CHAPTER

129

Study on the acceptance of mobility management measures for people with disabilities

https://doi.org/10.56238/alookdevelopv1-129

Deisiane Santos da Invenção
Complete upper level (Bachelor of Civil Engineering).
Academic institution: Federal University of Bahia.
E-mail: d.invencao@hotmail.com

Aline Carolina Prado Freire
Master's degree academic institution: Federal University of Bahia
E-mail: pradoaline@gmail.com

Ilce Marília Dantas Pinto
Doctorate Academic institution: Federal University of Bahia.
E-mail: ilce_marilia@hotmail.com

Juan Pedro Moreno Delgado
Doctorate Academic institution: Federal University of Bahia.
E-mail: jpyupi@yahoo.com.br

Silvia Camargo Fernandes Miranda
Doctorate Academic institution: Federal University of Bahia.
E-mail: silviamiranda12@gmail.com

ABSTRACT
The current work is a continuation of research developed in 2018, on the campus of the Federal University of Bahia (UFBA) with the participation of professionals from the transport and transit area, aiming to identify the degree of importance of the Mobility Management Measures presented (MGM). The justification for continuing the research was to hear the opinion of students with disabilities about the adequacy of the strategies chosen by the professionals because of the reality of UFBA to validate the strategies indicated in the first phase of the research. The analysis of the results indicated that all the GMMs identified by the specialists fit the reality of the university from the point of view of students with disabilities and that in addition to them, adjustments must be made to the architecture of UFBA to improve the accessibility of the PWD to this institution.

Keywords: Mobility management measures, students with disabilities, architecture.

1 INTRODUCTION

According to the Higher Education Census (INEP, 2018), the number of students with disabilities in undergraduate courses corresponds to 0.5% of the total number of students enrolled, this low percentage may result from the difficulties that people with disabilities (PCD) find to get around both in the city and in the Educational Institutions.

The lack of universal accessibility prevents PWDs from displacing and accessing spaces. The inclusion of PWDs in regular educational institutions contributes to the reduction of discrimination. For this inclusion, specific legislation was created for the insertion of PWDs in society.

The struggle for citizenship and the right to education for PWDs is still very recent in our society. In 2016, Law 13,409 (BRAZIL, 2016) was sanctioned, which provides for the reservation of vacancies in technical and higher education courses in federal educational institutions for PWDs. From this law, the Institutions would have to make adjustments in their architecture to be able to receive these students and provide them with autonomy.

The Federal University of Bahia (UFBA) is a Higher Education Institution with approximately 40 thousand students. The Salvador campus is composed of the Ondina/Federação and Canela campuses. Daily, students need to travel between campuses, so it is important to discuss measures to make these trips as comfortable as possible, but this ease of access does not yet happen.

The steep topography, the lack of maintenance of the floors and sidewalks, and the poor quality of public transportation are some of the problems that students face because they are PCD.

With the reservation of vacancies for PWD, the number of students with disabilities at UFBA has been growing since the second semester of 2017, especially when Resolution No. 8/2017 (UFBA, 2017) came into force.

Then, it was understood the need to make adjustments in the structure of the university, in addition to creating actions that contemplated the new students, guaranteeing not only permanence in the institution but also the same rights made available to others, because they have more rights contemplated than the PCD students.

Santos and Pinto (2018), developed research on the Mobility Management Measures for PWD displacement in universities, evaluating, together with specialists and transport professionals, which are the most important measures to make commuting accessible and inclusive.

In this article, it is given continuity with the evaluation of the measures, but this time, from the perspective of students with disabilities at UFBA, seeking a result closer to reality, that is, the objective of this work is to study the acceptance of the Mobility Management Measures for the displacements of students with disabilities in the University Campi consulting the opinion of the target public.

