Accessibility Guide

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ACCESSIBLE AVIATION PROJECT

The project IMPROVEMENT OF ACCESSIBILITY OF CIVIL AVIATION, publicly known as **Accessible Aviation**, was developed by the Federal University of São Carlos (UFSCar), in collaboration with the University of São Paulo (USP) and the Federal Institute of São Paulo (IFSP). The project was financed by the National Secretariat of Civil Aviation (SAC/MINFRA), through the Decentralized Execution Term No. 03/2018, published in the Federal Official Gazette no. 242 of December 18 2018. The project aimed to:

a) Understand the main barriers to the participation of passengers with disabilities in the air travel cycle;
b) Prepare an Accessibility Guide for Brazilian Civil Aviation;
c) Develop support material for the training of airline and airport operators in the service processes in the travel cycle;
d) Develop assessment tools to identify the adherence and effectiveness of accessibility practices in the sector;
e) Develop a methodology for the granting of an Accessibility Rating Level, indicating to airline and airport operators their stage of development in the processes of service to PWDs and the routes for the improvement of their services;
f) Disseminate accessibility practices and assess the impacts of the project on the sector.

To achieve these objectives, the project was developed with reference to the Action Research methodology, developed in five phases: Exploratory; Diagnosis; Prognosis; Dissemination; and Evaluation.

Exploratory Phase: The exploratory phase aimed to review previous studies and experiences, identify accessibility practices at national and international airports and formulate appropriate methodologies for conducting the project. The main result of this phase was consolidated in the *Integrated Accessibility Model*.

Diagnostic Phase: The diagnostic phase deepened the results obtained in the previous phase, evaluating the feasibility of adopting the identified practices, considering the reality of Brazilian civil aviation and the users' perspective. The results of this phase were consolidated in the Civil Aviation Accessibility Guide.

Prognosis Phase: The prognosis phase articulated the current stage of accessibility in Brazilian civil aviation with the desirable future state in the sector. In this phase, guidelines, criteria and indicators were established that guide the actions of airline and airport operators. The results of this phase were consolidated in the Methodology for granting the Accessibility Rating Level.

Diffusion Phase: The diffusion phase aimed to disseminate the results of the project and the application of the developed methodologies in the civil aviation sector. The diffusion process was supported by the Accessible Aviation Platform, aimed at airline and airport operators and users.

Evaluation Phase: The evaluation phase aimed to evaluate the level of adherence of airline and airport operators to accessibility practices in civil aviation, through the application of the instruments developed in the project and the granting of the Accessibility Rating Level to airport units throughout the country.

PEOPLE WITH DISABILITIES AND ACCESSIBILITY

The discussions regarding the concept of disability demonstrate that it is complex, dynamic, multidimensional and, above all, that the presence of some bodily impediment does not determine, in isolation, the participation or restriction of the person with disability in any activity. The performance of activities and participation, defined as involvement in a life situation, are determined in the interaction between individual factors with environmental and social factors. This paradigm of disability is present in the United Nations Convention on the Rights of Persons with Disabilities, which was built with the active participation of this population.

> Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (Brasil, 2014, article 1st).

Despite advances and understanding of disability from a human rights perspective, people with disabilities still face several barriers to inclusion and social participation. Among these, discrimination and stigmas associated with disability and lack of accessibility to physical environments, including transport, and virtual environments stand out.

Accessibility is a right that enables people with disabilities to live independently, exercise their citizenship and participate in social life. Accessibility relates to the physical environment, transport, information and communication, including systems and technologies, services and facilities open to the public or for public use, being essential to the full enjoyment of all human rights and fundamental freedoms.

In civil aviation, different standards and resolutions address conditions and procedures for specific groups of passengers, including persons with disabilities and persons with reduced mobility. In Brazilian civil aviation, issues of accessibility and assistance for people with disabilities are guaranteed by the National Civil Aviation Agency of Brazil (ANAC). In its regulations, the procedures related to accessibility are presented, applying to passengers, airlines, airport operators and service providers.

Normative and regulatory issues are relevant in ensuring the basic conditions and defining the roles of the different agents in the provision of services and assistance to passengers in civil aviation. However, the relationships between disability and accessibility are built in a social environment with multiple interactions. In this sense, a broader perspective is necessary.

THE INTEGRATED ACCESSIBILITY MODEL

The Integrated Accessibility Model is based on the Activity Theory. This theory considers that all human action is goal-oriented and mediated by technical and social devices. The power to act of a subject endowed with unique skills, in direct or indirect relationship with the action of other subjects, stems from socio-environmental characteristics present in the context in which they are inserted. In terms of accessibility, the action refers to four fundamental dimensions: Management, Communication, Mobility and Use.

Management: Socio-environmental characteristics that enable the exercise of skills by agents who perform service activities and by passengers, as well as the development and improvement of them. In the travel cycle, the Management dimension encompasses: coordination activities, partnerships and the development of skills in service processes; the management of the demand for passengers, companions and available equipment; assistance services during all phases of the trip; and the management of infrastructure and information related to services.

Communication: Being able to communicate is a basic condition for all human action. It occurs directly between individuals, mediated or not by artifacts; or indirectly, through symbols and signs present in the environment. In the air travel cycle, the Communication dimension encompasses: information resources useful for planning before and after the trip; information, signs, route guidelines, safety and direction guidelines inside airport units; communication resources for interaction with airport and/or airline attendants; and resources and procedures for understanding information in the travel cycle and in the use of equipment and facilities.

Mobility: Being able to move with autonomy and independence, mediated by technical and human aid, is another basic dimension for the effectiveness of the action. In the air travel cycle, the Mobility dimension includes: resources and equipment for traveling to the airport unit and, at the airport, moving in its internal and external areas; resources for displacement and access in boarding and disembarking operations; and resources for moving to and from the aircraft.

Use: Being able to use and carry out common and everyday activities enables the effective participation of passengers in a given environment. In the air travel cycle, the Use dimension encompasses: the characteristics of furniture and equipment that enable service/self-service; adequate resources for the use of bathrooms, changing rooms and hygiene and personal care spaces; and preferred spaces and environments dedicated to the service and waiting for passengers, companions and service animals.

When considered together, the four dimensions of accessibility have an effect on the environment, qualities that enable the action of subjects to exercise and develop their skills. Ideally, the environment should allow the subject to orient themselves, knowing where they are and where they should go, and communicate with the other agents present in the situation; it should allow the subject to move from one point to another freely and unimpeded; it should enable the effective use and performance of activities common to all those present in the situation; and, finally, it should enable the action of the subjects respecting their skills and favoring their development. Such socio-environmental characteristics should favor the action of agents, whether passengers or attendants. From these idealized qualities results a mantra: guide, communicate, move, use and develop.

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ACCESSIBILITY GUIDE FOR BRAZILIAN CIVIL AVIATION

The Accessibility Guide for Brazilian Civil Aviation aims to present accessibility guidelines and practices, as well as a training program to support airports and airlines in improving travel experiences, especially for passengers with disabilities, including people with autism spectrum disorder (considered a disability for legal purposes - Brazilian Law 12.764/2012[1]).

Chapter 1, Fundamentals of the “Accessible Aviation” Project, presents the concepts of Disability, Accessibility and Integrated Accessibility and the framework of Activity Theory, which guided its development.

Chapter 2, Visual Identity, presents the development of a communication strategy to map accessibility practices at the airport, guide passengers at key points of the airport, intermediate interpersonal communication between passengers and attendants, anticipate information to passengers in trip planning and to define a visual communication, aiming to facilitate the understanding of the concepts, structure and applicability of the products of this project.

In Chapter 3, Accessibility Practices, presents practices related to the fundamental dimensions of Integrated Accessibility, namely: management, communication, mobility and use. Accessibility practices have been identified at national and international airports. For each practice, a Practice Characterization Worksheet (PCW) was prepared, which is available in Appendix I of this guide.

Chapter 4, Training, provides guidelines for the development of qualification and education processes, supporting educational actions to improve the service provided to those with disabilities or reduced mobility. In the context of air transport, investments in the qualification of support personnel present at the various stages of the trip are necessary in order to ensure the quality of service.

[1] NT: Brazilian federal law that establishes the National Policy for the Protection of the Rights of Persons with Autism Spectrum Disorder

Finally, Chapter 5 presents the Accessibility Rating Level, which is an instrument for valuing and recognizing efforts aimed at improving accessibility in Brazilian civil aviation. The Rating Level aims to feed back the system, indicating to airline and airport operators the current stage in which they are in relation to accessibility, offering directions for the development of infrastructure, service and management processes. The Rating considers the perspective of passengers and users, making it possible to incorporate their contributions to the evolution of the system. The periodicity of the process of granting the Accessibility Rating Level will enable the evaluation of the impacts of public policies aimed at accessibility in civil aviation.

CHAPTER 1

Fundamentals

Talita Naiara Rossi da Silva and Nilton Luiz Menegon

1. FUNDAMENTALS

This chapter presents the concepts and theoretical framework that supported the development of the "Accessible Aviation" Project, namely: Disability, Accessibility and Integrated Accessibility and Activity Theory.

1.1. CONCEPTUALIZATION OF DISABILITY

According to the World Health Organization, disability is part of the human condition, since almost all people will have a disability at some point in their lives and functional difficulties may increase with advancing age[2].

Historically, the challenge is to include people with disabilities, who, in practice, do not have equal access to health, education, work and experience exclusion in social life activities. However, responses to this population have changed, mainly due to the mobilization and organization of people with disabilities, and the tendency to understand disability as a human rights issue, as established in the United Nations Convention on the Rights of Persons with Disabilities promulgated in 2006[1].

The biomedical model comprises that the person with a disability needs to be cured, treated, rehabilitated and empowered in order to fit in society. This model is responsible, in part, for society's resistance to accepting the need to change its structures, its attitudes to include people with disabilities and/or other atypical conditions so that they can seek their personal, social, educational and professional development.

In contrast to the biomedical model, the social model of disability or theory of social oppression understands that disability should not be understood as an individual problem, but as an eminently social issue, transferring responsibility for the disadvantages experienced by people with disabilities to the inability of society to predict and adjust to human diversity.

In this perspective, the social model highlights the oppression to the body with variations in functioning and the relationship of inequality established by environments with barriers. It is understood that disability and incapacity are not individual

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[2] World Health Organization. World report on disability, 2011. Available at https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability

characteristics that result from a biological condition, but are related to social, cultural and environmental contexts constituted by physical, symbolic and attitudinal barriers[3,4].

From the perspective of the social model, unique ways of being and living must be respected, ensuring the same rights and opportunities for all people. Such a model yearns to enhance, empower and include socially, considering respect for human dignity, equality and personal freedom[5].

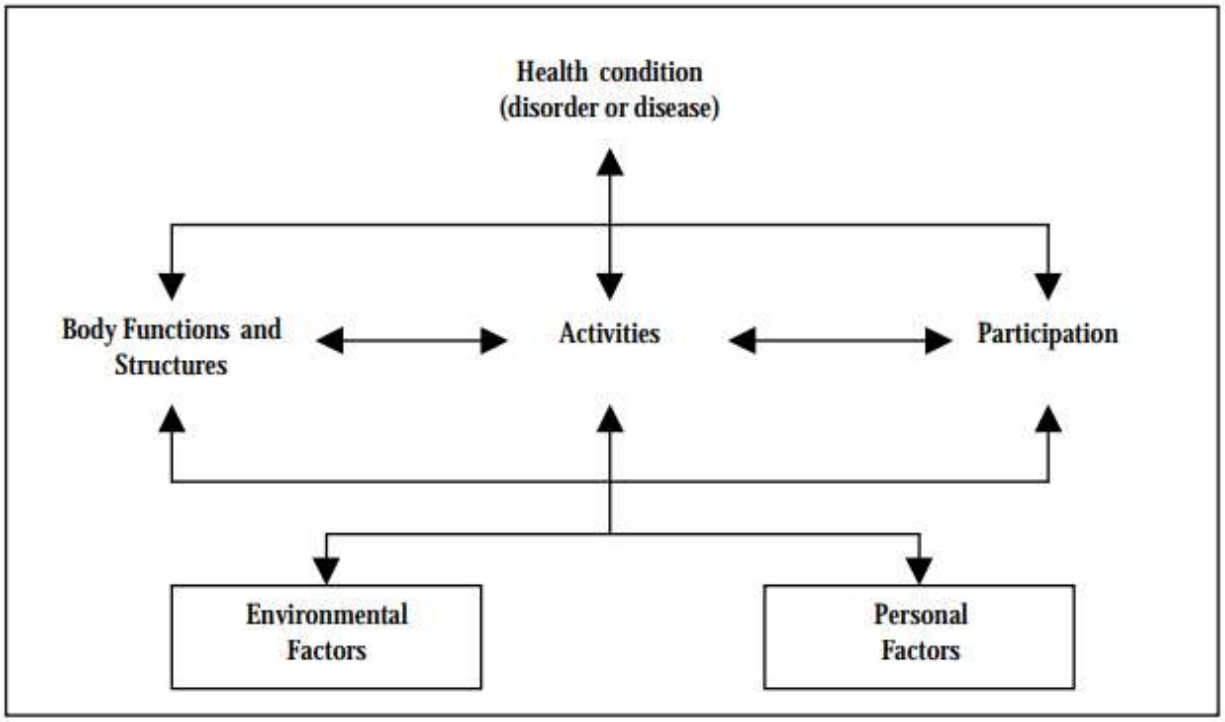
The emergence of the social model of disability represented an advance and a rupture with the biomedical model, challenging the rejection of the diversity of bodies and their pathologization[6] . However, the conceptual polarization between biology and society remained. On the one hand, the biomedical perspective, which treats disability and incapacity as a problem centered on organic aspects. On the other hand, the social perspective, which departs from the biological concept of disability and creates a notion of incapacity external to the body, which is linked to the context and perceived as a social phenomenon[2]. Both isolated perspectives prevent reflection on disability as an interactional phenomenon, which includes individual and social aspects in a dialectical relationship[2].

Therefore, the challenge is to understand the complex relationships between biological and social phenomena, as well as disability and incapacity as a result of interactions between them, as proposed by the biopsychosocial approach[2]. This approach incorporates the notion of a living and dynamic system, interacting with the environment, promoting a holistic and integrated view of human functionality and disability[2]. Such a position of dialogue between the medical and social models of disability supported, for example, the International Classification of Functioning, Disability and Health (ICF), published by the World Health Organization in 2001[2,3]. The ICF established a model that defines human functionality and disability based on the interaction between health conditions and contextual factors (personal and

[3] Sampaio RF, Luz MT. Funcionalidade e incapacidade humana: explorando o escopo da classificação internacional da Organização Mundial de Saúde. Cad Saúde Pública 2009; 25(3):475-483.
[4] Diniz D, Barbosa L, Santos WR. Deficiência, direitos humanos e justiça. SUR – Revista Internacional de Direitos Humanos 2009; 6(11):65-77.
[5] Andrade JMP. Vulnerabilidade e vulneração, quando as pessoas com deficiência passam a ser questão de direitos humanos? Saúde e Direitos Humanos 2009; 6(6):29-43.
[6] Gaudenzi P, Ortega F. Problematizando o conceito de deficiência a partir das noções de autonomia e normalidade. Ciência. Saúde Coletiva, 2016; 21(10):3061-70.

environmental), with bodily structures and functions, activity and participation, as shown in Figure 1[7].

Figure 1 - ICF disability functionality model



Source: WHO[6], p. 18.

Participation, defined as involvement in a life situation, does not only originate in individual factors (bodily structures and functions), but is also influenced by the interaction with contextual factors – environmental and social – in the execution of an activity. On the other hand, interactions between the components of the Model proposed in the ICF may result in participation restriction, which represents problems or difficulties faced in engaging in a real-life situation. In this perspective, the restriction of participation is not exclusively an attribute of the person, but is related to the conditions experienced in the interaction with the social environment. There are people with disabilities without participation restrictions and there are people with restrictions that result from illness or other problems, other than a disability[6].

Discussions about the experience of disability point out that it is complex, dynamic and multidimensional and that the presence of a health condition and/or disability is not in itself a determinant of functionality and incapacity[6]. Environmental

[7] World Health Organization. International Classification of Functioning, Disability and Health, Geneva, 2001.

factors such as products, technologies, built environments, supports, relationships, attitudes, services, systems and public policies can be presented as facilitators or barriers to the participation of people with disabilities[1].

In this sense, the 2006 United Nations Convention on the Rights of Persons with Disabilities (CRPD) understood that:

> ... Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others[8] (Article 1º).

Regarding the types of disability, Brazilian Decree No. 5296 of December 02/2004[9] established the categories physical disability, hearing disability, visual impairment, mental disability, multiple disability and person with reduced mobility, according to brief considerations and definitions presented below.

Physical disability

Physical disability is characterized as:

> Complete or partial alteration of one or more segments of the human body, resulting in impairment of physical function. It is presented in the form of: paraplegia; paraparesis; monoplegia; monoparesis; tetraplegia; tetraparesis; triplegia; triparesis; hemiplegia; hemiparesis; ostomy; amputation or absence of limb; cerebral palsy; dwarfism; limbs with congenital or acquired deformity, except for aesthetic deformities and those that do not produce difficulties for the performance of functions[8].

Physical-motor disabilities compromise the performance of activities that require strength (grasping, pulling, pushing, lifting, etc.), motor coordination, precision movements (grasping small objects, writing) and mobility (walking, climbing stairs, running). The latter is mainly affected in case of disability in the lower limbs, which implies the development of other skills that favor mobility, such as moving around using assistive equipment, for example, crutches or wheelchair[10].

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[8] Brasil. Secretaria de Direitos Humanos da Presidência da República. Novos comentários à Convenção sobre os direitos das pessoas com deficiência. Brasília: SNPD-SDH-PR, 2014.

[9] Brasil. Decreto n. 5.296, de 2 de dezembro de 2004. Regulamenta as Leis nºs 10.048, de 8 de novembro de 2000, que dá prioridade de atendimento às pessoas que especifica, e 10.098, de 19 de dezembro de 2000, que estabelece normas gerais e critérios básicos para a promoção da acessibilidade das pessoas portadoras de deficiência ou com mobilidade reduzida, e dá outras providências. Diário Oficial da União 03 dez 2004; Seção 1:5.

[10] Dischinger M, Ely VHMB, Piardi SMDG. Promovendo acessibilidade espacial nos edifícios públicos. Programa de Acessibilidade às Pessoas com Deficiência ou Mobilidade Reduzida nas Edificações de Uso Público. Florianópolis: Ministério Público de Santa Catarina, 2012, 136 p.

Regarding dwarfism, a man who measures less than 1,45 meters and a woman with a height less than 1,40 meters are considered to have this physical disability. There are more than 200 types of dwarfism cataloged, the most common being Achondroplasia. Orthopedic, cardiorespiratory, otorhinolaryngological and dental complications may be associated with dwarfism, leading to the development of obesity, sleep disorders, problems with neurocognitive development, as well as difficulties in reaching and moving.

Hearing impairment

Hearing impairment is characterized as:

> Bilateral, partial or total loss of 41dB or more, measured by audiogram in the frequencies of 500Hz, 1000Hz, 2000Hz and 3000Hz[8].

In a condition of total hearing loss, the person will have affected their ability to naturally acquire language due to difficulty hearing human speech. Spatial orientation is also compromised by the impossibility of perceiving sound information. In case of partial loss or reduction of hearing, despite the difficulties, the person may have the ability to understand human speech and express themselves orally. These people can use lip-reading and communication based on the distinction of sound vibrations. People with deafness use sign language and there are people who develop oral language[9].

Visual impairment

Visual impairment refers to the loss or permanent partial or total reduction of the ability to see in both eyes, with no possibility of improvement with clinical treatment, surgery or use of glasses and lenses. Decreased visual response may be mild, moderate, severe, and profound (low vision) or total absence of visual response (blindness).

> Blindness is characterized by visual acuity equal to or less than 0,05 in the best eye, with the best optical correction. Low vision is defined by visual acuity between 0,3 and 0,05 in the best eye, with the best optical correction and/or; when the sum of the visual field measurement in both eyes is equal to or less than 60[8].

In the case of low vision, different health conditions can affect distinct structures of the visual system, compromising vision in various ways, such as loss of sharpness, loss of peripheral or central vision, spots in the visual field, glare, inability to distinguish colors, etc. Such conditions can cause difficulties such as not recognizing a face, not

being able to orientate or move in some environment, not clearly distinguishing elements of the physical environment (unevenness) or not being able to focus on an object for reading. In a situation of blindness, there are people who have the perception of light and can distinguish clarity, but there are others with no residual vision. People with blindness make use of other sensory systems, such as auditory and touch, to capture information from the environment and often use a cane or guide dog for their spatial orientation[9].

Intellectual disability

Intellectual disability is characterized as:

> Intellectual functioning significantly lower to the average, expressed before 18 years of age and limitations associated to two or more adaptive abilities, such as: communication; personal care; social abilities; use of community resources; health and safety; academic abilities; leisure; and work[8].

Considering people with intellectual disabilities, it should be emphasized that the design of accessible environments should take into account, especially, aspects related to safety and spatial understanding, for example, offering adequate lighting, avoiding excessive visual information, providing clear messages or information with simple language made available through different supports[9].

Multiple disability

Multiple disability is characterized as:

> Person who has one or more associated disabilities[8]. As examples, people with physical and visual impairment, or with visual and hearing impairment, causing greater impairment of functionality.

The “Accessible Aviation” Project also addressed accessibility issues considering the needs of people with autism spectrum disorder, considered people with disabilities for all legal purposes[11].

Autism spectrum disorder is characterized by persistent deficits in communication and social interaction in multiple contexts, including deficits: in social reciprocity (ability to engage with others and share ideas and feelings), in nonverbal communication behaviors used for social interaction, and in skills to develop, maintain, and understand relationships. In addition to deficits in social communication, the

[11] Brasil. Lei n. 12.764, de 27 de dezembro de 2012. Institui a Política Nacional de Proteção dos Direitos da Pessoa com Transtorno do Espectro Autista; e altera o § 3º do art. 98 da Lei nº 8.112, de 11 de dezembro de 1990. Diário Oficial da União 28 dez 2012 (p. 2, col. 1).

diagnosis of autism spectrum disorder requires the presence of restricted and repetitive patterns of behavior, interests, or activities. Symptoms must be present early in the developmental period and cause clinically significant impairment in social, occupational or other important areas of the individual's life[10].

It should be noted that based on the social conception of disability, understood as an interactional experience and related to the context, a working group was established by the Brazilian Federal Government to prepare a proposal for the evaluation and recognition of disabilities that also considers contextual factors, overcoming the current characterizations adopted in national legislation, which are restricted to bodily functions and structures[12].

1.2. ACCESSIBILITY AND THE INTEGRATED ACCESSIBILITY MODEL

According to the Convention on the Rights of Persons with disabilities[13] and the Brazilian Law for the Inclusion of Persons with Disabilities, accessibility is a right that enables people with disabilities to live independently, exercise their citizenship and participate in social life. Accessibility relates to the physical environment, transport, information and communication, including systems and technologies, services and facilities open to the public or for public use.

In Brazil, the Brazilian Association of Technical Standards in Brazilian Standard 9050/2020, establishes the accessibility parameters for buildings, defining it as:

> Possibility and condition of reaching, perceiving and understanding for the safe and autonomous use 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, of public or private use of collective use, both in urban and rural areas, by people with disabilities or reduced mobility (p.2).

The Integrated Accessibility Model is based on the Activity Theory. This theory considers that all human action is goal-oriented and mediated by technical and social devices. The power to act of a subject endowed with unique skills, in direct or indirect relationship with the action of other subjects, stems from socio-environmental characteristics present in the context in which they are inserted. In terms of

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[12] Brasil. Decreto n.11.487, de 10 de abril de 2023. Institui o Grupo de Trabalho sobre a Avaliação Biopsicossocial Unificada da Deficiência no âmbito do Ministério dos Direitos Humanos e da Cidadania. Diário Oficial da União 11 abr 2023; Seção 1:3.

[13] Brasil. Lei n.º 13146, de 6 de julho de 2015. Institui a Lei Brasileira de Inclusão da Pessoa com Deficiência (Estatuto da Pessoa com Deficiência). Diário Oficial da União 07 jul 2015; 127 (1):2-11.

accessibility, the action refers to four fundamental dimensions that have been improved from the concept of spatial accessibility[9]: Management, Communication, Mobility and Use.

Management: Socio-environmental characteristics that enable the exercise of skills by agents who perform service activities and by passengers, as well as the development and improvement of them. In the travel cycle, the **Management** dimension encompasses: coordination activities, partnerships and the development of skills in service processes; the management of the demand for passengers, companions and available equipment; assistance services during all phases of the trip; and the management of infrastructure and information related to services.

Communication: Being able to communicate is a basic condition for all human action. It occurs in a direct way between individuals, mediated or not by artifacts; or indirect, by means of symbols and signs present in the environment. In the air travel cycle, the **communication** dimension encompasses: information resources useful for planning before and after the trip; information, signs, route guidelines, safety and direction guidelines inside airport units; communication resources for interaction with airport and/or airline attendants; and resources and procedures for understanding information in the travel cycle and in the use of equipment and facilities.

Mobility: Being able to move with autonomy and independence, mediated by technical and human aid, is another basic dimension for the effectiveness of the action. In the air travel cycle, the **Mobility** dimension includes: resources and equipment for traveling to the airport unit and, at the airport, moving in its internal and external areas; resources for displacement and access in boarding and disembarking operations; and resources for moving to and from the aircraft.

Use: Being able to use and carry out common and everyday activities enables the effective participation of passengers in a given environment. In the air travel cycle, the **Use** dimension encompasses: the characteristics of furniture and equipment that enable service/self-service; adequate resources for the use of bathrooms, changing rooms and hygiene and personal care spaces; and preferred spaces and environments dedicated to the service and as waiting spot for passengers, companions and service animals.

When considered together, the four dimensions of accessibility have an effect on the environment, qualities that enable the action of subjects to exercise and develop their skills. Ideally, the environment should allow the subject to orient themselves,

knowing where they are and where they should go, and communicate with the other agents present in the situation; it should allow the subject to move from one point to another freely and unimpeded; it should enable the effective use and performance of activities common to all those present in the situation; and, finally, it should enable the action of the subjects respecting their skills and favoring their development. Such socio-environmental characteristics should favor the action of agents, whether passengers or attendants. From these idealized qualities results a mantra: **Guide**, **Communicate**, **Move**, **Use** and **Develop**.

1.3. ACTIVITY THEORY

In the original sense established by social and cultural psychology, the concept of activity constitutes an action of the subject oriented to an object (end) and mediated by artifacts (soft or hard). The development of Activity Theory introduced other mediators: rules, norms, community, and the division of labor, interwoven within a system of activities[14,15]. In the context of the project, the elements of this system of activities were thus constituted:

The objects (objectives, purposes) of the actions in this system of activities is the production of accessibility in civil aviation;

The subjects of the lawsuits are people with disabilities and workers (airline workers, airport workers, aeronauts, handling, pre-trip and post-trip service, civil aviation protection agent, service to passengers with disabilities, shopkeepers and lessees);

Also, technical mediators (assistive technology and technical aids) and organizational mediators (community, standards and division of labor) of actions integrating government agents (National Civil Aviation Secretariat - SAC, National Civil Aviation Agency of Brazil - ANAC, Brazilian Ministry of Human Rights and Citizenship - MDHC) and operational agents (INFRAERO[16], airport concessionaires, national airlines and handling companies).

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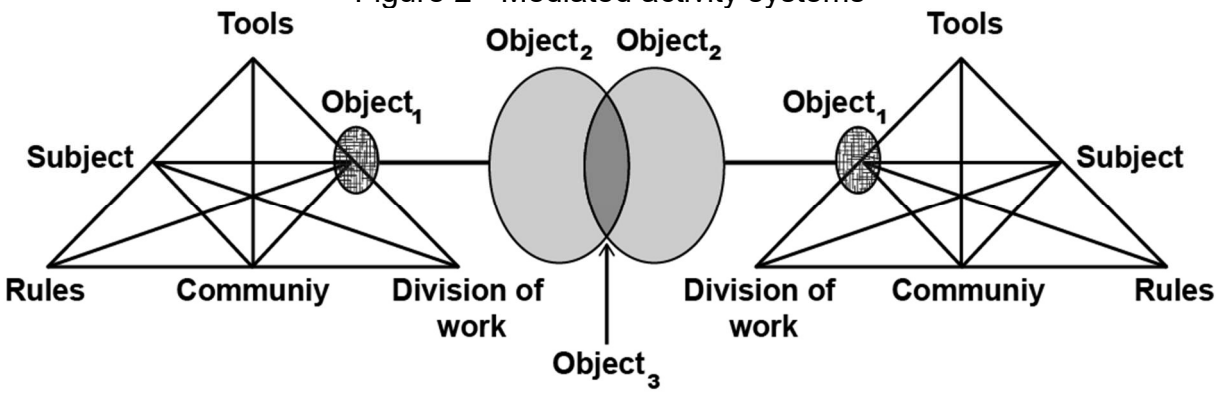
[14] Engeström Y, Miettinen R, Punamaki RL. (eds.). Perspectives on activity theory. Cambridge: Cambridge University Press; 1999, p. 19-38.

[15] Simonelli AP, Rodrigues DS (orgs). Saúde e trabalho em debate: velhas questões, novas perspectivas. Brasília: Paralelo 15; 2013, p. 71-104.

[16] TN: Brazilian Airport Infrastructure Company, public company responsible for managing the country's main airports.

Figure 2 schematizes a situation in which two activities constitute a system of activities. Internally, each activity consists of the subject of the action, object of the action (1) and its mediating elements. In the coupling of these activities, a new object emerges (2), partially shared by the two activities; and, in the conjunction of these objects, a common object emerges (3).

Figure 2 - Mediated activity systems

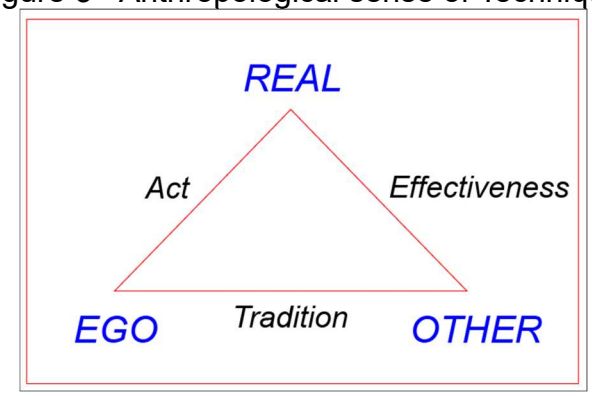


Source: Adapted from Engeström, 2001, p. 133[17]

The term tools, presented in Figure 2 designates or is equivalent to what we define as technologies[18]. To explore the concept of technology, the contribution given by the anthropology of the technique will be considered. In the anthropological sense, every technique or technology (assumed here as synonyms) is constituted on the one hand by an artifact (soft or hard) and on the other by a human action. In this conceptualization, technique (or technology) is defined as an “effective traditional act” by Mauss (1943)[19]. This definition is presented in a triangular relationship between the subject (ego), the (real) world and the other (community). The terms of the definition represent relationships between the poles of this triangle.

