

Tactical Urbanism and Sustainability: Tactical Experiences in the Promotion of Active Transportation

Aline Fernandes Barata, Adriana Sansão Fontes

Abstract—The overvaluation of the use of automobile has detrimentally affected the importance of pedestrians within the city and consequently its public spaces. As a way of treating contemporary urban paradigms, Tactical Urbanism aims to recover and activate spaces through fast and easily-applied actions that demonstrate the possibility of large-scale and long-term changes in cities. Tactical interventions have represented an important practice of redefining public spaces and urban mobility. The concept of Active Transportation coheres with the idea of sustainable urban mobility, characterizing the means of transportation through human propulsion, such as walking and cycling. This paper aims to debate the potential of Tactical Urbanism in promoting Active Transportation by revealing opportunities of transformation in the urban space of contemporary cities through initiatives that promote the protection and valorization of the presence of pedestrians and cyclists in cities, and that subvert the importance of motorized vehicles. In this paper, we present the character of these actions in two different ways: when they are used as tests for permanent interventions and when they have pre-defined start and end periods. Using recent initiatives to illustrate, we aim to discuss the role of small-scale actions in promoting and incentivizing a more active, healthy, sustainable and responsive urban way of life, presenting how some of them have developed through public policies. For that, we will present some examples of tactical actions that illustrate the encouragement of Active Transportation and trials to balance the urban opportunities for pedestrians and cyclists. These include temporary closure of streets, the creation of new alternatives and more comfortable areas for walking and cycling, and the subversion of uses in public spaces where the usage of cars are predominant.

Keywords—Tactical urbanism, active transportation, sustainable mobility, non-motorized means.

I. INTRODUCTION

THROUGHOUT the history of cities, squares, parks and streets have been important urban elements that promote social life. Harvey points out that before the emergence of automobiles, the streets used to be a place of popular and leisurely socialization; however, this kind of use was impaired and turned into a space for cars [1]. The importance of the car usage in the 20th century reduced the value of the pedestrian in the cities and, consequently, of their public spaces, replacing

F. B. Aline (Architect and urbanist, master's student of Urbanism at Post graduation Program of Urbanism (PROURB)) is with the Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil (corresponding author, phone: +5532991287076, e-mail: alinemfbarata@gmail.com).

S. F. Adriana (Architect and urbanist, PhD in Urbanism and professor at Post graduation Program of Urbanism (PROURB)) is with the Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil (e-mail: adrianasansao@gmail.com).

the culture of walking without objectivity, the sentimental, imaginary and sensorial expressions of urban life [1]. However, many authors recently recognize the search for the valorization and redefinition of public spaces as a promise of a collective urban element of citizenship, integration and social gathering. In this context, the role of streets, urban mobility and the condition of pedestrians and non-motorized means of transportation are being reviewed. Pedestrians and cyclists are gaining space not only in the discussion about their transportation, but also in relation to the redefinition of public areas to stay and for leisure in cities [2].

Due to the automobile emphasis on urban design and imbalances between opportunities for pedestrians and motorized vehicles in cities, this paper proposes a reflection on the importance of inserting two emerging approaches in contemporary debates, highlighting their relevance as activators of sustainable transformations: Tactical Urbanism and Active Transportation. The objective of this paper is to promote the debate about the potential of Tactical Urbanism in rethinking urban mobility and promoting Active Transport by demonstrating possibilities of transformation in the contemporary urban space through initiatives that promote the protection and valorization of pedestrians and cyclists, and the subversion of uses in public spaces reducing the importance of cars in the cities. This paper will present actions that have varying degrees of effectiveness and consequently, different levels of impact in relation to the encouragement to Active Transportation.

II. ACTIVE TRANSPORTATION

Due to the imbalances between cars and pedestrians, opportunities for walking and cycling in contemporary cities and the challenges for urban mobility to encourage changes in lifestyle are being questioned. As a way of understanding the importance of such issues, this section will present the definitions of urban mobility, sustainable mobility and Active Transportation. The term Active Transportation was originally used in Biology referring to the energy used by cells to transport molecules through plasmatic membrane, but this paper aims to analyze its importance in sustainable mobility.