2 THEORETICAL FRAMEWORKS

The theoretical framework was obtained from data collection carried out in journals, Google Scholar, and SciElo, books. At this stage, the themes of people with disabilities in the university, inclusive mobility, universal accessibility, and mobility management measures are addressed, since it is understood that the discussion of these issues is important for the development of work. Also in this chapter, a brief characterization of the spaces of UFBA is presented.

2.1 STUDENTS WITH DISABILITIES AT THE UNIVERSITY

The laws of reservation of places for people with disabilities favor the entry of students with disabilities in universities, but unfortunately, most universities do not have the adequate physical structure to receive these people.

The lack of accessibility in educational institutions can generate various traumas for a student with a disability and even lead him to give up. According to the WHO (2011), for PWDs to live in a

community it is necessary to have support through a series of support and assistance services in their communities.

Daily, these students are forced to face barriers that put them increasingly distant from social life and infringe on their constitutional right to come and go, guaranteed in Article 5 of the Federal Constitution.

"It is understood that accessibility in higher education involves the elimination of architectural, pedagogical, attitudinal and communications barriers" (OLIVEIRA, 2003, p.164). In multicampus universities, the situation can be even worse, because, in addition to the challenges of the lack of accessibility within the campus, the student still faces other difficulties in carrying out the intercampus displacement.

2.2 INCLUSIVE MOBILITY

Mobility gives us the idea of movement. Social inclusion, its central objectives are democratic access to the city, universalization of access to public transport, universal accessibility, and the valorization of pedestrian and cyclist displacements (BERNARDES, 2016).

Inclusive and sustainable urban mobility [...] offers every citizen the right to move around the city, being an elderly, disabled person, pregnant woman, or person without any mobility restriction (ARAUJO, 2019). "All human beings are born free and equal in dignity and rights" (UN, 1948).

An accessible and inclusive city allows as many people as possible (with or without mobility difficulties) to understand and achieve their most diverse functions with autonomy, economy, and security, but this work will be addressed the inclusive mobility of people with disabilities.

2.3 UNIVERSAL ACCESSIBILITY

Accessibility is the relationship between people and space (MELO ARAÚJO, 2011). Teixeira (2008), considers accessibility as an equalization of opportunity and states that it must guarantee the participation of the individual in all social spheres, to exercise citizenship fairly, without generating exclusion. Access to the city is a right of all, regardless of social class, gender, or whether the person has a disability or not.

> Universal or integral accessibility is understood as the right to come and go of all citizens, including those with permanent or occasional disabilities, whether wheelchair users, the visually or hearing impaired, pregnant women, or the elderly and to transit and access all spaces of the city, public and institutional buildings, to use transportation and public equipment, such as telephones, toilets, banking network, etc. (KALIL, 2010, p.2)

The Statute of the Person with Disabilities defines accessibility as something more directed to facilitate the movement of people with disabilities.

> Accessibility: possibility and condition of reach for use, with safety and autonomy, of spaces, furniture, urban equipment, buildings, transport, information, and communication, including their systems and technologies, as well as other services and facilities open to the public, public or private use of collective use, both in urban and rural areas, by persons with disabilities or with reduced mobility (Brazil, 2015).

It can be observed that the definitions of accessibility and universal accessibility relate to modes of transport and the ease of accessing public spaces, but according to Mobilize (2011), they are not restricted to the ease of accessing places or modes of transport, but also in the movement of people through the city.

In addition to universal accessibility, there is the concept of universal design. The universal design consists of designing buildings and environments that are accessible to the majority of the population, regardless of whether they are people with disabilities or not (MELO OLIVEIRA, 2013). For the Universal Design, any environment can be physically accessed and used, regardless of whether the person has a disability or not (REIS, 2015).

Accessibility is an essential factor to promote social inclusion, so in recent years laws and decrees have emerged to ensure universal accessibility. However, according to the WHO (2011), adherence to these laws is still low, even in countries that have had them for many years.

