HOSPITAL

NEIGHBORHOOD

PROJECT
HOSPITAL DE AMOR - BARRETOS/SP

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Organizers
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The Hospital Neighborhood Project was the result of a research and extension project carried out through an agreement (No. 44735) between IAU-USP and Pio XII (responsible for the Hospital de Amor) and was prepared by an interdisciplinary team from the PExURB Group - Research, Teaching and Extension Practices in Urbanism. It involved professors, researchers and undergraduate and graduate students from the Instituto de Arquitetura e Urbanismo-USP and the School of Engineering of São Carlos-SP, as well as public managers, patients and dealers in the neighborhood.

Objective

The main objective of the Hospital Neighborhood Project was to attribute quality to the surroundings of the Hospital de Amor, located in the Doutor Paulo Prata district (southern part of the municipality of Barretos-SP), aiming inclusive public spaces creation. It is intended for citizens who use the hospital’s neighborhood and especially for patients, patient companions, hospital employees, dealers installed there and all visitors.

Barretos and the Economic, Urban and Environmental Networks

Barretos is located in the northwest of the State of São Paulo, about 430 km from the capital. Historically, the municipality is known for its rodeo party that attracts hundreds of thousands of people annually. Its economy is fundamentally based on livestock and services. Its privileged position in the state and national road system
Hospital de Amor to invest in new decentralized units installed in several states. The present work will serve as a methodology so that these units can be built together with a proposal for urban qualification and that this qualification is part of the urbanization and development process triggered by these new units.

Use of New Technologies

The Project presented here used new technologies that are part of the "expertise" of the PExURB Group, such as aerial photogrammetry by remotely piloted aircraft (drones) to perform three-dimensional modeling of the Hospital de Amor and its surroundings. This modeling provided conditions to develop the project from an updated database and reinforce the methodological aspect that the PExURB Group has disseminated in urbanistic experiences.

Jeferson Tavares, Coordinator

Hospital de Amor

The city of Barretos has become a national reference in cancer treatment encompassing the most diverse specialties due to the Hospital de Amor, which guarantees 100% free care from public resources of the Brazilian National Health System (SUS) and donations. These resources are used to maintain a national cancer treatment structure that includes clinics, beds, accommodation, psychosocial treatments and daily free meals for patients and companions. In addition to the units throughout the country, the Hospital maintains mobile care services in countryside cities in the national territory where awareness and access to oncological treatments are non-existent. The Latin American headquarters of IRCAD (Training Institute in Minimally Invasive Techniques and Robotic Surgery) installed next to the pavilions of the Hospital de Amor also attracts an important contingent of doctors interested in this training category.

Expansion of Hospital de Amor and the Urbanistic Method for New Units

The great demand of patients from different and distant Brazilian states led the coordination of the Hospital de Amor to invest in new decentralized units installed in several states. The present work will serve as a methodology so that these units can be built together with a proposal for urban qualification and that this qualification is part of the urbanization and development process triggered by these new units.
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INTRODUCTION

*The Invisibility of the Vulnerable*

The largest Brazilian public hospitals concentrate large agglomerations of people in physical and social vulnerability in small portions of cities. This demand has been ignored by urban projects as they do not recognize their particularities and needs.

*Planning as a Local Development Tool*

The implementation of large public or private facilities in the urban fabric of Brazilian municipalities must be regulated by previous studies, called Neighborhood Impact Studies. These studies aim to estimate impacts and predict mitigating actions to minimize them or improve the surroundings of these areas. This instrument is not always used. In its absence, the public and/or private authorities need to use other artifices to adapt the spaces transformed by these large facilities, giving them quality. Urban projects collaborate in the qualification of these areas when the implementation or growth of large equipment occurs without taking into account their impacts on the surroundings.
"THERE CAN BE NO URBAN HARMONY OR REAL ENVIRONMENTAL IMPROVEMENT WITHOUT PEACE AND GUARANTEE OF THE APPLICATION OF BASIC HUMAN RIGHTS"

RICHARD ROGERS
THE INSTITUTIONS

The Hospital de Amor was created in the 1960s by the couple of doctors Paulo Prata and Scylla Duarte Prata, originally called Hospital São Judas. Currently, it has prevention units in the state of São Paulo (Barretos, Campinas, Nova Andradina), Mato Grosso do Sul (Campo Grande), Bahia (Juazeiro), Sergipe (Lagarto), Roraima (Ji-Paraná) and Amapá (Macapá), as well as treatment units in the State of São Paulo (Barretos and Jales) and in Roraima (Porto Velho).

