

POLICY BRIEF

PUBLIC TRANSPORT ACCESSIBILITY

MOBILITY AS A TOOL FOR INCLUSION

Created by WRI Brasil.

December 2106.

INTRODUCTION

The day to day of Brazilians is undermined by an unsustainable urbanization model. Big cities face the consequences of fast urban population growth and car-oriented development. Motorization levels in Brazil increase exponentially and congestion reaches levels that deeply affect the quality of life and the economy of big cities.

The population is already beginning to realize that cities are more humane and pleasant to live in when they prioritize people over cars. The protests triggered by the rise in public transport fares in 2013 show that Brazilians want better services and more pleasant urban environments. The demand for environmentally sustainable and socially equitable urban solutions requires changes in the way municipal governments invest resources in transport. Improved quality of the public transport system is a growing demand that has inspired many cities to reorganize their urban space.

In Brazil, more than 30 cities have invested in bus priority systems¹ to encourage the use of public transport. Ten of these cities have corridors where you can pay the fare before boarding and 15 have corridors with platform-level boarding. These features optimize the operation of bus systems, allowing more people to be served in shorter travel times. There is, however, a gap in the improvements of public transport systems regarding station access.

Difficult pedestrian access to public transport stations isolates the system from users.

In the areas around the stations some urban infrastructures are often found to be true obstacles to user access to the stations, such as uneven sidewalks and crossings without signs. These challenges, in addition to impairing the use of the system, also endanger the safety of all road users. The problem is

aggravated when these users are people with reduced mobility.

Municipal governments are decision makers that play a key role in improving people's quality of life. These authorities and their technical staff are responsible for providing a number of fundamental services in order to meet the national guidelines for promoting social inclusion of people with functional limitations and address the challenges associated with demographic

changes. Examples of such guidelines include the Disabled Persons Brazilian Statute, Law 13146 of July 6, 2015, and the Elderly Brazilian Statute, Law 10741 of October 1, 2003. They cover transport services, housing, accessible infrastructure for public roads and parks, and labor market inclusion. In addition, the 2015 NBR9050 regulation establishes guidelines to ensure universal design access to public transport. However, these provisions are not fulfilled due to lack of commitment of the cities to the issue.

THE IMPORTANCE OF ACCESSIBLE PUBLIC TRANSPORT

Investments in accessibility have great potential for return, both for inclusion and urbanism, and are a prerequisite for social and economic developmentⁱⁱ. Universal design of public infrastructure and equipment provides efficiency and sustainability to local government expenses. The cost associated with dependency, exclusion, missed opportunities and reduced productivity due to lack of accessibility should be taken into account in a comprehensive cost-benefit analysis for society.

In an accessible city, every route between origin and destination should be accessible for walking. However, access to essential goods and services often depends on motorized transport because of the long distance between them and the residential areas. Promoting accessible public transport is critical in designing and building a city available for the whole population.

The public transport network plays a major role in ensuring the right to the city.

As the public transport system cannot ensure that direct connection for all origin-destination pairs will be provided, it is critical to ensure that the surrounding area of every boarding station is friendly to pedestrians, meeting universal design standards.¹

This city design benefits not only people with reduced mobility. On average, approximately 30% of daily travels are by active transport in Brazilian big citiesⁱⁱⁱ. This means that investing in infrastructure such as accessible sidewalks and safe crossings benefits a large part of the population.



The central area of Belo Horizonte has been restructured to receive BRT stations in order to prioritize pedestrians. (Photo: WRI Brasil Cidades Sustentáveis)

¹ Designing products, environments, programs and services to be used by everyone, not requiring adjustments or a specific project, including assistive technology resources.

ELEMENTS OF ACCESS TO PUBLIC TRANSPORT

The route used by public transport users to get to and from the station includes some elements that should be designed based on universal design. These are urban infrastructures that could facilitate or hinder access and, for the most part, are regulated by the Brazilian National Standards Organization (Associação Brasileira de Normas Técnicas - ABNT). These elements can be grouped into four stages of approaching the station:



1. Sidewalks

Sidewalks are part of the transport system. Pedestrians should have a quality sidewalk network to access terminals and stations, regardless of whether they have mobility restraints. In addition to proper surface and size, sidewalks should include features that provide pedestrians with safety and comfort, encouraging walking. These include curb ramps at pedestrian crossings, which are used not only by people using wheelchairs, but also people with strollers or carrying heavy loads, for example.

2. Crossings

Even when meeting the requirements of technical standards, footbridges do not necessarily have good accessibility for pedestrians. Most of the time, the use of footbridges implies walking long distances. Providing direct and level access to stations is more user-friendly. Pedestrian crossings that are in line with what pedestrians want encourage crossing at safe places, reducing the risk of accidents. Prioritizing public transport users over private motorized vehicles makes the public transport system more competitive, possibly attracting more users. If footbridges are required, their access should be preferably by ramps with widths compatible with the pedestrian flow and inclination according to Brazilian standards.