2.4 MOBILITY MANAGEMENT MEASURES

Mobility Management (GM), was a program that emerged, in the 70s, in the United States to solve the issues of the growing demand for transportation and provide improvement in the quality of urban life of the population (PARRA, PORTUGAL, 2007).

The definition of the term Mobility Management is quite broad and covers a set of specific aspects related to the adequacy of the movement of the different flows existing in a transport network (ROCHA, 2006). Still, according to the author, the problem to be faced by Mobility Management varies according to the environment and culture of each location.

The basic principle of Mobility Management is to create strategies for the movement of people and goods in a sustainable way using engineering techniques and tools to support the organizational field of information and telematics (PORTO JUNIOR, 2002).

In urban centers, a university assumes the role of Travel Generating Pole (PGV), due to the flow of students, professionals, and people in search of leisure, goods and for this reason it is advisable to create mobility management strategies for university campuses.

2.5 CHARACTERIZATION OF THE STUDY AREA

Figure 1 Location of the campuses of Ondina and UFBA federation in the city of Salvador.

Source: Gleizer (2019)

The UFBA Salvador campus has two campuses, the Ondina/Federação campus, and the Canela campus. In the neighborhood are neighborhoods such as Canela, Federação, Graça and Ondina. In addition to these two campuses, the university has some scattered units and lecture halls. Its buildings are divided into Colleges, Institutes, and Schools, as well as libraries, administrative buildings, and banks.

Among the administrative buildings is the Support Center for the Inclusion of Students with Special Educational Needs (NAPE UFBA), created to eliminate accessibility barriers and promote the inclusion of PWDs in UFBA.

"UFBA is inserted in the central urban area of the city, during an urban network of high housing density, diversified land use, steep topography, and predominantly narrow roads" (JUNIOR and MORENO, 2018, p.1). There is a connection problem at the university because there is an upper city and a lower city. The revelation of the region in which the institution is located is quite rugged and this fact causes a great restriction of mobility.

Some units of UFBA are interconnected utilizing stairs and it is possible to move between them without leaving the campus, but having the presence of stairs is a factor that increases the difficulty of moving people with reduced mobility.

3 METHODOLOGIES

The methodology applied in the case study was divided into two stages. In the first stage, two activities are carried out: a) analysis of data on students with disabilities who are served by the Support Center for the Inclusion of Students with Special Educational Needs (NAPE) of UFBA and the legislation that governs the reservation of vacancies for this public in the institution; and b) evaluation

of the conditions of intercampus travel of PWD using modes of transport (walking, private vehicles, public transport and intercampus collective transport known as BUZUFBA).

The second stage started from the result of the research conducted by Santos and Pinto (2018), in which a questionnaire was applied through a free online survey system called SURVIO to transport specialists and asked respondents to assign a percentage of 1-100% to the strategies taking into account the degree of importance of each of them for the displacement of PWDs. In the questionnaire, five topics were presented and the least voted as important were discarded, in addition, the strategies that had more than 50% of the less important votes were discarded. Here is the result in Figure 1 below:

Figure 2: Mobility management strategies are chosen by transport and transit professionals as appropriate to improve the commute of people with disabilities on university campuses

ALTERNATIVAS AO TRANSPORTE PRIVADO
Aumento na oferta e melhorias de transporte público.
Redução de tarifas de passagens para estimular o uso do transporte coletivo.
Implementar a integração das linhas de ônibus e metrô que servem aos campi.
Cobrança de tarifas para estacionamento de veículos para desestimular o uso.
FOMENTO DE VIAGENS COMPARTILHADAS
Implantar um sistema de carona *carpool, carsharing e vanpool*
Gratuidade nos estacionamentos para *carpool*
Tarifas subsidiadas de estacionamento para veículos que fazem lotação.
INCENTIVO DE VIAGENS A PÉ
Investimento em calçadas e caminhos que favoreçam os deslocamentos a pé pelos campi da universidade
Programas de segurança para os deslocamentos de bicicleta e a pé dos usuários de transporte público
DISTRIBUIÇÃO DA INFORMAÇÃO
Campanhas de educação e incentivo a mudança comportamentais dirigidas aos usuários
Integração e coordenação da comunidade universitária para garantir o sucesso das ações
Campanhas de marketing sobre mobilidade