The PExURB Group – Research, Teaching and Extension Practices in Urbanism aims to build actions to transform the territory through interdisciplinary and multi-scalar university practice oriented by the knowledge area of architecture and urbanism. PExURB is headquartered at the Instituto de Arquitetura e Urbanismo (IAU-USP), in the municipality of São Carlos, articulated in a network with other public universities in the five macro-regions of the country from the LEU – Laboratory of Urbanistic Experiences. It is directly linked to the undergraduate and graduate courses in Architecture and Urbanism at IAU-USP. Faced with the need to establish new paradigms of urban plans and projects inserted in the context of productive restructuring, the group adopts the urban space as a territory for experimentation and the public university as the center of these formulations.

Both institutions, the PIO XII Foundation and the Instituto de Arquitetura e Urbanismo, signed an agreement to jointly build a proposal for urban improvement for the neighborhood of Hospital de Amor.
THE PROPOSAL

Urbanistic Design Approach

As the main result of the agreement signed between Pio XII Foundation (through the Hospital de Amor) and the Instituto de Arquitetura e Urbanismo-USP (through the PExURB Group) was the design of the Hospital Neighborhood Project proposed for the urbanization of the surroundings of the Hospital, from March to December 2019. The project is structured by a system of green corridors and a system of squares, both integrated by an urban marquee that radiates from a central square proposed in front of the Hospital and intended for mobility. This marquee connects with the main facilities, inns, shops and open areas, favoring pedestrians and the use of public spaces.
THE CONTEXT

National Impact on Urban Space

The structure based in Barretos is responsible, in the city, for a national flow of patients and companions who – when they settle for days, months or years – act as an economic attraction for commercial and services activities because it represents a high demand concentrated in a small portion of the city. These characteristics turned the municipality into a national recipient of people with different interests in hospital treatments or training.

The Barretos unit has 3,000 employees and in 2018 treated around 82,000 patients, attracting a contingent of 172,000 people in its surroundings, including patients and companions. Barretos has approximately 120,000 inhabitants, that is, the population attracted by the hospital represented (in 2018) 150% of the city’s population circulating or living in its neighborhood. However, the structure of the neighborhood does not offer leisure, comfort or work opportunities for these people.

Although the neighborhood offers the basic elements of urban infrastructure, such as basic and environmental sanitation, paving and parceling regulated by the government, there is no specific structure that accommodates this demand from users and no qualified attractions in the public space.

MAP 1 - National coverage of the Hospital de Amor
Cities that maintain support houses in the surroundings from hospital
MAP 2 - Location of Barretos in the State of São Paulo
MAP 3 - Main facilities and avenues in the southern sector of Barretos
MAP 4 - Land use in the project area
RESEARCH AND DATA COLLECTION

Data collection was carried out by research in two parallel stages. The first one deepened bibliographical and empirical research of texts, studies and criticisms about urban and urbanistic interventions linked to hospitals or hospital networks. This stage captured a set of analysis and experiences in the city and in the region based on hospital equipment and other services and businesses that orbit around it. The second stage of the research focused on the methodology of field research with hospital employees, with hawkers in the surroundings and with patients and companions, especially those who live in support houses in the neighborhood. The support houses have varied origins and sources of income, being maintained by the Hospital de Amor itself, by municipalities of different Brazilian states, class associations or institutions of organized society (such as Freemasonry, Lyons Club, Rotary Club, etc.) or by private initiative from the leasing of rooms or suites. These support houses are the main means of accommodation for patients who need to remain in treatment at the Hospital. With the patients often goes together their relatives (in the case of child treatment) or companions. The largest number of beds is concentrated in the Madre Paulina support house. This concentration has attracted activities such as prostitution and commerce around it. Informal commerce, in turn, was installed in front of the Hospital’s main access, forming a set of shops and tents in order to meet the high demand of patients and companions, in view of the lack of diversity of uses in the neighborhood.

Predominant City Model

The conclusions of the research and data collections show that the Hospital de Amor neighborhood presents similar problems to those of the average Brazilian city: low-density sprawl of the urbanized area, public spaces without people, excessive use of individual transport that generates excess traffic in the streets and extensive parking areas, sidewalks with architectural barriers hindering pedestrian mobility, informal and unhealthy businesses, the street transformed into an exclusive car corridor and surrounded by walls of private buildings and, mainly, lack of urban environmental comfort in a city with high temperatures and without urban afforestation.
Characteristics of the surroundings through interviews with residents and users

DIAGRAM 1 - Word Cloud

little landscaping  aridity  passage  visitors  hot  cars  informal stores  impermeability  quietness  dry  parking lots  heavy traffic
PUBLIC SPACE WITHOUT PEOPLE, BUT WITH CARS.