[17] Engeström, Yrjö. Expansive learning at work: toward an activity theoretical reconceptualization. Journal Of Education And Work, [s. l], v. 1, n. 14, p. 133-156, 2001.
[18] A piece of rock is something from nature. When selected by a human ancestor for any purpose and used in a specific way, it becomes a tool or instrument. Thus, an instrument or tool involves a material element and a usage scheme (cognitive and motor).
[19] Dejours C. O fator humano. Rio de Janeiro: Fundação Getúlio Vargas; 1997.

Figure 3 - Anthropological sense of Technique.



Source: Adapted from Dejours, 1997, p.37.

The term “act” (or activity in the sense given by cultural social psychology) constitutes an action of the subject on the world, mediated by artifacts. Assuming that every artifact, which in the broad sense given by this text is equivalent to the set of technical devices used in the action, is assimilated according to two dimensions: propriation and appropriation. Propriation refers to what is embedded (in the artifact) and presupposes certain schemes of use – it encompasses concepts of crystallization and plasticity.[20] Appropriation refers to the transcendence of what is given by the artifact and refers to the human capacities of creation in this interaction. In the words of Christophe Dejours[15]:

> Thus, the act on the world mediated by an instrument demands, in a way, a return, a transformation, a learning of the body, which must have a certain adequacy with the materiality of what it tries to transform, but which is also (...) tributary to a culture. (...) Technique is always a technique of the body[15] (p. 36).

The term "effectiveness" refers to the result of the action, its success or failure in achieving the purposes for which it is intended. At the conceptual level, effectiveness occurs in the relationship between the other and the real, that is, it results from the judgment made by someone external to the action regarding its results. This does not mean that the acting subject cannot recognize for themselves the results of his action. The judgment of the results of the action by the other has to do with external recognition, with the validation and appreciation of the subject's competencies, that is, “*Judgment is essentially an action of the other. From another to which, in any case, the ego is linked by tradition*”[15] (p. 37).

[20] Béguin P. Argumentos para uma abordagem dialógica da inovação. Laboreal 2008; 4(2):72-82.

The term "tradition" refers to the incorporation of the technique as a validated social practice recognized for its effectiveness. Tradition is built on the relationship between the acting subject and the other. Also, in the words of Christophe Dejours:

> The tradition dimension of the technical act is then what makes the connection between the ego and the other, in the triangle of technology; it is the properly intersubjective, social or cultural part of the construction of a technical conduct. Therefore, technique is not only a technique of the body, but also a cultural technique [15] (p. 36).

The conceptual contribution of the anthropology of technique (in general), contributes and produces implications on the understanding of assistive technology (in specific). Considering the three poles of the triangle, different relationships can be built between the elements of the triangle and the object of the project, accessibility. Particularizing for the subject ‘person with disabilities’ (Ego), for the context of civil aviation or the travel cycle (Real) and for the community involved (Other) and analyzing the interactions between these elements, guidelines are derived for the search for assistive technology that produces the effectiveness of accessibility in civil aviation. Some initial considerations:

a) In the mediation between people with disabilities (Ego) and the context of civil aviation (Real), artifacts (soft or hard), mediators of this relationship, may be closer to the subject (e.g., an exoskeleton) or closer to the context (e.g., a self-guided vehicle system - SGVs);
b) In any case, these systems must allow the subject to appropriate them, either by prior knowledge of the forms of crystallized functioning in the artifacts, or by the plasticity that allows the subject to adapt their operating modes to it, or by the possibility of the subject making use of their skills to appropriate the system;
c) In the mediation between the context of civil aviation (Real) and the community (Other), the effectiveness of accessibility must consider as an evaluation criterion the degree of autonomy and independence produced for the subject of the action;
d) The evaluation of efficacy should also consider the universality of the artifacts in terms of the scope of subjects that can be served. In this sense, systems that are positioned closer to the context (such as the cited SGVs) can produce universality effects. In addition, they are more coherent in relation to the current understanding of disability, which associates the experience of disability with the hostility of the context in relation to diversity, inherent to the human condition;

e) In mediation between people with disabilities (Ego) and the community (Other), cultural and economic aspects must be considered;
f) In the cultural field, the incorporation of artifacts must consider the skills required of users as 'people with disabilities' and workers for their operation, as well as the interactions that such systems can produce with other users. Systems that can be shared universally can more easily be culturally absorbed and accepted;
g) In the economic field, the incorporation of systems that produce accessibility must consider the operability of the solutions in terms of cost and possibility of sharing.

The considerations presented in this topic coupled theoretical contributions originating from the fields of social psychological theory and anthropology of technique. The theoretical link that justifies their use is the mediating role of technologies in any system of activities and the activity itself as a constituent element of technology.

1.4. FINAL CONSIDERATIONS OF THE CHAPTER

The concepts and theory presented in this chapter were the basis for the elaboration and development of the “Accessible Aviation Project”. It is worth highlighting the interactional perspective in the understanding of disability and accessibility also in the activity system, which is crucial for us to transform the current scenario of accessibility in civil aviation, based on the involvement of different social actors.

CHAPTER 2

Visual Identity

Rochele Amorim Ribeiro, Gabriel Dalla Déa Machi Postal, Thiago Costa Oliveira.

2. VISUAL IDENTITY

The visual identity work was developed with the objective of proposing an interpersonal communication strategy to: (i) Map accessibility practices at the airport; (ii) Guide passengers at key points of the airport; (iii) Intermediate interpersonal communication between passengers and attendants; (iv) Anticipate information to passengers when planning the trip; and (v) Define a visual communication to facilitate the understanding of the concepts, structure and applicability of the products of this project.

The development of visual identity is based on a study of pictograms, references present in Brazilian technical standards of accessibility, signage and examples of visual identity found in national and international airports. As a final product, the following are proposed: (i) Set of pictograms referring to accessibility practices and places of interest at airports; (ii) Proposal for the applicability of pictograms in visual communication; (iii) Guidelines for the graphical representation of location maps and passenger flows at airports.

2.1. PROJECT VISUAL IDENTITY

The visual identity of the project "Improvements in Civil Aviation Accessibility" was defined as the development of a visual communication strategy to be applied in the products to be developed for this project and in the definition of accessible communication guidelines in civil aviation. The main products that benefit from the visual identity are this Accessibility Guide, the Accessible Aviation Platform and the Airport Accessibility Assessment Reports.

As for accessible communication guidelines, the use of visual identity aims to guide the applicability of the criteria of legibility, universal design and wayfinding or navigation through the environments for the graphic representation of the mapping of the airport's built space.

The theoretical framework that served as the basis for the development of visual identity, especially pictograms and Graphical Maps, was composed of technical standards and reference manuals of Civil Aviation, both in the national and international scenario, and which contained technical guidelines for planning, elaboration and use of visual identity in airports, especially regarding accessibility.

In the national scenario, the reference standard is ABNT NBR 9050/2020[21] - Accessibility to buildings, furniture, spaces and urban equipment. Table 1 describes the application of the concepts contained in this standard.

Table 1 - Detail of the topics considered for the theoretical framework in the "Communication and Information" section of NBR9050/2020 (continues).

Items	Description	Application
5.1.1 General - Information	The information must be complete, accurate and clear. It must be arranged according to the transmission criterion and the two-way principle.	Use of visual, tactile and/or sound resources.
5.1.2 Transmission	Information can be transmitted through visual, tactile and audible signaling.	Pictograms, tactile maps and audio description resources.
5.1.3 Two-way principle	Information must occur through the use of at least two senses: visual and tactile or visual and sound.	Application in public areas of common use, for example, toilets and indications of accessible routes.
5.2.1 General - Signage	Signage must be self-explanatory, noticeable and legible for everyone.	Signage and information resources must be present on circulation routes and access to services, entrances and exits, among others. Furthermore, they must fit into the following categories: Informational or directional or emergency.
5.2.9.1 Visual language	Visual information must follow text assumptions, sizing and contrast of texts and symbols, so that they are perceptible, including by people with low vision. Therefore, the visual language (symbols and images) must follow specifications regarding contrast (5.2.9.1.1), readability (5.2.9.1.2), visual letters and numbers (5.2.9.1.3), visual symbols (5.2.9.1.4), luminance (5.2.9.1.5) and chrominance (5.2.9.1.6).	Preparation of pictograms and location and route maps. Creation of captions and colors to identify spaces.

[21]ASSOCIAÇÃO BRASILEIRA DE NORMAS TÉCNICAS. ABNT NBR 9050: Acessibilidade a edificações, mobiliário, espaços e equipamentos urbanos. Rio de Janeiro: ABNT, 4ª. ed, 2020.

Table 1 - Detail of the topics considered for the theoretical framework in the "Communication and Information" section of the NBR9050/2020 (conclusion).

5.3 Symbols	This signage must be posted in a location visible to the public. To this end, a standardization of symbols was established: International Access Symbol – SIA (5.3.2); (International symbol for people with visual impairments (5.3.3), International symbol for people with hearing impairments (5.3.4) and Complementary symbols (5.3.5). Among the Complementary Symbols are symbols referring to preferential service (5.3. 5.1), visually impaired person accompanied by a guide dog (5.3.5.2), health (5.3.5.3), circulation (5.3.5.4) and communication (5.3.5.5).	Preparation of pictograms.

Source: ABNT NBR 9050/2020.

On the international scene, the following manuals on language and communication in civil aviation were considered:

ACRP AIRPORT COOPERATIVE RESEARCH PROGRAM. *Wayfinding and Signing Guidelines for Airport Terminals and Landside*[22]. Relevant topics: Boarding and disembarkation diagram; Application of navigation concepts by environments; Map of flows between floors.

ACRP AIRPORT COOPERATIVE RESEARCH PROGRAM. *Enhancing Airport Wayfinding for Aging Travelers and Persons with Disabilities*[23]. Relevant topics: Reference of pictograms usually used in Civil Aviation; Guidelines for typography in signaling environments; Flow signaling policies; Use of colors and contrasts for signaling.

[22] AIRPORT COOPERATIVE RESEARCH PROGRAM. ACRP Report 52: Wayfinding and Signing Guidelines for Airport Terminals and Landside. Federal Aviation Administration. Washington, D.C: National Academy of Sciences, 2011.

[23] AIRPORT COOPERATIVE RESEARCH PROGRAM. ACRP-Research Report 177. Enhancing Airport Wayfinding for Aging Travelers and Persons with Disabilities 2017. The National Academies of Sciences, Engineering, and Medicine. Washington, DC: The National Academies Press. https://doi.org/10.17226/24930.

2.1.1 Pictograms of accessibility practices and places of interest at airports

Pictograms are graphic symbols that represent reality in a simplified and schematic way, in which the perception and understanding of its meaning occurs universally for all audiences, regardless of the native language[24,25].

Thus, when visualizing a pictogram, it is possible to understand its meaning by decomposing it into elements that form it and, considering a pre-existing repertoire of association of a symbol with a given meaning, interpreting the joint information of the graphic symbol. Figure 4 exemplifies this idea of decomposition and interpretation, whose principle was used to elaborate the project's pictograms.

Figure 4 - Elaboration of the pictogram referring to the practice "Accessible information desk", through the decomposition of graphic symbols

Source: Authors

To support the construction of the pictograms, a bibliographic research on signaling, universal design and spatial orientation by the environments applied to civil aviation was carried out. It was verified that the pictograms developed by the American Institute of Graphical Arts (AIGA) are the basis for the construction of pictograms available in manuals used in spaces intended for transport and services in the national and international scenario[26]. International civil aviation reference manuals were

[24] NEURATH, O. International Picture Language: The first rules of Isotype. Londres: Hassell Street Press, 1936.
[25] GOMES FILHO, J. Gestalt do objeto: sistema de leitura visual da forma. 9. ed. São Paulo: Escrituras, 2013
[26] AMERICAN INSTITUTE OF GRAPHIC ARTS. AIGA. Symbol Signs. Washington, D.C.: Dpt. of Transportation, 1974. Disponível em: https://www.aiga.org/resources/symbol- signs. Acesso em: 23 jun. 2021

consulted, which also recommend the application of pictograms based on those already developed by AIGA.

In addition, a survey was carried out at national and international airports of the graphic symbols used in each one. The choice of search sources at international airports was based on the manual Wayfinding and Signing Guidelines for Airport Terminal and Landside[2]. Then, a comparative table was prepared between the pictograms used by the airports consulted and the pictograms proposed by AIGA and ABNT NBR 9050/2015. In view of the wide variety of pictogram options to represent each airport location, it was necessary to establish the following criteria for adopting the pictograms of this project, in order of priority:

a. adopt the pictogram already defined by ABNT, especially NBR 9050/2015[1];
b. if there is no definition in ABNT, decide to adopt a pictogram based on the following actions:

   - verify the representation recommendations defined by AIGA[6] and the international reference manuals,

   - check the frequency of graphic symbols that make up the pictogram used to represent certain airport locations.

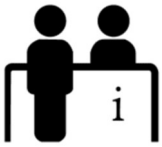
However, in cases not covered by these criteria, a pictogram was elaborated for the project, considering the graphic symbols most used to represent similar meanings and the visual language pattern present in the pictograms developed by AIGA[op.cit.2]. This standard was adopted as a reference because: (i) it is a set of pictograms widely used for visual communication in transportation and services at the international level; (ii) it is the visual language basis of the pictograms referring to accessibility contained in the technical standards (e.g. NBR 9050). Figure 5 illustrates part of the set of AIGA[op.cit.2] pictograms in the area of transport and services, commonly used in visual communication at airports.

Figure 5 - Example of pictograms for the US Department of Transportation[3,4,5]

Source: Authors

As an example, pictograms were prepared for check-in, automatic check-in and information desk (Figure 6).

Figure 6 - Elaboration of the pictograms Check-in, Automatic check-in and information desk

	Check-in	Automatic check-in	Information desk
Accessible version			
General version			

Source: Authors

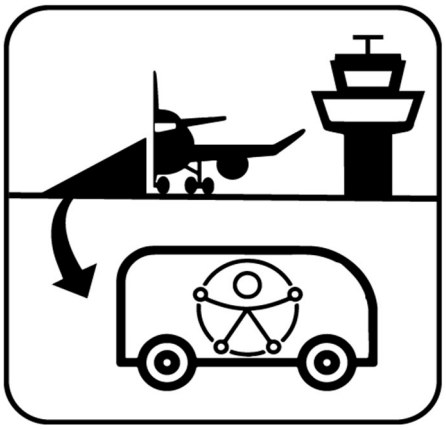
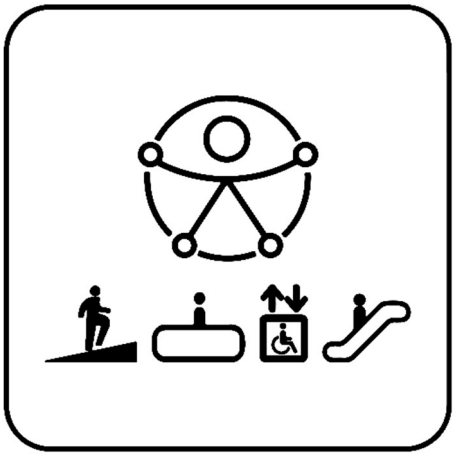
Finally, pictograms were prepared for the accessibility practices described in the characterization worksheets available in Appendix I. The elaboration of the pictograms of the practices followed a standardization of images of similar meanings, that is, many practices had references that could be reused in other practices. For example, the practice corresponding to the "accessible counters" has in its representation the pictogram of an "accessible counter", plus the elements that make up the specificity of the practice (Figure 7).

Figure 7 - Standardization of images of similar meanings

Source: Authors

To make these pictograms of practices, we also used the pictogram "Accessibility", which is the official pictogram for accessibility of the United Nations (UN). This pictogram was used based on the conditions stipulated by the Visual Identity Manual of the United Nations Development Program (UNDP). This pictogram was used in practices that cover more than one disability, which do not translate uniquely to the use of a wheelchair (Table 2).

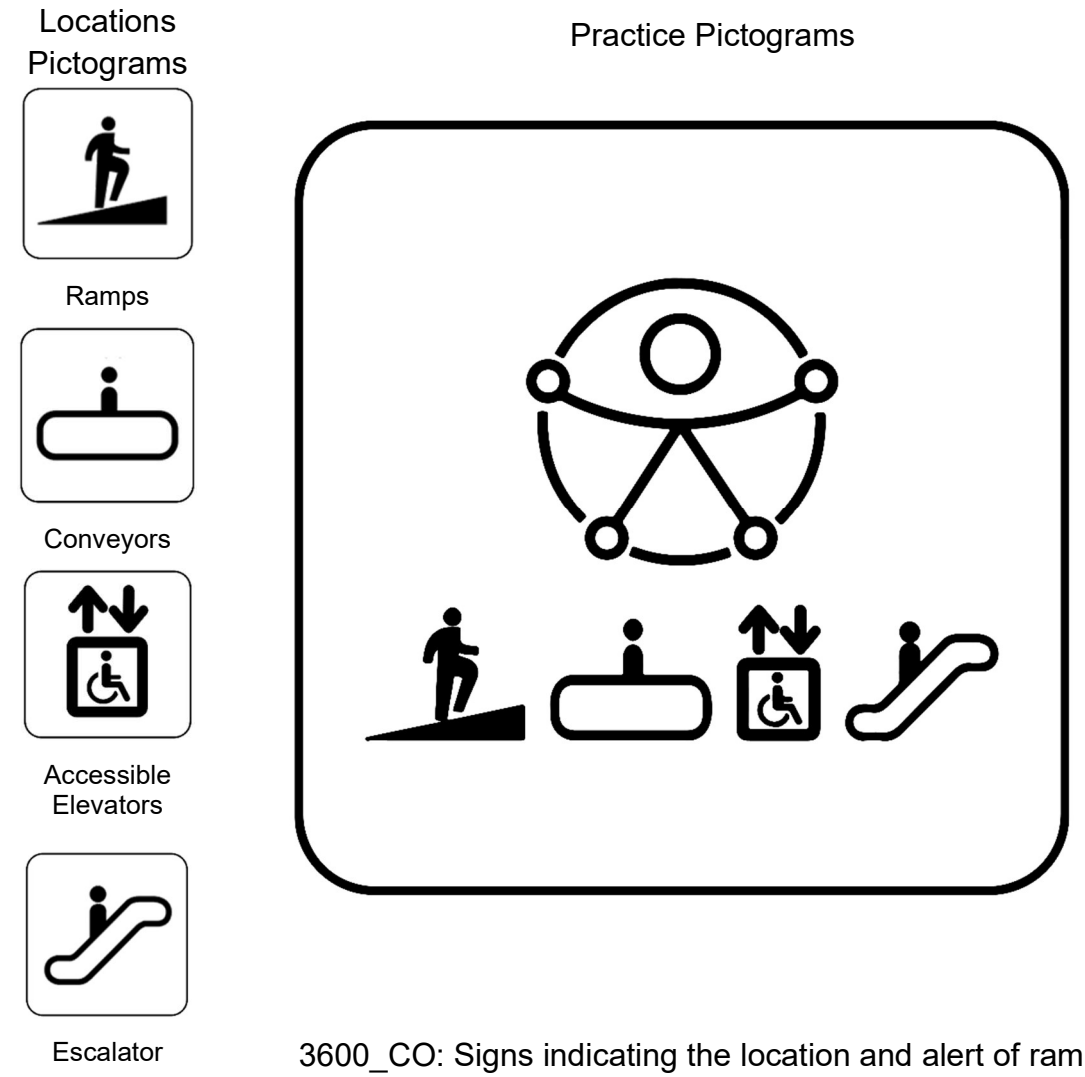
Table 2 - Use of the pictogram "Accessibility"

5800_DE: ACCESSIBLE PASSENGER TRANSPORT FOR GROUND BOARDING AND DISEMBARKATION OR BETWEEN TERMINALS	
3600_CO: INDICATIVE SIGNALING OF LOCATION AND ALERT OF RAMPS, ELEVATORS, CONVEYORS AND ESCALATORS	

Source: Authors

To maintain coherence between the pictograms created, elements common to other pictograms of locations were also (re)used (Figure 8). These pictograms were incorporated to maintain the meaning and symbology of the elements used in the preparation of the proposed pictograms, in addition to facilitating understanding and maintaining the unity of Visual Identity.

Figure 8 - Reuse of practice pictograms



3600_CO: Signs indicating the location and alert of ramps, elevators, conveyors and escalators.

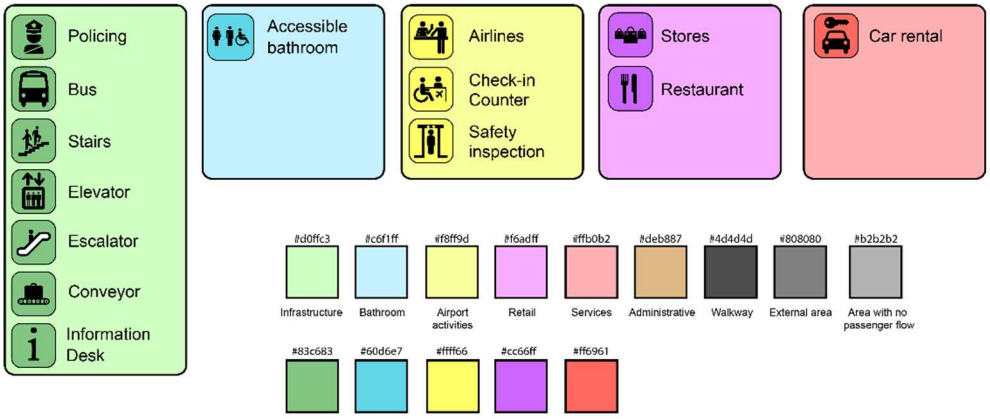
Source: Authors

2.1.2 Applicability of pictograms in visual communication

The application of the pictograms was made in the graphical and flow maps, as well as in the characterization worksheets of the practices. As for the graphical maps, Figure 9 illustrates the captions used in the insertion of this material in the map of Afonso Pena Airport (Curitiba), represented in section 2.1.3 of this chapter.

To elaborate it, colors were assigned to the pictograms, and each color is in accordance with that used in the graphical map. These colors were chosen from references that are explained in item 2.1.3.1- Graphical Map.

Figure 9 - Caption for the maps, including pictograms and color scheme by sector



Source: Authors

2.1.3 Definition of guidelines for the graphical representation of location and flow maps

This section presents the references and the stages of elaboration of the graphic guidelines for the graphical maps for location and maps of passenger flows to perform the main functions at the airport.

2.1.3.1 Graphical Map

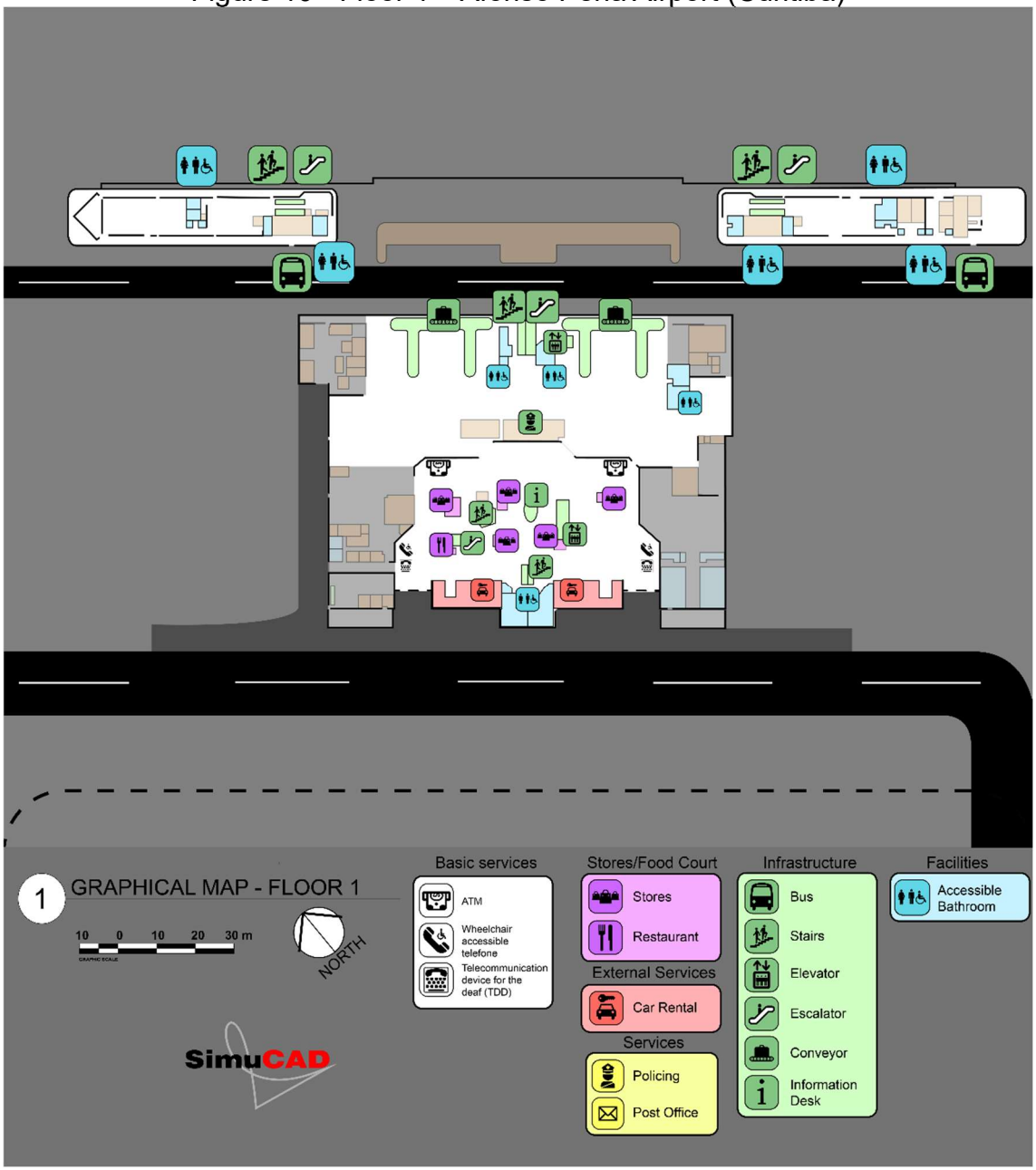
In order to stipulate the guidelines for the creation of graphical maps and, later, to insert signs of people flows, a mapping of the visual identity used in airports of international references was carried out, such as airports of Atlanta Hartsfield–Jackson (ATL), Singapore (Changi Airport (IATA: sin, ICAO: WSSS), Munich -Franz Josef Strauss (MUC) and London Heathrow (LHL) and national, such as Tancredo Neves International Airport (Confins, CNF); focusing on trace characteristics, contrast, colors, item arrangement, scale and flow; in addition to 2D/3D/static/dynamic representations. The choice of Tancredo Neves Airport (Confins) as a national airport reference was made because it has the map with more elements according to international references.

From this analysis, the following parameters were identified for the preparation of graphical maps:

- Suppress all architectural elements that do not interest the passenger (external walls, administrative areas, pillars, etc.);
- Maintain the contour (limit) of the building;
- Apply color differentiation to locations with different functions;
- Apply color differentiation for indoor and outdoor environments;
- Dim the delimitation of areas not used by passengers at the airport (administrative areas and areas without flow);
- Use lighter shades between the color of the environment and the corresponding pictogram so that there is a greater contrast between the elements;
- Adopt frames in square-shaped pictograms with rounded edges.