Firstly, urban mobility is understood as the possibility of moving in the city regardless the means of transportation of the individual [4]. The term sustainable mobility is introduced as an approach that aims to boost walking, cycling and any means of transport that is less harmful to the environment [4], [5]. The transformation of urban mobility patterns and the

encouragement of cycling were included as targets in the cooperation agreement signed by members of UN-HABITAT 2014. At that point, it was possible to perceive the progress of handling the movements of individuals in the city independently of motorized transportation.

The concept of Sustainability emerges around the 1990s and indicates the need for attention to sustainable development in different spheres, such as social, political, cultural and environmental, meeting the needs of current generations without impairing future ones. Environmental preservation is one of the concepts raised, mainly regarding the emission of pollutants by automotive vehicles, industry, among others. In Brazil, in 2012, the Federal Government's Ministry of the Environment approved the National Urban Mobility Policy, which puts pedestrians and cyclists on the top of the priorities, indicating the need for profound changes in traditional mobility.

For some authors, urban mobility is understood as an important social and cultural activity that affects and transforms people and the environment. Rethinking the streets and public spaces can be a way to boost interaction and social gathering in cities [3]. Thus, Active Transportation approach reinforces the concept of sustainable mobility as it encourages human-powered transport such as walking, pedaling, etc., "old ways and at the same time revolutionaries ways of locomotion" [6]. Therefore, this paper moves forward in the search on understanding the role of Tactical Urbanism in rethinking urban mobility and encouraging Active Transportation.

III. TACTICAL URBANISM IN THE PROMOTION OF ACTIVE TRANSPORTATION

The term Tactical Urbanism has been adopted in the 21st century as an approach that seeks to address contemporary urban paradigms by using quick and easy actions to demonstrate the possibility of large-scale and long-term changes in cities. The concept was boost in 2011 due to the publication of a group of young urbanists, Mike Lydon and Anthony Garcia, entitled: "Tactical Urbanism: Short-term Action, Long-term Change", which presented the progress of tactical interventions in public spaces in North America [7]. According to Lydon and Garcia, Tactical Urbanism advocates that should exist a close link between society and public authorities called "Bottom up - Top Down", demonstrating that it is possible to start from the public spheres and/or from the civil society the desire to promote new urban experiences, appropriations, preservation of the built environment of the city and democratization of urban land use, as long as there is social participation [8].

The authors highlight three most common applications of Tactical Urbanism. Firstly, Lydon and Garcia (2015) present initiatives that depart from civil society, through protests, prototypes or interventions that glimpse the possibility of changes, demonstrating the exercise of the "right to the city" stand out. Secondly, actions that can be configured as tools of public power to engage nonprofit organizations and social participation in the planning process. Finally, "Phase 0"

intentions are recognized as a test of urban projects, anticipating the stage in which permanent investments are made [8].

This paper highlights the importance of Phase 0 actions and temporary initiatives in stimulating the transformation of public spaces and in promoting new urban ways of life and the Active Transportation. The intention of these experiments is indeed to be temporary and the public spaces that receive such interventions can be considered as a laboratory in which the effects and the way in which the population reacts in the environment are analyzed [3]. However, Phase 0 actions and temporary initiatives have different objectives.

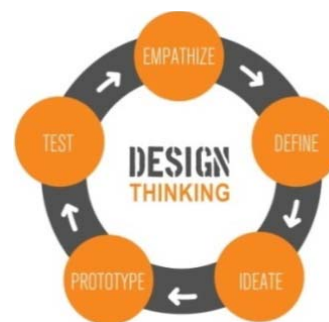


Fig. 1 Action steps of Tactical Urbanism [8, p. 172]



Fig. 2 Experimental phase of interventions creating new areas for pedestrians and cyclists on Broadway, New York [15]

