

# **BUS STOPS IN BELÉM-PARÁ: ANALYSIS OF THE EQUIPMENT'S CONDITIONS**

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## **ABSTRACT**

*Introduction: This work has as theme the passenger shelters in Belém, Pará, in the year 2022. Objective: to analyze the conditions of the shelters for bus passengers, based on the assumption of the need to wait for the arrival of the vehicle in a place with accessibility and adequate physical conditions. Methodological procedures: descriptive research, qualitative approach, using the bibliographic and field research, mediated by observation, from images of bus stops, located in Belém, capital of Pará, in 2022, chosen randomly, aiming for greater representativeness of the object under study. Results: It can be inferred that there are not enough shelters to meet the demand since, of the total of 1,513 bus stops, only 570 (38%) have passenger shelters; the conservation conditions are extremely poor, with a lack of coverage and side protection, seats and spatial orientation information. Conclusion: Observing the substantial absence of shelters for bus passengers in Belém, it is suggested that the government, together with the private sector, seek alternatives for implementing such urban equipment, considering the demand for buses in Belém, as well as the climatic characteristics of the city.*

Keywords: Accessibility. Passenger Shelter. Public Transportation.

## **1. Introduction**

Among the points of analysis about the urban public space, the mobility of people is one of the main concerns since everyone needs to make daily trips between home, work, school, leisure, or activities, either individually or collectively. As this space, the city centers, in general, hold the economic activities and concentrate on public agencies and the architectural and historical memory of the city.

To account for this movement, transportation is essential, whose function is to “organize and structure the displacements in urban spaces, to enable mobility in cities (...) being the public transport intended for anyone and the private is restricted to those who purchased it” (SILVEIRA, 2012, p.55).

Moran (2010, p.393) points out that “solving the transportation problem is crucial to the development of sustainable cities”; he reinforces his observation by showing the effort that has been made in European cities since the early 2000s, such as London, Stockholm, and Zurich. On the contrary, in the United States, except in Chicago and New York, “2 to 5% of home-work trips are made by public transportation.

Rabelo (2008 apud SILVEIRA, 2012, p.55) highlights that “the transportation system does not consist in the vehicles used, but in a complex that involves planning to offer efficiency, effectiveness, safety, and autonomy to the entire population, from the moment a person leaves their origin until reach their destination.

Although the numerous obstacles faced by the mode, public transportation by bus are one of the main forms of urban transportation in Brazil, being intrinsically linked to walking transport, through which one can reach the vehicle stops.

Zaban, Pompermayer, Carvalho (2021, p.7) highlight that although public transportation is “the most way to offer mobility at low cost, environmental impact, and urban impact, unfortunately, in Brazil, transportation options often do not offer levels of and price that encourage their adoption by a significant the population.” They also point out that “several studies show a loss of participation of public transportation in the Brazilian urban travel market, at the same time that the use of personal motorized transportation has intensified.

When talking about a level of inn, it is interesting to bring the understanding of adequate. Article 6, paragraph 1 of Law 8.987/1995 defines a service satisfactory as “one that meets the conditions of regularity, continuity, efficiency, safety, currentness, generality, courtesy in its provision and moderateness of the tariff.” In paragraph 2 is the timeliness, which “comprises the modernity of techniques, equipment and facilities and their conservation, as well as the improvement and expansion of service” (BRASIL, 1995).

Moran (2010, p.394) calls for reflection he states that “there is a need to rethink our ethos about transportation: public transportation should not be relegated to the poor, the elderly and second-class citizens, but should be privileged as the main transit”.

As provided in art. 179 of Law No. 14.133/2021, which gave new wording to item II of the caput of art. 2 of Law No. 8.987/1995, which shall henceforth take effect as follows: “public concession: the delegation of its provision, made by the granting power, through bidding, in competition mode or competitive dialogue, to a legal entity or consortium of companies that demonstrate na ability to perform it, on their account and risk and for a specified period” (BRASIL, 2021).

In this study, the analysis focuses on the obstacles that hinder the use of buses in the urban environment, specifically the passenger shelters, as essential places for the adequacy of public transport. Thus, these places are the macro analysis of urban conditions and urbanity of a city, which should be equipment that, in addition to protecting people from conditions, should enable adequate accommodation while waiting for transportation, with safety and comfort.

