boutiques Giorgio Armani and Hugo Boss promise to further refine a colorful street of the Jardins Districts that already hosts the highest elite consumption rate per square meter in the city (...)” [5]

In 2006, it was implemented a paradigmatic urban project, that gave the priority to pedestrians, which is

the requalification of Oscar Freire Street. It was developed through public and private partnership involving the public space of five commercial blocks. The project, designed by the architecture office design Hector Vigliecca & Associates, proposed an intervention that addressed 6 aspects related to the public realm: replacement of poles and overhead wiring system by underground networks and cable system; new urban paving; landscape setting; lighting; street benches, and reorganization of the parking lots.

The assessments of current quality of the public space of Oscar Freire Street was carried out through field work with site visits, photographs, and analysis of the urban requalification project. Twelve quality criteria defined by Jean Gehl, were considered, as follows: protection against traffic and accidents; protection against crime and uncomfortable sensorial experiences; opportunities to walk, to remain standing, to sit, to see, to listen and to talk, to play and play sports; scale; opportunities to enjoy the weather; and positive sensorial experiences [6].

II. CONCEPTUAL FRAMEWORK

The discussion about the quality of public space is an important issue for the city and urban planning in general. In 1956, Joseph Luis Sert proposed the creation of the discipline of Urban Design as “a part of the urban planning that deals with the physical form of the city”, [7]. Three significant publications occurred in the 60s that highlighted the importance of public spaces and its relation with the men. Kevin Lynch in “The image of the city”, the perception of space by the man; Gordon Cullen in “Urban Landscape”, the analysis of the urban landscape, and Jane Jacobs in “Life and death of the great American cities”, the urban vitality concept.

In more than half a century that has passed, there was a scientific breakthrough in the issue of public space in the city. Several urban design qualities such us: vitality, legibility, imageability, human scale, enclosure, among others, where extensively researched. Of the many qualities observed, the vitality is a quality that can only exist where other pre-conditions are established. Maybe that is why Jan Gehl has taken up the issue of the urban landscape also from the standpoint of vitality. Contemporaneously the works of Jan Gehl have emerged as the main reference regarding urban projects aimed at improving the quality of public space.

It has been observed, from the 50s, in Europe and later the United States, in the 60s, a tendency of creating designs or redesigning existing streets focusing on its pedestrianization, “i.e.” car traffic ban. The interventions included, in general, new paving, street furniture, tree planting and installation of

infrastructure equipment. In the United States, the first pedestrian street known to date is the Burdick Street, in downtown Kalamazoo, Michigan. Victor Grün, a specialist in shopping centers, designed it in 1958. The pedestrian streets - dubbed boardwalks - were introduced in Brazil in the 70s, first in Curitiba, in the XV de Novembro Street, which is now called Rua das Flores. In sequence, they were created in São Paulo, Rio de Janeiro, and then in many other Brazilian cities [8].

In 1980, it was created in São Paulo the largest pedestrian area of the Brazilian country. The boardwalk of São Paulo is located in the oldest part of the city, occupying part of two Districts: Sé and República. Over time the pathways were increased and received benches. The pathways were opened only to public transportation and service vehicles.

A. *The human dimension of public spaces*

Gehl, when discussing the design of public areas, highlights the importance of valuing the human dimension and enhancing public gathering. People, rather than cars, should be invited into the city, so that pedestrian traffic and urban life will increase correspondingly. The circulation of pedestrians in public places is much more of just walking. There are the cost-free pleasures of life, experiences and information. There is also direct contact between people and the surrounding community, fresh air and outdoor time. The act of walking is a special kind of communion between people who share the public space [9].

Gehl also points out that the work of designing cities must consider overall human mobility and the human senses. Public space must provide the biological basis of the activities, behavior and communication [10].

All over the world the same trends are found in attractive shopping streets: 15 to 20 shops per 100meter/328 feet of the street means new experiences for pedestrian every four to five seconds (Changcha, China; Middlesbrugh, UK; and Toronto, Ontario, Canada) [11]. Physiological studies of people in a room with no stimulation settings show the necessity of stimulation at fairly short intervals of four to five seconds, which appears to ensure a reasonable balance between too few and too many stimuli [12].