PHOTOGRAPHIC SURVEY
Surrounding characteristics researched by the team
WALLED CITY
WITH PRIVATE LEISURE.
PROBLEMS OVER PEDESTRIAN MOBILITY.
SIDEWALKS WITH HAWKERS.
LACK OF MOBILITY AND SHADING
DIALOGUES

The project relied on dialogue with:

- Sustainable Development Goals (SDGs): in particular in its goal number 11 Sustainable Cities and Communities through inclusive urbanization;

- TOD - Transit Oriented Development: from the concepts of a compact, dense, connected city, with diversified uses and with alternative uses of transport with pedestrian privileges;

- SuDS - Sustainable urban Drainage Systems: for the qualitative and quantitative control of water, for the valorization of biodiversity and the constitution of pleasant urban environments through green infrastructure;

- Municipal Master Plan: especially regarding the zoning in which it defines the surroundings of the Hospital as an Environmental Protection Zone;

- Municipal Mobility Plan: adapting to its principles and guidelines;

- National Urban Development Policy: incorporating the main guidelines of the city planning system.

We favor urban design integrated with urban and regional planning. In addition, we seek to integrate the use of green infrastructure articulated with land regulation to avoid urban damage such as floods, climate change, monofunctional and sparsed urban sprawl and the conformation of excluding spaces, chronic problems of Brazilian cities arising from the predominant urbanization model.
TOD
TRANSIT ORIENTED DEVELOPMENT

SOURCE: https://www.itdp.org/
SUDS

SUSTAINABLE DRAINAGE SYSTEMS

SOURCE: http://hidrologiasostenible.com/
MUNICIPAL MASTER PLAN

SOURCE: https://www.barretos.sp.gov.br/planejamento
MUNICIPAL MOBILITY PLAN

SOURCE: https://www.barretos.sp.gov.br/planejamento
THE PROJECT

The Scales

The Hospital Neighborhood Project at Hospital de Amor, in Barretos-SP, is a proposal that combines urban planning and urban design through the articulation of the regional scale with the urban scale. The proposal started from a local problem: the concentration, circulation and permanence of 172 thousand people/year in a medium-sized city neighborhood with no structure for this purpose. And it developed from the urban elements of its surroundings, the middle and lower class occupations, the urban voids, the public open spaces and the existing water courses. The urban scale and the regional scale were treated together by incorporating data from the surroundings and the problems and potential of a wider range of actions.

Urban Design as an Experience of a New City Model

The Hospital Neighborhood Project was the opportunity to experience a new “model” of city in which issues of urban environmental comfort, inclusive public spaces, enhancement of pedestrians and public facilities, inter-scalar articulation, consideration of regional and national factors were appropriate for the urban design. The idea defended is the qualification of the surroundings of the Hospital through a “model” of a socially and environmentally resilient inclusive city.
The proposal is structured by two systems (green corridors and public spaces) that are integrated by a mobility network that favors pedestrians:

- **Pedestrian – Mobility**: implementation of an urban marquee to integrate these two systems that enhance pedestrian routes, making them safer and more comfortable and connecting the main public-use facilities;

- **Urban Scale – Public Space**: formation of a system of squares of different sizes for everyday living, subtracting the hegemony of the automobile and breaking the logic of the walled city focused on private space;

- **Regional Scale - the Environment**: formation of a system of green corridors from the existing water courses to be qualified in the areas of environmental protection and preservation in the new subdivisions and in the areas already occupied;

- **Base – the City**: the occupied spaces and urban voids of a wider radius than the hospital neighborhood were considered, considering the relationships with the entire city and the main basins and sub-basins, as well as the state and federal road system.
ENVIRONMENT

The Project incorporated the empty areas and urban expansion located around the Hospital and, in partnership with the Municipality of Barretos, proposed guidelines for the parceling of the land, including environmental preservation areas around the existing water courses integrated into the urban public space system and the mobility system. This system of green areas should contribute, in the short term, to the renewal of the hydrological cycle and the qualification of the hydrographic basins of the Pardo and Grande rivers, which are important water courses in the State of São Paulo. In the medium and long term, the green area system should contribute to the improvement of climatic conditions by combating the increase in temperature and improving urban comfort conditions. The forecast is to create tree-lined roads and urban parks in these corridors, for example, the use of the green area adjacent to the Hospital as a municipal park.
MAP 5 - Zoning - Master Plan