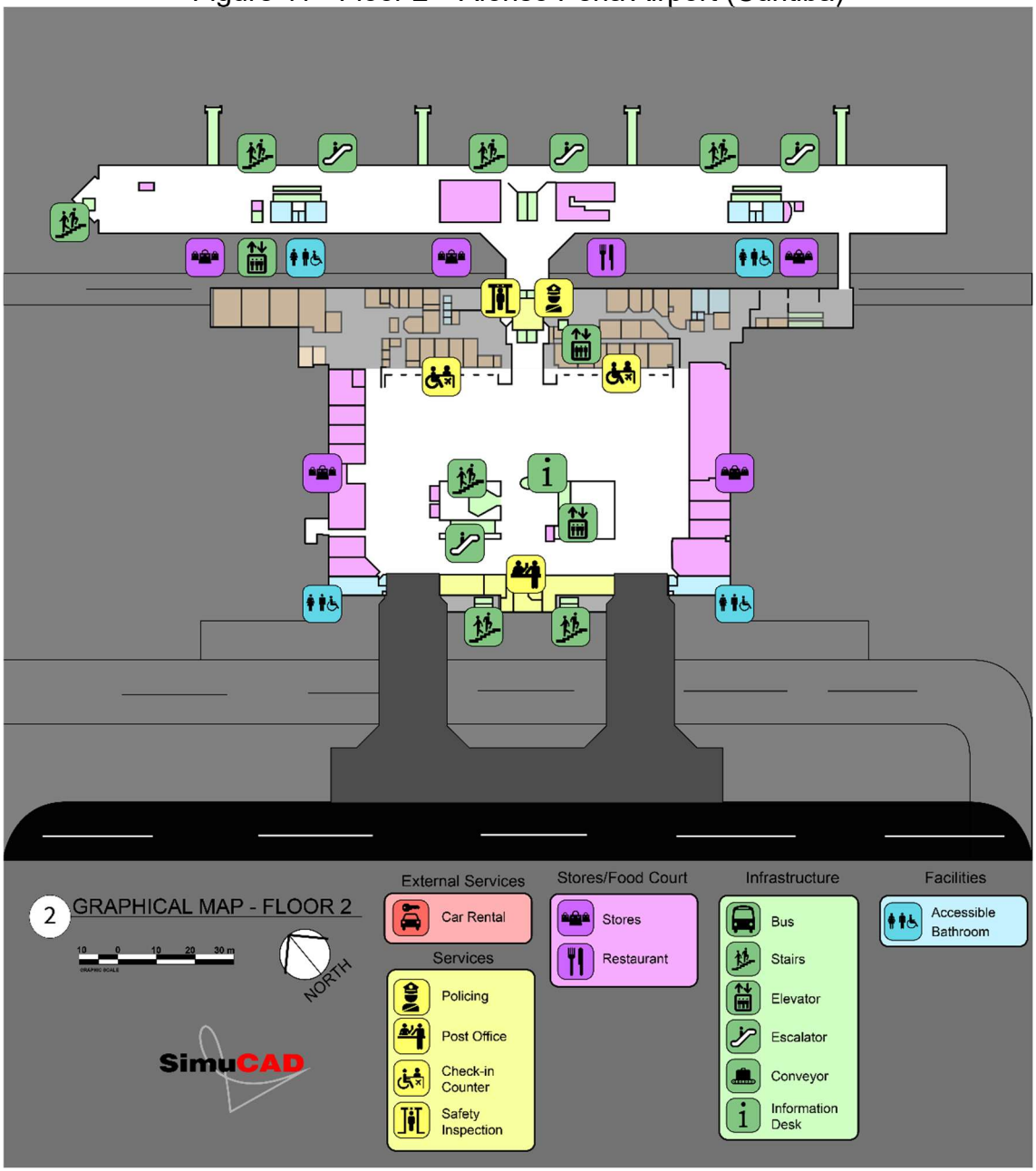
As a product, a case study was carried out with the application of the content stipulated at Afonso Pena Airport (Curitiba), presented in Figures 10 to 12:

Figure 10 - Floor 1 – Afonso Pena Airport (Curitiba)



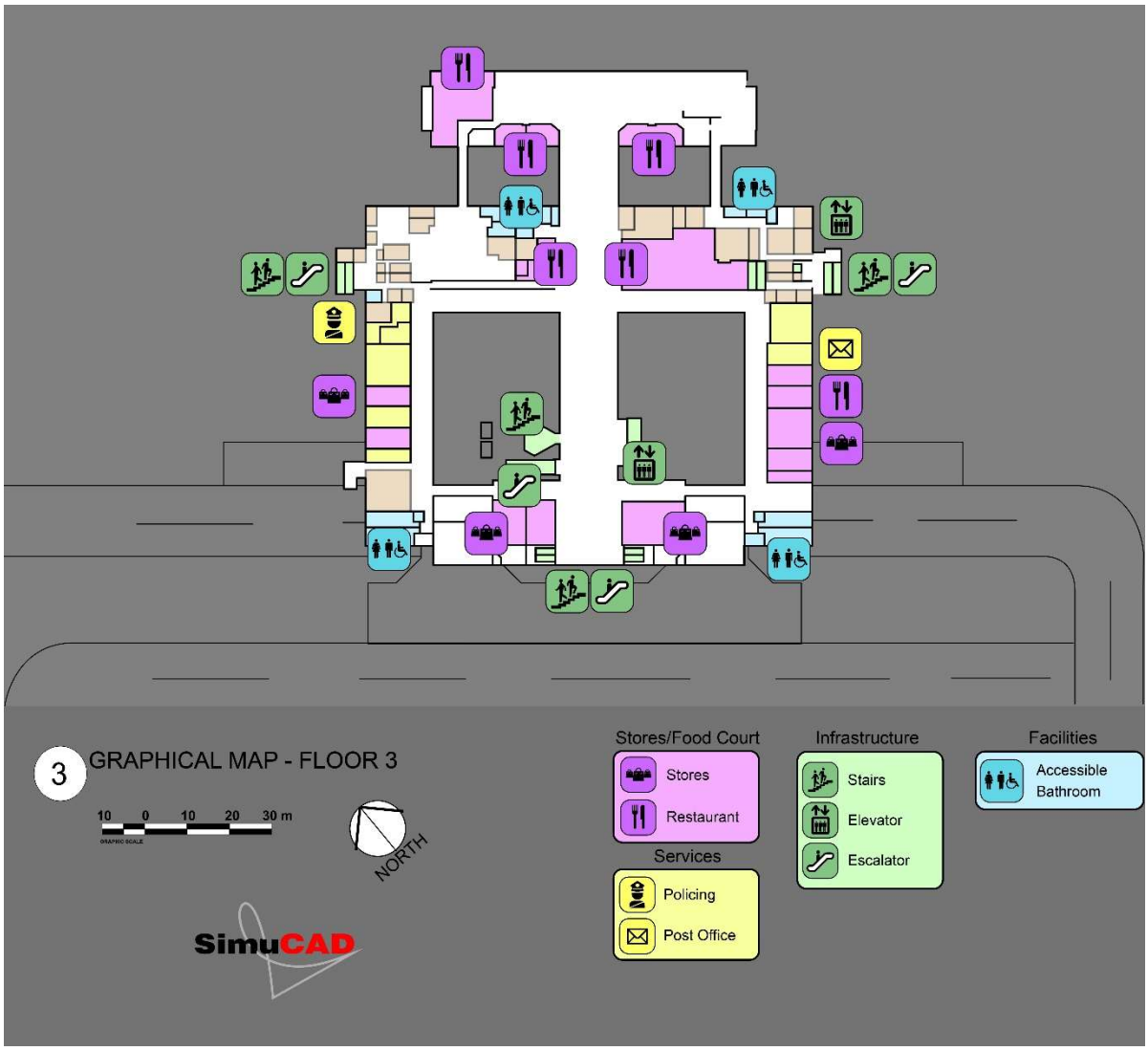
Source: Authors

Figure 11 - Floor 2 – Afonso Pena Airport (Curitiba)



Source: Authors

Figure 12 - Floor 3 – Afonso Pena Airport (Curitiba)



Source: Authors

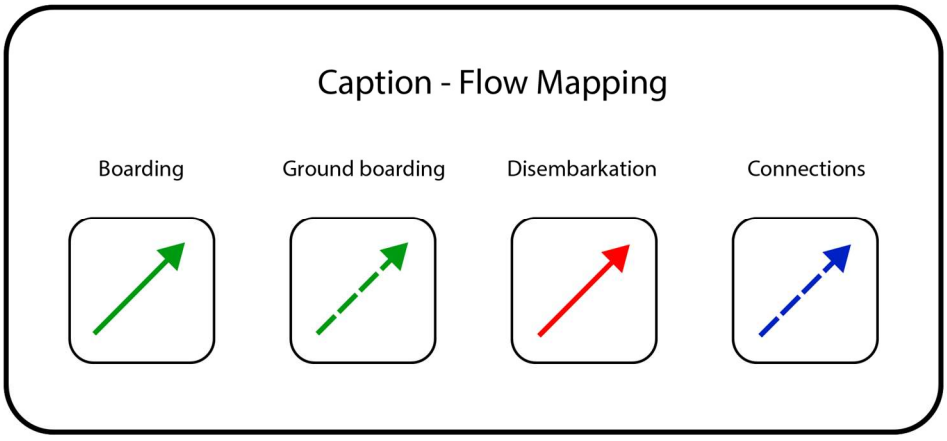
2.1.3.2 Passenger Flow

As in the case of the Graphical Map, a search was carried out for flow map references in other spaces with direct contact with the public, such as airports, museums, shopping malls and galleries, in order to understand parameters of interest for the representation to be developed by the team. As an example of references, we have the San Francisco International Airport and the National Gallery of London. Then, parameters were developed for the representation of flows, in addition to implementing them in the case study of Afonso Pena Airport (Curitiba), as listed below:

a. Different representations for different flows (color, dashed) (Figure 13);

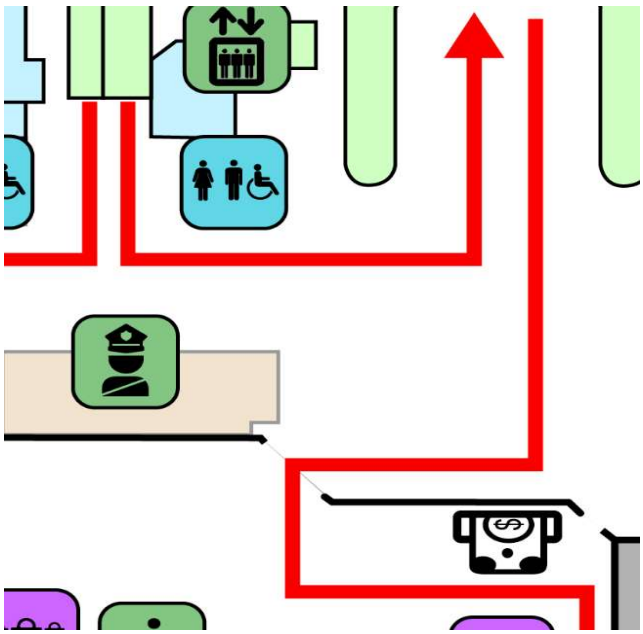
b. Change of movement direction represented only by right angles (Figure 14);
c. Continuous and uninterrupted lines to indicate paths, avoiding visual pollution (Figure 15);
d. Arrows only at the end of the route so that the map is cleaner (Figure 16);
e. Adoption of dashed lines to represent exception flows, for example, in the “Connections” and “Ground Boarding” flows applied in the study of the Afonso Pena Airport (Curitiba) (Figures 17a and 17b);
f. Avoid changes in direction in the representation of the path for a better interpretation of the map by the user (Figures 18a and 18b);
g. Do not overlap the flow with the architectural elements, as this impairs the coherence of the map (Figure 19);
h. Do not overlap the flow with the pictograms. (Figures 20a and 20b).

Figure 13 - Representation of the lines used to represent flows



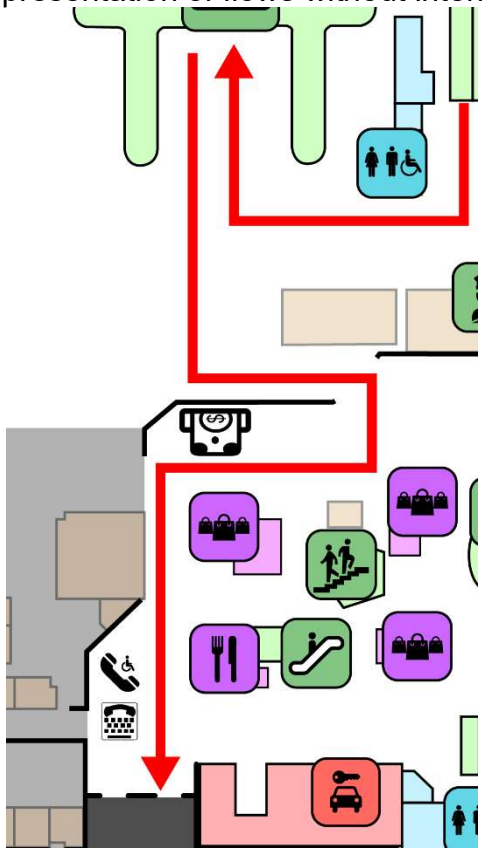
Source: Authors

Figure 14 - Representation of flows through right angles



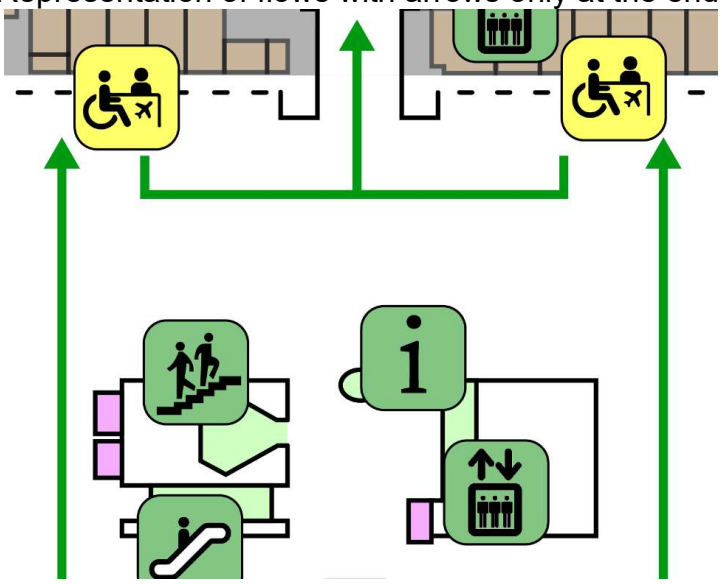
Source: Authors

Figure 15 - Representation of flows without interruptions



Source: Authors

Figure 16 - Representation of flows with arrows only at the end of the route

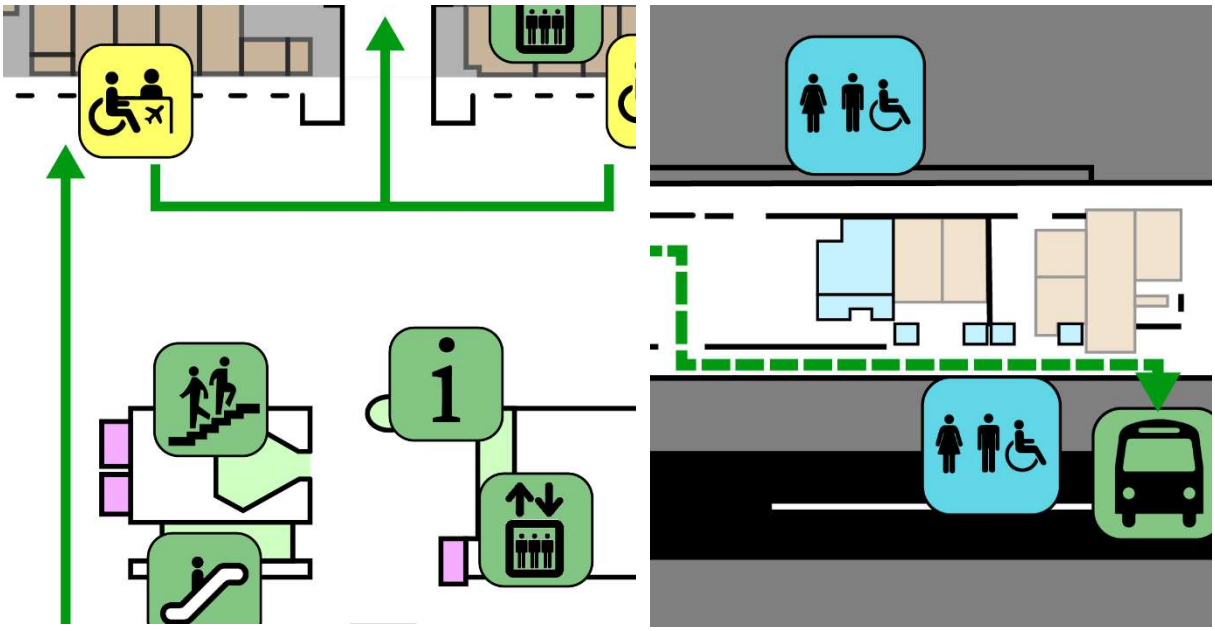


Source: Authors

Figure 17 - Representation of boarding flows

a - Conventional Boarding

b - Ground Boarding

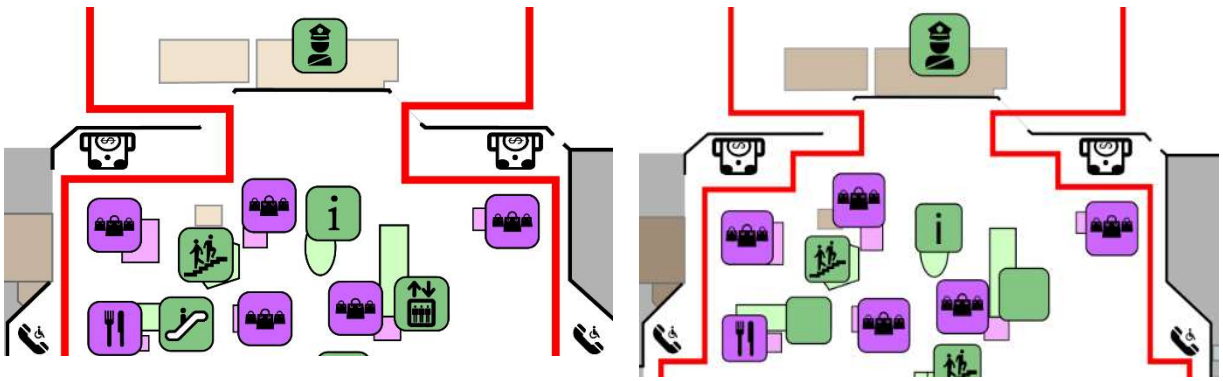


Source: Authors

Figure 18 - Representation of changes in direction

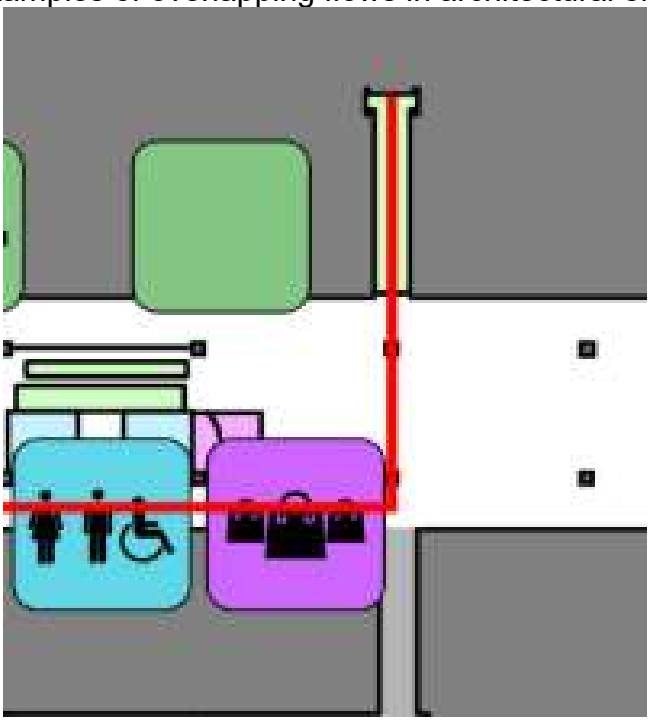
a - Correct representation to indicate change of direction

b - Incorrect representation to indicate change of direction



Source: Authors

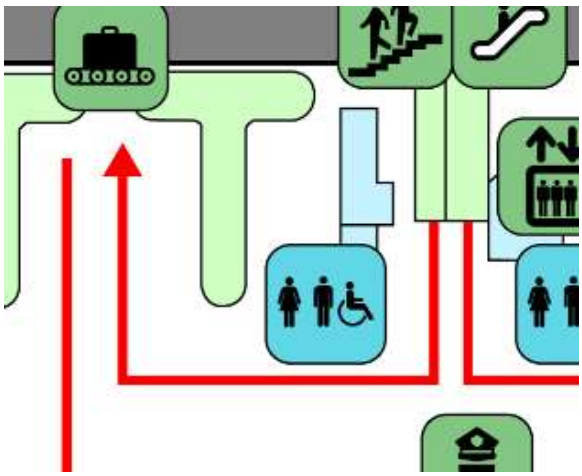
Figure 19 - Examples of overlapping flows in architectural elements



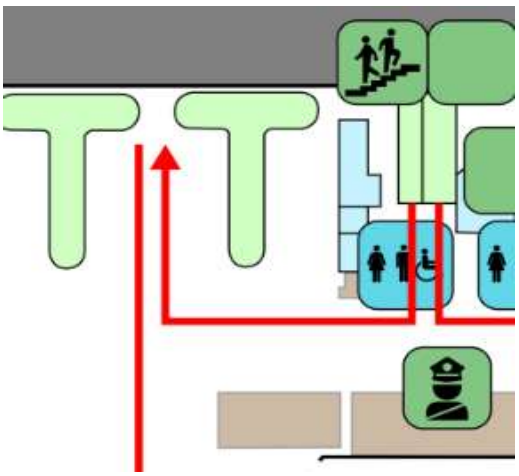
Source: Authors

Figure 20 - Representation of flows in relation to pictograms

a - Correct representation of flows in relation to pictograms



b - Incorrect representation of flows in relation to pictograms



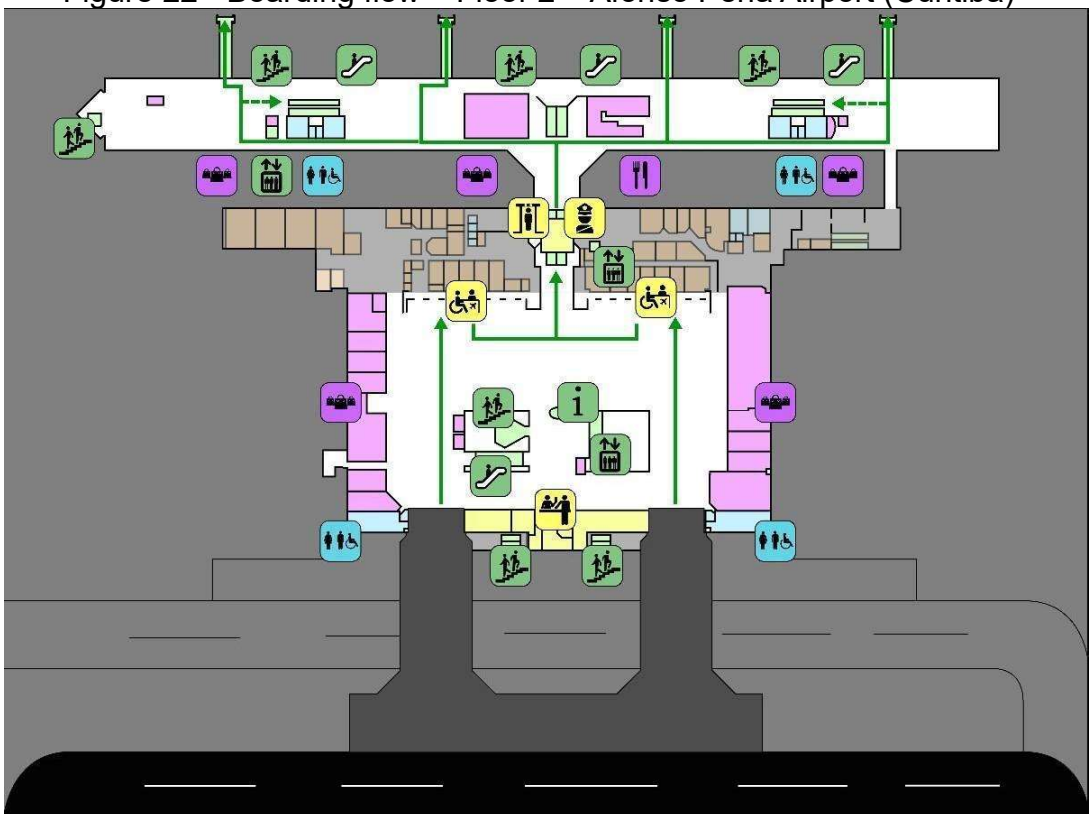
Source: Authors

The application of these guidelines in the case study at Afonso Pena Airport (Curitiba) can be seen in Figures 21 to 24.

Figure 21 - Flows – Floor 1 – Afonso Pena Airport (Curitiba)

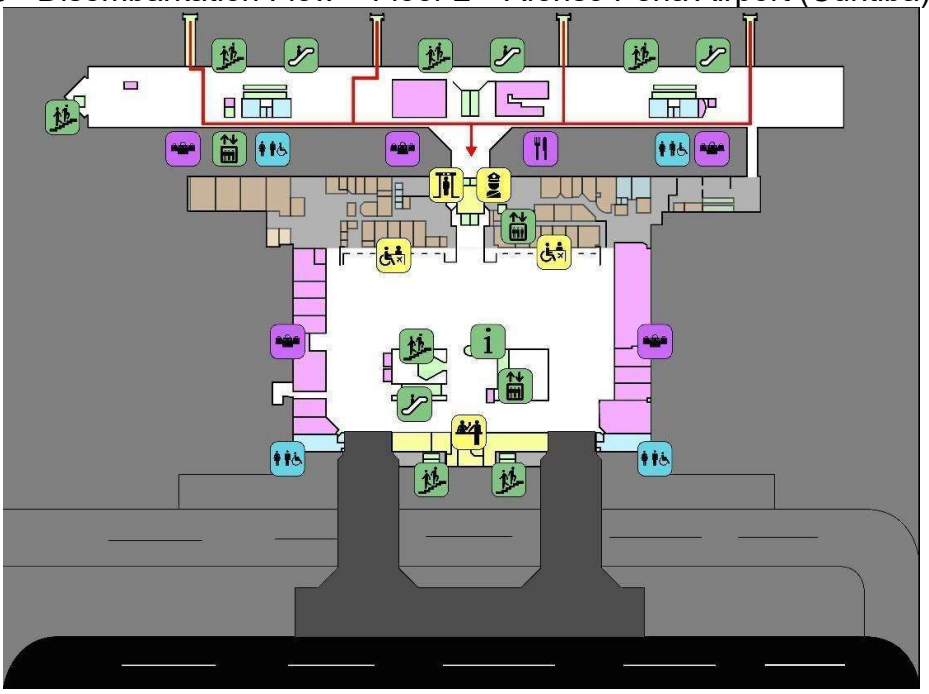
Source: Authors

Figure 22 - Boarding flow – Floor 2 – Afonso Pena Airport (Curitiba)



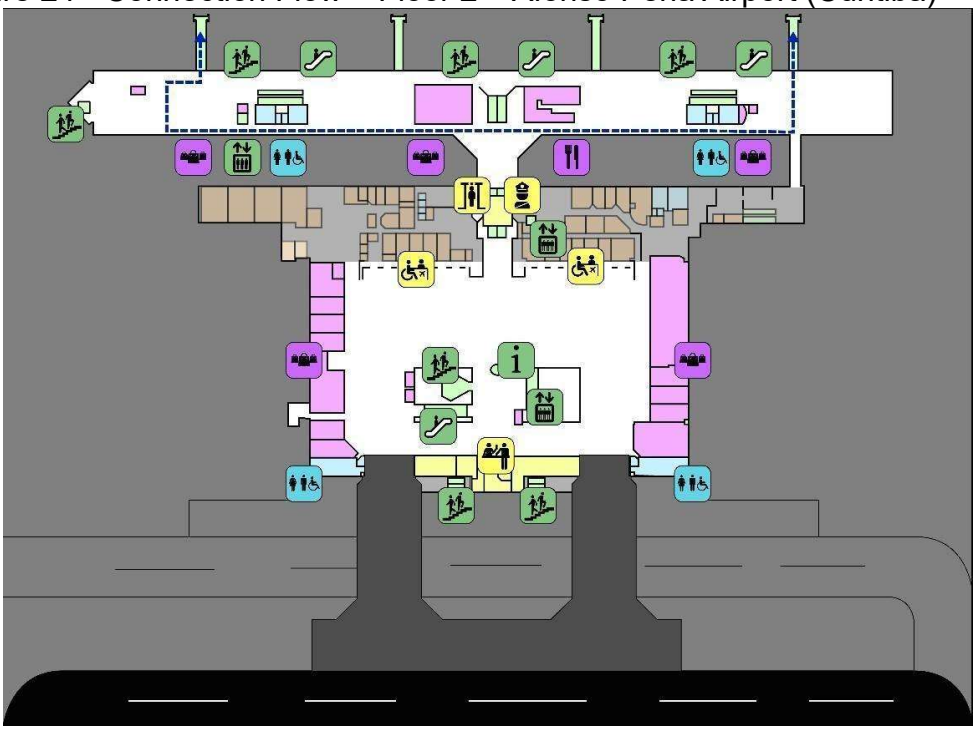
Source: Authors

Figure 23 - Disembarkation Flow – Floor 2 – Afonso Pena Airport (Curitiba)



Source: Authors

Figure 24 - Connection Flow – Floor 2 – Afonso Pena Airport (Curitiba)



Source: Authors

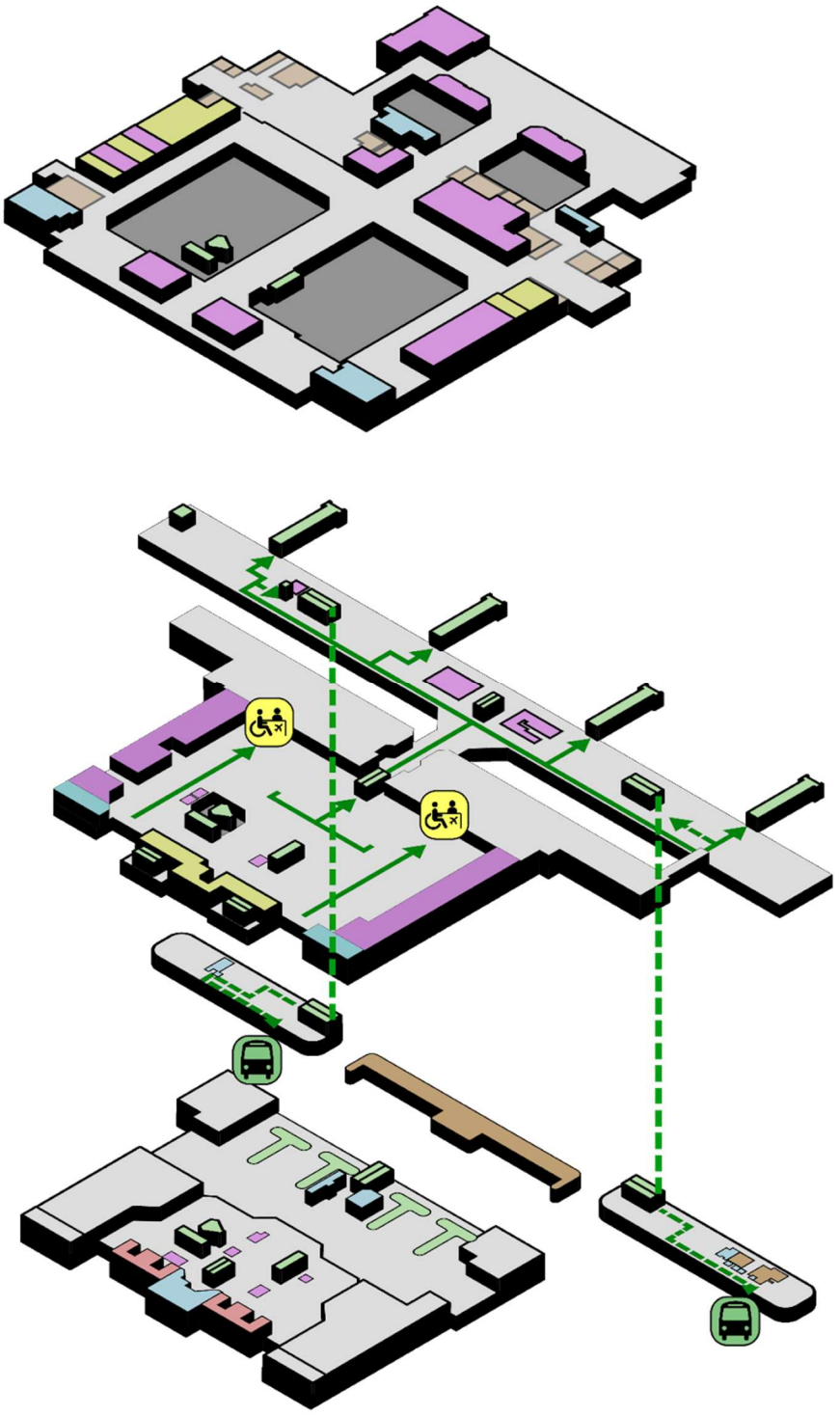
For flows between floors, references with representations of 3D maps were consulted, such as those on the official website of the Van Gogh Museum (Amsterdam, Netherlands) and Narita International Airport (Japan), as well as reference manuals[4,5,6].

Based on these references, the following parameters have been established to be followed:

a. Apply vertical straight lines to represent the flow between floors;
b. Adopt color differentiation for different flows;
c. Allocate pictograms only in essential places for the flow;
d. Adapt guidelines applied to 2D maps;
e. Represent in volume the closed areas (establishments, rooms);
f. Avoid overlapping the flow between floors and architectural elements.