Source: Santos and Pinto (2018)

In the current research, a questionnaire with the Mobility Management Strategies presented in the figure above was applied to the target audience to evaluate which strategies are very adequate, adequate, or poorly suited for the displacement of PWDs in university campuses and, thus, obtain the opinion of the main characters involved in this issue. Finally, to make a qualitative approach, an interview was conducted with a visually impaired student who reported his experience at UFBA, to exemplify the difficulties faced by a PWD in the institution.

4 APPLICATIONS OF THE METHODOLOGY AND RESULTS FOUND

The questionnaire was sent by e-mail and WhatsApp groups to students with disabilities in undergraduate and graduate courses at UFBA, being answered by 11 (eleven) students. Of the respondents, 3 (three) have a visual impairment, for these, so the questionnaire was applied through linkage.

4.1 STUDENTS WITH DISABILITIES AT THE UNIVERSITY

In January 2017, to ensure the inclusion of people with disabilities in higher education, UFBA determined, through resolution No. 01/2017 – CAE / UFBA, the criteria for reservation of vacancies for selective processes in graduate courses. Later, in July of the same year, it was established, through resolution No. 08/2017, the criteria for guaranteeing the reservations of vacancies in undergraduate courses.

According to NAPE, the number of students with disabilities served by the center grew significantly after the implementation of the reservation of places for this public.

Before the implementation of the reservation of places for PWD, NAPE served 16 (sixteen) students with disabilities and currently provides care to 76 (seventy-six).

Of these students, 57 are undergraduates and 19 are graduates, 42 are men and 34 are women. Regarding the type of disability of the students attended by NAPE, according to the classification made by the nucleus itself, 20 students have physical disabilities, 29 have a visual impairment (low vision or blindness), 15 have a hearing impairment (moderate or deafness), 6 have intellectual disability, 4 have autism spectrum disorder and 2 have High Abilities/Giftedness.

These data refer to the number of students with disabilities who received some type of care by NAPE and not to the total number of students with disabilities enrolled at UFBA. According to the coordinator of the nucleus, the university does not yet have the general quantity.

4.2 DISPLACEMENT CONDITIONS IN INTEGRATION BETWEEN CAMPUSES

It is common for UFBA students to have classes in more than one unit, or even on different campuses, on the same day. It is possible to make some of these trips on foot, but some routes require the use of other modes of transport because of the distance between the campuses or the rugged terrain.

4.2.1 Integration on foot

Walking is the most sustainable form of displacement that exists, but it is also the mode of transport that puts the individual in a situation of greater vulnerability and therefore deserves special attention.

Unfortunately, it is common to find UFBA floors and sidewalks without maintenance, inadequate paving, stairs with broken steps, absence of tactile floor to create an accessible route, insufficient lighting, and ramps out of the norm or without maintenance, among others.

The architectural design of UFBA's buildings also does not facilitate access. The buildings have many stairs, which is natural, however, the precariousness of the maintenance service of the elevators does not favor the displacement of the PCD.

4.2.2 Integration using private vehicles

The problem caused by the integration using private vehicles is the lack of accessible spaces for PWDs and the insufficiency of the number of spaces available in the university parking lots.

Some units have parking lots that are exclusive to employees, and there is no availability of spaces for students. There are also parking lots in inadequate conditions, without paving or with paving without maintenance, and without marking of the vacancies and ramps.

4.2.3 Integration using Vehicles for collective use

It is possible to make the integration between campuses through public transport by bus, but the delay and poor quality of the buses are factors that discourage users from opting for this mode of transport.