3. Access to the station

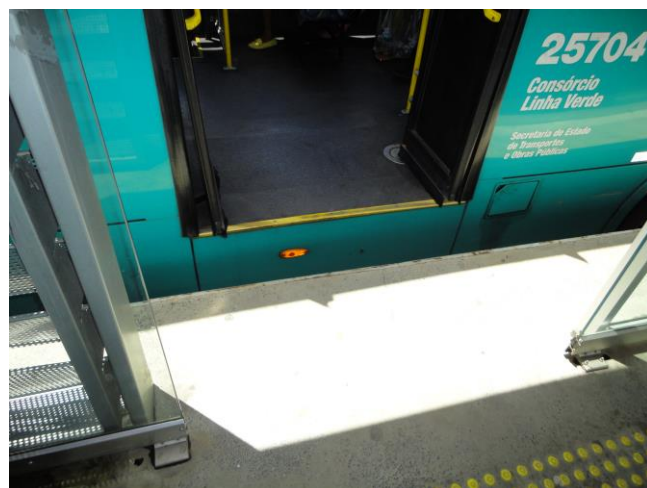
Similarly, stations above the sidewalk level should be accessed preferably by ramps. Ticket offices and ticket machines at stations should conform to universal design guidelines to ensure access for everyone. They should also be located so as to provide full autonomy to users. To enter the station, the slide gate turnstile, used in the metro system of the city of São Paulo, for instance, has universal design and can be used by a wide range of passengers.

4. Inside the station

Inside the station, users must be able to find information about the system, such as lines and timetables, which should be displayed in at least two of the following forms: visual, tactile and auditory. Implementation of tactile paving, maps and plans to help guide the visually impaired should be according to the dimensions and services provided in each station.

One the major accessibility challenges in public transport is the difference in levels between the platform and the vehicle floor.

Brazilian technical standards allow for, if any, a maximum height difference of 2 cm and a maximum horizontal gap of 3 cm. To overcome this obstacle some cities in Brazil, such as Curitiba, and in the world, such as Quito, use ramps that are activated when the vehicle arrives at the station.



The gap between the bus and the platform is a barrier to access the vehicle. (Photo: Marcelo Araújo)

RECOMMENDATIONS

1. Defining municipal actions

To systematize the improvement in public transport accessibility, the city should develop an urban requalification plan focused on accessibility and involving different actors. This plan should include a detailed diagnosis of stations and an action plan with priorities, goals and a responsibility assignment matrix. Issues that should be addressed in the plan include sidewalks, crossings, access to platforms and the inside of stations, in addition to continuing training of the staff that design, execute and operate the public transport system.



Accessibility diagnosis of the Belo Horizonte BRT was carried out with people with reduced mobility. (Photo: Marcelo Araújo)

2. Outlining shared competence actions

Accessibility at the transport network level strongly depends on other entities, such as operators, outsourced service providers and real estate owners – responsible for construction and maintenance of sidewalks in most Brazilian cities. The urban requalification plan should outline the set of actions that fall within the competence of these other actors and who is responsible for them. The forms of participation of the municipal government should be determined for activity monitoring, such as supervising the services provided, providing guidelines and setting regulations. In addition to performing the services, it is the municipal government's responsibility to promote governance of the different public and private actors involved in building an accessible city.

3. Demanding compliance with technical standards

A crucial step towards advances in improving accessibility is strict compliance with the applicable accessibility technical standards. It is important to prevent new projects from being executed without accessibility in order to be able to systematize the adequacy of the existing infrastructure. Compliance with standards should be complemented by

communication to administrators of the difficulties found during project implementation, establishing networks where knowledge sharing fosters a pro-accessibility culture and allows continuing improvement.

4. Intervening in actual cases as a pilot project

Intervening in test areas allows those involved in the work to learn about the challenges and potential solutions, streamlining the process of project implementation. In the pilot, it is possible to set a workflow including diagnosis, project, responsibility assignment matrix, schedule, etc. The suitable areas for pilot projects are school and hospital environments and intermodal integration areas with high pedestrian flow. Monitoring and recording information throughout the process, as well as diagnosis before and after adjustments, are essential to ensure replicability of the project.

5. Investing in qualification

Guarantee of accessibility is achieved through the joint effort of all municipal government sectors, even if one of them carries out coordination of the actions for promoting accessibility. Several projects are planned and implemented every day in cities and the concept of universal design must be included in each of them. Thus, municipal technicians and administrators, employees of service providers and everyone that is somehow in contact with users should know the specific needs of the disabled and how to address them in their projects and services.

6. Mobilizing society

In any planning process, participation of the people who are not part of the technical staff or municipal government is crucial to ensuring that the population needs are met and the projects are well received by the community. A participatory planning process is richer and more efficient, but more complex, requiring an organized structure to manage the different opinions. Participation should not be treated as an end in itself or as a complementary activity. It should be aligned with decision making, feeding the process throughout planning. For accessibility projects, entities representing the disabled, the elderly, women and children, among others, must be consulted. Professionals and academics working with infrastructure design and system operation, such as architects, engineers and designers, should also be involved in the participation process.

i Global BRT Data. Available at <http://brtdata.org>

ii ARUP. Cities Alive. Towards a walking world. 2016.

iii Mobilize Brasil. Available at <http://www.mobilize.org.br/estatisticas/37/divisao-de-modais-por-cidades-i.html>