The phase 0 actions, for example, accept their test condition nature and reinforce the relevance of being configured as an experimental stage on the human scale. This initiative refers to one of the main foundations of Tactical Urbanism, namely the Build-Measure-Learn approach and the Design Thinking cycle, whose concepts considered by Lydon and Garcia (2015) have been adapted to Urbanism and value the role of testing actions and the implementation of interactive and low-cost development processes [8]. Thus, these actions demonstrate an open field of possibilities that allows the pre-transformation analysis of space as a way of recognizing its real impacts, so that they can be designed for the long term if they are successful. It is in this phase of study that it is possible to evaluate the effects of such initiatives in real time avoiding expenses and future revisions [9]. Such experiences may indicate new demands or changes in the process as they are implemented. On the other hand, the temporary initiatives in the city can be configured as tactics whose primary characterizing factor is time, having a defined active period,

but that can generate permanent impacts. The most important aspect of temporary interventions is their transformative intention which has the capacity to put space into motion, revealing "their active dimension, their playful impulse, their capacity to discover potentialities, to recover places" [10]. The potential of these temporary initiatives is also that they can develop without major environmental impacts, as they interfere minimally in the physical space of the cities, increasing their resilience. Temporary experiences in urban space are tools that can encourage the use of public spaces and can also rethink urban mobility in the short and long term, in addition to partnerships with local communities, quick, low-cost and temporary actions allow agile, flexible and responsive interventions [10], [14]. Therefore, Phase 0 actions and temporary initiatives play an important role in the transformation of public spaces and new urban ways of life. As a way of illustrating the potential of Tactical Urbanism encouraging the modalities of Active Transportation, this paper identifies two types of interventions: those that promote the protection and valorization of pedestrians and cyclists, and the ones that subvert priorities in public spaces, reducing the importance of cars in the cities.

IV. PROTECTION AND PRIORITIZATION OF ACTIVE TRANSPORTATION MEANS

In this section, this paper will present examples of tactical initiatives that seek to transform the logic of contemporary urban space and improve conditions of safety for Active Transportation means. In this study, we looked at road spaces, identifying interventions that promote opportunities for protection and prioritization of pedestrians and cyclists through Phase 0 actions and temporary initiatives.

A. Phase 0 Actions

Regarding the tactical initiatives, it can be observed that some actions are dedicated to identifying ways of making Active Transportations safe and recurrent in cities. Among them, we can highlight urban interventions that can be used as community action to test road changes, improve crossings and promote more spaces for walking and cycling. In addition, there are actions in which civil society acts in the form of a manifesto, proposing new urban designs with their own hands. Incentives for walking and cycling are fundamental for rethinking large-scale urban mobility and for promoting permanent change. In both cases, it can be highlighted initiatives that aim to balance priorities and adapt urban design to Active Transportation means.

The Community-led movement "Build a Better Block" can be presented as an example of an initiative that since 2010 has proposed balancing opportunities among pedestrians and cyclists and motorized vehicles in neighborhoods of North American cities by creating more pleasant and safe areas for walking and cycling, strengthening the notion of community and neighborhood, and encouraging social engagement in urban decisions.



Fig. 3 Better Block Volunteer create new crossing lines in Oak Cliff, USA [16]



Fig. 4 Bike lanes in North Hill, Ohio, 2015 [17]



Fig. 5 Pedestrian safety island in New York [18]



Fig. 6 Optimization of crossing lines proposed by São Paulo City Hall [19]

B. Temporary Initiatives

As an example of temporary action that aims to protect and prioritize the modalities of Active Transportation, the temporary closure of roads can be highlighted as an action that interrupt vehicular traffic, only allowing the use of non-motorized means. This type of temporary experience demonstrates the variety of ways streets can be used, by activating public spaces of the cities and stimulating Active Transportation. Also, temporary road closures can serve as an initial or test phase for future projects, or simply offer incentives for walking and cycling on weekends or off peak time [9]. In addition, these experiences draw attention to the

potential of the city's public spaces in providing pleasant areas for pedestrians and cyclists.