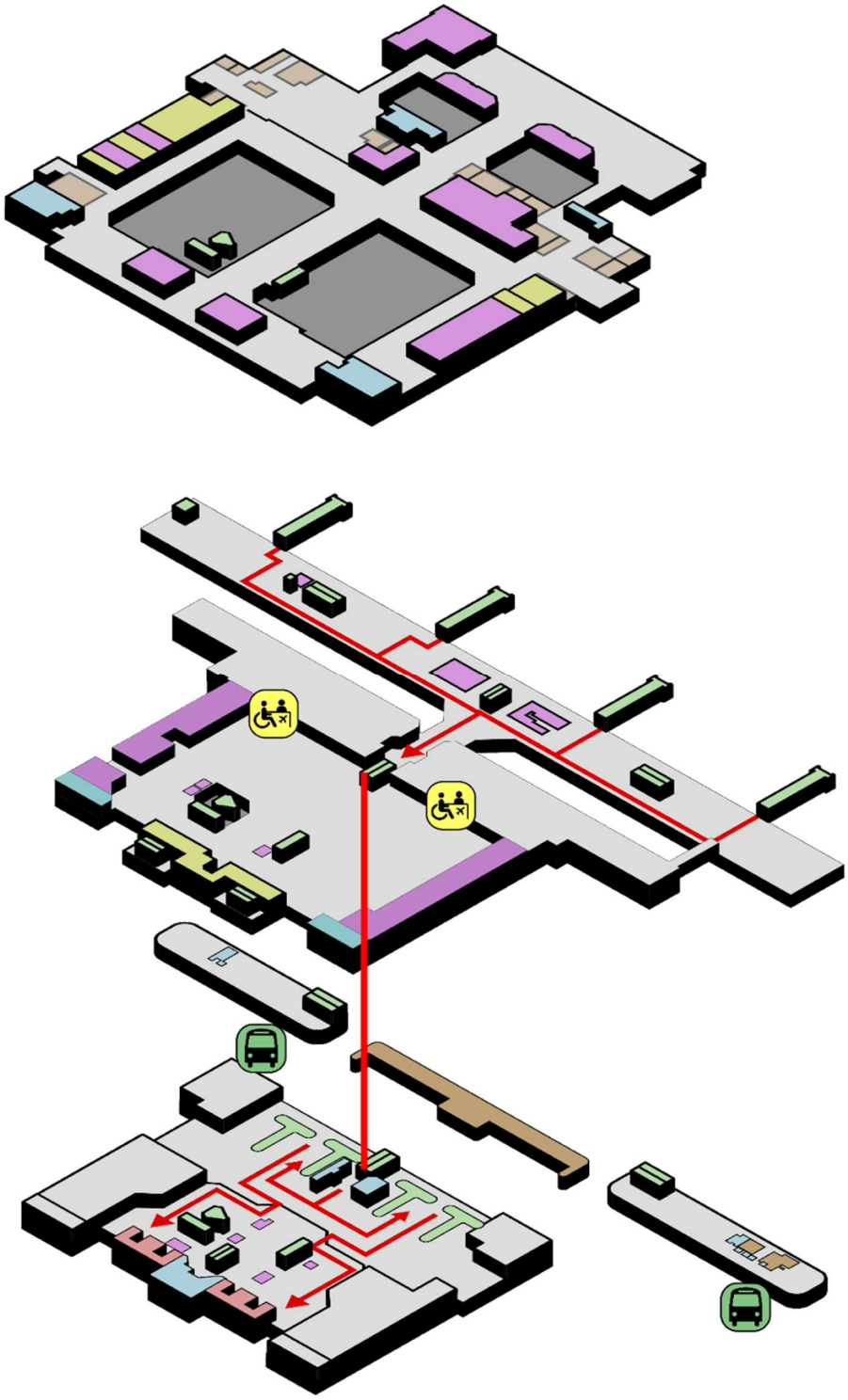
As a result, we have the application at Afonso Pena Airport (Curitiba), illustrated in Figures 25 to 27, following the same caption for flows (Figure 13) of the 2D maps:

Figure 25 - Boarding flow between floors (complete) – Afonso Pena Airport (Curitiba)



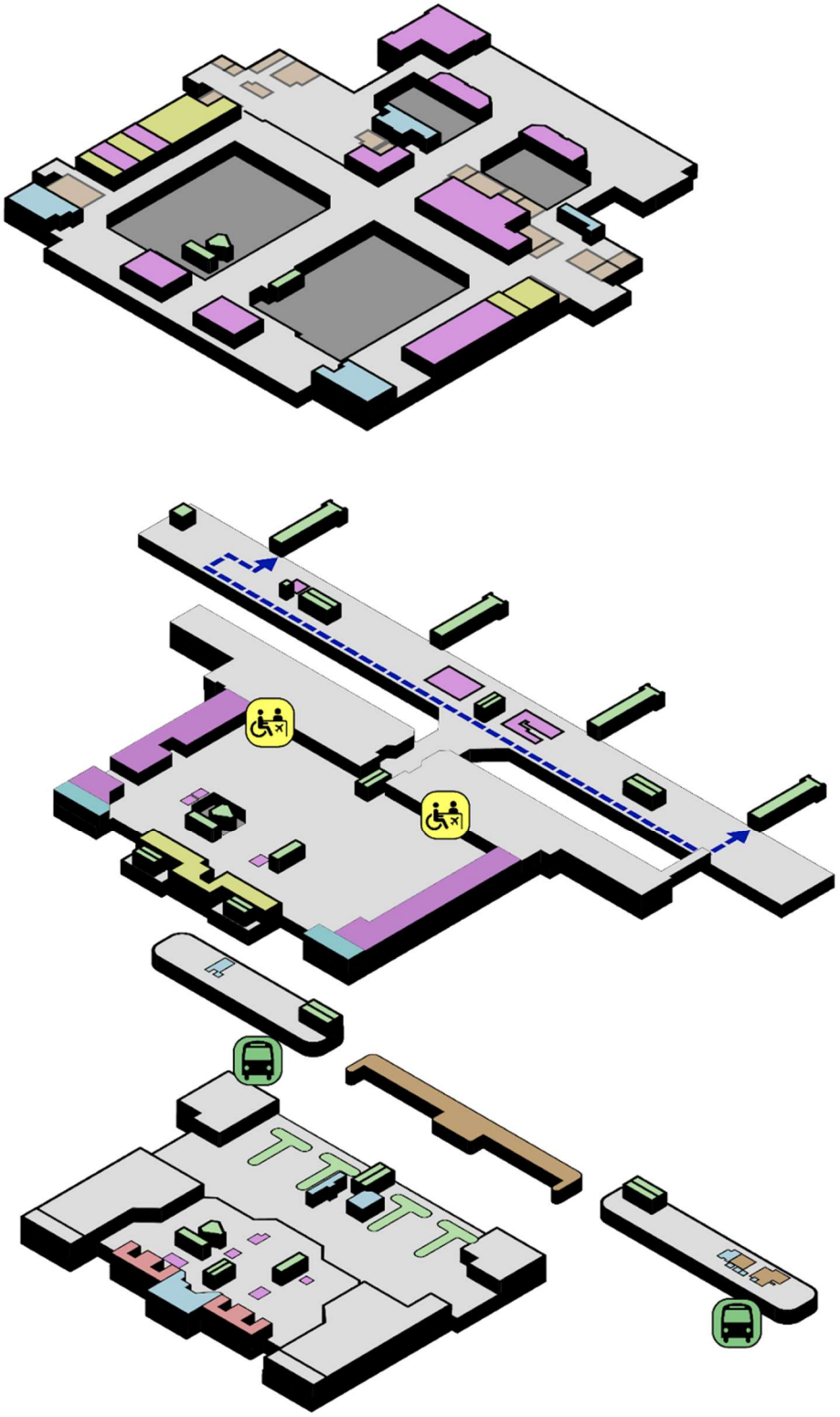
Source: Authors

Figure 26 - Disembarkation flow between floors – Afonso Pena Airport (Curitiba)



Source: Authors

Figure 27 - Connection flow – Afonso Pena Airport (Curitiba)



Source: Authors

2.2. FINAL CONSIDERATIONS OF THE CHAPTER

The definitions for visual identity presented in this chapter sought to propose interpersonal communication strategies to guide and map accessibility practices. These definitions were presented based on the technical literature already consolidated in national and international standards, as well as disclosed in international technical manuals in civil aviation.

The material presented in this chapter should contribute to the elaboration of accessible communication strategies at national airports, respecting the specificities of each terminal and aligned with a standardization compatible with an internationally observed and recommended visual communication language.

CHAPTER 3

Accessibility Practices

Igor Dos Santos and Luiz Antonio Tonin

3. ACCESSIBILITY PRACTICES

This chapter is the central core of this guide, structured from the Integrated Accessibility Model, considering the dimensions of Management, Communication, Mobility and Use, already explained in the "Presentation" section. All practices were identified in real-world scenarios at both national and international airport facilities. Ultimately, accessibility practices reflect socially constructed ways to provide possibilities for the autonomous and independent participation of persons with disabilities in the context of civil aviation. Such practices can evolve and, therefore, this content will be constantly evolving.

The basis of this guide is a set of individual worksheets with essential information about each accessibility practice. Due to the dynamic nature of social life, institutional environments, and the integration of technical and organizational infrastructure in public or private spaces, these practices undergo changes over time. For this reason, it was decided to present accessibility practices in the form of worksheets. New ones of these may emerge, as well as usual practices may be replaced by others.

The coherence of the grouping of accessibility practices is achieved by articulating them within each of the four dimensions of the Integrated Accessibility Model, thereby assembling sets of specific practices. Such groupings reflect a certain order of precedence between activities in the travel cycle. Management practices precede all others, as this dimension anticipates key accessibility issues and ensures continuity between practices. Subsequently, groupings belonging to the Communication, Mobility and Use dimensions appear. “Being able to communicate, being able to move and being able to use” is a mantra that guides the action in a situation in the travel cycle.

This chapter is organized into three parts. Initially, the model/base structure that represents the accessibility practices characterization worksheets will be introduced. Subsequently, the dimensions of integrated accessibility will be treated along with the groupings within them. Lastly, the correlations between practices will be discussed, highlighting the importance of completeness and continuity expected within airports environments.

3.1 ACCESSIBILITY PRACTICES CHARACTERIZATION WORKSHEETS

Accessibility practices are presented in Practice Characterization Worksheets (PCWs), as shown in Figure 28. Each PCW presents a description of the practice, scope, images, legal and prescriptive references and other information that support the general understanding of the content, as well as the evaluation criteria for the level of effectiveness presented in the reality of the airport unit in relation to the description of the practice.

Figure 28 - Practice Characterization Worksheet (PCW)

Source: Authors

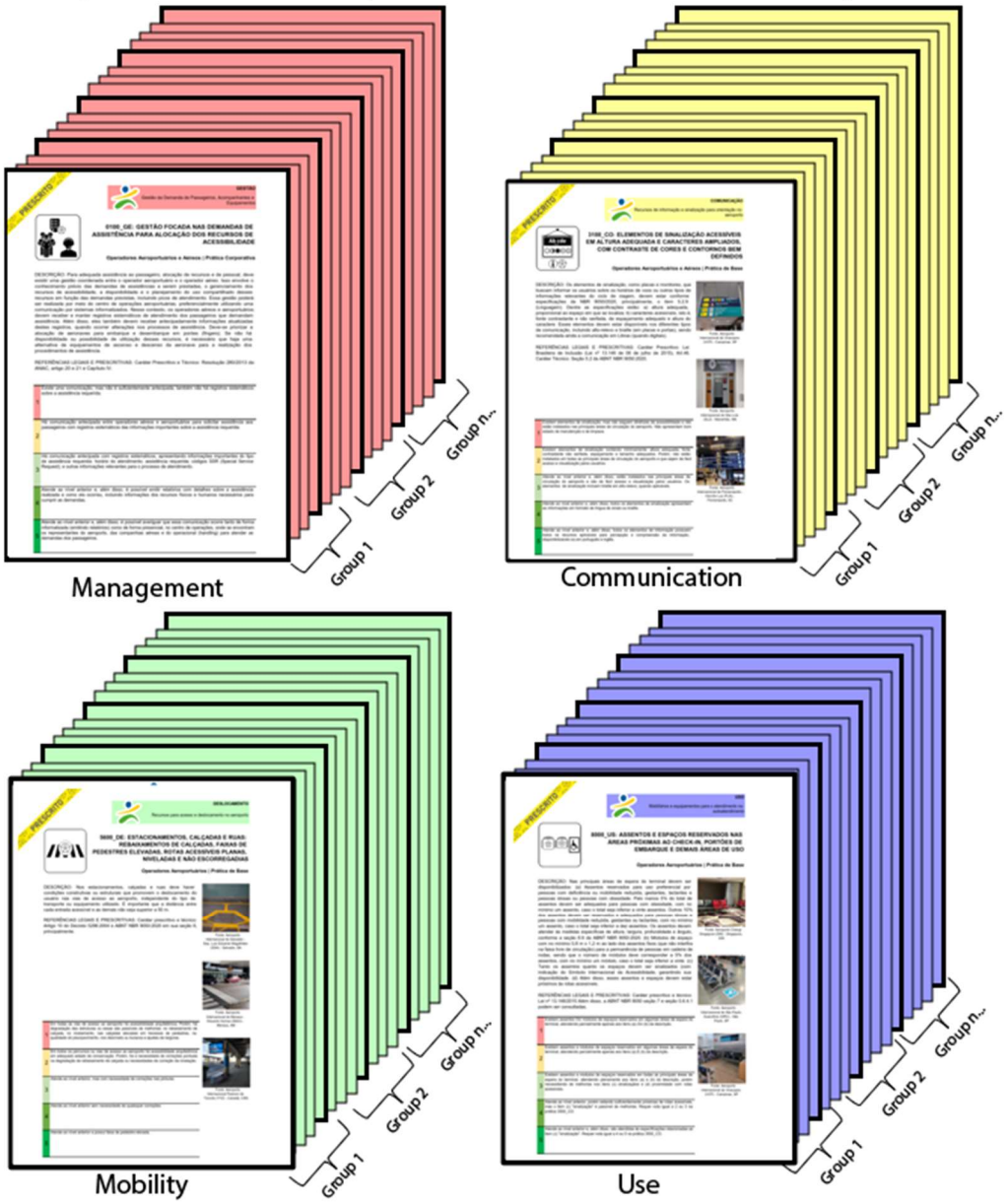
3.1.1. Prescription of the practice

The PCW presents an indication for the prescription of the practice through the presence of an icon that identifies the practices cited in laws, regulations or standards. Practices featuring this indication are therefore prescribed for accessibility in the travel cycle. The identification of these practices resulted from a process of analyzing laws, regulations, ordinances, decrees and other documents, to associate the content of the practices with the explicit description cited by a legal or normative reference.

3.1.2. Dimension and Practice Group

The PCW header presents the dimension of accessibility analysis (Management, Communication, Mobility and Use) and the Practice Group. The set of practices is divided into 15 groups, which describe travel cycle contexts. Figure 29 illustrates each dimension and its groupings. Each group has an average of 6 practices, with the number of practices ranging from 4 to 9.

Figure 29 - Accessibility Practices: Dimensions and Groups



Source: Authors

3.1.3. Code and Title of Practice

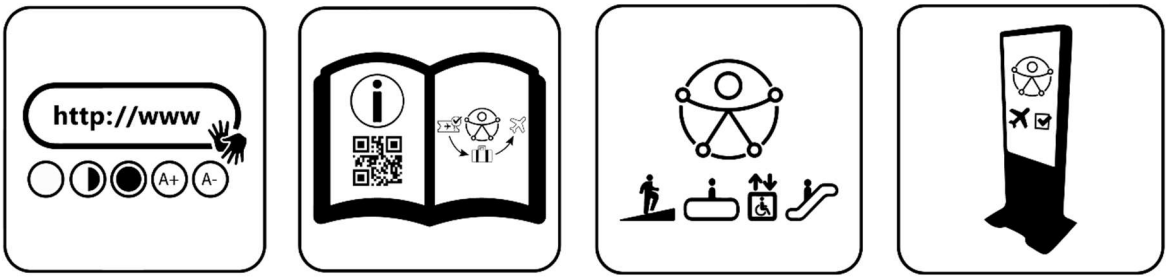
Each practice has a code and a title. This information allows the practice to be easily cited and located on the Accessible Aviation Assessment Platform (web software). The code is formed by the practice number, referring to the sequential order, and by the first two letters referring to the dimension[1].

[1] NT: The codes were preserved without translation, composed of the first two letters of the dimension's names in Brazilian Portuguese, as follows: GE: *Gestão* (Management), CO: *Comunicação* (Communication), DE: *Deslocamento* (Mobility), US: *Uso* (Use).

3.1.4. Practice Pictograms

The Pictograms, as presented in Chapter 2, were adapted or created from a search for illustrations, symbols, icons and characters adopted internationally by official entities to represent each accessibility practice presented in this Guide. In Figure 30, examples of pictograms are presented. It is important to highlight the update of the international accessibility symbol, considering the accessibility symbol adopted by the United Nations (UN).

Figure 30 - Examples of pictograms



Source: Authors

3.1.5. Scope of Practice

The accessibility assessment encompasses practices that are within the scope of airport operators, airline operators or both, allowing each practice to be evaluated according to the specific requirements for its operationalization. In addition, the practices have different scope: (i) **corporate practices**, which are those related to the majority competence of the company operating the service that manages the bases or specific airport units. For example, the airline operators' website presents information of the company's policy, regardless of the airport where the passenger will board or disembark. (ii) **local practices** primarily concern specific locations, where local conditions dictate the practice. For instance, the presence of boarding and landing bridges (fingers) may vary between airports, even if they are operated by the same company.

3.1.6. Practice Description

The description presents the basic technical details, the relevance of the practice and the criteria of non-applicability, which are interpreted by the evaluators according to the size, reality or context in which the airport fits. This situation is introduced in the form using the criterion "dispensable due to", which justifies the dispensability of the practice. For example, airports that have their operating structure on only one ground floor are exempt from having elevators, stairs and their respective signs.

3.1.7. Practice Images

All information contained in the PCWs is accompanied with the images of the practice, which were recorded mainly at national and international airports visited by researchers during the preparation of this Guide. Some images were extracted from books on the subject or from the Virtual Airport, which is a 3D digital model built by the researchers throughout the project. The respective sources are indicated in each image. Management practices do not include images, as they refer to managerial processes and attitudinal characteristics.

3.1.8. Legal and Prescriptive Practice References

For the practices cited in laws, regulations or standards, references to such legal and normative requirements are presented. For some practices, laws and norms of a prescriptive nature were identified that indicate the duty to comply with the practice. Other practices have a technical character and the necessary conditions for their application were presented.

3.1.9. Practice Effectiveness Levels

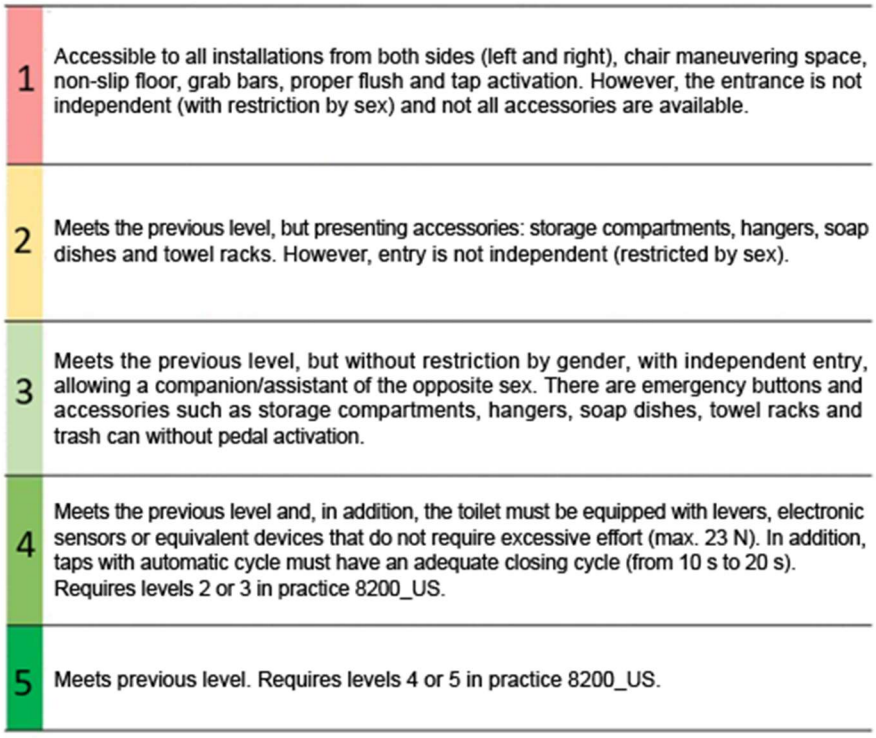
At the bottom of the PCW, the descriptors related to the levels of effectiveness are presented, which were structured based on the evaluation experience of the researchers involved in the project, developing in each field an analysis to make the evaluation of the practice understandable, allowing the evaluator to identify and verify

it in reality. The objective is to ensure that each level has descriptors with applicable analytical characteristics. The levels of effectiveness range from 1 to 5, in order of increasing quality.

- Level 1 indicates the existence of the practice, but it does not meet the related prescriptions and standards at all;
- Level 2 indicates that the practice complies only with the minimum conditions, does not fully comply with related prescriptions and standards;
- Level 3 indicates that the practice complies with the basic requirements set out in standards and other prescriptions;
- Level 4 indicates that the practice is satisfactory and, when necessary, integrates with other practices, helping to ensure continuity throughout the stages of the journey;
- Level 5 indicates that the practice is in full compliance, and whenever necessary, integrates with other practices at the level of excellence.

As mentioned above, at each level there is a description of the analysis characteristics that fit the context, allowing the evaluator to indicate the most appropriate level of effectiveness with the observed reality. An example is shown in Figure 31.

Figure 31 - Examples of PCW effectiveness levels and descriptors



Source: Authors

It is observed that at levels 4 and 5 the practice can refer to another practice, which is a characteristic that underlies the integrated accessibility model. This means that a practice can only be evaluated with a high level of effectiveness if it integrates effectively with other complementary practices. This topic will be covered in the third part of this chapter.

The next section will introduce the dimensions of the integrated accessibility model and detail the groups and practices.

3.2. MANAGEMENT

The normative context that underlies the content of the Practice Characterization Worksheets (PCW) is based mainly on regulations established in the national territory, mainly by Decree No. 5296/2004[2], by Law No. 13156/2015, known as the Brazilian Inclusion Law (LBI), and by the Brazilian Association of Technical Standards (ABNT), in particular by ABNT NBR 9050:2020.

[2] NT: Decree regulating priority service and accessibility promotion policies for persons with disabilities or reduced mobility.

Practices related to the Management dimension are supported by the procedures established in ANAC Resolution No. 280/2013 and in accordance with the international standards of the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA). These apply to airport operators and airline operators.

The purpose of this section is to present the main management and attitudinal practices for promoting accessibility, carried out by airline and airport operators, according to the needs of people with disabilities and the specific stages of air travels.

These practices were synthesized into four groups presented below: Passenger, Companion and Equipment Demand Management; Infrastructure and information management; Management committee, partnerships and competencies development; Assistance services during the travel cycle. The complete content of the practices introduced in this section, including their technical and normative aspects, can be found in Appendix I of this guide

3.2.1. Passengers, Companions and Equipment Demand Management

Even before the journey begins, airport airline operators must manage the demands of passengers and companions, as well as assistive equipment or technical aids. Therefore, this group of practices in the Management dimension is understood in this guide as the starting point for adherence to accessibility practices at airports. This group brings together 7 practices, which are presented in Table 3. Most of them are within the scope of airline operators, except for practices 0100_GE and 0700_GE, which are within the scope of both.

Table 3 - Management Dimension Practices, group of Passengers, Companions and Equipment Demand Management

Management of Passenger, Companion and Equipment Demand	
0100_GE	MANAGEMENT FOCUSED ON ASSISTANCE DEMANDS FOR ALLOCATION OF ACCESSIBILITY RESOURCES
0200_GE	PRIOR COMMUNICATION WITH PASSENGER ON ASSISTANCE CONDITIONS
0300_GE	MANAGEMENT OF THE AVAILABILITY OF PRIORITY SEATS ON THE AIRCRAFT
0400_GE	GRATUITY AND DISCOUNT ON THE TRANSPORT OF TECHNICAL AIDS AND MEDICAL EQUIPMENT
0500_GE	ADDITIONAL SEATS AND PROCEDURES FOR COMPANION DURING THE TRIP
0600_GE	RESTRAINT MECHANISMS AND SEAT BELT EXTENDERS
0700_GE	REPORTS OF RESPONSES AND REFERRALS FOR IMPROVEMENTS IN ACCESSIBILITY ACTIONS

Source: Authors

The first practice comprises the coordinated and cooperative management between airline and airport operators in the allocation of resources and personnel according to the expected demands. Then, the second practice, complementary to the previous one, refers to communication with the disabled passenger, from the purchase of the air ticket to identify the need for a companion, technical help, communication resources and other assistance.

The third practice refers to the need to provide reserved seating options with movable, removable or retractable arms in the aircraft row where there are adequate accommodation conditions.

The fourth practice addresses the situation regarding the offer of gratuity for the transportation of technical aids used by passengers with disabilities. In addition, still in the scope of airline operators, a practice is presented that refers to the context of the offer of additional seats, in cases where the passenger needs a companion or needs an adjacent seat for the transport of their technical aid equipment.

Subsequently, the sixth practice refers to the provision of restraint mechanisms or seat belt extenders, necessary for safely transporting passengers with certain accommodation constraints in their seats.

Finally, the seventh and last practice of this group includes the reports of responses and referrals for improvements in accessibility actions, denoting the actions of handling users' complaints about accessibility for problem solving and planning continuous improvement actions.

3.2.2. Infrastructure and information management

This group of practices focuses on managing the quality factors of the airport environment and the data generated by the information collection systems for the diagnosis of insights that will provide improved accessibility. The four practices presented, according to Table 4, have the majority scope of both airline and airport operators, except for practice 1100_GE, which is restricted to the scope of airport operators.

Table 4 - Management Dimension Practices, Infrastructure and Information Management group

Infrastructure and information management	
0800_GE	MANAGEMENT OF MAINTENANCE OF FACILITIES AND EQUIPMENT FOR ACCESSIBILITY
0900_GE	REGISTRATION AND SERVICE QUALITY CONTROL SYSTEM BASED ON THE SERVICES PROVIDED
1000_GE	OMBUDSMAN OR FACE-TO-FACE OR REMOTE CUSTOMER SERVICE, MEDIATED BY PEOPLE, TO RECEIVE COMPLAINTS AND FORWARD SOLUTIONS
1100_GE	MONITORING AND DISSEMINATION OF ACCESSIBILITY PRACTICES AT THE AIRPORT

Source: Authors

The first practice presented refers to the management of the maintenance of facilities and equipment for accessibility, involving the planning, execution and monitoring of records and reports on the safe and accessible design of structures, equipment and resources made available, mainly, by the airport.

The second practice of the group is linked to the registration and service quality control system, which is based on the database of the services provided. This set of information can be used to diagnose assistance operations and direct accessibility improvement strategies.

The third practice indicates the importance of the ombudsman or customer services, face-to-face or remote, to receive complaints and forward solutions. It should be noted that this management process must involve service mediated by people in a place accessible to passengers.

Finally, the last practice of this group refers to the monitoring and dissemination of accessibility practices, involving the processes adopted by management to manage and inspect the accessibility of public and restricted areas of the airport.

3.2.3. Management Committee, Partnerships and Competencies Development

In this group of practices, the emphasis is on the existence of teams that can plan and execute actions for the development of competencies linked to accessibility. This group brings together 6 practices, which are presented in Table 5. All of those encompass competencies or scope of service provision of both airline and airport operators.

Table 5 - Management Dimension Practices, Management Committee Group, Partnerships and Competencies Development

Management Committee, Partnerships and Competencies Development	
1200_GE	ACCESSIBILITY COMMITTEE
1300_GE	PROGRAMS OF VISITS FOR FAMILIARIZATION WITH THE ENVIRONMENT AND WITH THE PROCEDURES THAT ARE CARRIED OUT DURING AN AIR TRIP
1400_GE	PARTNERSHIPS WITH ASSOCIATIONS AND ORGANIZATIONS REPRESENTING PEOPLE WITH DISABILITIES FOR ACCESSIBILITY ASSESSMENT AND TRAINING
1500_GE	TRAINING PLANNING AND EXECUTION
1600_GE	EVALUATION OF TRAINING EFFECTIVENESS
1700_GE	TRAINING OF WORKERS TO ASSIST PEOPLE WITH DISABILITIES

Source: Authors

The first practice refers to the importance of committees or working groups that deal with issues related to accessibility, involving the sharing of knowledge by qualified people.

The second practice of this group comprises the inclusion role provided by the programs of visits to people with disabilities and their associations.

The other practices are interrelated as they refer to the relevance of partnerships with associations and organizations that represent people with disabilities to assess accessibility and carry out training.

Then, still aiming at the development of competencies, the three subsequent practices address respectively the planning, execution and evaluation of the effectiveness of training, which deal with the didactic quality and applicability of knowledge, skills and attitudes in the provision of services.

Finally, the last practice of this group integrates the practical development of competencies through the training of workers serving people with disabilities, consolidating the importance of the continuous process of training development.

3.2.4. Assistance services during the travel cycle

This group of practices presented in Table 6 configures the context of providing assistance services during the travel cycle. Six practices were gathered that mostly involve the scope of both operators, but with significant relevance to the performance of airline operators.

Table 6 - Practices of the Management Dimension, group Assistance services during the travel cycle

Assistance services during the travel cycle	
1800_GE	PROCEDURES WHEN THERE IS LOSS OR DAMAGE TO ASSISTIVE TECHNOLOGIES AND/OR TECHNICAL AIDS TRANSPORTED
1900_GE	ASSISTANCE SERVICE FOR PASSENGERS WITH DISABILITIES DURING THE TRAVEL CYCLE
2000_GE	IDENTIFICATION OF PASSENGERS WITH HIDDEN DISABILITIES
2100_GE	PRIORITY SERVICE FOR PASSENGERS WITH DISABILITIES
2200_GE	PREFERENTIAL SERVICE IN THE SECURITY INSPECTION STAGE WITH PRIVACY IN CASE OF PERSONAL INSPECTION
2300_GE	PROCEDURES FOR TRANSPORTING ASSISTIVE TECHNOLOGIES AND/OR TECHNICAL AIDS

Source: Authors

The first practice addresses the relevance of service provision procedures when there is loss or damage to assistive technologies and/or technical aids transported. The second practice comprises the assistance service for passengers with disabilities during the travel cycle, which is made possible through coordination between airline and airport operator teams, depending on the stage of the travel journey and location at the airport.

The third practice of this group refers to offering resources to help service teams identify passengers with hidden disabilities during the journey. The use of these identifiers by passengers with disabilities, family members and companions is optional.

The fourth practice discusses priority service for passengers with disabilities at all stages of the travel cycle. Next, the fifth practice refers to the preferential service in the security inspection and privacy in case of personal inspection, which is essential to ensure the privacy of these individuals.

Finally, the last practice addresses the management of transport procedures for assistive technologies and/or technical aids, portraying the importance of periodic training and guidance manuals for employees.

3.2.5. Final considerations on the Management dimension

Accessibility Management articulates planning, organization, direction and control processes that are essential for the operationalization of accessibility practices. In addition, the development of competencies and collaborative actions between airline and airport operators is essential for coherence between those involving accessibility adherence. Other technical and normative information can be found in Appendix I of this guide.

3.3. COMMUNICATION

Practices related to the Communication dimension refer to the means of obtaining information online by the passenger before and during air travel. In addition, they consider the resources present in the building or in the environment that can be used by passengers to identify locations and to define travel and use strategies. They also concern interpersonal communication, which are those practices that provide possibilities for exchanging information via service or intermediated by the use of assistive technology equipment and/or technical aids.