Translate titles from the zoning map of 2006 law
- Environmental Protection Zone
- Permanent Preservation Area
- Commercial Predominance Zone
- Ribeirão Pitangueiras Special Protection Zone
- Airport Approach Cone
- Mixed Zone
- Special Corridors 1
- Special Corridors 2

Originals titles according to the zoning map of the 2006 law
- ZPA . Zona de Proteção Ambiental
- APP . Área de Preservação Permanente
- ZPC . Zona de Predominância Comercial
- ZE4 . Zona Especial de Proteção do Ribeirão Pitangueiras
- CAP . Cone de Aproximação Aeroportuária
- ZM . Zona Mista
- CR1 . Corredores Especiais 1
- CR2 . Corredores Especiais 2
PARK

Park to be implemented in an existing permanent preservation area around the Hospital.

ha
The Project was consolidated by a set of squares with different public functions with social inclusion as central objective:

a. bus terminal in front of Hospital de Amor, which is a large arrival square;

b. widening of sidewalks for leisure use, such as small squares scattered around the Hospital’s neighborhood;

c. sidewalks on Ranulfo Prata street and Ébano street as linear squares that enhance the commercial activities around the Hospital;

d. qualification of the existing square with a hammocks area, urban furniture and space for cultural events;

e. covered square for a permanent fair with the purpose of relocating and regularizing the existing street traders area with adequate conditions through formality and healthy work standards.
Current situation

Fair proposal
Area located between Bom Prato and the existing square for the implementation of a municipal fair, housing irregular traders currently located on João Baroni avenue, in addition to urban furniture for stay and permanence.
SIDEWALK EXTENSIONS

Proposal for living spaces complementary to the sidewalks, with furniture and shade, also containing rain gardens to reinforce the drainage of the neighborhood.
RANULFO PRATA PEDESTRIAN STREET

Pedestrian street with furniture and shading.
ÉBANO PEDESTRIAN STREET

Pedestrian street with furniture and shading.
Qualification of the existing square with a stage for multiple uses and spaces for permanence with hammocks and benches.
MOBILITY

The urban marquee integrates the two systems and from the bus stop provides a safe and comfortable radial route to the Hospital de Amor and to all the main equipments around it, including the Hospital’s other pavilions and the main support houses (private and public). Along this route, elevated pedestrian lanes are installed at the main intersections, widening of corners at secondary intersections, accessibility ramps (according to ABNT standards) and a color coding system (by lanes on the sidewalks) that allows the user to identify the main equipment in the neighborhood. In the project as a whole, the main privileged person is the pedestrian.
Materiality test and marquee modulation to be implemented in the project, connecting the main equipment to provide comfortable walkability.
PONTÃO

Space for boarding and disembarkation of patients destined for the hospital using buses, vans or cars. Combined with a circular bus stop, it provides a safe arrival for users, employees and the general population.
SIGNALING

Demarcated lanes on the sidewalks throughout the project to help direct hospital users to its various blocks and entrances, in addition to providing a path to surrounding equipment such as a square and park.
CORNERS AND CROSSINGS

Widening corners and installing ramps for wheelchair mobility, to ensure safe pedestrian crossing.
AGENDA

The problem of work informality overlaps in the contemporary city. Unhealthy, precarious and despoiling, it causes damage to the worker's physical and mental health. In the Hospital's neighborhood, given the high flow of people, informal work was installed, intensifying the urban problem. The plan proposes the redefinition of land use and occupation in this sector of the city in order to create conditions to reverse this process. In addition, it proposes a space for self-organized fairs linked to public spaces and a change in land use so that the lots – mostly occupied by support houses – incorporate commercial and service activities. These changes can bring benefits to the neighborhood, bring diverse activities closer to users of the hospital's neighborhood and create job opportunities for the people who are installed there. The plan also suggests the incorporation of the hospital production chain into the city's economy, based on the constitution of local productive arrangements intended for this purpose. Finally, the plan recommends planning the hospital expansion according to traditional planning instruments, taking into account the local and surrounding impacts and incorporating the reality of social housing and the natural resources existing around the Hospital.
REGIONAL PLAN TO ATTRACT HOSPITAL PRODUCTION CHAIN

AMENDMENT OF THE ZONING LAW TO DIVERSIFY LAND USE AND USE

PREPARATION OF A HOSPITAL EXPANSION PLAN + NEIGHBORHOOD IMPACT STUDY
REGISTRATION OF PARTICIPATIONS
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Dealers in the neighborhood of the Hospital de Amor  
Patients and companions of the Hospital de Amor

Collaborators

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