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Shared Spaces and Social Integration

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Abstract. The pandemic caused by the SARS-CoV2 virus demanded actions in universities to ensure safety public health of their community. Several fronts are working in this direction, from physical distancing and sanitation protocols, to the use of indoor and outdoor environments, which includes the circulation of pedestrians and cyclists through the campuses. The University of Campinas is carrying out a tactical urbanism project, consisting of a set of actions aimed at low-cost changes in the built environment to test possible improvements through a living laboratory that involves the entire local community. The living laboratory is an innovative systemic approach that enables the integration of research and innovation in a territorial context through co-creation that involves the local community. The objective of the living laboratory of tactical urbanism at Unicamp is to encourage and guide the circulation of pedestrians and cyclists on the campuses in conditions that ensure physical distance. For this, workshops, questionnaires, decisions and collaborative actions are carrying out, so the community is involved in all stages of the project. After the situational survey and planning, actions should involve surface design with patterns and artistic paintings along the streets in order to promote shared use between modes of transport with special consideration for pedestrians and cyclists. As a result, it is expected that Unicamp will be able to restart face-to-face activities during the pandemic with public safety, mobility and low investment.

Keyword:

Sustainable Urban Mobility, Pedestrian, Cyclist, Sustainable Campus

1. Introduction

The COVID-19 pandemic brought new requirements to daily activities, especially those aimed at ensuring public health, such as the use of face masks, physical distance, and

restraining hugs and greetings. In this sense, the use of open public spaces, such as streets, squares and parks, has become controversial, because while it is desirable for people to circulate through open and well-ventilated spaces, the incitement to agglomeration is dangerous.

Therefore, we sought to increase the spaces used for the circulation of pedestrians and cyclists, in order to guarantee the minimum distance required. The need for more space for active circulation in cities, which was already seen before the pandemic, increased and the tactical urbanism projects became the most viable solution for the flow of pedestrians and cyclists in cities [1].

Within universities, there is a need to carefully discuss and plan the return of presential classes that have been suspended since March 2020 in Brazil.

Planning for the return of presential classes at Unicamp during the pandemic brought this scenario to university campuses through the creation of Working Groups that established guidelines for the use of open spaces and the circulation of vehicles, cyclists and pedestrians. One of the guidelines was the creation of the specific Tactical Urbanism Working Group which considers:

need to prepare the Unicamp to return to face-to-face activities;

- that prevention through physical distance has been an effective measure in the fight against the pandemic;
- the need to favor and guide the movement of people on campuses in conditions that meet the basic public health protocol: physical distance;
- the need to offer safe walking conditions for pedestrians and for cyclists to circulate;

The main objective of the project is to favor and guide the movement of people on the campuses in a time of physical distance. Actions carried out through low-cost operations: paintings, signs, banners and artistic arts on selected streets in strategic areas of the Zeferino Vaz campus.

2. Concepts of the project

Tactical urbanism is urban design applied to the streets through temporary and low-cost interventions to test, assess the effectiveness and community acceptance of the proposed modification [2]. These interventions make it possible to catalyze long-term projects with the aim of improving urban life, creating quality public spaces.

Tactical urbanism actions make use of appropriations of public spaces through collaborative processes that include from planning to execution and involve: voluntary approach; involvement of the local community; investigation of change; co-creation; local scale; short term; real scenario and budget; low cost and testing and validation [3, 4].

The complete street is an application of urban design aimed at safety, comfort and accessibility for users of all modes of transport. The main objective is to improve the quality of life through the appropriation of the street as a safe public space that, even so, allows the flow of sustainable and high-performance transport networks [5].

The guidelines for complete streets have approaches that allow the flow of pedestrians, cyclists, light vehicles, automobiles, motorcycles, buses and even high-speed vehicles [6]. The main focus is to provide safety and accessibility so that local pedestrians and cyclists can choose this means of travel over motor vehicles, in order to provide a better quality of life through active mobility; greater equity and inclusion, improvement of

environmental conditions with a reduction in the emission of greenhouse gasses and appropriation of urban space as a form of community identity and culture [7].