When integrating through buses, PWDs encounter barriers such as unmaintained sidewalks and no ramps, poles, and trees in the middle of the sidewalk, lack of signage and tactile flooring, and even buses without elevators for wheelchair users or with broken elevators.

Another factor that makes it very difficult to use the buses is the attitudinal barriers. Even having preferential seats for PWD, obesity, reduced mobility, elderly or person with a child on their lap and being a right guaranteed by law, some transport users refuse to give a place to people in these conditions.

4.2.4 Integration using public transport between UFBA - BUZUFBA

UFBA has its public transport, the BUZUFBA. Transportation is widely used by students, but due to the insufficiency of the fleet and the scarcity of schedules, the vehicles live crowded, especially at peak times.

Buses have lifts for students who use wheelchairs, but drivers lack the skills to handle them. Access to the bus stops where the BUZUFBAs pass is also very difficult due to accessibility barriers.

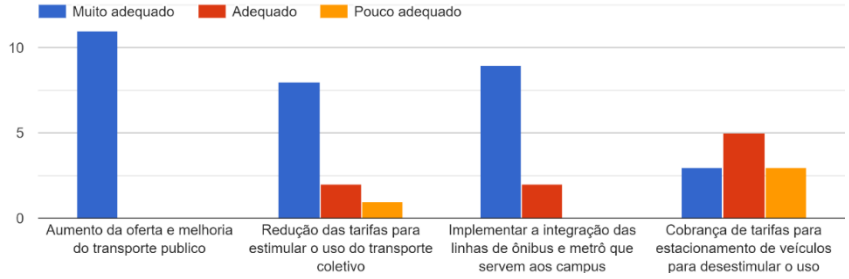
4.3 MOBILITY MANAGEMENT FOR PERSONS WITH DISABILITIES

To measure the acceptance of the strategies for Mobility Management presented as important for the displacement of students with disabilities, the target audience was presented with a questionnaire, the strategies of Mobility Management for university campus so that they could evaluate whether they are very adequate, adequate or little suitable for the displacement of this public in the Federal University of Bahia.

In the topic *"Alternatives to private* transport" the strategies "Increase in the supply and improvement of public transport", "Reduction of ticket fares to stimulate the use of public transport"

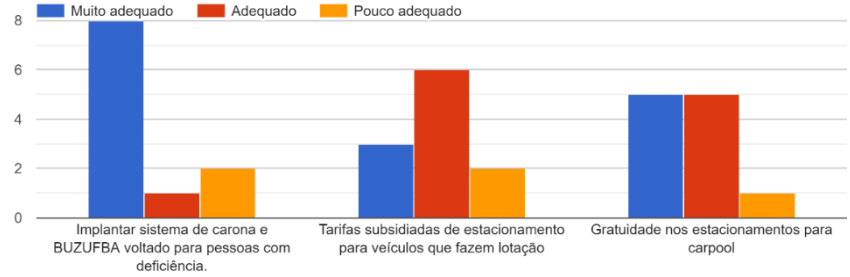
and "Implement integration of bus and metro lines serving the campuses" were considered as very suitable for the intercampus displacement of people with disabilities. The strategy *"Collection of fees for parking vehicles to discourage use"* was considered adequate (Figure 3).

Figure 3 Adequacy of the strategies of the topic Alternatives to private transport to UFBA