These practices were organized into four groups presented below: Information resources for travel planning; Information and signaling resources for guidance at the airport; Structural resources for security and direction at the airport; Communication resources for interaction with airport and/or airline attendants; Resources and procedures for understanding travel information and use of airport equipment and facilities.

All practices introduced in this section, their complete content, technical and normative aspects, can be found in Appendix I of this guide.

3.3.1. Informational resources for travel planning

The process of acquiring information about air travel by the user usually begins by accessing the airline and airport website. The Usability and Accessibility principles of the websites, as well as the content made available, are important with regard to providing a positive user experience in the use of computerized systems and access to online content.

For a person with impairments, it is essential to create intuitive and satisfying experiences based on the usability of the system and accessibility of the elements contained on the website, whether physical or digital materials. These principles favor the quality of textual aspects, images and symbols and assist in the understanding of air travel information.

Table 7 shows the five practices that make up the group of information resources for trip planning. These practices have a shared scope or responsibility between airline and airport operators.

Table 7 - Practices of the Communication dimension, group of Informational resources for travel planning

Informational resources for trip planning	
2400_CO	ACCESSIBLE WEBSITE
2500_CO	WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRPORT
2600_CO	WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRLINE
2700_CO	INFORMATIVE MATERIALS ON THE STEPS AND PROCEDURES OF AIR TRAVEL MADE AVAILABLE THROUGH PRINTED OR DIGITAL RESOURCES, MAPS OR VIDEOS
2800_CO	MAPS INDICATING ROUTES AND ACCESSIBILITY FEATURES AVAILABLE ON AIRPORT WEBSITES

Source: Authors

The first and second practices presented emphasize the accessibility criteria on the websites of airlines and airports with regard to the provision of information on airport equipment, assistance services and accessibility, especially in relation to structural aspects.

The third practice discusses the availability of materials to assist users in preparing for the trip and familiarizing them with the airport experience, such as comics, travel checklists, brochures, videos and maps of the location.

As well as any content made available on websites and computerized systems, it is also essential that the digital map of the airport, the last practice highlighted, has characteristics that comply with website accessibility standards, allowing the passenger to locate routes, services, equipment and facilities necessary for their experience at the airport.

3.3.2. Information and signage resources for airport orientation

This group presents a set of varied practices that are related to the implementation of resources, technologies and signaling elements that assist user orientation at the airport. This group also has practices that refer to the signaling context, which are communication elements that help the user to understand their path during the travel cycle, the function of certain locations and the location of services.

Table 8 shows the eight practices that make up this grupo. These practices are mainly the scope or responsibility of airport operators, with some practices falling within the competence of airline operators.

Table 8 - Practices from the Communication dimension, group of Information resources and signage for orientation at the airport

Information and signage resources for airport orientation	
2900_CO	APPS THAT GUIDE PASSENGER LOCATION AND TRAVEL AT THE AIRPORT
3000_CO	SIGNALING ELEMENTS ACCESSIBLE AT APPROPRIATE HEIGHT AND ENLARGED CHARACTERS, WITH WELL-DEFINED COLOR CONTRAST AND CONTOURS
3100_CO	INDICATIVE SIGNAGE AND LOCATION OF THE ACCESSIBLE CHECK-IN DESK
3200_CO	INFORMATION ON MEANS OF TRANSPORT AVAILABLE ON THE WEBSITE AND AT THE AIRPORT
3300_CO	ACCESSIBLE MAP OF THE AIRPORT WITH VISUAL, TACTILE AND SOUND RESOURCES
3400_CO	TRAFFIC LIGHTS FOR PEDESTRIANS EQUIPPED WITH AUDIBLE SIGNALS
3500_CO	SIGNALING OF RESERVED SPACES FOR PRIORITY USE BY PEOPLE WITH DISABILITIES OR REDUCED MOBILITY
3600_CO	SIGNALING INDICATING THE LOCATION AND ALERT OF RAMPS, ELEVATORS, CONVEYORS AND ESCALATORS

Source: Authors

The first practice highlights the relevance of tools, applications or systems that teach the steps of an air trip or assist users in locating facilities or certain spaces at the airport.

The second practice presented is found right at the entrance of the airport, emphasizing the importance of location signs at airline check-in counters, especially at airports with large terminals and several entrances to access the public area.

Then, when entering the airport, there is a practice that emphasizes signage elements, such as signs and monitors with appropriate language, format and height, that is, with characters formatted according to accessibility standards and size proportional to the space in which it is located.

The fourth practice of this group refers to the provision of basic information on the types of transport available, as well as arrival and departure times, routes, access points and stopping points.

The fifth practice emphasizes the existence of a physical or digital map at the airport, or with both resources, in order to provide the passenger with basic information and access routes.

Subsequently, there is a practice that discusses the signaling of safe passenger and user traffic, especially walking or accessing main roads where vehicles pass. The seventh practice comprises traffic signs indicating spaces to park and/or stop your vehicle in the vicinity of the airport. In addition, the latter practice emphasizes the recommended signaling when crossing high lanes at airport entrances and other situations that also require signaling and safety indications.

3.3.3. Structural resources for airport security and routing

This group introduces the practices related to safety signaling, which is essential for the spatial orientation of the user or passenger. All these practices are in the scope or responsibility of airport operators. Table 9 shows the six practices that make up this group.

Table 9 - Practices of the Communication dimension, group of Structural resources for security and routing

Structural resources for airport security and routing	
3700_CO	FLOORS AND LIGHTING THAT FAVOR THE ORIENTATION, USE OF SPACES AND FLOWS
3800_CO	CONTRASTING FLOORS TO INDICATE UNEVENNESS FROM 5MM TO 20MM
3900_CO	VISUAL SIGNAGE ON DOORS AND GLASS WALLS LOCATED IN CIRCULATION AREAS
4000_CO	ALERT AND DIRECTIONAL TACTILE PAVING ON ACCESSIBLE ROUTES
4100_CO	ALERT TACTILE PAVING BEFORE STAIRS, ELEVATORS, RAMPS AND OBSTACLES
4200_CO	PROTECTION AND SIGNALING BARS FOR SUSPENDED ELEMENTS

Source: Authors

The first two practices refer to the appropriate conditions of floors, combining lighting or integrating with it to favor the use of spaces and flows, and, to determine structures with unevenness above floor level, or other types of unevenness or protrusions that can hinder and even cause accidents.

Also, in relation to the installation of safety items, the third practice highlights the relevance of doors and glazed walls being identified with visual signaling continuously, to allow the visual identification of the physical barrier. Then, the fourth and fifth practices highlight the proper conditions of the tactile paving used to alert and direct visually impaired people by accessible routes.

Finally, the last practice of this group refers to protection bars and signaling to alert users to the presence of objects protruding above floor level, to prevent access to suspended or inclined structures such as stairways or ramps.

All these measures are aimed at avoiding collisions and accidents, as well as protecting all airport users, especially visually impaired people.

3.3.4. Communication resources for interaction with airport and/or airline attendants

This group presents five practices that support interpersonal communication, interaction, and humanized dialogue. Therefore, as long as airline and airport operator teams have the skills to dialogue, identify and respond to the demands of people with disabilities, the use of interpersonal communication systems and other similar technologies can considerably improve communication processes and interpersonal service relationships.

Table 10 shows the practices that make up this group. All of them have a mixed or cooperative scope or responsibility between airline and airport operators.

Table 10 - Practices of the Communication dimension, group of Communication resources for interaction with airport and/or airline attendants

Communication resources for interaction with airport and/or airline attendants	
4300_CO	COMMUNICATION BETWEEN USER AND AIRLINE OR AIRPORT THROUGH MESSAGING APPS
4400_CO	EQUIPMENT FOR ACCESSIBLE COMMUNICATION WITH THE AIRPORT
4500_CO	INFORMATION AND ASSISTANCE POINTS WITH FACE-TO-FACE SERVICE
4600_CO	MAGNETIC RIM IN SERVICE SECTORS
4700_CO	SIGN LANGUAGE TRANSLATOR-INTERPRETER AND GUIDE-INTERPRETER

Source: Authors

The first practice describes the communication that can be carried out through chat applications on the websites (chats) of companies or customer service, as long

as they enable real-time and accessible service, offering agile support to the user, preferably with humanized service.

The second practice refers to the equipment available for communication or interaction between users and employees, typically called help points, facilitating problem solving and clarification of doubts.

The third practice highlights the considerations about help points, including the information desk, an essential sector for users and passengers.

The fourth practice deals with the magnetic rim device, which consists of an assistive technology that assists hearing aid users by eliminating interference, echoes, reverberations and background noise.

Finally, the last practice of this group highlights the Libras interpreter, a professional certified to communicate through the Brazilian Sign Language (Libras) and responsible for mediating the communication between airport/airline professionals and the deaf passenger. The practice also includes the guide-interpreter, who is the professional who masters various forms of communication used by people with deafblindness, and can interpret or transliterate.

3.3.5. Resources and procedures for understanding travel information and use of airport equipment and facilities

During a trip, passengers need information on a variety of topics. For this, it is important that at the airport there are additional resources to those already mentioned, to help them obtain information or request help.

Table 11 shows the six practices that make up this group. Most of them have the scope of airline and airport operators, except practice 4800_CO, which requires shared competence between both and practice 4900_CO, which is the responsibility of airline operators only.

Table 11 - Practices of the Communication dimension, group of Resources and procedures for understanding travel information and use of airport equipment and facilities

Resources and procedures for understanding travel information and use of airport equipment and facilities	
4800_CO	BRAZILIAN SIGN LANGUAGE (LIBRAS) WINDOW
4900_CO	INFORMATION MATERIALS IN BRAILLE WITH INSTRUCTIONS ON THE TRAVEL CYCLE
5000_CO	ACCESSIBLE PHONES
5100_CO	ACCESSIBLE BUTTONS FOR ACTIVATING THE ELEVATORS
5200_CO	BRAILLE AND EMBOSSED CHARACTERS IN INSTALLATIONS (E.G. DOORS AND HANDRAILS), EQUIPMENT (E.G. VENDING MACHINES AND DRINKING FOUNTAINS)
5300_CO	ACCESSIBLE SERVICE AND MENU PROCEDURES

Source: Authors

The first practice discusses digital resources with translation in sign language through avatars or, preferably, through videos previously recorded by interpreters, to communicate information relevant to the trip, offering adequate and accessible service to people with deafness.

Next, we highlight the information materials in Braille, which include cards, brochures, booklets or other types of printed materials with instructions on the travel cycle. The third practice emphasizes the telephone for the deaf (Telecommunication Device for the Deaf - TDD), which has sound amplification, keyboard, voice scanning and other functionalities.

In this group, the fourth practice refers to the functions of internal and external buttons for accessible activation of the elevators. The fifth practice addresses the use of braille and embossed characters in facilities and equipment. Finally, the last practice

highlights the relevance of accessible service and menu procedures, especially in food service.

3.3.6. Final considerations on the Communication dimension

Passenger interpersonal communication with attendants and other service providers can occur in several ways. With the advancement of technologies, this interaction has been developed in a gradual and accessible way through software and applications, taking into account the observance of all accessibility criteria in computerized systems.

It should also be noted that all materials, when made available in physical form, must also be in braille. In addition, the information elements must have clear and understandable language for all users.

In airports, in addition to informational materials, devices such as totems, computerized kiosks and panels are also used. *Such systems are important to inform about several aspects of the trip, such as routes, schedules and services offered. Other technical and normative information can be found in Appendix I of this guide.*

3.4. MOBILITY

This dimension covers a set of practices that deal with the experience of air travel by the passenger facing physical barriers, long journeys and the use of the airport's structural resources.

These practices were synthesized into three groups presented below: Resources for access and mobility at the airport; Resources and equipment for mobility at the airport; Resources for boarding/ disembarking and mobility on the aircraft. All practices introduced in this section, their complete content, technical and normative aspects, can be found in Appendix I of this guide.

3.4.1. Resources for access and mobility at the airport

The mobility of the passenger before and after the flight is an important phase of air travel, which begins upon arrival at the airport, accessing the main routes of the terminal through the transport system, parking and entrances. Table 12 shows the

seven practices that make up this group. All these practices are the scope or responsibility of the airport operator.

Table 12 - Mobility Dimension Practices, group of Resources for access and mobility at the airport

Resources for access and mobility at the airport	
5400_DE	ACCESSIBLE PUBLIC TRANSPORTATION SYSTEMS: BUS, SUBWAY OR OTHER MEANS OF TRANSPORTING THE USER TO THE AIRPORT
5500_DE	PARKING: RESERVED SPACES FOR PEOPLE WITH DISABILITIES AND THE ELDERLY, NEAR THE TERMINAL ACCESSES, WITH ACCESSIBLE ROUTE AND SIGNALING
5600_DE	PARKING LOTS, SIDEWALKS AND STREETS: SIDEWALK RECESSES, ELEVATED CROSSWALKS, ACCESSIBLE FLAT, LEVELED AND NON-SLIP ROUTES
5700_DE	EQUIPMENTS THAT ASSIST IN THE SPATIAL ORIENTATION OF PASSENGERS IN AIRPORT MOBILITY
5800_DE	ACCESSIBLE PASSENGER TRANSPORT FOR BOARDING AND DISEMBARKATION OR BETWEEN TERMINALS
5900_DE	SAFE FLOORS FOR MOBILITY
6000_DE	FLUSH INTERNAL AND EXTERNAL ACCESSES WITH WIDE AND SIGNPOSTED PASSAGES
6100_DE	NATURAL AND/OR ARTIFICIAL LIGHTING SYSTEMS
6200_DE	AISLES AT LEAST 150 CM WIDE FREE OF ANY OBSTRUCTION

Source: Authors

To provide the user with an accessible route to the entrance of the airport or their departure from the place, it is necessary to consider the accessibility of the transport system via bus, subway or other modal. In this sense, it is observed that the airport has representativeness or socioeconomic relevance to pressure the government to guarantee the accessibility of these means of transport.

The second practice deals with the spaces planned to be reserved for people with disabilities and the elderly. All reserved spaces need to be located as close as possible to the main accesses of the terminal, so that the disabled person can get around easily until they are able to be inside the airport.

Following the practices presented, the external area of the airport and its main accesses must have structural resources to complement the positive characteristics of the transport system and, consequently, continue within the scope of integrated accessibility. External mobility is part of the pre- and post-trip stages, so it is essential that circulation routes, whether sidewalks, streets, parking lots, pedestrian crossings, ramps, stairs and other routes are suitable for anyone's use.

Many users rely on resources via mobile devices to locate and move around public places, including outdoor and indoor areas of airports. Technologies tend to evolve more and more and currently it is possible to find equipment, such as robots, artifacts or small vehicles that are made available to people with sensory or cognitive disabilities when traveling through the airport, including in restricted areas, as proposed in the fourth practice.

Before the user can enter the airport, it is necessary that the main entrances and exits are wide, signposted, step-free, leveled, with adequate floor and accessible to all people, always presenting adherent, regular, firm or stable surface or floor. Other characteristics that favor the visual perception of the environment must be added in the lighting systems and in the spaces free for mobility.

3.4.2. Resources and equipment for airport mobility

This group includes eight practices related to internal mobility at the airport, as presented in Table 13, most of which are the scope or responsibility of airport operators, except practice 6800 MO, which also involves the participation of the airline operators.

Table 13 - Practices of the Mobility Dimension, group Resources and equipment for airport mobility

Resources and Equipment for Airport Mobility	
6300_DE	ACCESSIBLE ELEVATORS WITH GRAB BARS, WIDE SPACE OR OPPOSITE DOORS, LOCATED NEAR THE MAIN AREAS OF USE
6400_DE	ACCESS RAMPS TO WIDE AIRPORT AREAS WITH BEACON GUIDE, GUARDRAIL, HANDRAILS AT TWO HEIGHTS, SLOPE, LANDINGS AND FLOOR MEETING THE NORMATIVE SPECIFICATIONS
6500_DE	STAIRS: WIDE WITH BEACON GUIDE, GUARDRAIL, SAFETY LANDING, HANDRAILS AT TWO HEIGHTS, VISUAL SIGNAGE APPLIED TO FLOORS AND MIRRORS.
6600_DE	ESCALATORS: WIDE AND SIGNPOSTED
6700_DE	CONVEYOR BELTS: WIDE AND SIGNPOSTED
6800_DE	WHEELCHAIRS AVAILABLE FOR AIRPORT USERS AND PASSENGERS
6900_DE	VEHICLES TO TRANSPORT THE USER OVER LONG DISTANCES WITHIN THE AIRPORT
7000_DE	FREE AREA FOR MOVEMENT OF PEOPLE WITH DISABILITIES OR REDUCED MOBILITY IN FOOD COURTS AND STORES

Source: Authors

Access via elevators at any level of the airport assists all users, especially those with mobility difficulties. Elevators are considered by people with disabilities as the best way to access the levels of a building safely and comfortably, especially those with entrance and exit on two opposite sides.

Ramps are alternatives to the use of elevators. They make it possible to come and go. For this, the ramps must meet the specifications of the technical standards to ensure safety in the access of users in places with inevitable gaps.

The third practice highlights the criteria on stairs, which must be wide, have a handrail on both sides and at two heights, a guardrail and a contrasting strip between the floor and the mirror. This also applies to escalators, which must meet technical specifications.

Conveyor belts are also important mobility aids. These equipment must have an adequate minimum width and be signaled for users to find and use them intuitively and safely. They must also have audible or visual signaling to alert the users and avoid accidents. This signage is also pertinent on escalators.

For passengers who have a physical or motor disability, wheelchair users or not, or people with any health condition that requires assistance during the trip, mobility can be assisted through the provision of wheelchairs for free use and easy access for passengers. In some cases, it is important that the airport also provides someone who can assist the user's mobility. This assistance is the responsibility of both the airline and the airport, including the provision of chairs for obese people and people who have difficulty controlling the trunk.

Another means of assisting in the movement of passengers who have some type of mobility difficulty is by means of a vehicle that is available for transport from the external area to the public and restricted areas inside the airport, especially in terminals that require longer moving.

Retail locations, lounges and food courts must also be accessible and have unobstructed environments between objects and furniture, allowing autonomous circulation, having as a reference module the user maneuver with a wheelchair. *The airport operator needs to guarantee the implementation and operation measures of these restrictions in the prescription of projects and concession contracts.*

Stores, restaurants and bureaux de change must provide access to all, observing the perspective of people with disabilities in the technical requirements and appropriate layouts for the locomotion of people using wheelchairs or other assistive technologies/technical aids within the establishment, reach of products or items marketed and adequate heights to favor interpersonal communication with service providers.

3.4.3. Resources for boarding/disembarking and mobility in the aircraft

Generally, the boarding and disembarkation bridges are the best alternative for accessing and exiting the aircraft. However, there are terminals that operate external boarding and disembarkations. In these cases, it is necessary to use equipment to assist in the ascent and descent to enter and exit the aircraft. Table 14 shows the five practices that make up this group. Practices 7100_GE and 7200_GE are within the scope of the airport operators and the remaining practices of this group are within the scope of the airline operators.

Table 14 - Mobility Dimension Practices, Resources group for boarding/ disembarking and mobility in the aircraft

Resources for boarding/disembarking and mobility in the aircraft	
7100_DE	ACCESS BRIDGE FOR ACCESSIBLE BOARDING/DISEMBARKATION (FINGER)
7200_DE	ACCESS EQUIPMENT FOR BOARDING AND DISEMBARKATION ASSISTANCE (GROUND/EXTERNAL)
7300_DE	CHAIRS TO ASSIST THE PASSENGER TO CLIMB/DESCEND STAIRS
7400_DE	PASSENGER TRANSFER SYSTEM FROM THE SEAT TO THE AIRCRAFT SEAT WITHOUT PERSONAL CONTACT
7500_DE	WHEELCHAIRS FOR ACCESS AND MOBILITY INSIDE THE AIRCRAFT

Source: Authors

The boarding and disembarkation bridges make up the airport structure and provide access to the entrance of the aircraft, through coupling equipment at the entrance of the aircraft.

ANAC Resolution No. 280/2013[3] mentions that the airline operator is allowed to make available and operate its own ascending and descending equipment or ramp. However, it is important that airlines work cooperatively and also have adequate equipment for all passengers, especially those who require assistance so that they can board safely and properly.

Although the boarding and disembarkation ramps do not provide autonomy of access to all people with disabilities, requiring the support of operators to provide adequate access, these equipment provide a higher level of accessibility than other types of lifting equipment for passenger ascension and descent, such as the ambulift and accessible boarding modules, which are also recommended options.

If the airport or airline cannot prioritize access via the boarding bridge or has an access ramp, another equipment used is the access chairs to the aircraft stairs. However, it is emphasized again the management of these resources according to prioritization criteria for alternatives that promote better accessibility and safety.

After the passenger accesses the aircraft, it is necessary to use the on-board wheelchairs. The airline is responsible for making this equipment available, which is stored in an appropriate compartment on the aircraft, complying with the criteria of safety and adequate use of space.

Finally, there is a practice that brings an alternative to manual loading for transferring the passenger from the seat on board to the seat in the aircraft cabin.

3.4.4. Final considerations on the Mobility dimension

In this section, the practices that assist passengers' mobility in the airport were introduced. The details of such practices, as well as the normative and technical support guidelines are provided in Appendix I of this guide.

It is important to note that there is a diversity of access and means of transport at each airport. In this sense, accessibility practices must ensure easy and safe travel in external areas, including parking lots, arrival spaces for public, collective or individual transport, and connections with other modes and also in internal areas and at boarding and disembarkation.

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[3] Resolution of the National Civil Aviation Agency of Brazil, in which "Provides for procedures relating to the accessibility of passengers in need of special assistance during air transport and provides other measures".

Therefore, it is necessary that the external areas of access to the airport, as well as the internal areas are in accordance with Brazilian standards and resolutions, so that they are considered accessible and provide a better experience to passengers and users, regardless of whether or not they are using devices, technologies or equipment to assist mobility.

3.5. USE

The accessibility practices and technologies presented below refer to the use of airport facilities. This dimension concerns the possibility of carrying out activities by all people in a given environment. The practices identified in this dimension were synthesized into three groups: Furniture and equipment for service or self-service; Resources for the use of toilets and changing rooms; and Preferred spaces and environments dedicated to the service and waiting of people with disabilities, companions and service animals.

All practices introduced in this section, their complete content, technical and normative aspects, can be found in Appendix I of this guide.

3.5.1. Furniture and equipment for service or self-service

Furniture is an instrument to promote accessibility, as it provides most of the contexts of interpersonal interaction with service providers and, consequently, the service processes. Table 15 summarizes the seven practices that are part of this group. All of them are within the scope of airport operators, except the first 7600_US, which also involves the competence of airline operators.

Table 15 - Use Dimension Practices, group of Furniture, equipment for service or self-service

Furniture and equipment for service or self-service	
7600_US	ACCESSIBLE DEVICE FOR SELF-SERVICE CHECK-IN
7700_US	ACCESSIBLE SERVICE COUNTERS
7800_US	ACCESSIBLE CONVEYOR BELT FOR BAGGAGE CHECK-IN
7900_US	TABLES, CHAIRS AND OTHER ACCESSIBLE FURNITURE
8000_US	RESERVED SEATS AND SPACES IN AREAS CLOSE TO CHECK-IN, BOARDING GATES AND OTHER AREAS OF USE
8100_US	ACCESSIBLE DRINKING FOUNTAINS
8200_US	ACCESSIBLE VENDING MACHINES AND ATMS

Source: Authors

Self-service equipment streamlines check-in processes and the collection of other information by passengers, reducing queue congestion. However, it is necessary that in its installation resources are added to assist people with disabilities, in the conditions of the equipment and in the accessibility of the system.

The service to passengers in any experience of an air trip occurs involves interaction with service providers, where there is often a counter, whether in the stores, information desk, call centers, check-in and others. Regardless of the situation, the counters must be accessible to all passengers in shape, height and location.

These counters must also favor the service of people using wheelchairs and of short stature, providing their approach freely on the platform or bench, which must be without objects or obstacles that hinder communication with the operator or attendant.

The third practice, already observed at the check-in of some airports in other countries, is the baggage check conveyor, designed at a height close to floor level,

which facilitates the placement and handling of checked baggage. Even if this practice is incipient in the national reality, its adoption is recommended.

Also noteworthy is the practice of tables and chairs, which must follow the principles of universal design, in addition to being located on a route accessible to the service and amenity's locations of the airport used by all passengers.

The fifth practice of this group emphasizes that in any waiting or consumption space there must be spaces reserved and identified for people with disabilities. These spaces should also be located on an accessible route, including in viewing and signage.

The water fountains, the sixth practice presented, constitute a fundamental part of the airport's infrastructure items. Finally, other important equipment that provides convenience to passengers are those related to automated services such as vending machines and ATMs. All such equipment must have the features pertinent to accessibility.

3.5.2. Resources for the use of toilets and changing rooms

Toilets are essential facilities in public places. In an airport, the intense and rotating flow of people requires extensive criteria on the quality of these environments, their characteristics and resources to favor accessibility to all passengers. Table 16 summarizes the four practices that are part of this group, which are within the scope of airport operators.

Table 16 - Use Dimension Practices, group of Resources for the use of bathrooms and changing rooms

Resources for use of bathrooms and changing rooms	
8300_US	ACCESSIBLE TOILET: LOCATION AND AVAILABILITY
8400_US	ACCESSIBLE UNISEX TOILET WITH STRUCTURE FOR CHANGING CLOTHES FOR CHILDREN AND ADULTS
8500_US	TOILET WITH RESOURCES FOR OSTOMATES
8600_US	ACCESSIBLE TOILET: LAYOUT AND EQUIPMENT

Source: Authors

In summary, toilets should always be positioned on the main routes, according to the typical flow of passengers, integrated so that their location is facilitated, regardless of where the passenger is. It is also essential that toilets are equipped with mandatory equipment and items, governed by laws and standards.

3.5.3. Preferred spaces and environments dedicated to the service and waiting of people with disabilities, companions and service animals

Preferred spaces propose to offer priority or preferential access in service. Dedicated environments, on the other hand, raise the level of service to provide accommodation experiences for passengers with specific needs. Table 17 summarizes the six practices that are part of this group. All of them are within the scope of airport operators, except practice 8900_GE which is within the scope of airline operators.

Table 17 - Use Dimension Practices, group of Preferred spaces and environments dedicated to the service and waiting of people with disabilities, companions and service animals

Preferred spaces and environments dedicated to the service and waiting of people with disabilities, companions and service animals	
8700_US	DEDICATED AREAS FOR THE PHYSIOLOGICAL NEEDS OF ANIMALS (GUIDE DOG, ASSISTANCE DOG AND OTHERS).
8800_US	SENSORY ROOM
8900_US	PREFERENTIAL SEATS IN AIRCRAFTS, WITH MOVABLE ARMREST
9000_US	INFIRMARY AND ACCESSIBLE EMERGENCY EQUIPMENT
9100_US	QUIET SPACES WITH LOW EXPOSURE TO SENSORY STIMULI
9200_US	DEDICATED AREAS FOR BAGGAGE COLLECTION BY PASSENGER WITH DISABILITIES OR REDUCED MOBILITY

Source: Authors

Dogs are the most typical animals with regard to assistance processes, observed in specific rules of air transport. Other assistance or emotional support animals can accompany passengers during the flight, according to the measures observed by the airline, complying with current safety regulations.

Therefore, it is important that at the airport there is one or more places for these animals to meet their physiological needs, while their guardian is inside the building.

The sensory room, the second practice highlighted in this group, refers to an environment that favors the reorganization of passengers in the face of typical airport stimuli such as light, contact with textures and sounds emitted by flight notices and agglomerations. The quiet spaces, the fifth practice presented, are environments configured to provide tranquility and comfort, especially during waiting periods.

During the flight, it is possible to observe another practice related to the context of accommodation and configuration of aircraft, the seats with removable or retractable arms. These resources facilitate the transfer and movement of people with physical disabilities, obesity or reduced mobility.

The importance of allocating passengers in seats that favor passenger assistance, with removable arms and that facilitate access as close as possible to the exit/entrance of the aircraft and toilets is also highlighted.

Another pertinent practice refers to the facilitation of baggage collection by people with disabilities, accessing a signposted place reserved for safe approach on the baggage conveyor. Finally, another type of passenger support environment that requires assistance is the infirmary, which must also be accessible to all people in its signaling, architecture and equipment. In addition, it should include personnel trained to meet the needs of people with disabilities.

3.5.4. Final considerations on the Use dimension

Practices and technologies related to the Use dimension were presented in this section. In Appendix I there is a detail of each practice evidenced here. The possibility of orienting oneself through space, communicating, moving and using spaces and services is a central concern in the theme of accessibility. The practices presented here are changing and evolving every day, enabling new options for passenger inclusion or accommodation, evolving the context of autonomy and effectiveness in the use of airport space and available resources.

3.6. CORRELATIONS BETWEEN PRACTICES AND INTEGRATED ACCESSIBILITY

The previous sections presented the accessibility and distribution practices of these in their dimensions and groups. This organization embodies an essential part of the comprehensive accessibility model, in addition to contributing to the structuring of an accessibility assessment instrument, specially developed for the civil aviation context.

In this section, the integration of accessibility practices will be explored, an issue that emerged from the identification of gaps or discontinuities resulting from the incompleteness of some practices. An example of this is the installation of tactile flooring, either alert or directional on accessible routes, in this case, considering the completeness, there is a need or link in the identification of routes through an accessible map of the airport with tactile features, visual, and sound resources. Thus,

only by integrating the two practices is it possible to achieve effectiveness in meeting needs.

In this sense, a matrix analysis of integration between practices was carried out, observing integrations necessary for the effectiveness of the practice. Figure 32 shows an example of these correlations between practices, in the figure only a few practices are presented, however, the matrix analysis was done for all practices, generating a matrix with 92 rows x 92 columns.

Figure 32 - Correlation matrix between accessibility practices

PRACTICE	CODE	ACCESSIBLE WEBSITE	WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRPORT	WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRLINE	MAPS INDICATING ROUTES AND ACCESSIBILITY FEATURES AVAILABLE ON AIRPORT WEBSITES
		2400_CO	2500_CO	2600_CO	2800_CO
ACCESSIBLE WEBSITE	2400_CO	-			
WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRPORT	2500_CO	Required	-		
WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRLINE	2600_CO	Required		-	
MAPS INDICATING ROUTES AND ACCESSIBILITY FEATURES AVAILABLE ON AIRPORT WEBSITES	2800_CO	Required			-

Source: Authors

From the identification of correlations, a criterion was established for the integration of practices in terms of the effectiveness of levels 4 or 5, from a minimum level of effectiveness of other practices.

Thus, a practice B (represented in the Row of Figure 32), which presents the need for practice A (represented in the column of Figure 32), will receive:

- Level 4, when it meets the requirements identified in the descriptors and, in addition, presents levels 2 or 3 in practice A.
- Level 5, when it meets the requirements identified in the descriptors and, in addition, presents levels 4 or 5 in practice A.

Thus, an analysis perspective will be promoted by the evaluator regarding the gaps or discontinuities between certain accessibility practices. In addition, the level of excellence will only be obtained when the integration between practices is consolidated in the airport unit, that is, with the full adoption of the integrated accessibility model.