Living laboratories are innovative systems for transforming society through a co-creative process that enables the integration between research and application in a territorial context [8]. In the case of a tactical urbanism project aimed at interventions aimed at complete streets, the living laboratory is a methodology that guarantees the collaboration of the entire community, from planning to execution of the project in the real context, in an open and transparent manner and that allows for evaluation and validation. The living laboratory meets the need for rapid implementation due to the emergency situation and the required recovery of the local community.

The Covid-19 pandemic brought the need for physical distance and greater use of open and ventilated spaces [9, 10]. As a result, the use of public transport was compromised and the streets gained more users. In cities, providing better conditions for the movement of pedestrians and cyclists during the pandemic is a way to achieve some long-term economic recovery. At universities, significant reductions or bans on group meetings and crowds and increased safety in pedestrian and cyclist circulation spaces provide the choice for these means of travel and ensure reduced transmission of the coronavirus. Therefore, the appropriation of streets and sidewalks for public use is a requirement during this urban crisis and a form of slow and gradual transition to recovery [1].

3. Project Planning

This project requires an analysis of the various conditions in the different places at the Zeferino Vaz Unicamp's campus, where interventions are implemented, to determine what type of solutions should be applied in each of the streets. Factors that should be considered include the physical characteristics of the street, the urban context, land uses, risk history, expected demand from pedestrians and cyclists, the flow of different modes of transport, and vehicle parking possibilities.

Interventions can range from vertical signage to horizontal signage, since the project is tactical and prioritizes low-cost installations. The financing of the project is a determining factor for the viability of the interventions, even if the community voluntarily collaborates in the execution of the interventions.

In this way, the following steps were established for the project:

1. Survey of intervention areas: technical information on the streets, accessibility and estimation of pedestrian and cyclist flow.
2. Cost estimate for interventions on each street, considering paintings on horizontal surfaces.
3. Calling the living laboratory: dissemination of the project through Unicamp's media, such as a website, e-mail groups and social media.
4. Development of the project stages in the form of a living laboratory: planning, design of interventions, budget, execution and validation.

The step of surveying the intervention areas was carried out in order to establish the initial cost estimate for the interventions and is described in the next item. However, the surveys carried out were carried out only with a technical basis and still without an estimate of the flow of pedestrians and cyclists, as only the collaboration of the local community will be able to validate this information.

4. Survey of the Basic Cycle Intervention Area

The basic cycle area was indicated as the starting point for interventions due to its physical centrality, academic relevance and the plurality of destinations. The complete streets and the prioritization of walkability for pedestrians and mobility for cyclists is part of the urban planning for all Unicamp campuses and is provided in the territorial Masterplan [11].

The thematic maps were prepared based on the urban accessibility survey carried out in 2018 by the territorial Masterplan of DEPI and information from the Georeferencing. In the initial technical survey for the tactical urbanism project during the pandemic, parameters were brought to assist in the overall design of the project and in the initial cost estimate. For this, the following items were raised: total area of the street; parking spaces along the street; parking spaces for People with Disabilities (PCD); access to parking pockets; service vehicle access and level of accessibility of sidewalks, considering the presence of unevenness, barriers, obstacles, access ramps and pedestrian crossings.

The first street analyzed was the Sergio Buarque de Holanda. This is the most emblematic street on the Zeferino Vaz campus, as it represents the origin of the basic cycle, the realization of the concept of social experience and integration between the STEM, biological and human areas. This region was designed, initially, for the flow of pedestrians. Cars came later and should be restricted to the parking spaces existing in the blocks of the first ring of the basic cycle.

Nowadays this street has sidewalks only on one side and they have low accessibility, narrow in certain parts and with obstacles and some irregularities in the floor.