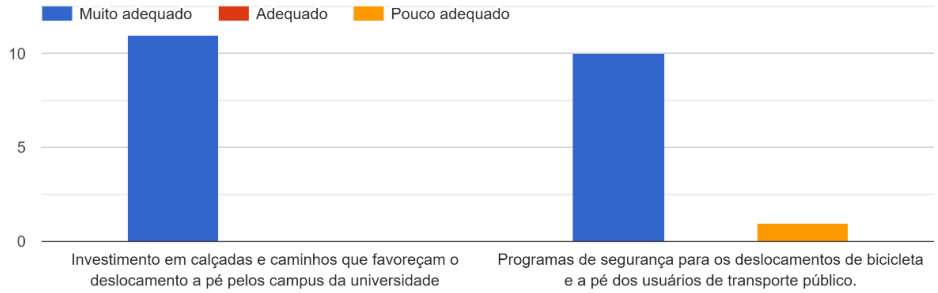
On the topic *"Promotion of shared trips",* the strategy "Implement a carpool, carsharing and vanpool system*" was considered by the respondents as very adequate, "*Free carpool parking lots" was considered as adequate and *the strategy* "Subsidized parking rates for vehicles that make capacity" there was a tie between being considered very adequate and adequate (Figure 4).

Figure 4 Adequacy of the strategies of the topic Promotion of shared trips to UFBA



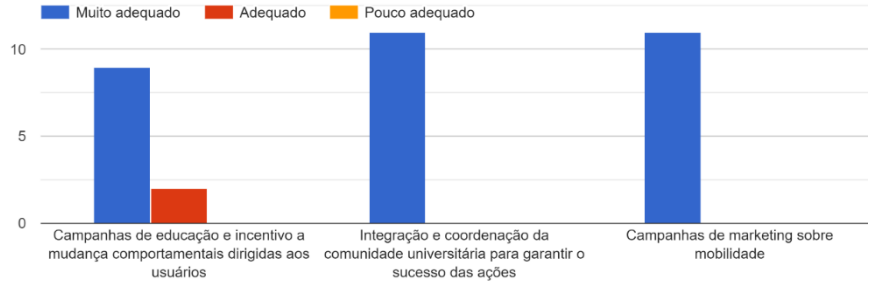
For the topic "*Incentive of travel on foot*," two strategies were presented, *"Investments in sidewalks and paths that favor walking on university campuses*" and "Safety programs for bicycle and walking trips of public transport users". Both were considered very adequate (Figure 5).

Figure 5 Adequacy of the strategies of the topic Incentive of travel on foot (improving conditions of non-motorized travel) to UFBA



The last topic was "*Distribution of information",* the strategies presented were *"education campaigns and encouragement of behavioral change directed to users", "Integration and coordination of the university community to ensure the success of actions" and "Marketing campaigns on mobility".* All strategies were considered very appropriate to the reality of UFBA, and the last two were unanimously approved (Figure 6).

Figure 6 Adequacy of the strategies of the topic Distribution of information to UFBA



When asked if the strategies presented are sufficient for the displacement of people with disabilities from UFBA, 54.5% of respondents said YES and 45.5% answered "No".

Those who considered the strategies as insufficient were asked to present other proposals to improve commuting at UFBA and the proposals presented were: *"Safety at bus stops. improve signage"; "Improve the floor of parking lots and sidewalks, have more elevators in, especially in the older ones, many do not even have"; "UFBA does not have accessible architecture. It is important to implement tactile flooring in every university, maintain elevators and make digital platforms accessible"; "Promote training courses in mobility and accessibility for students, teachers and servers in general to reduce the existing prejudice against people with disabilities".*

4.4 EXPERIENCE OF A VISUALLY IMPAIRED STUDENT AT UFBA

Ednilson Sacramento is a student of the Cultural Production course at the Federal University of Bahia. The graduate is a 59-year-old man with a degree in journalism and currently works as a consultant in audio description. He is married, has 2 daughters and 2 grandchildren. The student was stricken by a disease called Retinitis Pigmentosa that gradually lowered his vision until, approximately 25 years ago, he became blind.

As a teenager, he worked as a newspaper delivery man to help with the family budget. After graduating from high school, he was unable to continue his studies because of his low vision. He tried a few college entrance exams but was unsuccessful because the test was not accessible.

In 2010, he was able to join UFBA to attend an Interdisciplinary Bachelor's Degree in Humanities and, in 2013, he moved to the Journalism course at the same university, where he remained until 2017. He recently rejoined UFBA to take the Cultural Production course.