Thus, studying the places passengers board, one must consider the essentiality of public transportation as a public, which must be offered to users continuously and under appropriate conditions of use, noting that it cannot be interrupted and that the provider must pay attention to the local characteristics, aiming at the adequacy of the provided. This is the case in cities like Belém, the capital of Pará, located in the north of Brazil, which has climatic characteristics peculiar to the Amazon region – high temperature, considerable

sunlight, and intense rainfall throughout the year, especially in the period between December and May. These characteristics are already for the need for shelters that guarantee the necessary protection for people who use public transportation.

After the contextualization, the objective is to analyze the conditions of the shelters for bus passengers, based on the assumption of the need to wait for the arrival of the vehicle in a place that has accessibility and adequate physical conditions.

## **2. Mobility, Accessibility, and Spatial Orientation**

Three concepts are fundamental to understanding the importance of passenger shelters about the right of people to have urban equipment able to meet the need for locomotion in space and are mobility, accessibility, and spatial orientation. If not thought of harmoniously, significantly the displacement of citizens.

Ferreira (2021) points out that “about mobility, considering that the need to make daily trips between home-work-school-leisure-church, etc., the recurring problem is the lack of public transportation and the difficulties of access to the central of the city, their work and study places are located.

For urban mobility to be adequate, it is essential to offer people the appropriate conditions to exercise their right to come and go, expressed in Article 5, item XV, of the 1988 Federal Constitution (BRASIL, 2016).

Accessibility is understood as that which facilitates the use or approach or the condition to overcome the obstacles that serve as barriers that prevent people from effectively participating in life in. Regarding transportation, “it can have two distinct focuses: on the one hand, it is the physical accessibility to transportation equipment, such as sidewalks, bus shelters, terminals and the vehicles themselves; and, on the hand, it is understood as the ease of reaching a destination from na origin” (SILVEIRA, 2012, p.43).

With accessibility, spatial orientation is fundamental to understanding the importance of urban equipment; among these, the passenger shelters, the focus of this study. Bins Ely; Dischinger; Mattos (2002, p. 1) emphasize that passenger terminals must offer things besides “comfort, safety, and equality in their use; must provide the user with clear, precise, and easy-to-understand information”. The authors highlight the frustration of missing a bus due to a lack of information or the “inadequacy of existing information systems about the needs of all its users.”

Costa (2015, p. 65) reiterates the importance of information to achieve satisfactory performance. “For example, even if schedules, lines, and routes are available at bus stops, without a location map on which the user can locate himself and find the desired destinations, there will be the need to ask others.”

Thus, for the shelters of passengers to reach the goal of promoting accessibility, some criteria become necessary, among these being paved sidewalks; information with the map of the city, showing the location and number of the shelter, and the lines that pass through this point, as well as their route; fare prices; seats with backrest; coverage and side protection; cultural information and/or advertising. It should be noted that the choice of location for the shelter is essential and that it must be chosen according to the geographical conditions, aiming at solar and rain protection. These are fundamental conditions to achieve the expected performance (SILVEIRA, 2012).

Silveira (2012, p.23-24) highlights “the need for a comprehensive analysis of spatial accessibility, and in particular, to address the issue of orientability in urban public transport – because access to information is fundamental for a good transport, and this is usually very scarce”.

Therefore, it is clear the importance that passenger shelters have in the public transportation scenario. However, the precarious situation of these types of equipment denotes the neglect of conservation, harming the user of the modality considerably.

In 2019, the Municipality of Belem, through a onerous grant, communicated the goal of installing 200 new shelters, by 2020, at points chosen jointly by the Municipal Secretary of Urbanism (Seurb) and the Executive Superintendence of Urban Mobility (SeMOB). “The old shelters that are replaced will be relocated to points in the city that have a need” (MARQUES, 2019). It is noting that of this renovation proposal, of the initial 200 shelters, by July 2020, just over 40 stops were replaced, as shown by Ferreira (2020).

Still, on the information of the previous paragraph, it is noteworthy that the onerous award provided for the “advertising exploitation of this equipment as a counterpart, with the company that already provides street sign maintenance by the same type of contract” Among the streets that contemplated, Arthur Bernardes Avenue stands out, with 20 shelters (FERREIRA, 2020).