3.7. FINAL CONSIDERATIONS OF THE CHAPTER

To conclude this chapter, it is important to emphasize that although the practices presented are important, they must be integrated and consolidated together, especially in meeting the Management dimension. Another important factor is that the conduct of implementing accessibility and, consequently, all practices, should be adopted as a pillar of quality of service. This conduct will promote the focus of continuous efforts on technical development and the infrastructure made available to passengers, valuing the development of attitudinal service skills in air transport.

CHAPTER 4

Training program

Flávia Helen Moreira da Silva and Marina Greghi Sticca

4. TRAINING PROGRAM

The purpose of a Training Program is to develop knowledge, skills and attitudes (KSA) to meet demands related to job performance. In Brazilian air transport, ANAC Resolution No. 280/2013 provides that airline and airport operators establish a Training program for their ground and on-board teams that serve passengers and for the person responsible for accessibility provided for in article 39, in order to enable them to adequately serve passengers with disabilities, and must provide supporting documentation, when requested by ANAC. Such a program can contribute to maintaining the quality of care for passengers with disabilities by investing in the qualification of personnel, in addition to promoting the adoption of favorable behaviors and attitudes for the participation of passengers with disabilities, facilitating the recognition of the barriers that they may encounter in their travel experience and acting to minimize or eliminate them. It can also raise awareness about the best ways to approach, interact, communicate and assist in the needs of these passengers.

This chapter aims to guide managers, coordinators and human resources professionals in these stages, in order to support the development of training programs that improve the service provided by the entire airport community to passengers with disabilities. To accomplish this goal, this material is structured as follows:

Table 18 - Stages of the Training Program

Training Program Steps	What you'll find
Step 1: Survey of Training Needs	How to identify training and qualification priorities that aim to promote the participation of passengers with disabilities.
Step 2: Training Planning	How to plan these educational strategies in order to promote behaviors favorable to the participation of passengers with disabilities.
Step 3: Training Evaluation	How to evaluate the effects and results that were achieved from educational actions, in order to foster and improve the development of new training.

Source: Authors

It is necessary to emphasize that ANAC Resolution No. 280/2013 also suggests that, for the development of the content of the training program, airline and airport operators consult organizations that represent people with disabilities, as well as consider the involvement of these organizations in the evaluation of the content of their programs. This consultation aims to validate and evaluate existing training programs, as well as identify needs of people with disabilities related to accessibility in civil aviation.

4.1. STEP 1 – TRAINING NEEDS ASSESSMENT

The first step that must be conducted to favor that the training achieves its objectives is to carry out a needs assessment. This step aims to collect data to support decision making on when training is a viable solution to improve the performance of individuals, define who should be trained and what content or theme should be addressed in the training. In Table 19, there are suggestions on how to carry out this step:

Table 19 - Suggestions for Training Needs Assessment

• From the difficulties that are experienced by passengers with disabilities identified in satisfaction surveys with users/customers. Example: analysis of occurrences reported in service situations involving passengers with disabilities or analysis of satisfaction surveys of passengers with disabilities in the use of services offered by airlines and airports.
• From the analysis of service records for passengers with disabilities, considering the management processes of operators and teams that work in direct service.
• From studies that are carried out in the aviation context. Example: Evidences found in researches carried out in the field of air transport show that operators are poorly prepared to interact and deal with the needs of passengers with autism or hidden disabilities. Therefore, specific educational content could be developed that focuses on such themes.
• Based on performance evaluations of the ground and on-board teams, in which performance problems caused by skills gaps that resulted in difficulties in caring for passengers with disabilities are identified.
• From the verification if the team is qualified, that is, if it has mastery of important knowledge, skills and attitudes so that its performance is adequate in the service to the passenger. One of the ways to carry out this verification is through the application of a questionnaire, in which people must point out the mastery of each recommended competency. For this, a suggestion is the use of the Instrument of Competencies in the Service of Passengers with Disabilities in Air Transport (Figure 33). In this instrument are listed the behaviors that must be demonstrated in the work of the ground and on-board teams, but you will be able to make adaptations, selecting only those that are the attributions of the team responsible for the service in the airport units. For the evaluation of the results of the application of such instrument, the averages of the values attributed by the operators for each of the competencies must be made and the averages of the competencies must be arranged in a decreasing manner. This procedure will evidence the behaviors with the lowest mastery values, which are those indicated to receive training.

Source: Authors

Figure 33 - Instrument of Competencies in the Service of Passengers with disabilities in air transport

a – Instrument of Competencies in the Service of Passengers with disabilities in air transport

Based on your experience assisting passengers with disabilities, and the activities you perform in your role, you will be asked to respond to how well you feel able to perform each of the listed behaviors. Behaviors reflect the competencies (knowledge, skills, and attitudes) that are considered important in service. Therefore, your answer should express your opinion based on your experience: that is, there is no right or wrong answer!
You must answer using a scale of agreement, as shown below: **Agreement Scale: expresses how much you agree with the statement that you "feel capable" of performing the described behavior.** Please consider the scale below that ranges from 1 (Strongly Disagree) to 5 (Strongly Agree). 1 2 3 4 5 Strongly disagree Strongly agree
Read each item presented carefully and choose only one option for each item.

Source: Authors

b – Instrument of Competencies in the Service of Passengers with disabilities in air transport (continued).

In assisting passengers with disabilities, I feel able to:	**Answer**
1. Explain to all passengers the need to arrive early at the airport.	
2. Explain to passengers the procedures regarding luggage and assistive equipment at the time of contracting the air service.	
3. Identify the assistance needs of passengers with disabilities at the time of contracting the air service.	
4. Accommodate passengers in seats next to the corridors and located as close as possible to the exits.	
5. Explain to passengers the risks of accidents if the safety procedures for boarding and disembarking are not followed.	
6. Ensure priority boarding for passengers with disabilities.	

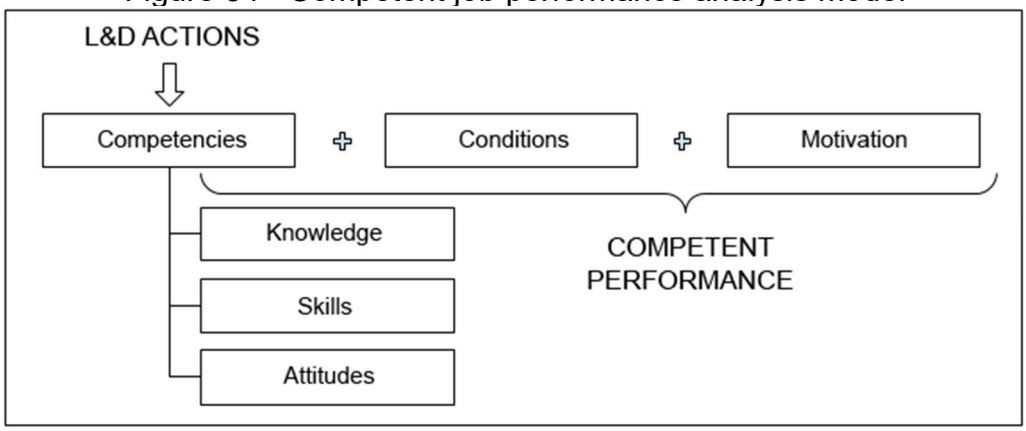
7. Check with passengers how you can assist them in their needs.	
8. Handle wheelchairs to carry out boarding, seat transfer and disembarkation of passengers.	
9. Operate robotic chair to safely board and disembark.	
10. Allow passengers to use their own wheelchair until the moment of boarding, within the conditions allowed and established by the relevant legislation.	
11. Carry out the boarding and disembarkation of people with motor disabilities and/or wheelchair users, in a safe manner.	
12. Store assistive equipment avoiding damage, loss or misplacement.	
13. Establish ways to predict the amount and resources that will be needed to meet the priorities on each flight.	
14. Transmit to the workers involved in the passenger service the information necessary to meet the communicated needs.	
15. Communicate with hearing impaired passengers.	
16. Identify the laws and conditions under which passengers may be prevented from boarding.	
17. Resolve problems that may occur in atypical situations involving passengers with disabilities.	
18. Adopt procedures in case of medical emergencies with disabled passengers.	
19. Assist passengers with sensory hypersensitivity in possibly stressful conditions.	

Source: Authors

Important: The competent performance of operators in assisting passengers with disabilities depends both on their knowledge, as well as on working and motivational conditions. When problems in service performance are identified that may be related to working conditions and motivation of people at work, training may not be able to effectively solve them. The conditions may involve information, equipment, standards, material support, feedback, among others that are essential for carrying out the activity. Motivation derives from the reasons that justify effort at work. When

performance problems are associated with such aspects, changes in work conditions and organization or in the application of motivational strategies may be necessary[4].

Figure 34 - Competent job performance analysis model



Source: Authors

To make this diagnosis, it is suggested to follow the Performance Problem Analysis Form, presented in Table 20, which explains which aspects should be evaluated in the demand analysis (step 1). This analysis is exemplified in Table 21, based on real problems experienced in air transport.

Table 20 - Performance Problem Analysis Form

Scenarios	Causes	Consequences	Solutions
Description of the problem, need or capability gaps.	Reasons that determined the emergence of the problem or the need for performance.	Consequences generated by the problem or need for performance.	Alternatives to solve the problem or need for performance.

Source: Authors

[4] Meneses, P. P. M., Zerbini, T. & Abbad, G. (2010). Manual de Treinamento Organizacional. Porto Alegre: Artmed.

Table 21 - Example of analysis of performance problems

Scenarios	Causes	Consequences	Solutions
Situations involving accidents in the boarding/disembarkation of passengers using a wheelchair are identified.	Conditions: Insufficient number of employees to assist in the procedure.	Possible damage to wheelchairs; damage to the physical integrity of the passenger; delay in operation.	Intervene in the conditions: Reorganize teams of employees allocated to the service.
	Competencies: Lack of mastery to handle wheelchairs.		Intervene in competencies: Promote simulations and practical training to improve the technical capacity of employees.

Source: Authors

4.2. Step 2 Training Planning

Training planning should take into account the information obtained in the previous step, so that the application of teaching strategies is consistent with the instructional objectives that have been established. ANAC Resolution No. 280/2013 establishes at least the following contents: i) physical, sensory, intellectual and non-apparent disabilities; ii) people with mental disorders; iii) cognitive disabilities; iv) people who need technical help; v) people with reduced mobility; vi) people with hearing impairment; viii) people with visual impairment. viii) deafblind people; ix) people with a speech disorder; x) people who need companions and the role of companions; and xii) people traveling with a guide dog or accompanying guide dog.

The training program aimed at promoting behaviors favorable to the participation of people with disabilities aims to provide general notions about disabilities and accessibility in air transport, in order to facilitate the identification of barriers to the participation of passengers with disabilities during their travel cycle and the adoption of favorable behaviors by all airline and airport operators.

Table 22 presents a proposal for the basic organization of some pre-defined instructional objectives that can be used as a reference for the planning of training in airport or airway units to promote the training of ground and on-board teams. Note that in organizing these instructional objectives, it is important to consider that there are different levels of instructional complexity, and that each level requires a compatible

educational strategy. For each level of complexity of the objectives, suggestions are made for suitable strategies that can be used.

These strategies can also be used in different formats, in actions conducted in person, such as lectures, training, simulations, work groups, etc. Another possibility is the online format, through digital learning platforms that can reach a greater number of people and allow courses to be taken by operators at any time and place they are. Depending on the complexity of the instructional objective, information dissemination actions can be carried out in the organization's institutional channels for access by operators.

Table 22 - Suggestions of Instructional Objectives and Contents for Training Program aimed at Accessibility in Air Transport - Module 1

Module 1: Disabilities and Accessibility: General Notions
Instructional objectives:
▪ Define the concept of disability in historical and contemporary conceptions. ▪ Recognize the increasing prevalence of people with disabilities in society and passengers with disabilities in air transport. ▪ Define the characteristics of visible and non-visible deficiencies. ▪ Identify what adaptations are needed in the airport infrastructure. ▪ Identify potentially stressful conditions for people with autism, such as staying in environments with noises or crowds of people, minimizing their exposure to such situations. ▪ Be alert to the recognition of people with invisible disabilities to meet their needs.
Contents:
a. Discuss their etiologies, forms of classification. b. Conception of person with disability in the course of history and currently. c. Concept of disability, according to the International Classification of Functioning, Disability and Health – ICF (PAHO-WHO). d. Characterization of disabilities (hearing; physical; visual; invisible disabilities; mental disorders). e. Persons with disabilities in aspects related to social inclusion, independence and autonomy. f. Identification of aspects of functionality/disability.

Source: Authors

Table 23 - Suggestions of Instructional Objectives and Contents for Training Program aimed at Accessibility in Air Transport - Module 2

Module 2: Rights of Persons with Disabilities
Instructional objectives:
▪ Describe the main national laws related to the promotion of the rights of persons with disabilities. ▪ Expose the laws and conditions under which passengers with disabilities may be prevented from boarding. ▪ Act in accordance with aviation laws and standards aimed at passenger rights, including those specific to persons with disabilities.
Suggested contents:
a. Brazilian Law for the Inclusion of Persons with Disabilities (Statute of Persons with Disabilities). b. Brazilian Law No. 10.436, of April 24 2002 – provides for the Brazilian Sign Language (Libras) – and makes other provisions. c. Brazilian Law No. 11.126, of June 27 2005 – provides for the right of the visually impaired person to enter and remain in environments of collective use accompanied by a guide dog. d. NBR[5] 14273, of March 01 1999 – provides for the accessibility of people with disabilities in commercial air transport.

Source: Authors

Table 24 - Suggestions of Instructional Objectives and Contents for Training Program aimed at Accessibility in Air Transport - Module 3

Module 3: Language, Interaction and Communication
Instructional objectives:
▪ Relate directly to the passenger with disabilities, considering their potential and limits in understanding the information transmitted. ▪ Establish efficient communication with the passenger's companions so that they assist the service. ▪ Mediate conflicts that may occur in the face of disagreements or stressful and unexpected situations.

[5] NT: NBRs are Brazilian standard regulations issued by the Brazilian Association of Standards and Techniques (ABNT)

▪ Adapt communication and interaction with people with disabilities, so that there is no discomfort for either party.

Source: Authors

Table 25 - Suggestions of Instructional Objectives and Contents for Training Program aimed at Accessibility in Air Transport - Module 4

Module 4: Assitive Tecnhnology
Instructional objectives:
▪ Identify important equipment that allows passengers to board, disembark and move safely. ▪ Handle wheelchairs for boarding, seat transfer and disembarkation. ▪ Assist the wheelchair user in the boarding and disembarkation procedure by ambulift, robotic chair or other assistive equipment. ▪ Allow passengers to use their own assistive equipment (e.g. wheelchair) until the moment of boarding, within the conditions allowed and established by the relevant legislation. ▪ Carry out manual transfer of the passenger from the wheelchair to the seat or other assistive equipment. ▪ Recognize assistive technology equipment specific to air transport, defining its characteristics, what its purpose is and how it meets the needs of different types of disabilities. ▪ Store assistive equipment on the aircraft, such as wheelchairs, crutches or other medical equipment, avoiding damage, loss or misplacement.
Contents:
a. Facilitators and barriers to the participation of people with disabilities in air transport. b. Specific air transport regulations for the care of people with disabilities. c. IATA Recommended Practice 1700 - Acceptance and carriage of incapacitated passengers. d. Assessment, prescription and training on assistive technology equipment. e. Assistive technology in disabilities and impairments related to human movement.

Source: Authors

Table 26 - Suggestions of Instructional Objectives and Contents for Training Program aimed at Accessibility in Air Transport - Module 5

Module 5. Service and Procedures **(Complementary Module for Airline Workers)**
Instructional objectives:
● Adapt the procedures for assisting people with disabilities at all stages of the travel cycle, meeting the demands of passengers. ● Explain to all passengers the need to arrive early at the airport. ● Ask passengers about possible assistance needs at the time of ticket purchase. ● Explain to passengers the procedures regarding luggage and assistive equipment at the time of ticket purchase. ● Explain to passengers the risks of possible accidents if proper safety procedures are not followed. ● Transmit necessary information to all employees involved in passenger service. ● Adopt procedures in case of medical emergencies with disabled passengers. ● Transmit to the workers involved in the passenger service the information necessary to meet the communicated needs. ● Willingness to provide assistance to the needs of unaccompanied passengers with disabilities. ● Resolve problems that may occur in atypical situations involving passengers with disabilities.
Contents:
a. Air transport laws and procedures related to the care of passengers with disabilities. b. Good service practices.

Source: Authors

Table 27 - Suggestions of Instructional Objectives and Contents for Training Program aimed at Accessibility in Air Transport - Module 6

Module 6. Disabled Passenger Service **(Complementary Module for Flight Attendants)**
Instructional objectives:
▪ Allocate passengers with disabilities in the front rows of the aircraft, near the crew, or in seats near the bathroom. ▪ Clarify passengers about the risks of accidents, if the appropriate safety procedures are not followed for boarding, disembarking and during the flight. ▪ Carry out flight safety reports individually for passengers with disabilities. ▪ Provide Braille flight safety reports for visually impaired passengers. ▪ Carry out the description of the spaces for the orientation of visually impaired passengers. ▪ Promote the integration of the crew with the ground team, providing continuity in the service and attention to the needs of the passenger in all activities carried out in boarding and disembarkation.

Source: Authors

To carry out these trainings, some educational strategies can be adopted, such as the suggestions described in the Glossary of Educational Strategies, presented in Table 28:

Table 28 - Glossary of educational strategies

Strategy	Description
Discussion	Formally structured discussions can be promoted in which two teams defend opposing arguments in relation to a topic (it can be used to promote reflection on situations and problems that are posed).
Scenario demonstrations	They can be done in person, through role plays, simulations or online, through videos. It is a presentation prepared to show how to perform an action or use a procedure, accompanied by oral, visual explanations, illustrations and, in some cases, by questions.
Promotion of information via institutional channels	It can be used to disseminate information that should be known to all operators.
Practical exercises	They can be employed in dynamics with performance of work functions and tasks in a practical situation, using real instruments and equipment (can be used, for example, to teach how to store and handle wheelchairs).
Lectures	Lectures can be held with the objective of informing and guiding operators, prepared by people qualified in the subject of interest.
Team project	It can be used to bring together groups of operators who must work cooperatively to perform a task or solve a problem.

Source: Authors

4.3. STEP 3 – EVALUATION OF THE TRAINING PROGRAM

The evaluation of the training program aims to identify whether the acquisition of competencies relevant to the care of passengers with disabilities is being effectively carried out by workers. This also includes assessing the existence of the working conditions necessary for the effective performance of the worker in their service activities. The evaluation of the training involves the collection of information that can be used to improve the educational strategies that were offered, assess whether they were able to achieve the instructional objectives and propose new actions. Information can be gathered related to different short- and long-term effects that educational actions can have in different areas. Table 29 lists some possible effects to be measured, a brief definition of these effects and how to measure them, that is, how to

collect information from the operators who were the target audience of the educational actions.

Table 29 - Effects measured after training

Evaluated Effect	Definition	How to measure?
Reaction (Satisfaction)	It concerns the opinion of the participant of the instructional action about the content, program, training venue, resources offered, applicability at work, etc.	Through questionnaires applied soon after the completion of the educational actions.
Learning	It concerns the degree of acquisition of instructional content.	Through knowledge assessments; practical activities, etc.
Impact on work	It concerns the effects of training on the final performances exhibited by the trainees after the conclusion of the educational action.	Through performance evaluations of operators; passenger satisfaction surveys on the service provided; questionnaires measuring operators' perception of the impact on work (instrument exemplified in Figure 35 – Global Impact Self-Assessment Questionnaire).

Source: Authors

There are two ways to assess the perception that operators have about the impact that the educational action had:

a) Measure from the results they produce in the performance of operators in their activities directly related to the service of passengers, such as the ability to guide them on the procedures to verify if they are able to board the flight. For this, a questionnaire can be applied in which the participant must point out how much he performs that competency acquired in the educational action after completion (Figure

35). The same competencies of the positions, listed in the Instrument of Competencies in the Service of Passengers with disabilities in air transport, can be used.

Figure 35 - Job Training Impact Self-Assessment Questionnaire based on competencies

Instructions: Read each item carefully. Think about your performance before and after the course and assess how well you perform in each competency listed below. Use the scale below to record your perception at the end of each item:				
1	**2**	**3**	**4**	**5**
I never perform	**I rarely perform**	**I sometimes perform**	**I often perform**	**I always perform**
Items				**Answer**
a. Allocate Passengers with disabilities in the front rows of the aircraft, close to the crew, or in seats close to the bathroom (Example of competency extracted from the Instrument of Competencies in the Service of Passengers with disabilities in air transport).				
b. Clarify passengers about the risks of accidents, if the appropriate safety procedures are not followed for boarding, disembarking and during the flight (Example of competency extracted from the Instrument of Competencies in the Service of Passengers with disabilities*).*				

Source: Authors

b) Consider the other aspects of the operator's performance at work, such as improving motivation and self-confidence to provide adequate care and changing people's attitudes towards disabilities, producing a decrease in ableist notions. In order to carry out the impact assessment more globally on the operator's performance, it is suggested that questionnaires be used to measure the operators' perception of the changes observed, in addition to the contents related to their position, depending on the competencies that were acquired through the educational action (Figure 36).

Figure 36 - Job Training Global Impact Self-Assessment Questionnaire

Instructions: Read each item carefully. Think about your performance before and after the course and rate how much you agree with each of the following. Use the scale below to record your perception at the end of each item:				
1	**2**	**3**	**4**	**5**
I disagree	**I agree somewhat.**	**Moderately agree**	**I agree a lot.**	**I strongly agree**

	Items	**Answer**
a.	I take advantage of the opportunities I have to apply what I have learned in the course.	
b.	I remember well the contents I learned in the course.	
c.	I do my job faster.	
d.	I often use the skills I learned in training.	
e.	I have been more receptive to changes at work.	
f.	My colleagues learn new skills from me.	
g.	I feel more motivated for work.	
h.	I make fewer mistakes in my activities.	
i.	I feel more confident at work.	
j.	The quality of my work has improved in activities related to course content.	
k.	The quality of my work has improved on assignments unrelated to the course.	

Source: Abbad, Mourão, Zerbini (2012, p. 161)[6].

Important: Perform training management to control the frequency of occurrence of these trainings, as well as the number and characteristics of the people who were trained. This information can be useful to direct decision making on who still needs to be trained, verify that the team responsible for care has the necessary skills

[6] Abbad G. S., Mourão, L., Zerbini, T. (2012). Medidas de avaliação de treinamento, desenvolvimento e educação: ferramentas para gestão de pessoas. Porto Alegre: Artmed.

for proper care and that there is at least one operator responsible for responding to accessibility demands in the teams that can appropriately meet the needs of passengers with disabilities.

4.4. FINAL CONSIDERATIONS OF THE CHAPTER

In this chapter, the steps that must be followed in a Training Program were presented, namely: planning, execution and evaluation. It is expected that training aimed at assisting passengers with disabilities can help improve the air travel experience of these passengers, by promoting the training of the ground and board team responsible for the service.

One of the results of the project "Improvement of Accessibility in Civil Aviation" was the elaboration of a Training Program entitled "Accessibility in Civil Aviation: eliminating barriers in the service to passengers with disabilities", which aims to improve the service provided to passengers with disabilities during air travel. The course consists of seven modules: Module 1: Participation of Persons with Disabilities in Civil Aviation; Module 2: Language, Interaction and Communication with Disabled Passengers, Module 3: Rights of people with disabilities; Module 4: Barriers to the participation of passengers with disabilities; Module 5: Assistive Technologies and Support Resources; Module 6 (Airline): Service – from ticket purchase to boarding and Module 7 (Flight Attendants): Service during the flight.

CHAPTER 5

Accessibility Rating Level

Nilton Luiz Menegon

5. ACCESSIBILITY RATING LEVEL

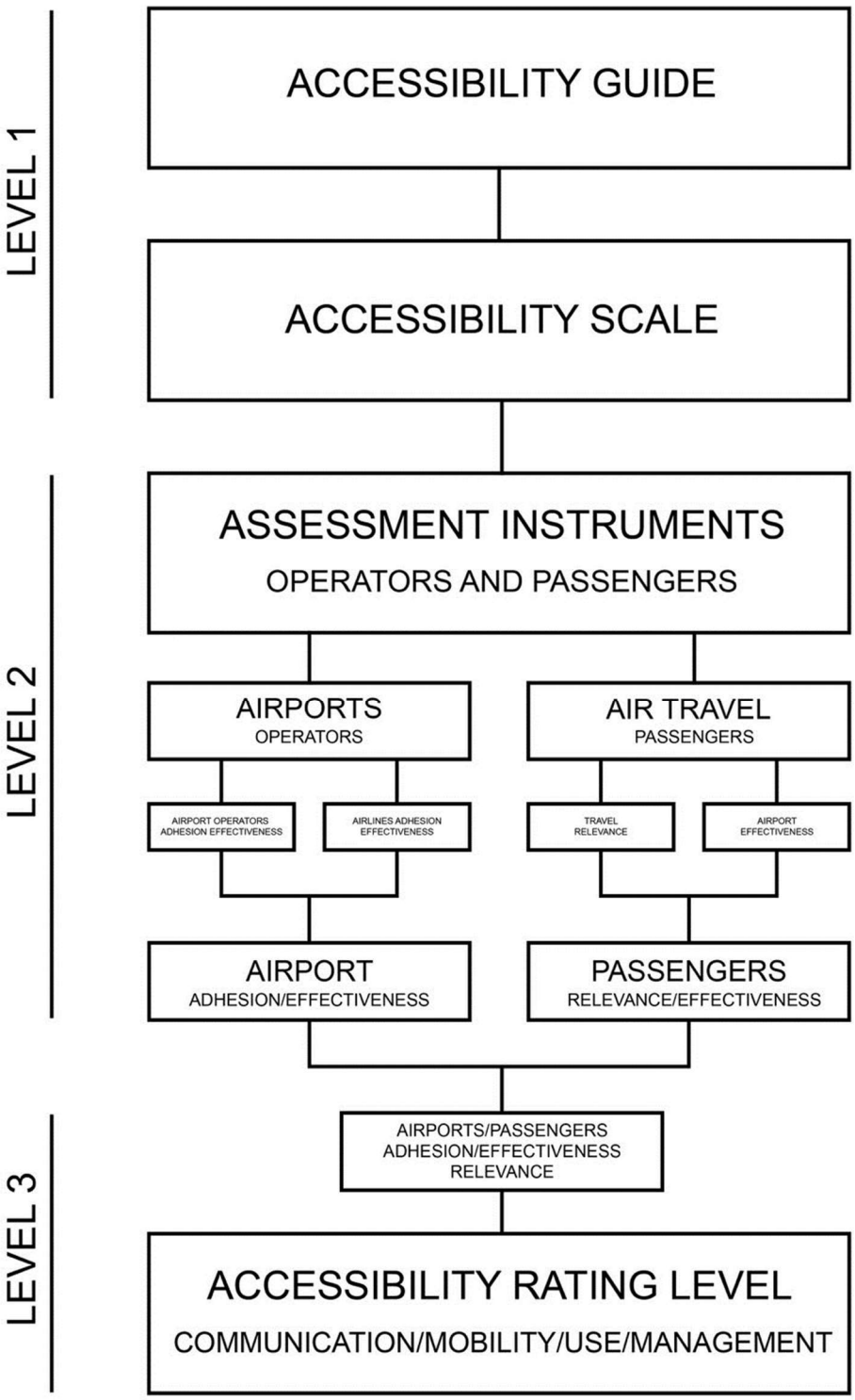
The Accessibility Rating Level is an instrument for valuing and recognizing efforts aimed at improving accessibility in Brazilian civil aviation. It aims to feed back the system, indicating to airline and airport operators the current stage in which they are and offering routes for the development of infrastructure, service and management processes. The Rating Level considers the perspective of passengers and users, as well as operators in the sector, making it possible to incorporate their contributions to the evolution of the system. The periodicity of the process of granting the Accessibility Rating Level, supported by the Accessible Aviation Platform, allows the evaluation of the impacts of public policies aimed at accessibility in civil aviation.

5.1. METHODOLOGY

The methodology for granting the Accessibility Rating Level is represented in Figure 37, configured by three levels of approach:

a) At level 1, the methodology considers the existence of the Accessibility Guide that presents Accessibility Practices aimed at meeting the needs of passengers, as well as the possibility of these practices being implemented with a greater or lesser degree of effectiveness in an Accessibility Scale;
b) At level 2, the methodology considers the existence of Assessment Instruments capable of capturing the adherence of airline and airport operators to accessibility practices and also capable of capturing the relevance of these practices and their effectiveness, from the perspective of users and passengers;
c) At level 3, the methodology considers the possibility of integrating the perspectives of airline and airport operators with the perspectives of passengers and users, characterizing the adherence, relevance and effectiveness of Accessibility practices and obtaining an Accessibility Rating Level that shows the development stage of the airport unit.

Figure 37 - Methodology for granting the Accessibility Rating Level

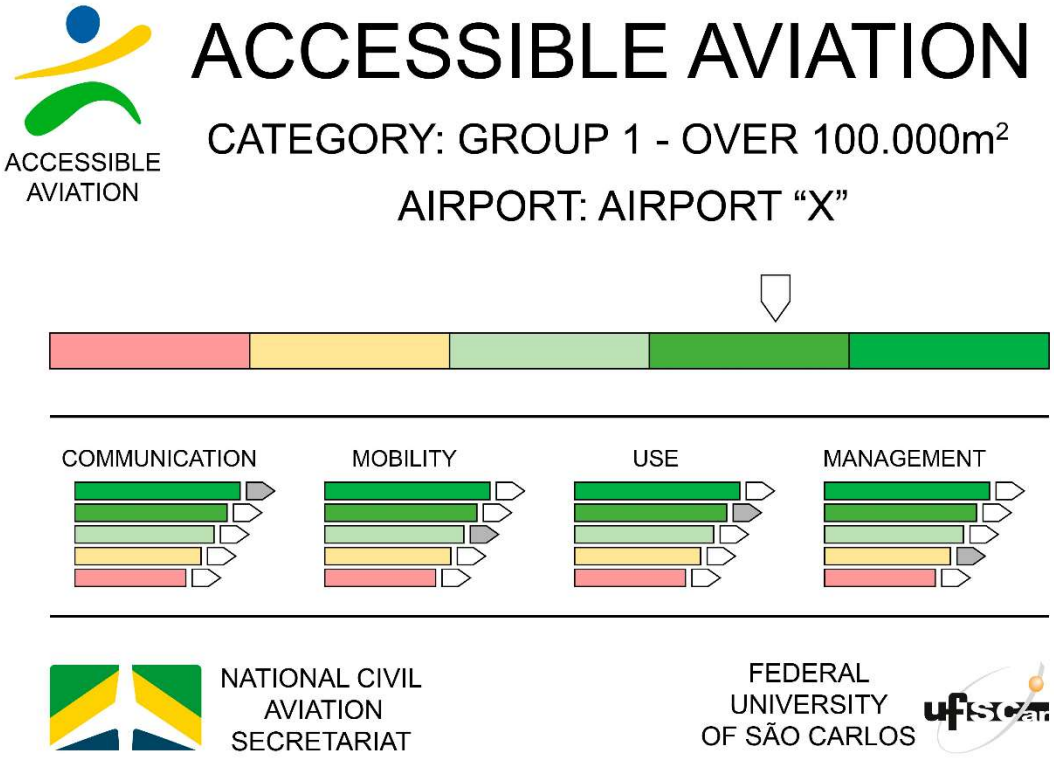


Source: Authors

The three levels considered in the methodology are dynamic. At level 1, new accessibility practices emerge with their levels of effectiveness, in the same way that other practices become obsolete, producing changes in the assessment instruments.