All over the world, shops in active commercial streets often have a length facade of five or six meters (16-20 feet). Considering that, the human velocity is about 1 meter per second, that means new activities and sights are sensed every 5 seconds. Shopping malls also use the principle of many narrow shops units along walkways [13].

B. *"Soft edges" and "Hard edges"*

Other fundamental concept is the edge and its important occurrence on the ground level. Activities of the ground floor and its functional interaction with life on the street have a considerable impact on city life. If the public space is interesting at eye level, the whole area will be interesting. The upper floors have far less importance, both functionally and visually. The opportunity for experiences on the ground level may vary from two extremes, which is called "soft edge" and "hard edge" [14].

The street with a "soft edge" offer so many things to see and touch, and provides many good reasons for pedestrian to slow down and even to stop. This kind of street has shops lined up, transparent facades, large windows, many openings and goods on display. A big number of activities take place: people talk more on their cell phones, stop to tie their shoes, organize their shopping bags. On the contrary, there is the street with "hard edge": the ground floors are closed and the pedestrian walks past long sections of facades of black glass, concrete or masonry. There are a few or no doors, little to experience or; even the reason to choose that particular street, short of necessity In front of the closed facades sections, the walking speed is higher, and there are fewer turned heads and stops [15].

In an empirical research in the city of Melbourne, Gehl found that of all the activities - coming and going, staying, conversations and play - 69% take place in the front yards or near the hedge and gates to the front yard. Only 31% of the activities happened in other parts of the street space [16]. In a similar research, by the same author, now in Waterloo and Kitchener, Canada, in 1977, focusing on the typical North American residential streets, with rather densely. Built family dwellings with a porch and a yard facing the street, reports the following results: The activities developed within or in semi-private transition zones accounted for 89% of life on the streets [17]. "A good city can be recognized by the majority of people who is not walking" [18], and also, "quite simply, good cities for staying have rough facades and good support points" [19]. So it is essential that public spaces invite people to stay by offering supply of seating, both primary (benches, isolated chairs and chairs in cafes) and secondary (pedestals, steps, stones, friars, flowerpots, monuments or the ground itself).

It is fundamental to distinguish between two kinds of activities: "Optional activities" and "Necessary activities". Necessary activities include those that are compulsory and will take place throughout the year, under nearly all conditions. The participants have no choice and, the physical framework influences their incidence only slightly: street trade, cleaning and maintenance. Goods are carried back and forth, and people wait at intersections and bus stops. The

optional and recreational activities, including the many stays on benches and café chairs so that people can survey the city and follow city life. In this case, the quality of the situation, weather and site are decisive [20]. In good public spaces, people are invited to optional activities, because there is a close connection between qualities of city space and city activities.

PROTECTION	Protection against traffic and accidents - feeling safe	Protection against crime and violence - feeling safety	Protection against unpleasant sensory experiences
	<i>Protection for pedestrians; eliminating fear of traffic</i>	<i>Lively public realm; eyes on the street; overlapping functions day and night; good lighting</i>	<i>Wind; rain/snow; cold /heat; pollution; dust, noise, glare</i>
COMFORT	Opportunities to walk	Opportunities to stand/stay	Opportunities to sit
	<i>Room for walking; no obstacles; good surfaces; accessibility for everyone; interesting facades</i>	<i>Edge effect/attractive zones for standing/staying; supports for standing</i>	<i>Zones for sitting; utilizing advantages: view, sun, people; good places to sit; benches for resting</i>
	Opportunities to see	Opportunities to talk and listen	Opportunities to play and exercise
	<i>Reasonable viewing distances; unhindered sightlines; interesting views; lighting (when dark)</i>	<i>Low noise levels; street furniture that provides 'talkscapes'</i>	<i>Invitations for creativity, physical activities, exercise and play; by day and night; in summer and winter</i>
DELIGHT	Scale	Opportunities to enjoy the positive aspects of climate	Positive sensory experiences
	<i>Buildings and spaces designed to human scale</i>	<i>Sun/shade; heat/coolness; breeze</i>	<i>Good design and detailing; good materials; fine views; trees, plants, water</i>

Table 1 – Quality criteria concerning the pedestrian landscape. Source: Gehl, 2009.