According to the general of the Municipal Department of Urbanism, José Regis Junior, “the shelters were designed with modern design, cover, and seat”, aiming to give “comfort and safety to passengers”, in addition to “for people with disabilities who use wheelchairs and information of bus lines”. We highlight “the experience of calling graffiti artists to do their art on the back panels. We evaluate the project’s continuity” (FERREIRA, 2020).

In January 2021, the Municipality of Belém, through the Executive Superintendence of Urban Mobility of Belém (SeMOB), began a technical survey of bus stops in the city, starting from the historical center, whose goal is to “diagnose the situation of these bus stops, the structural conditions of the shelters, whether their location is serving the population in a satisfactory way, among others” (BESSA, 2021).

Of the 1,513 bus stops in Belém, 570 have shelters, less than 38% of the total. Although the supply of these places depends on numerous elements such as “width of the sidewalk to fit the shelter and still provide space for pedestrian circulation, not being installed in a heritage the tactile floor for the visually impaired, not being in front of garages, the proximity of marquees on the sidewalks or awnings” (BESSA, 2021), the conditions of the shelters for users of public transport in Belém are visibly, which justifies, therefore, the study.

### **3. Materials and Methods**

The study is configured as a importante multidisciplinary, descriptive character, which “serves to report in a descriptive way situations and events, in the sense of pointing how certain phenomena manifest themselves (...) seeking to specify the importante properties of people, contexts, processes and time, as well as any phenomenon that is subjected to analysis” (PEROVANO, 2014, p.77-78).

Chose the qualitative approach because it “seeks to explain, observe and describe the why of things (...) aiming at the “reconstruction of reality (...) where the source of data is the natural environment in which the researcher acts, lives, and relates” (PEROVANO, 2014, p.69).

Regarding data collection procedures, used bibliographic and field research.

The spatial and temporal delimitation is Belém, the capital of Pará; the data collection was carried out in March 2022 at randomly chosen bus stops to achieve greater representativeness of the object under study, mediated by observation.

To follow the research, along with the theoretical review, a field survey was started, with the idea of combining theory and practice, evidencing the theoretical information with the reality witnessed, enabling the perception of the problems of the object of study (bus shelters for passengers), through observation, documented photographically.

After the theoretical and field information survey, na analysis by crossing the data found, to clarify how this issue can be worked on, aiming to offer a better quality to users.

#### **4. Results and Discussion**

During the field survey, it was observed that:

(a) in many places, there is a sign nailed to the power pole, or there is not even na indicative sign, as observed in Figure 1, leaving users at the mercy of rain and sun, emphasizing that the climatic characteristics of the Belém of intense sun and rain, all year round. This figure depicts a bus stop with no indication on Avenida José Bonifácio, Guamá neighborhood. It was also observed that there is already a hawker of water and liquids.



Figure 1 – Stopping point, with no indication – Avenida José Bonifácio, Guamá.

Figure 2 shows a large concentration of people at a bus stop in front of a shopping downtown. It is noteworthy that, due to the considerable amount of establishments, both in the and in its surroundings, people use this point the day, from 7 am until around 11 pm. It draws attention to the existence of a passenger shelter without coverage and side protection, i.e., without conditions to serve users, besides being

located very close to the intersection of two very busy roads. Thus, people stand along the sidewalk and curb, waiting for the collective.



Figure 2 – Stop with pole – Avenida Padre Eutíquio – Batista Campos.

Avenida Presidente Vargas, located in the center of Belém, is considered one of the main streets of the city, mainly due to its location and for serving as a stage for various events, such as the Independence Day parade, has four bus stops and no shelter (FIGURES 3 and 4), leaving people on the sidewalk, under the mango trees or store marquees, while waiting for buses. In 2021, the Municipality of Belém, through SeMOB, adopted the system of selective stops, “each line will make two alternating the four bus stops along the road, making the flow more dynamic and avoiding traffic jams” (G1 PARÁ, 2021). However, what was observed is that 196mporta the collectives do not obey the stops, including was quite common the “burned stops” the driver does not stop at the point.