At level 2, in addition to the emergence of new practices and the obsolescence of others, airline and airport operators produce changes in their infrastructures and management models, impacting the perception of passengers and users. At level 3, the Accessibility Rating Level captures the dynamic effects of the methodology, reflecting the evolution of the system. The rating configuration is shown in Figure 38.

Figure 38 - Accessibility Rating Level Label for airport units



Source: Authors

5.2. PRÁTICAS E ESCALA DE ACESSIBILIDADE

The Accessibility Guide consolidates usual practices in national and international airports, grouped in the dimensions of Communication, Mobility, Use and Management. It also establishes the scope of application for these practices. A practice can be directed to airport operators, airline operators, or both.

The objective form used for the presentation of practices is through the Accessibility Practices Characterization Worksheets. The worksheets aim to support airline and airport operators in the implementation of practices and enable the

understanding of the purposes and coverage provided for passengers and users, as described in Chapter 3 of this Guide. These are guidelines on what to do, how to do it, and why to do it. The Accessibility Scale is also presented in the forms, consisting of five levels of meeting the needs of passengers and users: level 1 indicates the existence of the practice, but it does not minimally meet the related prescriptions and standards; level 2 indicates that the practice meets only the minimum conditions, not fully meeting the related prescriptions and standards; level 3 indicates that the practice meets the basic requirements provided for in standards and other prescriptions; level 4 indicates that the practice is satisfactory and, when necessary, presents integration with other practices, contributing to the fact that there is no discontinuity throughout the stages of the travel cycle; and level 5 indicates that the practice fully meets and, whenever necessary, presents integration with other practices at the level of excellence.

The descriptive worksheets, associated with the service scales, constitute the basis of the methodology for the Accessibility Rating Level. The fact that the practices are presented in the form of worksheets guarantees flexibility and the possibility of constant updating of the guide.

5.3. ASSESSMENT INSTRUMENT

Based on the descriptive worksheets and the accessibility scale, evaluation instruments were built for operators and passengers. It is observed that the instruments are constituted by a common basis, allowing the intersection of the analyzes carried out by the two groups of actors. Both instruments were deployed on web platforms.

Two specific instruments were built for operators. The **Airport Operators Instrument** brings together the practices exclusive to the scope of these operators, together with those shared with airline operators. The **Airline Operators Instrument** groups the exclusive practices of these operators, with those intended for both operators. The instruments operate under the same logic. The operator must: register on the web platform; select the practices existing in the operational unit; insert evidence proving the existence of the practice; and score the effectiveness of the practice in the airport unit on the accessibility scale. It should be noted that some practices may be dispensable, because they are not necessary in a specific airport unit or because their

benefits are covered by another practice. Detailed guidance can be found in the guide **Operator Assessment Instruments**.

Airline and airport operators carry out their assessments independently. Therefore, there will be an assessment for the airport operator and as many assessments as the number of airlines operating at the airport. The outcome of this self-assessment process by airline and airport operators will be a score represented by the sum of the effectiveness of the practices evidenced.

The **Users and Passengers Instrument** follows the same previous logic, encompassing the practices prescribed for airport operators, for airline operators and for both. The passenger or user must: register on the web platform; select and score the relevance of practices for their travel cycle; evaluate the effectiveness of practices at an airport related to the airport operator; and evaluate the effectiveness of practices at an airport related to the airline operator. Detailed guidelines can be found in the guide **User and Passenger Instruments**.

Note that passengers and users perform two evaluations independently. The first refers to the travel cycle as a whole and is independent of the airport unit in question (assessment of the relevance of accessibility practices). The second refers to a specific airport unit, being able to evaluate as many units as you wish (effectiveness of the practice in a specific airport unit or airline). Both assessments will be performed using scales ranging from 1 to 5.

The outcome of this process is a set of passenger evaluations that is stratified by type of disability, indicating, from the perspective of each group, the relevance of accessibility practices, according to their needs. Another outcome is a set of evaluations of airport units and airlines, indicating the effectiveness of practices, as performed/made available by these operators.

The instruments produce results in isolation for airline and airport operators and also synergistic, when considering the more general objectives of improving accessibility in civil aviation. Independently, the evaluation of airline and airport operators makes it possible to compare the practices adopted in each unit with the others in the same category; identify points and possibilities for improvements in the practices adopted; and also plan investments and guide the implementation of new practices. When considering the perspective of users, the indicators make it possible to: direct practices to meet the demands of specific groups; compare options between competing practices and improve the effectiveness of existing practices. In addition,

the indicators allow us to formulate the model for granting the Accessibility Rating Level.

5.4. FACTORS FOR THE ACCESSIBILITY RATING LEVEL

The Accessibility Rating Level aims to inform users of the performance of an airport unit regarding accessibility issues. Given the diversity of size of airport units (dimensions of passenger terminals, number of companies in operation and typology of aircraft operated), segmentation is necessary. Table 30 presents a typology for 176 Brazilian airports, grouped into 8 homogeneous groups, defined from the Passenger Terminal area.

Table 30 - Homogeneous groups of airport units

Group	Minimum PT Area	Maximum PT Area	Quantity
1	100.000	400.000	6
2	50.000	100.000	7
3	17.000	50.000	9
4	5.000	17.000	17
5	3.000	5.000	13
6	2.000	3.000	13
7	1.000	2.000	15
8	50	1.000	96
		TOTAL	176

Source: Authors

Note that within a homogeneous group, the same set of practices is expected to be found. Assuming that the rating will be established for homogeneous groups and assuming that the instruments developed will be able to establish the factors of **Adhesion**, **Relevance** and **Effectiveness** of practices in a specific airport unit, the concrete bases for the construction of the Accessibility Rating Level are guaranteed.

5.4.1. Adhesion Factor (AF)

Adhesion Factor (AF): assumes a value between 0 (zero) or 1 (one), under the following conditions: 0 (zero) indicates the absence of the practice in the scope of airlines or airport operators; and 1 (one) indicates the existence of the practice in the scope of airlines and airport operators. It is observed that the practices that meet the dispensability criteria assume the value 1 (one).
Given the set of practices, the calculation of AF assumes:

$$AF\ airport\ operators\ =\ assumes\ value\ (0)\ or\ (1)$$

$$AF\ airlines = \%\ Pax\ Co\ (a)\ \times 0\ or\ 1 + \%\ Pax\ Co\ (b) \times 0\ or\ 1 + \cdots + \%\ Pax\ Co\ (n) \times 0\ or\ 1$$

Where: % Pax Co (x) = % Passengers from each airline

$$AF\ Airlines\ and\ Airport\ Operators = \frac{(AF\ Airport + A\quad Airline)}{2}$$

5.4.2. Relevance Factor (RF)

Relevance Factor (FR): assumes a value between 1 (one) and 5 (five). The factor is calculated by the highest average attributed to the practice by a specific set of users or passengers, considering the groups: Physical or Motor Disability, Visual Disability, Hearing Disability or Deaf Person, Intellectual or Mental Disability, Autism Spectrum Disorder (considered a disability for legal purposes - Brazilian Law 12.764/2012) and Reduced Mobility. This procedure ensures that less comprehensive practices, but relevant to specific groups of users, have their relevance adequately recognized.
The RF is calculated as follows:

$$RF = Max.[Group\ Average\ (a);\ Group\ Average\ (b);\ \ldots\ Group\ Average\ (n)]$$

5.4.3. Effectiveness Factor (EF)

Effectiveness Factor (EF): The Effectiveness Factor results from two distinct evaluations. One, resulting from the self-assessment carried out by airline and airport operators. Another, resulting from the evaluation of users and passengers. Thus, two factors are established: Operators Effectiveness Factor (EFop) and Users and Passengers Effectiveness Factor (EFup).

5.4.3.1. Effectiveness Factor for Operators (EFop)

Operators Effectiveness Factor (EFop): given the different scopes of application of accessibility practices, EFop unfolds in:

Effectiveness Factor Airport Operators (EFop Airport): assuming values between 1 to 5.

Airline Operators Effectiveness Factor (EFop Airline):

$$EFop\ Airline = \%\ Pax\ Co\ (a)\ \times\ 1\ to\ 5 + \%\ Pax\ Co\ (b) \times 1\ to\ 5 + \cdots \%Pax\ Co\ (n) \times 1\ to\ 5$$

Where: % Pax Co (x) = % Passengers from each airline

Effectiveness Factor Airport and Airline Operators (EF airport and airlines):

$$EFop\ Airport\ and\ Airlines = \frac{(EFop\ Airport + E \quad\quad Airlines)}{2}$$

5.4.3.2. Effectiveness Factor for Users and Passengers (EFup)

Effectiveness Factor Users and Passengers (EFup): given the different scopes of application of accessibility practices, EFup unfolds in:

Effectiveness Factor Users and Passengers/Airport Operators (EFup airport): assuming values between 1 and 5.

Effectiveness Factor Users and Passengers/Airline Operators (EFup airline):

$$EFup\ Airline = \%\ Pax\ Co\ (a)\ x\ 1\ to\ 5 + \%\ Pax\ Co\ (b)\ x\ 1\ to\ 5 + \cdots \%Pax\ Co\ (n)\ x\ 1\ to\ 5$$

Where: % Pax Co (x) = % Passengers from each airline

Effectiveness Factor Users and Passengers/Airline and Airport Operators (EFup Airport and Airline):

$$EFup\ Airport\ and\ Airline\ = \frac{(EFup\ Airport\ + EFup\ Airlines)}{2}$$

5.5. PHASES FOR THE ACCESSIBILITY RATING LEVEL

The Accessibility Rating Level results from the composition of the Adherence, Relevance and Effectiveness factors. Given two possibilities for calculating the Effectiveness Factor (EF), the rating level will be granted in two phases: Phase 1, considering the relevance attributed by users and passengers to the practices and the adherence/effectiveness attributed by operators; and Phase 2, considering the adherence of operators and the relevance/effectiveness attributed by users and passengers.

5.5.1. Phase 1 - Relevance by Users and Passengers, Adherence and Effectiveness by Operators

In a first phase, the Adherence and Effectiveness factors (AF and EF) derived from the self-assessment process carried out by airport operators will be considered; and the Relevance Factor (RF) attributed by users and passengers.

The process for building the Accessibility Rating Level indicators involves:

a) Obtain the evaluation of the Relevance Factor (RF) attributed by groups of passengers and users to accessibility practices.
b) Obtain the sum of the RF for the Management, Communication, Mobility and Use dimensions.
c) Obtain the sum of the EFop for the Management, Communication, Mobility and Use dimensions.
d) Calculate the service rate, through the ratios:

$$Service\ Rate\ (dimension)\ = \frac{EFop\ \_Dimension}{RF\_Dimension}$$

$$Service\ Rate\ (TOTAL)\ = \frac{EFop\ \_Total}{RF\_Total}$$

e) Issue Accessibility Rating Level label.

5.5.2. Phase 2: Adherence of Operators, Relevance and Effectiveness for Users and Passengers

In a second phase, the Adhesion Factor (AF) derived from the self-assessment process by airline and airport operators and the Relevance (RF) and Effectiveness (EF) factors derived from passenger and user evaluations will be considered. The process for building the Accessibility Rating Level indicators involves:

a) Obtain the evaluation of the Relevance Factor (RF) attributed by groups of passengers and users to accessibility practices.
b) Obtain the sum of the RF for the Management, Communication, Mobility and Use dimensions.
c) Obtain the sum of the EFup for the Management, Communication, Mobility and Use dimensions.
d) Calculate the service rate, through the ratio:

$$Service\ Rate\ (dimension)\ = \frac{EFup\ \_Dimension}{RF\_Dimension}$$

As well as the ratio:

$$Service\ Rate\ (TOTAL)\ = \frac{EFup\ \_Total}{RF\_Total}$$

e) Issue Accessibility Rating Level label.

5.6. FINAL CONSIDERATIONS OF THE CHAPTER

The evaluation of accessibility will make it possible to understand the current stage of the practices adopted in each airport unit, considering the performance of airline and airport operators to develop improvement actions in civil aviation. It will also allow comparisons between airport units of the same category and the planning of investments in new accessibility practices.

The perspective of users and passengers in the evaluation is indispensable to define the relevance of practices based on the experiences of each specific group in the use of air transport, as well as to observe opportunities to improve the effectiveness of existing practices.

The participation of these different actors in the process of evaluating accessibility practices underlies the Accessibility Rating Level, which is an instrument

for valuing and recognizing efforts aimed at improving accessibility in Brazilian civil aviation. The Rating Level indicates the current stage of airline and airport operators in relation to accessibility and the dimensions of the practices presented in this Guide. Thus, it suggests routes for the development of improvements, aiming at the care of passengers with disabilities.

APPENDIX I

Practice Characterization Worksheets

0100_GE: MANAGEMENT FOCUSED ON ASSISTANCE DEMANDS FOR ALLOCATION OF ACCESSIBILITY RESOURCES

Airport and Airline Operators | Local Practice

DESCRIPTION: For adequate passenger assistance, allocation of resources and personnel, there must be coordinated management between the airport and airline operators. This involves prior knowledge of the demands for assistance to be provided, the management of accessibility resources, the availability and planning of the shared use of these resources according to the expected demands, including peaks of service. This management may be carried out through the airport operations center, preferably using communication by computerized systems. In this context, airport and airline operators must receive and maintain systematic records of service to passengers who require assistance. In addition, they should also receive up-to-date information from these records in advance when changes occur in the assistance processes. Priority should be given to the allocation of aircraft for boarding and disembarking on fingers. If there is no availability or possibility of using these resources, it is necessary that there is an alternative of aircraft ascending and descending equipment to perform the assistance procedures.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 article 20 and 21 and Chapter IV.

1	There is communication, but it is not sufficiently anticipated, nor are there systematic records about the assistance required.
2	There is early communication between airline and airport operators to request assistance to passengers with systematic records of important information about the assistance required.
3	There is early communication with systematic records, presenting important information on the type of assistance required: service time; assistance required; SSR (Special Service Request) codes; and other information relevant to the service process.
4	It meets the previous level and, in addition, it is possible to issue reports with details on the assistance provided and how it occurred, including information on the physical and human resources required to meet the demands.
5	It meets the previous level and, in addition, it is possible to verify that this communication occurs both in a computerized way (issuing reports) and in person, in the operations center, where the representatives of the airport, airlines and operational (handling) are located to meet the demands of passengers.

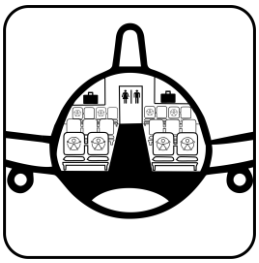
0200_GE: PRIOR COMMUNICATION WITH PASSENGER ON ASSISTANCE CONDITIONS

Airline Operators | Local Practice

DESCRIPTION: For proper planning of the assistance service, the airline must maintain communication with the disabled passenger from the purchase of the air ticket to identify the need for a companion, technical assistance, communication resources and other assistance. To this end, it is necessary to input information on the need for assistance in an integrated system, remaining available to all airline workers and aeronauts. In addition, the airline must provide ways to input MEDIF/FREMEC information.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: ANAC Resolution 280/2013 Article 9 , § 1 and § 2 .

1	There is a communication channel for guidance on assistance needs. However, this communication depends mainly on the passenger in relation to the search for information, especially on the website. The process of completing the MEDIF or FREMEC forms is not explained or detailed on the airline's website or there is no option for an attendant to assist the passenger in completing them online (chat), by phone or other means of communication.
2	There is direct communication with the airline. The guidelines for completing the MEDIF or FREMEC forms are duly explained on the airline's website, but this process is not assisted by an attendant online (chat), by telephone or other means of communication.
3	There is communication, it takes place directly with the airline. It is meant to maintain contact with the passenger to guide the process of filling out the MEDIF or FREMEC forms through online channels, including chat, email, telephone or other means of communication.
4	It meets the previous level and, in addition, publishes didactic tutorials on the website to assist the passenger in relation to the assistance procedures and completion of the MEDIF or FREMEC forms.
5	It meets the previous level and, in addition, has a channel for online and real-time completion of the MEDIF and FREMEC forms, in addition to monitoring the order analysis process. In addition, operators at the airline's check-in counters, in person, have the skills to assist and guide passengers who require these procedures.



0300_GE: MANAGEMENT OF THE AVAILABILITY OF ACCESSIBLE SEATS ON THE AIRCRAFT

Airline Operators | Local Practice

DESCRIPTION: The airline operator must make accessible seating options with movable arms (removable or retractable) available to passengers with disabilities in the row of the aircraft where there are adequate accommodation conditions. This passenger must occupy, in precedence of the other passengers, the seats next to the aisle in the rows near the main doors of the aircraft and the lavatories. To ensure these conditions, the team must manage the operational conditions for the allocation of passengers with assistance needs in advance, upon prior communication with the passenger.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Resolution of 280/2013 of ANAC, articles 15, 32, 33 and 34 and Annex II of this Resolution.

1	Accessible seats are made available to the passenger upon boarding.
2	Accessible seats are made available at the time of in-person check-in or presentation of the passenger to the airline at the airport unit.
3	Accessible seats are granted at the time of check in regardless of whether it was done in person or online.
4	Accessible seats are granted in the interval between the time of ticket purchase and prior to check-in.
5	Accessible seats are granted at the time of ticket purchase regardless of purchase channels.

0400_GE: GRATUITY AND DISCOUNT ON THE TRANSPORT OF TECHNICAL AIDS AND MEDICAL EQUIPMENT

Airline Operators | Local Practice

DESCRIPTION: The airline must offer gratuity for the transportation of technical assistance used by the disabled passenger. In case of exceeding a volume, a discount greater than or equal to 80% on the amount charged for excess baggage (technical aids for locomotion, medical equipment, among others) must be offered. Such equipment must be carried in the passenger cabin, except when its dimensions or the aircraft (or safety aspects) make transportation in the cabin unfeasible. In this case, the equipment must be transported in the luggage compartment. When the technical aids have to be checked, they will be considered priority luggage, so that the transport takes place with the necessary precautions to avoid damage or loss.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 article 8, paragraph 3 Regarding the gratuity of luggage, articles 22, 23 and 24 of the same resolution must be considered.

1	The airline operator does not provide free transportation of assistive technologies and/or technical aids, only offering the discount foreseen in the resolution.
2	The airline operator allows the free transport of an assistive technology and/or technical assistance, and the regulation granted discount is offered for the checking of one more piece of equipment.
3	The airline operator carries out the free transport of an assistive technology and/or technical assistance, and from the second on offers the discount stipulated by the regulation. In addition, it maintains communication with passengers to carry out the correct procedures for transporting the equipment, such as undocking parts, folding, disassembling and other procedures to prevent damage to or loss of the equipment(s).
4	It meets the previous level and the airline operator offers free transportation of all assistive technologies and/or technical aids.
5	It meets the previous level and, in addition, provides information on the gratuity and procedures for transporting such equipment on the website.

0500_GE: ADDITIONAL SEATS AND PROCEDURES FOR COMPANION DURING AIR TRAVEL

Airline Operators | Local Practice

DESCRIPTION: The airline operator must: (a) Provide a companion or require the presence of the companion, over the age of 18 of choice of the disabled passenger, whenever he/she needs to travel on a stretcher or incubator, or due to mental or intellectual impediment, cannot understand the flight safety instructions, or cannot meet his/her physiological needs without assistance. In addition, in the event of a companion requirement or need for an additional seat for technical assistance, up to 20% of the value of the air ticket purchased by the passenger may be charged; (b) Such companion or technical assistance must be accommodated in the seat adjacent to the passenger.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 articles 8, 27 and 28.

1	A companion is not offered by the company, but the passenger can chose a companion of their preference. Up to 20% of the ticket is charged, but the adjacent seat is not guaranteed.
2	A companion is not offered by the company, but the passenger can chose a companion of their preference. Up to 20% of the ticket is charged and the adjacent seat is guaranteed.
3	Upon prior request, the airline offers the passenger a companion free of charge or requires the passenger to indicate a companion over the age of 18 and charges 20% of the ticket price or less, and also ensures that the companion uses the adjacent seat and in the same class.
4	Meets the previous level and the companion's additional seat is free of charge.
5	It meets the previous level and, when a companion is needed, the airline makes it available with exclusive dedication.

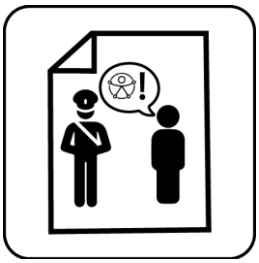
0600_GE: RESTRAINT MECHANISMS AND SEAT BELT EXTENDERS

Airline Operators | Local Practice

DESCRIPTION: The airline operator must provide additional safety mechanisms during air transport for people with obesity or passengers who have limitations that prevent them from remaining upright in the aircraft seats, for example: belts and fastening straps in wheelchairs, 4-point belts or chairs and belts with extenders. The passenger may use their own mechanism, provided that it is authorized by ANAC. The passenger must be allocated in special seats, next to the aisle, located in the front and rear of the aircraft, as close as possible to the exits, equipped with movable armrests.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Resolution 280/2013 of ANAC, in art. 31. item III. In addition, Annex IV, item 6.

1	There are mechanisms or equipment, but they need maintenance or renewal, or they are insufficient in quantity (on the ground or on aircraft). In addition, the allocation of these passengers is NOT NECESSARILY carried out in seats with movable arms, close to the entrance and exit of the aircraft.
2	Mechanisms or equipment, in adequate conditions of use and in adequate quantity, but limited in relation to variety, are available on all types of aircraft and on the ground.
3	Meets the previous level and has equipment in varieties (including models of containers that suit children, people with obesity, people with short stature and others)
4	It meets basic issues regarding the existence of mechanisms, quantity and variety. In addition, it is possible to allocate these passengers in seats with movable arms, close to the entrance and exit of the aircraft. In addition, it is possible for the user to use their own containment equipment (if previously authorized by ANAC).
5	It meets satisfactory conditions and, in addition, the company provides trained and available personnel to assist the passenger, including for the use of their own containment.



0700_GE: REPORTS OF RESPONSES AND REFERRALS FOR IMPROVEMENTS IN ACCESSIBILITY ACTIONS

Airport and Airline Operators | Local Practice

DESCRIPTION: To direct actions to improve accessibility, airline and airport operators must issue response reports in a specific system, considering all records of service and complaints/ombudsman received (categorized according to the accessibility theme), investigating possible incidents and forwarding complaints to the corresponding departments (whether at the corporate level or in their specific bases). The airport or airline operator must process information regarding complaints/ombudsman, monitoring records and actions to resolve complaints raised by passengers.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Resolution 280/2013 articles 9 36 and 37 and art. 34, ANAC Resolution 372 also art. 2 4 to 6 of ANAC Res. 400.

1	There is information processing and there are complaints/ombudsman reports, but it is not specific about accessibility; complaints about accessibility can only be filtered in the system. Sporadic reports are generated, usually focusing only on complaints that need urgent attention, when they occur. In addition, there is no designation of a fixed responsible in the treatment of this accessibility information.
2	There is specific information handling for accessibility. Reports of the complaints channel/ombudsman information are issued regularly but are not forwarded to the departments (specific bases or corporate level) or there are no periodic meetings or discussions to discuss the information obtained. There is no designation of a fixed responsible for handling accessibility information.
3	It meets the previous level, however, periodic meetings are held with the corresponding departments and their responsible persons to investigate and solve the reported problems. There is a person responsible for handling this information, who includes demands related to accessibility on the agenda.
4	It meets the previous level and, in addition, there is a categorization of records linked to accessibility. Those responsible hold regular meetings with the departments to investigate complaints, verifying how they will be resolved. These demands have records of their treatment and solution.
5	It meets the previous level and, in addition, proposes debates with teams from other bases, sharing records of the ombudsman channels and how the demands linked to accessibility were resolved.

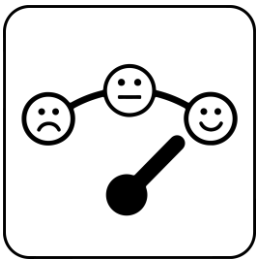
0800_GE: MANAGEMENT OF MAINTENANCE OF FACILITIES AND EQUIPMENT FOR ACCESSIBILITY

Airport and Airline Operators | Local Practice

DESCRIPTION: To ensure continuity of service and use of equipment safely and efficiently, the airport and airline operator must prepare a periodic maintenance policy and records of maintenance performed on equipment and facilities for accessibility. These records shall be evidenced, detailing what equipment and facilities are reviewed and how often maintenance is performed.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Ordinance No. 6.059/SRA of 2021 Article 19.

1	There is a general maintenance policy for equipment and facilities, including those linked to accessibility and their records, but maintenance does not occur at the frequency defined in the policy.
2	There is a management of the general maintenance of equipment and facilities, including those linked to accessibility and periodicity, following the company's policy. However, the times that the equipment is unavailable due to the need for maintenance are longer than those foreseen in the company's policy.
3	Meets previous level. In addition, the times that the equipment is unavailable due to the need for maintenance are those foreseen in the company's policy. However, there is no detail on the reasons and solutions used in this process.
4	There is a general maintenance management of equipment and facilities focused on the scope of accessibility. In addition, in the records it is possible to verify the periodicity or regularity of this management, together with other information of the maintenance plan that includes several pertinent information, including the details of the reasons and the solutions used in this process.
5	It meets the previous level and, in addition, added to the maintenance plan, there is information that justifies the development of proposals for the modernization of facilities and equipment to promote accessibility improvements in the terminal.



0900_GE: REGISTRATION AND SERVICE QUALITY CONTROL SYSTEM BASED ON THE SERVICES PROVIDED

Airport and Airline Operators | Local Practice

DESCRIPTION: Airport and airline operators must keep service records for monitoring and statistical control. To evaluate and direct strategies for improvements related to accessibility, a service quality control system provided to people with disabilities must be implemented, based on the occurrence records on the place of these occurrences and the types of services provided, containing issues related to airport facilities (free areas of the terminal, bathrooms, furniture), conditions, adaptations and access to equipment (wheelchairs, buggies, ambulifts, boarding ramps) and service teams.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 Articles 36, 37 and 38.

1	The operator has records of the services performed, but there is no history of the occurrences.
2	The operator has records of the services provided and there is a history of occurrences for less than two years.
3	The operator has records of the services performed, there is a history of occurrences for a period of at least 2 years. Associated with the records, there is a quality control system of the services performed involving the availability of equipment and the service time.
4	It meets the previous level and the quality control registration system encompasses issues related to: access conditions, airport environment and infrastructure, shops and services, check-in conditions, security inspection, boarding and disembarkation conditions and baggage return.
5	It meets the previous level and implements an action plan containing at least one person responsible, deadline and history of the implementations already carried out.

1000_GE: OMBUDSMAN OR FACE-TO-FACE OR REMOTE CUSTOMER SERVICE, MEDIATED BY PEOPLE, TO RECEIVE COMPLAINTS AND FORWARD SOLUTIONS

Airport and Airline Operators | Local Practice

DESCRIPTION: To enable the receipt and resolution of complaints by the passenger, the airport and air operator must have a location or system, or an employee (local or travelling), designated to receive complaints/ombudsman, before, during and after the journey. Companies have the possibility to choose, among the different service channels offered, which ones will be available uninterruptedly. One of these should work 24 hours a day, seven days a week. Telephone service must be available for at least 8 hours a day, with human service. Customer service is required to inform waiting time for the consumer - in minutes or by position in the queue. In cases where it is out of the first attendant's scope to solve the consumer's demand, the transfer to the competent sector may be carried out, for definitive resolution of the demand. If the call ends before the end of the service, the attendant must return the call and complete the request. During the new service, the customer cannot be asked to repeat their demand after the first registration, which must be duly registered in the company's system. The service must have human or technological resources that enable the usage for people with disabilities, especially sensory ones, such as deafness and visual impairments.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Decree No. 11.034/ and Law No. 2022

1	These locations or systems exist, but do not have uninterrupted service in at least one system or location.
2	These locations or systems have uninterrupted service in at least one system or location. However, telephone service is not available for at least 8 hours a day.
3	These locations or systems have uninterrupted service in at least one system or location. Telephone service is available for at least 8 hours a day. The expected service time or position in the queue is informed, transfers and callbacks meet the requirements mentioned in the description. The service includes human or technological resources suitable for people with disabilities, including people with sensory disabilities, such as deafness and visual impairments.
4	It meets the previous level and, in addition, there are accessible and signposted places in the public area of the terminal, with face-to-face service.
5	It meets the previous level and, in addition, these locations are also present in restricted areas, especially in the luggage recovery sector.

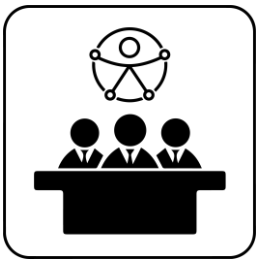
1100_GE: MONITORING AND DISSEMINATION OF ACCESSIBILITY PRACTICES AT THE AIRPORT

Airport Operators | Local Practice

DESCRIPTION: The airport operator must continuously adopt the conduct of monitoring and improving the accessibility of the terminal, which includes inspecting the adequacy of reserved parking spaces and their respective use by people with disabilities, monitoring access to queues and preferred seats/spaces, verifying compliance with the use of counters and spaces in relation to the designed/built environment (mainly respecting NBR 9050 and other legal references), avoiding adjustments, improper installations and lack of maintenance that impair accessibility conditions. In addition, it must disclose information related to accessibility to users in general, clarifying the reasons and importance of accessibility practices. These actions must be aimed at the internal and external public spaces of the airport and include the assignees in order to ensure that the conditions foreseen in the implementation are maintained throughout the operation.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Decree No. 5.296/2004.

1	There is sporadic monitoring for the maintenance of accessibility practices by the airport operator.
2	There is systematic monitoring for the maintenance of accessibility practices by the airport operator.
3	There is systematic remote and in-person accessibility monitoring. The dissemination is carried out by visual and audible means in all airport premises.
4	It meets the previous level and presents records of occurrences, updates and adjustments in all areas of the airport.
5	It meets the previous level and there is coordination between the airport operator and those responsible for the assignee or outsourced sites that jointly carry out the monitoring and dissemination of accessibility practices.



1200_GE: ACCESSIBILITY COMMITTEE

Airport and Airline Operators | Local Practice

DESCRIPTION: Airport and airline operators must have a group of qualified people responsible for planning accessibility issues at airport units. The role of the accessibility committee is to develop plans that address issues related to infrastructure, training and care processes for passengers with disabilities. To this end, it is up to the committee to consider: reports issued by the ombudsman and the REGISTRATION and SERVICE QUALITY CONTROL SYSTEM BASED ON THE SERVICES PROVIDED.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Resolution 280/2013 article 37 and Brazilian Inclusion Law (Law No. 13.146/.