4.4.1 The way from home to the university

Salvador does not have an accessible and regular transportation system and does not have proper signage, so Ednilson's difficulty begins from the moment he leaves home. A resident of Avenida San Martin, he travels approximately 15km to go to the university. The user of public transport in Salvador, every day he finds many challenges in the commute from home to his destination.

4.4.2 The displacement in the campus of Ondina

Most of the journalist's classes are at the Faculty of Communication (FACOM), but daily he needs to travel to other units of UFBA. On his way, he encounters a series of barriers and compares the displacement at UFBA to a proving ground *"My displacement to get to UFBA and to move within it, represented for me a kind of proving ground."*

The UFBA offers a minimal signaling system and for this reason, the student has already fallen twice but fortunately did not have serious injuries. Accessing the buildings and classrooms are also difficult tasks for the student, as are finding toilets and locating drinking fountains. For a person who does not see, the lack of signage represents numerous barriers. Another barrier pointed out by the student is the attitudinal one. According to Sacramento, some employees have a bad will when it comes to passing on the information because they think it is not their obligation to guide a student with a disability. Ednilson reported that classmates hardly speak to PCD and that several times he found it difficult to be accepted into groups to perform academic activities.

The lack of elevators as an option for the stairs is also a problem for the university student, which is aggravated by the lack of handrails, signage, and maintenance in these structures – in the case of the stairs. This can cause serious accidents for visually impaired people. The student also reported that in FACOM access to the upper floors is done through stairs, so wheelchair users are not able to access these floors.

4.4.3 Intercampus commuting

To carry out the intercampus commuting, the interviewee reported that he makes use of BUZUFBA, but for him, although UFBA's public transport is an important solution, its low quality of service does not differ much from the public transport offered by the city of Salvador.

The interviewee considers the displacement problematic because the drivers are not trained to transport students with disabilities and several times had their entry on the bus refused because a blind person cannot be a UFBA Student, that is, because of the visual impairment the drivers thought that the interviewee did not have the slightest chance of being a university student. *"It's like all the time we have to prove we're college students. I speak up because that's a complaint from other colleagues with*

disabilities." Situations such as these generate constraints and injure the rights guaranteed by law to PWDs, ratifying how important it is also to consider the negative effects of attitudinal barriers to the accessibility of PWDs.

5 CONCLUSIONS

With the case study, it is noticed that the number of students with disabilities at UFBA grew after the implementation of the resolutions of reservation of vacancies for PWD and the trend indicates growth.

The main objective of this work was achieved. All strategies for Mobility Management were considered "adequate" or "very adequate" for the displacement of students with disabilities in the university studied, however, the strategies presented are still not enough, since the absence of attitudinal accessibility, that is, acceptance of teachers and colleagues themselves, is still very much perceived, bringing irreparable damage. The respondents also pointed out the need to make interventions in the physical structure of the university and offer more security.

Universities must have their urban mobility plan, especially when the number of students is significantly high, as they can present problems of displacement similar to those faced in the urban spaces of smaller cities.

The lack of a mobility plan at UFBA is a factor that contributes to the occurrence of difficulties in accessing university spaces, impediments that are aggravated when PWD is considered. It is worth mentioning that there is already a proposal for a mobility policy created by the UFBA Mobility Policies Commission, but the approval by the Superior Council of the University (CONSUNI) and the implementation of the necessary adjustments should be prioritized to meet the basic premises of universal accessibility, promoting equalization in Higher Education.

The management of architectural spaces must have the participation of the academic community, especially the Mobility Policy Commission at UFBA, and the mobility plan must have a chapter focused specifically on PWD.

REFERENCES

Araújo, Lucas pereira de et al. Sustainable and inclusive urban mobility: the wheelchair user and the sidewalk Araújo, Lucas Pereira de et al. Mobilidade urbana sustentável e inclusiva: o cadeirante e a calçada na área central de Uberlândia. 2019.