II. THE PROJECT DESCRIPTION

Oscar Freire Street is located in the Cerqueira César District, region of Jardins in São Paulo West zone (Fig. 4). It is internationally known as a major shopping street where there are restaurants, hotels and 220 shops of the most important brands in Brazil and the world. Even before passing by the redevelopment process, it was considered the eighth most luxurious street in the world. As the Strategic Master Plan of Pinheiros Subprefeitura (Municipal Law No. 13.885, 2004) is fully inserted in the mixed zone of high density ZM3.

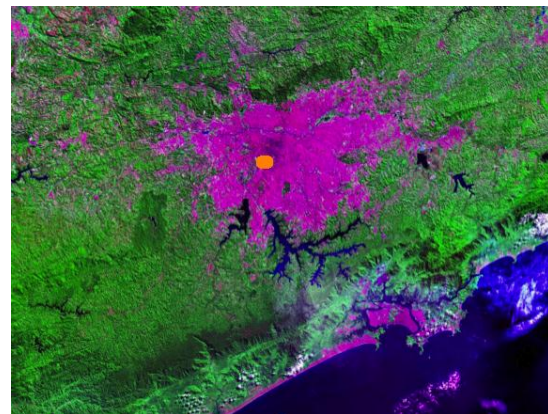


Figure 4. Approximated location (orange color) of Oscar Freire Street in the metropolitan region of São Paulo Source: Google Earth

Through an initiative of Oscar Freire Street Shopkeepers Association, in partnership with the Municipality of São Paulo, a public space spanning 13.000m² has been revitalized, encompassing five blocks of Oscar Freire Street [21]. It was reformulated increasing accessibility, burying the electrical wiring and equipping sidewalks with street furniture, lighting and appropriate landscaping. The beginning of the process took place due to the bad state of the pavement of Oscar Freire Street, when a group of 20 retailers took an initiative: to enable the Association of Shopkeepers of Oscar Freire to hire an urban project, aimed at upgrading the street [22]. An internal bidding involving four architectural firms for the development of a preliminary proposal for the redevelopment of Oscar Freire Street was set up. Among the analyzed projects, the architect's office Vigliecca Hector was the winner [23]. The project was awarded a prize by the magazine Architecture and Construction in 2008 in the category Urban Intervention.

The project was developed in three stages [24]. In the first stage, the analysis was done and urban diagnosis of the situation in five blocks where intervention would be held between the Melo Alves and Padre João Manuel Streets. There were 40 concrete poles housing the electrical and telephone networks, which diminished by 30% the walking space of the sidewalks. The trees were mutilated with bad phyto-sanitary conditions, therefore losing their aesthetic

value of color, shape and shading. The paving was degraded. There were bumps, slopes, manhole covers out of the safety standards and no access for the handicapped. The urban space was still lacking in street furniture such as benches, trashcans and appropriate visual communication.

On the second step, the verification of legislation and technical standards has been made, so that the rehabilitation project was developed in accordance with current planning legislation.

In the third stage, before the start of the project, the following surveys were conducted: Topographical Survey, Cadastral Survey by lot and Land Use (fig.5) and survey of existing vegetation. In the fourth stage, study references, based on public spaces studies of Barcelona, Spain, and Rio de Janeiro, Brazil, were identified good solutions for the paving of the floors. There are accessibility ramps, drainage channels, lighting and street furniture and to reduce conflict between pedestrians and cars. In the architectural design development phase, the architects designed a boulevard for Oscar Freire Street with obstacle free passage, fully accessible and without decorative designs where pedestrians could walk freely on a well-constructed floor that valued architecture and windows, giving unit for the entire street. The landscaping, lighting and street furniture were also designed as protagonists of requalification.

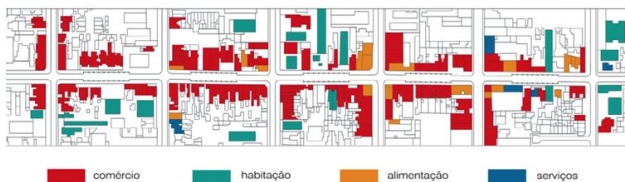


Figure 5. Land use along the 5 blocks of Oscar Freire Street.
Source: Vigliecca & Associates

The final design consisted of 6 actions [25]:

Action 01: replacing the system of aerial poles and wiring by the system of underground networks and cables. The power substations built in precast concrete would be buried in the area intended for parking spaces in order to reduce the impact on the movement of pedestrians in case of repairs and still avoid breaking the paving of sidewalks (fig.6).