According to the Urban Street Design Guide, some types of temporary road closures can be highlighted, such as: play streets, pedestrian streets and open streets [9]. Play streets are often considered as extensions of schools or residential areas, delimiting spaces in the pathways for children's cultural and leisure activities. Open and pedestrian streets destine the use of the street for Active Transportation and offer invitations to stay in public space. Thus, two initiatives can be presented that boosted Active Transportation and which have become regular experiences, but have maintained their temporary character. As an example, we have the experience called *Playing Out* created in Bristol in England and *Paulista Aberta* in São Paulo, Brazil. In 2011, Bristol City Hall recognized the benefits of temporary road closures by some parents for child's recreational use. This initiative allowed the experience to happen regularly, encouraging other parents to do the same on other streets [8]. In Brazil, 2016, São Paulo City Council officially decreed the regularly temporary closure of *Paulista Avenue*, which since October 2015 has interrupted vehicular traffic and is open exclusively to the use of Active Transportation modes on Sundays. Both movements claim for safe and comfort spaces for leisure, walking and cycling, encourage the use of alternative transport and rethink the use of motor vehicles in the city.



Fig. 7 Playing Out, Bristol, United Kingdom [20]



Fig. 8 Paulista Aberta, São Paulo, Brazil [21]

V. SUBVERSION OF USES IN PUBLIC SPACES

In this section, the actions that aim to subvert uses in urban public spaces, modify points of view and encourage changing in ways of life, highlighting the importance of the Active Transportation means in comparison to motorized vehicles will be presented and discussed.

A. Phase 0 Actions

This paper presents an initiative that aims to establish public plazas in unexpected places: an experience called *Pavement to*

Plaza by Lydon and Garcia (2015), illustrating the importance of the allocation of public free areas and the valuation of non-motorized transport [8]. As an example of this initiative, in 2008 the New York City Plaza Program launched by the New York City Department of Transportation – NYCDOT - converts underutilized roadways into vibrant and accessible public areas for pedestrians and walking destinations through partnerships with local non-profit organizations and neighborhood associations [11].

Every year, NYCDOT invites organizations to submit proposals to create new plazas in New York. The program has an online mapping that delineates areas in New York City with free or preferential areas to receive such an initiative. The program defines three stages, of which, the first two have a defined beginning and end: the One Day Plaza and the Interim Plaza. Both serve as a test and evaluation for a/the permanent installation of the selected project Permanent Plaza, because to become permanent, the project must meet the expectations of the program on its quality and mobilization within the community, among other aspects. This reveals the need for urban vitality in public spaces has been put on the agenda and some general, short and long-term results have been important in understanding the breadth of this initiative. In 2012, the NYCDOT detected in some interventions, incentives to economic vitality, a decrease in the number of accidents and conflicts between vehicles and pedestrians, satisfaction and increase in the number of users appropriating the public space [12].

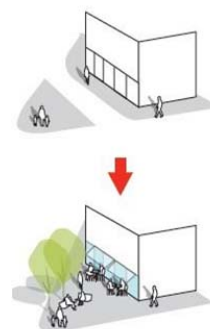


Fig. 9 Gehl Architects diagram to NYC Plaza Program [11, p. 2]



Fig. 10 Before and after the intervention at Pearl Street Plaza [11, p. 5]

Phase 0 actions as this one can positively change residual, underused, difficult access or insecure areas in public spaces by using low cost and easy installation materials. These experiences have the potential of delimiting safer areas for pedestrians and of activating public spaces, which highlight changing possibilities and encourage Active Transportation, boosting walkability - term used to refer to the quantitative and qualitative index that measures the characteristics of physical environment favorable to walking - and street vitality.

B. Temporary Initiatives

Among the temporary initiatives which aim to encourage Active Transportation and claim for opportunity balance for pedestrians and motorized vehicles, there are assemblies called parklets. The replacement of street parking spaces for the installation of parklets subvert their original use and work as social gathering places and as invitations for people to use the road space which was designed originally for cars. According to the National Association of City Transportation Officials, parking spaces have the potential to host a big range of uses beyond what was originally designed to them and to boost urban vitality [9].