Bernardes, Flaviane Fernandes et al. Mobilidade urbana sustentável e inclusiva: proposta de implantação de vlt (veículo leve sobre trilhos). 2016.

Brasil. Lei nº 13.146, de 6 de julho de 2015. Lei brasileira de inclusão da pessoa com deficiência (estatuto da pessoa com deficiência), brasília, julho 2015.

Gleizer, asriel bruno de andrade. Proposta de rotacicloviária (estudo de traçado): situação dos campi federação/ondina da universidade federal da Bahia. Salvador, 2019.

Inep, instituto nacional de estudos e pesquisas educacionais Anísio Teixeira. Resumo técnico do censo da educação superior 2018, Brasília, 2020.

Junior, Jorge Ubirajara pedreira; Viana, marcella sgura; delgado, Juan Pedro moreno. Análise dos padrões de mobilidade intercampi através da utilização de dados secundários: o caso da universidade federal da bahia em salvador, 2018.

Kalil, rosa maria locatelli; gosch, luiz roberto medeiros; gelpi, adriana. Acessibilidade e desenho universal: conceitos, legislação e métodos aplicáveis à arquitetura de interiores. Nutau 2010: seminário internacional, v. 8, 2010

Melo Araújo, Marley Rosana de et al. Transporte público coletivo: discutindo acessibilidade, mobilidade e qualidade de vida. Psicologia & sociedade, v. 23, n. 3, p. 574-582, 2011.

Melo oliveira, cassandra; nuernberg, adriano henrique; da silva nunes, carlos henrique sancineto. Desenho universal e avaliação psicológica na perspectiva dos direitos humanos. Avaliação psicológica, v. 12, n. 3, p. 421-428, 2013.

Mobilize - diagnóstico da mobilidade urbana sustentável em capitais brasileiras, 2011. Disponível em: <http://www.mobilize.org.br/midias/pesquisas/estudo-mobilize-20111.pdf> acesso em: 07 de junho de 2021.

Oliveira, elaine teresa gomes de. Acessibilidade na universidade estadual de londrina: o ponto de vista do estudante com deficiência. 2003.

Onu. Declaração universal dos direitos humanos. Assembleia geral das nações unidas. Paris: [s.n.]. 1948.

Parra, marsela caipa; portugal, l. S. Estratégias de gerenciamento da mobilidade para um campus universitário: caso da ufrj. In: anais do xxi congresso de ensino e pesquisa em transportes. 2007.

Porto junior w., 2002. Reflexão sobre a evolução dos transportes, o gerenciamento da mobilidade sustentável. In: v congresso internacional de topografia, santiago de cali, colômbia.

Reis, rosana santana do. Acessibilidade a edifícios históricos de interesse turístico por pessoas com mobilidade reduzida: um estudo de exemplos representativos situados na rota acessível do centro histórico de salvador. 2015.

Rocha, a. C. B. Et al. Gerenciamento da mobilidade: experiências em bogotá, londres e alternativas pós-modernas. Pluris 2006 -2º congresso luso brasileiro para o planejamento, urbanos, regional, integrado, sustentável, são carlos, setembro 2006.

Santos, fabiane farias; pinto, ilce marília dantas. Estratégias de gerenciamento da mobilidade para pessoas com deficiência em universidades, anais 32° congresso de ensino e pesquisa em transportes da anpet. Gramado- rs, 2018.

Teixeira, valquiria prates pereira. Acessibilidade como fator de equiparação de oportunidades para pessoas com deficiência na escola: análise de garantias legais em países da américa latina. 2008. Tese de doutorado. Universidade de são paulo.

Ufba. Resolução nº01/2017. Institui normas para procedimentos, dispõe sobre a reserva de vagas na seleção para os cursos de pós graduação da ufba, salvador, janeiro 2017.

World health organization et al. World report on disability 2011. World health organization, 2011.