Action 02: Urban paving - Constructive solution for paving the sidewalks left the use of guideline of a single monochrome material without decorative designs, offering the appropriate mechanical resistance to pedestrian traffic, the vehicle access to parking lots, and aiming to low maintenance cost and simplicity in eventual replacement.

Action 03: landscape setting - As this is a place where walking is a basic condition, the proposed green is always tree canopy discarding once all sorts of dungarees.

The species of tree selected was the Ipê Roxo native Brazil with little dense canopy, not to impede the visualization of stores, and striking flowering that create, according the season, a clear identity for São Paulo .



Figure 6. Comparison between the situation with utility poles and overhead wiring (before the project) and the situation with underground system of networks and cable (after the project)
Source: Vigliecca & Associates

Action 04: Lighting - For lighting fixtures it has been proposed to establish "environments", creating suitable lighting for pedestrians and vehicles, in order to enhance the proper illumination of the displays and creating an atmosphere qualified for walking.

Action 05: street furniture - Urban furniture includes benches, kiosks, trashcans and other elements that complement the proper use of public space. The architects designed benches and trashcans in corten steel, unique to Oscar Freire Street.

Action 06: reorganization of parking - Vacancies were located along the narrow profile of the pavement in the center of the blocks, leaving the areas near the corners with space expanded to the street furniture installation, tables and the creation of living areas. In this way the parking spaces were reduced from 600 to 340 spots.

The cost was around 8 million, 3 million invested by AMEX and 5 million by the city administration. It was left to tenants only the cost of connecting cables buried inside the establishments.

The improvements can be summarized as follows:
1. Burying of the electric network wires and other utilities, and the consequent disappearance of the

utility poles . 2. Resurfacing of the carriageway bed floor; 3. Overhauling of 650 m (5,500 m²) of sidewalk new flooring and concrete; 4. Repositioning of curbs and gutters meeting accessibility standards; 5. Drainage system of rainwater at 150 points along the street; 6. New street furniture Installation 18 benches and 10 dumpsters 7. Informative totems from business premises; 8. New lighting; 9. Extension of sidewalks in areas near the corners; 10. 90 Ipês trees were planted, totaling 120 trees in the intervention section [26].

III. RESULTS

The results are shown in three tables, as the first table, n. 2 (below), for the analysis of three safety criteria. The second table, n.3, for the analysis of the 6 criteria of comfort and the last table 4 for the analysis of 3 pleasure criteria.

In the aspect of protection, comparing before and after the implementation of the urbanistic project, it is observed significant improvement of safety in traffic, due to expansion of sidewalks on the corners (fig. 11), as well as improving safety in the night period due to new public lighting project of the street. The expansion of urban trees produced a greater shading and, consequently, protection against excessive sunlight.

Table 2 - Comparison of the street's characteristics before and

	Protection against traffic and accidents -	Protection against crime and violence -	Protection against unpleasant sensory experiences
	Protection for pedestrians; eliminating fear of traffic	Lively public realm; eyes on the street; overlapping functions day and night; good lighting	Wind; rain/snow; cold /heat; pollution; dust, noise, glare
Before	Narrow sidewalks	High transparency of the facades, good transition areas, new things to look every 5m or so. Private areas with collative use integrated to the street. High residential density	Only urban trees. No marquees or other kind of protection.
After	Enlargement of sidewalks on the corners, with the partial removal of parking.	Improved night lighting.	Expansion of urban trees.

after the urban intervention considering the 3 quality criteria of public space related to protection proposed by Gehl (2010).
 Source: the author

There was a substantial strengthening in all six criteria of comfort appointed by Gehl (Table 3). Some effects directly generated by the urban intervention such as the new floor and the removal of obstacles on sidewalks, which improved the comfort of walking. The 18 new public benches and also the new private primary and secondary benches favored opportunities to sit and watch, and also to listen and talk (figs. 8, 9 and 10). As one indirect effect, it can be also pointed up the rise of opportunities to see, such as the emergence of artists performing on the street (fig. 7) and opportunities to stand due to the new kiosks later fixed on the sidewalks. The new bike stations, as occurred a few years after the street urban requalification, also came to contribute to the practice of physical activity. Later in early 2015, deploying 3 parklets strengthened further opportunities to sit, see, hear and talk. In order to promote the expansion of public spaces in the city, the São Paulo municipality regulated, in April 2014, the implementation of parklets on their streets. During that time 3 parklets have been installed on Oscar Freire Street, with free wi-fi.