Fig. 11 Temporary parklet, Rio de Janeiro, Brazil [22]



Fig. 12 Park(ing) Day, Rio de Janeiro, Brazil [22]

These sidewalk extensions promote the use of the public space in a democratic way and allow the community to build its own social space, even though temporarily. Some interventions can remain for hours, days, months or years, depending on the action. This is a movement which was initiated in San Francisco, USA, called Park(ing) Day, and aims to denunciate the big offer of space which are designed for cars and to boost city appropriation and social participation. It is important to highlight that, in the past few decades, some Brazilian cities such as São Paulo and Rio de

Janeiro, have formalized the allowance of parklets as decrees, stimulating the usage of the urban space by people [13].

VI. CONCLUSION

In conclusion, considering what has been discussed in this paper, it was possible to recognize the potential of Tactical Urbanism in encouraging Active Transportation, demonstrating possibilities of changes of the urban space through tactical initiatives. The examples presented illustrate invitations and incentives to more sustainable, urban ways of life, promoting the protection and prioritization of transportation means by human propulsion, and greater opportunities for people to appropriate the public spaces of the city.

By the tactical experiences listed in this paper, different degrees of effectiveness could be identified and Phase 0 actions can be considered as the ones with greatest impact in relation to temporary initiatives when we refer to the encouragement of Active Transportation. We also identify that the tactical initiatives that are configured as an experimental phase, pilot projects and human scale experiences can be combined and connected to macro strategies, configuring lasting impacts such as plazas network/system and bike lanes, among others.

It could be observed that social participation plays an important role in tactical experiences, and there is a lot to be said about their encouragement to Active Transportation and much to be researched on the possibilities of Tactical Urbanism in order to include these actions in public policies. However, it is important to highlight experiences and desires that indicate the development of these issues, even if still embryonic.

ACKNOWLEDGMENT

Firstly, we express our gratitude to PROURB/FAU/UFRJ for its valuable support and guidance. Also, we thank CNPq and FAPERJ for their financial assistance throughout our projects and research.

REFERENCES

- [1] D. Harvey. "Cidades Rebeldes: do direito à cidade à revolução urbana." 2014 ed. Brasil: Martins Fontes selo Martins, 2014.
- [2] I. E. M. Silva. "Utopia e Silêncio: vida pedestre, imagem e emoção em Brasília." *Revista Cronos*. 9 (1), pp. 35-64. Jan/Jun, 2008.
- [3] V. Andrade, et al. "Transforming Vestergade Vest into a Ludic and Shared-Use Space." In: *Musings – an urban design anthology*. Aalborg: Aalborg University Press, 2012.
- [4] F. Izaga, "BRT no Rio de Janeiro – transformações e mobilidade urbana." III ENANPARQ - arquitetura, cidade e projeto: uma construção coletiva. São Paulo, 2014.
- [5] UNHabitat. "Planning and design for sustainable urban mobility." *Global Report on human settlements*. New York: Routledge, 2013.
- [6] A. Pelegi. "Microrrevoluções urbanas." *Bom conselho*. São Paulo: Revista dos Transportes Públicos – ANTP. Ano 38, 2016.
- [7] L. Pfeifer. "The Planner's Guide to Tactical Urbanism." Montreal, 2013. Available at: <https://reginaurbanecology.files.wordpress.com/2013/10/tuguide1.pdf>.
- [8] M. Lydon.; A. Garcia. "Tactical Urbanism: Short-term Action for Long-term Change." Washington: Island Press, 2015.
- [9] NACTO (National Association of City Transportation Officials). *Urban Street Design Guide*. New York: Island Press, 2013.