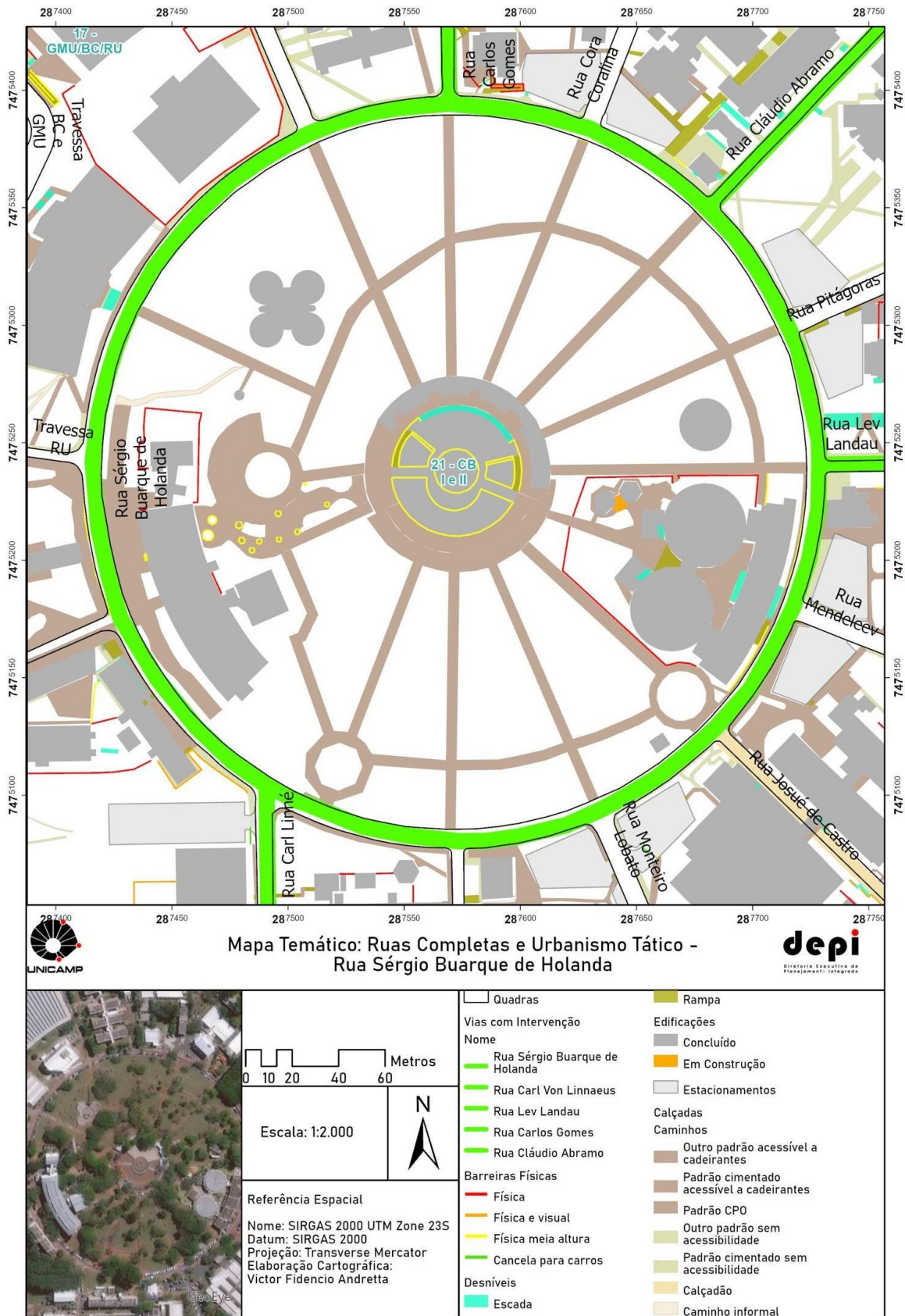


Figure 1. Thematic Map of Sergio Buarque de Holanda Street

5. The Design Proposal

In order for the Tactical Urbanism project to have its first actions initiated, it is necessary to organize a group of collaborators from the local community to start planning interventions in each of the proposed streets. The interventions will be paintings and banners that must be designed with the aim of guiding pedestrians, cyclists and drivers about sharing the respective street through the use of graphic elements, in a union between art and orientation.



6. The Design Proposal

The experiences of tactical urbanism interventions during the pandemic indicate that it is also a viable solution for people's daily lives. Furthermore, it is an adaptation test of street users for sharing between different modes of transport, prioritizing pedestrians and cyclists.

After the survey and validation of the project at senior management level, which have already been carried out, the next steps for the implementation of this project at Unicamp include the living laboratory activities and the execution of the project considering the stages in each of the selected routes.

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