Figure 3 and 4 – Bus stops – Avenida Presidente Vargas, Campina

In Figures 3 and 4, we can see that there is a sign indicating the lines that stop there, without any shelter for passengers. In the left figure, we can see that people stand on the curb, including a wheelchair user, who, like the others, runs the risk of accidents.

(b) At points, there is shelter; however, some are broken, without seats, without coverage or side protection (Figures 5 and 6). Although, since 2019, the Municipality of Belem has been making some effort to improve the conditions of the shelters, the announced improvements are not observed. What can be deduced is that the change of manager did not guarantee the continuity of services, given that the Municipality began in 2021, technical survey to prepare a diagnosis of the situation of this equipment; however, until March 2022, there was still no publication of the result, since founding no place with improved equipment, highlighting the that 38% of the bus stops in Belém, have some kind of shelter (BESSA, 2021).



Figure 5 – Waldemar Henrique Square – Campina



Figure 6 – Travessa Humaitá – Marco

There was no maintenance or improvement on the roads some on the equipment. And here it is point out that the population also does not contribute, since there is substantial depredation in almost all the shelters, which suffer the action of vandals, who “graffiti” the places, worsening, even more, the conditions of these places, because along with the neglect of the public power, the city gets increasingly, contributing to visual pollution, in addition to impacting the tourism in the city, by the image that passes to people.

c) The shelters located near establishments, such as supermarkets and some schools, were better maintained, a situation that can be na alternative for improving, the public-private partnership. To illustrate, Ferreira (2021) cites the case of the squares in Recife, Pernambuco, which are subject to na between the City Hall and some institutions.

(d) It was observed that no passenger shelter in Belém has information that enables users to know are in the city, which lines pass through there and their schedules, basic data for public transport to fulfill its social role, whose importance was demonstrated by Costa (2015) and Silveira (2012).

(e) Considering the intensity of the rains that affect Belém, numerous shelters do not have adequate protection taken during heavy rain, as shown in Figure 7. This one has no protection on the back, exactly.



Figure 7 – Assis de Vasconcelos Avenue – Campina.

It was observed in Figures 5, 6, and 7 that the shelters are of models, which may the orientation of passengers. According to Bessa (2021), “the idea is to have a single model, which generates immediate user identification and does not cause visual pollution in the landscape”.

f) Although the importance of information on the shelters has been highlighted, it is to emphasize the disregard on the providing companies about the compliance with the timetables of the vehicles, forcing the user to wait indefinitely, as well as there, is no uniformity in the distribution of bus lines through the neighborhoods.

In the neighborhoods farthest from the main center of Belém, it is common for the user to wait for more than an hour, as observed in the field survey, reiterating the study of Ferreira (2021, p. 71) he notes the “situation of extreme precariousness of those who live in the neighborhood of Cabanagem (...) considering that have two bus lines Cabanagem-Presidente Vargas and Ver-o-Peso and Jiboia Branca/ Ver-o-Peso”; besides the reduced number of vehicles, do not have passenger shelters at numerous points.

Another point is that practically all of them converge to the city’s center, congesting the stops, causing many drivers not to answer the passengers’ calls. These are problems that have been complained about for a long time and that, however, lack measures that point to effective solutions.

## 5. Final Considerations

After the study about the conditions of the shelters for passengers of public transportation in Belém, in the face of the results presented, we can conclude that:

- a) although there is a law published more than 25 years ago (1995), the conditions therein provided have not been put into practice by the municipal public administrations of Belém, which only presented few efforts to at least minimize the situation of degradation of urban bus stops;
- b) on the other hand, also the population does not collaborate for the maintenance of these places, because of the intense and continued degradation, without any punishment to the guilty;



c) during the observation, realized that the fiscalization is quite flawed. In other words, the situation of the shelters for passengers in public transportation in Belém is far from what is expected as a quality service, driving people further and further away from public transportation.

Thus, to seek a solution that has effectiveness, we can not talk only about the passenger shelter but the entire public transportation system, considering the need for integration between all components, such as vehicles, shelters, road conditions, and fares, for example, reiterating that the analysis must include spaces, equipment, vehicles and especially, adequate information.

Given the above, the public-private partnership is suggested as an alternative to meet the conditions provided for in the legislation, as well as to promote the improvement of the service, with the possibility of attracting new customers for public transport or even bringing back those who stopped using it, due to inadequate conditions.

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