In the topic of delight (table 4), both categories, positive sensory experiences and enjoyment of positive aspect of climate, were enhanced by the 18 new public benches. An indirect effect of urban requalification was the proliferation of coffees and restaurants tables on the street. The park lets deployment policy in the city of São Paulo was another determining factor. However, the aspect pleasure in the item - building and spaces designed to human scale - did not receive any direct action by the intervention. The reason is that this, although interfering in the quality of public space, because it is located on private public transition range, part of the private lot.

	Opportunities to walk	Opportunities to stand/stay	Opportunities to sit
	Room for walking; no obstacles; good surfaces; accessibility for everyone; interesting facades	Edge effect/attractive zones for standing/staying; supports for standing	Zones for sitting; utilizing advantages: view, sun, people; good places to sit; benches for resting
Before	Interesting facades, but many obstacles and bad surfaces.	Edge effect/attractive zones for standing/staying	Restaurants and coffee tables
After	Removal of barriers, unification of floors, expansion of the corners.	New kiosks in public realm offering supports for standing	Expansion of the same cafes and restaurants 18 new benches 2 park lets
	Opportunities to see	Opportunities to talk and listen	Opportunities to play and exercise
	Reasonable viewing distances; unhindered sightlines; interesting views; lighting (when dark)	Low noise levels; street furniture that provides 'talkscapes'	Invitations for creativity, physical activities, exercise and play; by day and night; in summer and winter
Before	Reasonable viewing distances; unhindered sightlines; interesting views; (street with = 18m),	Restaurants and coffee tables	Absent
After	Improved night lighting	Slight decrease of car traffic, which could also have decreased noise. Expansion of the same cafes and restaurants 18 new benches 2 park lets	Two new bike stations that may favor the practice of sports

Table 3 - Comparison of the street's characteristics before and after the urban intervention considering the 6 quality criteria of public space related to the comfort proposed by Gehl (2010). Source: the author

	Scale	Opportunities to enjoy the positive aspects of climate	Positive sensory experiences
	Buildings and spaces designed to human scale	Sun/shade; heat/coolness; breeze	Good design and detailing; good materials; fine views; trees, plants, water
Before	Buildings and spaces designed to human scale; 2 floors and at ground level there are adequate characteristics such as vitrines around 3 or 5 meters.	Restaurant and coffee tables	Good design and detailing; good materials; Tees. The absence of historical and cultural architectural interest. Lack of urban art and the water element.
After	-----	Expansion of the same cafes and restaurants 18 new benches 2 parklets	Increased trees. New street furniture.



Figure 8. A hawker uses a new public bench as support space for his bag.

Source: the authors



Figure 9. Store offers secondary benches in private space for collective use.

Source: The authors.



Figure 7. Musician presents docked in the range of public-private transition.

Source: the authors



Figure 10. Local store salespersons take a break enjoying the scenery seated in a new public bench.

Source: the authors.



Fig. 11. Opportunities to see and talk were strengthened by the enlarged sidewalks on the corners. Source: the authors.

IV. CONCLUSION

It was observed that the Oscar Freire Street before the intervention already had a set of qualities that allowed the sector to enjoy a large urban vitality. The permeable facades and the human dimension of the buildings, smooth transitions between public and private, high-density urban area and the mix of uses was a consolidated feature.

The analysis of intervention, in the light of Jean Gehl theories, selected for this study demonstrate that the safety issue had an effective improvement due to the increase of protection from motorized traffic. On the issue of comfort there was a significant enlargement of sidewalks on the corners, with the partial removal of parking and the expansion of places to sit and consequently also the opportunities to talk to and see. Remembering that for Gehl the invitation to stay in the public space is fundamental to effective the space quality. On the issue of delight, a topic a bit more subjective, again, the highlight was the expansion of options to sit under the new the tree canopies, it increases the options to enjoy the views, the sun breeze on winter days, and vice versa in the summer. It is noteworthy that the potentiation of positive sensory sensations could have occurred by interventions of urban art elements, water elements and by a new architecture building, which could act as a new landmark.

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