- [10] A. Sansão Fontes. “Intervenções temporárias, marcas permanentes. A amabilidade nos espaços coletivos de nossas cidades.” PhD Thesis. Rio de Janeiro: PROURB- FAU/UFRJ, 2011.
- [11] NYCPLAZA; NYCDOT. “NYC Plaza Program. Application Guidelines 2016.” Available at: <http://www.nyc.gov/html/dot/downloads/pdf/nyc-plaza-program-guidelines-2016.pdf>.
- [12] NYCDOT. “Measuring the Street: New metrics for 21st century streets.” 2012. Available at: <http://www.nyc.gov/html/dot/downloads/pdf/2012-10-measuring-the-street.pdf>.
- [13] A. Fernandes Barata.; A. Sansão Fontes. “Urbanismo Tático: experiências temporárias na ativação urbana.” Belo Horizonte: Fórum Habitar, 2016.
- [14] M. Mostafavi.; G. Doherty (orgs). “Urbanismo ecológico.” São Paulo: Editora G. Gili, 2014.
- [15] Better Cities and Towns. Available at: <http://bettercities.net/article/tactical-urbanism-seizes-day-14498/> (accessed 10 mar 2017).
- [16] Texas Observer. Available at: <https://www.texasobserver.org/building-a-better-block-in-oak-cliff/> (Accessed 10 mar 2017).
- [17] Better Block. Available at :<http://betterblock.org/blog/2016/01/13/better-block-foundation-to-help-people-build-more-vibrant-connected-communities-with-775000-from-knight-foundation/>(Accessed 15 jul 2016).
- [18] NACTO. Available at: <http://nacto.org/publication/urban-street-design-guide/interim-design-strategies/moving-the-curb/> (Accessed 14 jul 2016).
- [19] Companhia de Engenharia de Tráfego. Available at: <http://www.cestp.com.br/noticias/2015/01/28/secretario-jilmar-tatto-vistoria-a-nova-faixa-diagonal-da-avenida-ipiranga-com-avenida-sao-joao.aspx/> (Accessed 10 mar 2017).
- [20] Playing Out. Available at: <http://playingout.net/inspirationideas/exhibitionsprojects/playing-exhibition-bristol-central-library/> (Accessed 14 jul 2016).
- [21] Uol. Available at: <http://noticias.uol.com.br/album/2015/10/18/sem-carros-avenida-paulista-vira-espaco-de-lazer-aos-domingos.htm>. (Accessed 15 jul 2016).
- [22] A. Fernandes Barata.; A. Sansão Fontes. “Urbanismo Tático e sustentabilidade: experiências táticas no fomento ao transporte ativo.” São Leopoldo: Euro ELECS, 2017, p.1871.

Fernandes Barata. Aline is an architect and urbanist graduated at Federal University of Juiz de Fora (UFJF), Brazil with undergraduate mobility period at Leicester School of Architecture, De Montfort University, United Kingdom. Currently Master's student of Urbanism at Post Graduate Program in Urbanism (PROURB / FAU) at the Federal University of Rio de Janeiro (UFRJ), CNPq and FAPERJ scholarship holder and a member of the Laboratory of Temporary Interventions and Tactical Urbanism (LabIT-PROURB-FAU / UFRJ).

Sansão Fontes. Adriana holds a degree in Architecture and Urbanism at the Federal University of Rio de Janeiro (1995), a master's degree (2004) and a PhD in Urbanism at the Federal University of Rio de Janeiro (PROURB-FAU / UFRJ) with PhD mobility at Escuela Técnica Superior de Arquitectura de Barcelona - ETSAB/UPC (2008-2009).

She is currently Associate Professor III of the Faculty of Architecture and Urbanism at the Federal University of Rio de Janeiro and Permanent Teacher at PROURB – Post Graduate Program in Urbanism at FAU / UFRJ. She coordinates the Laboratory of Temporary Interventions and Tactical Urbanism (LabIT-PROURB-FAU / UFRJ), which counts on financial assistance from FAPERJ and CNPq. Through PROURB-FAU / UFRJ, she collaborates with the ADU-2020 Program ALFAIII, financed by the European Union. She has experience in Architecture and Urbanism and she is the author of the book “Temporary interventions, permanent marks. Appropriations, art and celebration in the contemporary city”, edited by Casa da Palavra, 2013. Young Scientist of Our State (FAPERJ) since 2015.