1	There is an accessibility committee, but there is no evidence of regularity of its performance.
2	There is an accessibility committee that operates regularly in the unit. However, its composition does not involve representatives of all air operators or representatives of assignees.
3	There is an accessibility committee. It is composed of the airport operator, airline operators and representatives of the assignees. In addition, there are records of periodic meetings for the planning and monitoring of the unit's accessibility actions.
4	It meets the previous level and, in addition, involves representatives of associations and entities representing people with disabilities to plan the accessibility of the unit. Requires levels 2 or 3 in practice 0900_GE.
5	Meets the previous level and requires levels 4 or 5 in 0900_GE practice.

1300_GE: PROGRAMS OF VISITS FOR FAMILIARIZATION WITH THE ENVIRONMENT AND WITH THE PROCEDURES THAT ARE CARRIED OUT DURING AN AIR JOURNEY

Airport and Airline Operators | Local Practice

DESCRIPTION: The management of the airport, in partnership with the airlines, must develop visitation programs with the objective of familiarizing interested parties (mainly people with disabilities and their associations) with the accessibility of the airport and the typical procedures of an air journey. To this end, it is necessary to follow the company's guidelines with a trained team responsible for scheduling and conducting visits, from arrival at the terminal, through the presentation of the information desk, check-in, security inspection, and demonstration of boarding/disembarkation, in addition to baggage recovery and airport departure.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: CAP 1629 (2018) "Supporting people with hidden disabilities at UK airports"; and, CAP 1411 (2016) "Guidance for airports on providing assistance to people with hidden disabilities".

1	There are records of the implementation of visitation programs at the airport that cover people with disabilities. However, they do not have a focus or theme to simulate the main stages of the travel cycle for these audiences. In addition, there is no periodicity of the program and its evaluation.
2	There are records of airport visitation programs that cover people with disabilities. The visit program has a focus or theme that helps people with disabilities to anticipate doubts about the stages of the travel cycle. However, the visitation includes guided walks by the staff responsible for the terminal only offering the opportunity to stroll through the public area of the airport.
3	It meets the previous level and, in addition, offers a simulated route of the main stages of the travel cycle, including passing through the security control and arriving at the entrance of the aircraft. The program is carried out periodically or at the request of associations of people with disabilities.
4	It meets the previous level and, in addition, offers the theme of visitation including the accessibility of people with hidden disabilities, helping these passengers and their companions to plan their journey, answering questions or anxieties about the fear of flying, anxiety, stress and other health and accessibility conditions.
5	It meets the previous level and, in addition, in the visitation process, there is formally an accessibility assessment process to which evaluations are applied that guide accessibility improvement planning and actions.

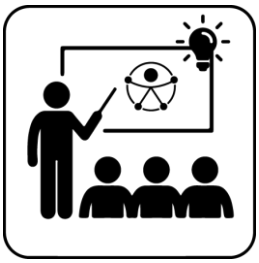
1400_GE: PARTNERSHIPS WITH ASSOCIATIONS AND ORGANIZATIONS REPRESENTING PEOPLE WITH DISABILITIES FOR ACCESSIBILITY ASSESSMENT AND TRAINING

Airport and Airline Operators | Local Practice

DESCRIPTION: Partnerships with associations and organizations that represent people with disabilities contribute to the assessment of accessibility-related conditions and to the proposition of improvements. It is recommended that the air and airport operator, based on corporate guidelines, establish partnerships with several associations that represent people with disabilities from different groups to assess accessibility. Such partnerships should include the training of employees in real service conditions, covering the different types of disabilities and the needs for adequate service.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Resolution 280/2013 article 37 and Brazilian Inclusion Law (Law No. 13.146/.

1	There are records of partnerships with associations and organizations that represent people with disabilities, but they are sporadic partnerships and do not cover varied groups of people with disabilities.
2	There are records of partnerships with associations and organizations representing people with disabilities. These occur regularly but are only focused on people with physical disabilities.
3	It meets the previous level, but also covers people with visual and hearing impairments.
4	It meets the previous level and also focuses on people with Autism Spectrum Disorder (ASD) and people with intellectual disabilities.
5	It meets the previous level and, in addition, has records of training based on partnerships, that is, training is strongly influenced by the needs identified with the representative associations of people with disabilities.



1500_GE: TRAINING PLANNING AND EXECUTION

Airport and Airline Operators | Local Practice

DESCRIPTION: Training planning should cover, at a minimum, content on: physical, sensory, intellectual, non-apparent disabilities, people with mental disorders; cognitive disabilities, people who need technical help, people with reduced mobility, hearing and visual impairment, deafblind people, with speech disorders, people who need companions and the role of companions and people traveling with guide dogs. The planning can also consult organizations that represent people with disabilities to prepare the content to be addressed. There must be periodicity in the execution of training and refresher courses that incorporate information on new equipment, procedures and policies related to accessibility issues.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: ANAC Resolution 280/2013, art. 35 and Annex 3.

1	Training is carried out on accessibility and passengers with disabilities at admission.
2	Training is conducted on accessibility and passengers with disabilities at admission and includes updates when there are changes in procedures and equipment.
3	It meets the previous level and, in addition, eventually involves people with disabilities or representative organizations in the planning and execution of courses or in actions aimed at accessibility.
4	It meets the previous level and, in addition, necessarily involves the participation of people with disabilities or representative organizations. In addition, they provide other content on accessibility and disability, in addition to those offered in admission or refresher training.
5	It meets the previous level and, in addition, carries out a survey of the training needs through: surveys or analysis of record of care of users with disabilities or research with workers in relation to difficulties presented in the different stages of the service process, aiming at the improvement of training.

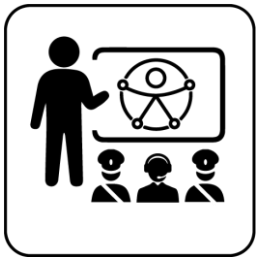
1600_GE: EVALUATION OF TRAINING EFFECTIVENESS

Airport and Airline Operators | Local Practice

DESCRIPTION: Indicators should be proposed to evaluate the effectiveness of the training and monitor the results achieved from the instructional actions. This evaluation will contribute to the improvement of future training and to the realization of new educational actions. The results achieved should be monitored based on the participants' perception of the impact on the care of passengers with disabilities and the evaluation of user satisfaction in relation to the care received from operators, valuing the quality and effectiveness of teaching. To this end, it is necessary to consider in the evaluation process the reports issued by the ombudsman and the REGISTRATION and SERVICE QUALITY CONTROL SYSTEM BASED ON THE SERVICES PROVIDED.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Resolution 280/2013 article 37 and Brazilian Inclusion Law (Law No. 13.146/.

1	Performs the satisfaction assessment of the participants in relation to the training taken.
2	Performs the satisfaction assessment of the participants and generates a report for the improvement of the training.
3	Meets the previous level and applies the participant's learning assessment at the end of the course, being necessary for issuing the certificate.
4	It meets the previous level and prepares a report, also considering the evaluation of users with disabilities to propose and make improvements in training. Requires levels 2 or 3 in practice 0900_GE.
5	Meets the previous level and analyzes performance indicators of operators in the service after training or critical situations occurred in the operation to propose and make improvements in training. Requires levels 4 or 5 in practice 0900_GE.



1700_GE: TRAINING OF WORKERS TO ASSIST PEOPLE WITH DISABILITIES

Airport and Airline Operators | Local Practice

DESCRIPTION: Airline and airport operators must train workers responsible for accessibility and ground and onboard workers who serve passengers according to their planning. Training should generate the development of competencies (knowledge, skills and attitudes) of operators in matters related to accessibility. There must be documentation proving the execution of the training.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 Article 35 and Annex 3.

1	There is training only for the professional responsible for addressing matters related to accessibility.
2	At least one employee who provides passenger service is trained, in addition to the person responsible for accessibility matters. At least one of them is available during the airport operation period.
3	All workers who provide passenger service and the person responsible for accessibility matters are trained. Documentation proving the execution of the training is always available. These professionals are available in all airport operation periods.
4	It meets the previous level and in the training there are simulations of situations of service and practical activities for the development of competencies. Requires levels 2 or 3 in practices 1500_GE and 1600_GE.
5	Meets the previous level and requires levels 4 or 5 in practices 1500_GE and 1600_GE.

1800_GE: PROCEDURES WHEN THERE IS LOSS OR DAMAGE TO ASSISTIVE TECHNOLOGIES AND/OR TECHNICAL AIDS TRANSPORTED

Airline Operators | Local Practice

DESCRIPTION: The airline operator must offer, free of charge, specific assistance in case of loss and damage to the assistive technologies and/or technical aids transported. These equipment, when dispatched, must be considered fragile and priority items, transported on the same flight as the passenger with proof of receipt. There must be readiness to offer equivalent equipment at the time of disembarkation, in the event of loss or damage. The certainty of loss or unusability must occur within 48 hours of disembarkation. After assuring the loss or unusability, compensation must be paid to the passenger at the market value of the equipment, within 14 (fourteen) days.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 in Article 25 and 37; and ANAC Resolution 400 chapter III.

1	The airline operator has a record of the procedures adopted in case of damage or loss of assistive technologies and/or technical aids, however, the same procedure is adopted for other types of luggage, being insufficient for the demand of people with disabilities.
2	The airline operator has a record of the procedures adopted in case of damage or loss of assistive technologies and/or technical aids, also provides equivalent equipment at the time of disembarkation, but does not meet the legal deadlines for assuring loss or unusability and compensation.
3	The airline operator has a record of the procedures adopted in case of damage or loss of assistive technologies and/or technical aids, and also provides equivalent equipment at the time of landing. In addition, it respects the legal deadlines for assuring loss or unusability and compensation.
4	It meets the previous level and, in addition, keeps the passenger informed during the process of assuring loss or unusability and compensation, provides proactive communication, warning the passenger with each update, not exceeding a period of 48 hours between them.
5	Meets the previous level and, in addition, performs the actions in deadlines of less than 7 days.

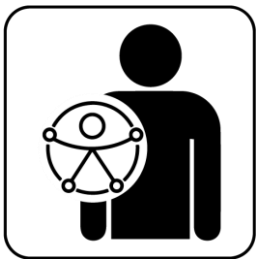
1900_GE: ASSISTANCE SERVICE FOR PASSENGERS WITH DISABILITIES DURING THE TRAVEL CYCLE

Airport and Airline Operators | Local Practice

DESCRIPTION: Assistance for disabled passengers can be offered through coordination between airport and airline operator teams. When passengers have not yet made direct contact with the airline, they must be under the assistance of airport operators. After this contact and throughout the journey, they must be under the majority assistance of airline operators. Both teams can work together, dividing competencies and responsibilities such as in cases of flight delays and cancellations, sharing of resources, connections and, after disembarkation, at the end of the passenger's journey, assisting them until they leave the airport (if requested).

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: ANAC Resolution 280/2013 articles 14 and 39.

1	There are airport and airline teams to assist passengers who require assistance, but this assistance is usually done only by the airline, which offers assistance, for example, from the parking lot, entrance to the terminal, after baggage recovery and departure from the airport.
2	Airport operators offer all necessary assistance to passengers in need of assistance, until they become the responsibility of the airline.
3	Meets previous level. However, there are records with passenger information and the time spent and, in addition, the assistance needs are systematically recorded or how the service was coordinated between airport and airline operators.
4	It meets the previous level and, in addition, in the records there is information about the resources used during assistance such as wheelchair, carts and others. These records and resources are shared openly between the airport and the airline.
5	It meets the previous level and, in addition, airport and airline operators maintain communication in cases of flight delays or cancellations and in the use of resources: such as wheelchair; accompaniment of people with mental, visual or hearing disabilities; guidance to ostomates or people with specific physiological needs; other cases or poor health conditions; etc.



2000_GE: IDENTIFICATION OF PASSENGERS WITH HIDDEN DISABILITIES

Airport and Airline Operators | Local Practice

DESCRIPTION: Refers to the offer by airport and airline operators for optional use by passengers with disabilities, family members and companions of a lanyard or identification collar, or a badge, bracelet or other type of accessory to help service teams identify passengers with hidden disabilities during the journey, who may require differentiated service throughout the travel cycle regarding the forms of approach, waiting and communication. This identification also serves in cases of evasion of the passenger and situations in which the passenger is unaccompanied.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: CAP 1411 published in 2016 by the Civil Aviation Authority (CAA), "CAA guidance for airports on providing assistance to people with hidden disabilities". And, the document CAP 1603, published in 2018 "Guidance for airlines on assisting people with hidden disabilities".

1	There is a communication of the needs of these passengers between the service teams during the journey, using a simple identification such as a badge, without color or prominence, which facilitates the characterization of the passenger with hidden disabilities, which helps to anticipate the approach of service by operators and security inspection agents.
2	The identification is implemented with a badge or wristband, using colors that highlight or characterize the passenger with a hidden disability, helping to anticipate the service approach by operators and safety inspection agents.
3	Identification is implemented with a badge, bracelet or lanyard, using characteristic symbols associated with hidden deficiencies, helping to anticipate service processes.
4	It meets the previous level and, in addition, next to the accessory there is a presentation card with passenger information such as name, age and contacts of parents or companions, special service needs and other specificities, such as saying that the person is not verbal (deficiency in communicative and speech functions) or cannot communicate or has difficulty understanding instructions or even has an aversion to noises, crowds of people, tight places, etc.
5	It meets the previous level and, in addition, the teams communicate to carry out the special assistance of the passenger, assisting them in the steps they need the most during their journey.

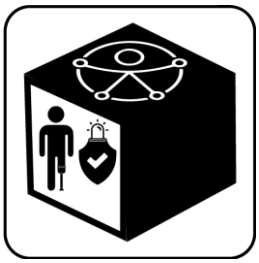
2100_GE: PRIORITY SERVICE FOR PASSENGERS WITH DISABILITIES

Airline Operators | Local Practice

DESCRIPTION: The airline must offer priority service at all stages of the travel cycle, with precedence over other passengers, access to information and instructions, airport facilities, aircraft and vehicles available for air transport. Boarding must be prioritary. Disembarkation must occur after the other passengers. However, the airline may prioritize the departure of the aircraft to those with disabilities or specific needs related to safety and health, such as: technical aids with medical, assistive or mobility aid equipment, health weakness or physiological needs; or even, due to the connection time.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Arts. 6,17 and 18 of ANAC Resolution 280/2013

1	There are spaces with formation of preferential queues or availability of seats to carry out priority services during the travel cycle. However, the priority access process is not carried out according to standard guidelines.
2	There are spaces with formation of preferential queues or availability of seats to carry out priority services during the travel cycle. The signage is generally consistent with accessibility standards. However, there are not enough operators to meet the demand, reduce waiting times or assist in person those who have difficulties accessing this type of service.
3	It meets the previous level and, in addition, there are enough operators to meet the demand, reduce waiting times, or assist in person those who have difficulties accessing this type of service.
4	It meets the previous level and, in addition, face-to-face attendants dialogue with individuals waiting for priority access on boarding to anticipate demands and streamline the service process.
5	It meets the previous level and, in addition, the operator takes proactive actions to dialogue with passengers who present urgent demands upon boarding or disembarkation, dialoguing with previous individuals to meet specific needs such as anxiety or stress, physiological needs or other needs related to fragile health conditions.



2200_GE: PREFERENTIAL SERVICE IN THE SECURITY INSPECTION STAGE WITH PRIVACY IN CASE OF PERSONAL INSPECTION

Airport Operators | Local Practice

DESCRIPTION: To ensure the privacy and dignity of passengers with disabilities, who require private security inspection, the airport operator must have a preferential service, and security inspection procedures must be carried out by people trained in private places and separated from conventional queues.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: ANAC Resolution 280/2013, art. 6 ANAC Resolution 515 art. 3 item XV. ICAO Manual on Access to Air Transport by Persons with Disabilities, section 6.1.

1	Agents are trained to guide passengers in general who may present something that requires personal verification. However, they do not have training to deal with passengers with disabilities who need more attention or privacy in the personal inspection. In addition, there are no private locations for the inspection.
2	Agents are trained to guide passengers in general who may present something that requires personal verification. In addition, they have training to deal with passengers who need more attention or privacy in the personal inspection. However, there are no private locations for the inspection.
3	Agents are trained to guide passengers in general who may present something that requires personal verification. In addition, they have training to deal with passengers who need more attention or privacy in the personal search and there are private and suitable places for the inspection.
4	It meets the previous level and, in addition, passengers can dialogue with agents at the entrance of the security control to talk about their needs to pass the security inspection and to plan actions without difficulties.
5	It meets the previous level and, in addition, there is communication between the agents of the sector, the airport management and the companies to anticipate the actions of security inspection of passengers who have specific difficulties or needs to go through this stage.

2300_GE: PROCEDURES FOR TRANSPORTING ASSISTIVE TECHNOLOGIES AND/OR TECHNICAL AIDS

Airline Operators | Local Practice

DESCRIPTION: The airline operator must offer, free of charge, the transport of assistive technology and/or technical assistance. The disabled passenger will be able to use their own equipment until the moment of boarding. From then on, the equipment must be transported on the same flight as the passenger, being handled and stored as a fragile and priority item. Assistive technology or technical assistance must be available at the passenger's disembarkation. In the event of loss or damage, the airline operator must arrange, upon landing, for immediate replacement by an equivalent item. To ensure the integrity of this equipment, periodic training must be provided for handling, transportation and accommodation in the hold of the aircraft, as well as the availability of a manual of procedures for consultation when necessary. The responsibility for this service lies with the airline operator, even if there is outsourcing to a specific handling company.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: ANAC Resolution 280/2013 Chapter III, art. 22, 23. and 25.

1	The airline operator allows the free transport of an item, however, it is transported similarly to other luggage, delegating the necessary care to the outsourced handling company, acting in general reactively when problems are found. The passenger is not allowed to use their own equipment until boarding.
2	The airline operator has specific procedures for transporting these items, however, there is no training or manual of procedures for handling and transporting technical aids and medical equipment. It is possible for the passenger to use their own equipment until boarding.
3	It meets the previous level and the equipment is made available at disembarkation.
4	It meets the previous level and, in addition, there is proven training to guide the handling and transport procedures of assistive technologies and/or technical aids.
5	It meets the previous level, and, in addition, there is a manual of specific procedures for the handling and transport of assistive technologies and/or technical aids.

2400_CO: ACCESSIBLE WEBSITE

Airport and Airline Operators | Local Practice

DESCRIPTION: The content of the website must be perceptible, operable, understandable and robust for all users. For this, the portals must be compatible with assistive technologies or applications, so that people with disabilities use sign language resources, make changes in visual contrast of the screen and/or text size, access textual or descriptive alternatives equivalent to non-text content, perform content audio description and enable keyboard navigation. Other recommendations regarding the presentation of the website, as well as the form of user interactivity with content such as texts, images and videos should be consulted in the standards cited in the legal and prescriptive references. Website accessibility assessment is standardized according to the Web Content Accessibility Guidelines (WCAG) with three increasing levels of A, AA, and AAA compliance. For the evaluation of these criteria, free websites or contracted companies that will issue the certification according to said guidelines can be used. This practice is important in order for the passenger to be able to plan their journey.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Brazilian Inclusion Law (Law nº 13.146/2015), art. 63. Technical nature: “Web Content Accessibility Guidelines (WCAG) 2.1”. See also the instructions available on the portal: https://guia-wcag.com/

Source: Tanda Interactive Website: CESD website, digital accessibility model

Source: UFSCAR Language Institute Website: Who are we?

Source: GOL website: accessibility

1	There is proof of level A throughout the website, generated through free online test(s).
2	There is proof of AA or AAA levels throughout the website, generated through free online test(s).
3	There is proof of level A throughout the website, obtained through the evaluation of a specialized company.
4	There is proof of level AA throughout the website, obtained through the evaluation of a specialized company.
5	There is proof of level AAA throughout the website, obtained through the evaluation of a specialized company.

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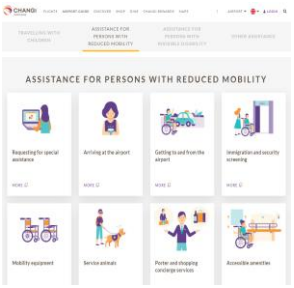
COMMUNICATION

Informational resources for travel planning

2500_CO: WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRPORT

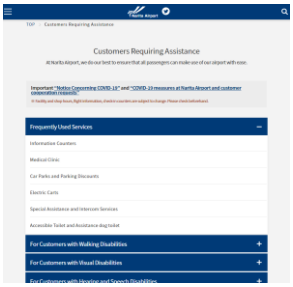
Airport Operators | Local Practice

DESCRIPTION: The airport website must provide information, in an accessible format and simple language, about the types of equipment and assistance and accessibility services offered to users, such as (but not limited to): sign language interpreter, sensory room monitoring, elevator, accessible drinking fountain, wheelchair, adapted bathrooms, reserved spaces, accessible routes, access ramps, ambulift and other equipment to assist in boarding and disembarking. Such information must be presented in a clear and updated manner, containing specifications on access to the equipment and/or service by the user.



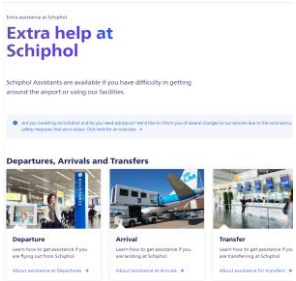
Source: Changi Singapore Airport (SIN) - Singapore, SIN

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Brazilian Inclusion Law (Law no. 13.146/2015); Law no. 8.078/1990, especially articles 6, 69 and 100, in addition to articles 30 to 41. Law on access to information (Law no. 12.527/2011), art. 5. Technical Nature: "Web Content Accessibility Guidelines (WCAG) 2.1". Consult the guidelines and specific regulations of each state on the use of Simple Language, especially Decree 59.067 of 2019 and Law 17.316 of 2020, which establish the Municipal Simple Language Policy in the bodies of direct and indirect administration. These latest regulations are related to the state of São Paulo, but there are already initiatives to adopt these standards in other states in the national territory.



Source: Narita International Airport (NRT) - Japan, JAP

1	It only mentions that the airport has accessibility, but does not provide information on equipment, services and assistance and accessibility resources.
2	Presents generic information about equipment, services, and assistance and accessibility resources.
3	Provides detailed information on equipment, services, and assistance and accessibility resources.
4	It meets the previous level and, in addition, provides information on accessibility features. Requires levels 2 or 3 in practice 2400_CO.
5	Meets previous level and requires levels 4 or 5 in practice 2400_CO.



Source: Schiphol International Airport (MAS) - Amsterdam, HOL

PRESCRIBED

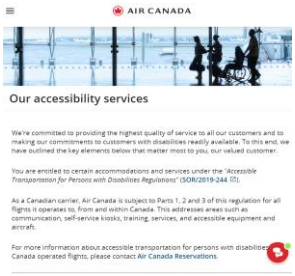
COMMUNICATION

Informational resources for travel planning

2600_CO: WEBSITE WITH INFORMATION ON THE ASSISTANCE AND ACCESSIBILITY EQUIPMENT AND SERVICES OFFERED BY THE AIRLINE

Airline Operators | Local Practice

DESCRIPTION: The airline's website must provide information on the types of equipment and assistance and accessibility services offered to passengers at the airports where the company operates, including: how assistance services occur according to the type of need; mobility resources; priority service processes; purchase of a ticket for a companion or purchase of an additional seat; seat reservation on the aircraft; baggage checking process, assistive technologies and/or technical aids; access to MEDIF and FREMEC forms and guidelines for completion; and other passenger information and rights. The information must be grouped so that it is accessed by users directly from the home page, according to the principles of website accessibility. This practice is important in order for the passenger to be able to plan their trip.



Source: Air Canada website: Our accessibility services (2022)

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Brazilian Inclusion Law (Law no. 13.146/2015) Article 69. Articles 30 to 41 of Law No. 8.078/1990. ANAC Resolution No. 280/2013 Article 6 paragraph 2 Technical nature: Web Content Accessibility Guidelines (WCAG) 2.1.

Source: Ryanair Website: Hidden Disabilities Sunflowes (2022)

1	It only mentions that it has accessibility, but does not present information about equipment, services and assistance and accessibility resources.
2	Presents generic information about equipment, services, and assistance and accessibility resources.
3	Provides detailed information on equipment, services, and assistance and accessibility resources.
4	Meets previous level and requires levels 2 or 3 in practice 2400_CO.
5	Meets the previous level, specifying the information by airport where the company operates. Requires levels 4 or 5 in practice 2400_CO.

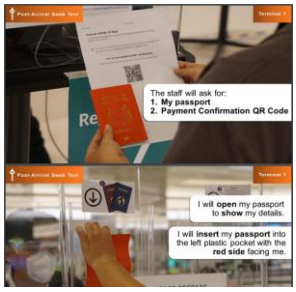
Source: Emirates website: Before flying: Accesible traveling (2022)

2700_CO: INFORMATIVE MATERIALS ON THE STEPS AND PROCEDURES OF AIR JOURNEY MADE AVAILABLE THROUGH PRINTED OR DIGITAL RESOURCES, MAPS OR VIDEOS

Airport and Airline Operators | Local Practice

DESCRIPTION: Materials that prepare users for the journey, containing, for example, steps and procedures of the journey cycle. The practice is intended to familiarize the user with the airport experience, and can be offered using media that present comics, checklists, cards with tips on how to act at each stage and travel procedures, videos and maps to recognize the location. The physical format must be made available at the airport and materials in digital format may be made available on the airport or airline website or apps.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Sections 5.2.7 and 5.2.9 of ABNT NBR 9050/2020; ABNT NBR 15599.



Source: Excerpt from Changi Singapore Airport (SIN) - Singapore, SIN

Source: Excerpt from Narita International Airport (NRT) - Japan, Jap

1	There are physical OR digital materials that only describe in a textual way the steps and services made available by the airport or airline. However, it does not guide the passenger on what should be done for them at each stage of air travel.
2	There are physical and digital materials that describe textually information about the steps, services and typical travel procedures according to each stage of the cycle: check-in, security inspection, boarding, flight, disembarkation, connections.
3	It meets the previous level and the textual content is complemented with images that guide the user. In addition, the materials available have at least one accessibility feature option: sign language, subtitles or braille.
4	It meets the previous level and, in addition, the textual content is complemented with images and videos that guide the user, and presents at least two options of accessibility features: sign language, subtitles or braille. Requires levels 2 or 3 in practice 2400_CO.
5	Meets the previous level and presents the information of the materials with accessibility features for reading and comprehension by all groups of passengers with disabilities (in physical or digital format, using mobile application) including People with Intellectual Disabilities and People with Autism Spectrum Disorder (ASD). Requires levels 4 or 5 in practice 2400_CO.

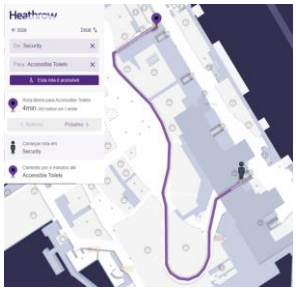
Source: Cover of Miami International Airport Material (MIA) - Miami, USA

2800_CO: MAPS INDICATING ROUTES AND ACCESSIBILITY FEATURES AVAILABLE ON AIRPORT WEBSITES

Airport Operators | Local Practice

DESCRIPTION: The map must provide information on accessible routes, equipment, services and facilities available at the airport terminal, especially those related to accessibility. The format can be interactive and compatible with the use of accessibility features on websites. It is desirable that this information is also available in a format for printing by the user.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Brazilian Law for the Inclusion of Persons with Disabilities (Law No. 13.146 of July 06 2015) and Web Content Accessibility Guidelines (WCAG) 2.1.



Source: London Heathrow Airport (LHR) - London, GBR

Source: Map of Schiphol International Airport (MAS) - Amsterdam, HOL

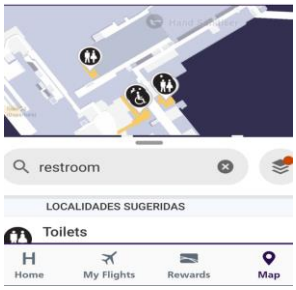
1	The map offered does not include indication of routes and accessibility features.
2	The information is incomplete, not intuitive or not very visual in relation to colors, contrasts, textual and symbolic aspects.
3	There is intuitive information, even with few visuals in relation to colors, contrasts, textual and symbolic aspects. However, it is not possible to zoom to view details of all the information presented.
4	Meets the previous level and provides features so that the user can interact or view all information and routes on the map. Requires levels 2 or 3 in practice 2400_CO.
5	It meets the previous level and has information on routes, assistance services, equipment and facilities that mainly assist people with disabilities, made available in accordance with website accessibility guidelines. Requires levels 4 or 5 in practice 2400_CO.

Source: Miami International Airport (MIA) - Miami, USA

2900_CO: APPS THAT GUIDE PASSENGER LOCATION AND MOBILITY AT THE AIRPORT

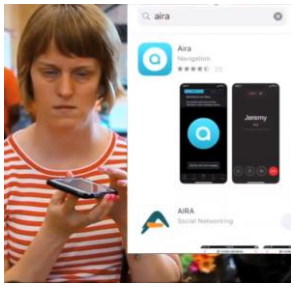
Airport Operators | Local Practice

DESCRIPTION: Applications that help users orient themselves at airports, indicating available services and defining routes between chosen points. These tools should be available for all mobile operating systems. There are mainly applications that (1) present, in a static way, contents to teach the travel steps and the location of the main facilities (toilets, food areas, counters, etc.); (2) dynamically assist in location through the GPS of the cell phone (3) use the camera or other resources of the device connected to a network of people who interactively and remotely guide the user (this type is mainly used by people with visual impairment); (4) applications that connect with sensor-based technologies for dynamic user geolocation. Regardless of the type of application, it must provide the indications in audiovisual formats that respect the accessibility guidelines.



Source: Emirates Arlines app

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Web Content Accessibility Guidelines (WCAG) 2.1.



Source: Winsight Grocery Business Website: Wegmans Debuts Aira App to Guide Visually Impaired Shoppers (2022)

1	An application is offered that basically reproduces the information on the website, but the tool does not have accessibility features that assist passengers with disabilities.
2	It is only offered an application that has at least two accessibility features that allow the understanding of information in two formats (audio and visual/textual, or sign language and textual).
3	Only one application corresponding to the description of item (1) is offered, and which has at least two accessibility features that allow the understanding of information in two formats (audio and visual/textual, or sign language and textual).
4	At least one application corresponding to the description of items (2), (3) or (4) is offered and that has at least two accessibility features that allow the understanding of information in two formats (audio and visual/textual, or sign language and textual).
5	Meets the previous level and has at least three accessibility features that combine audio, visual/textual and sign language formats.

Source: Brasilia International Airport Application (BSB) - Brasilia, DF

PRESCRIBED

3000_CO: SIGNALING ELEMENTS ACCESSIBLE AT APPROPRIATE HEIGHT AND ENLARGED CHARACTERS, WITH WELL-DEFINED COLOR CONTRAST AND CONTOURS

Airport Operators | Local Practice

DESCRIPTION: Signaling elements, such as signs and monitors, which seek to inform users about flight times or other types of relevant information of the travel cycle, must comply with the specifications of NBR 9050/2020, especially item 5.2.9 (Language). Among the specifications are: a) adequate height, proportional to the space in which it is located; b) accessible characters, that is, contrasting and non-serif font, of adequate spacing and character height. These elements must be available in different types of communication, including embossing and braille (in plates and doors), and communication in sign language (when digital) is also recommended.

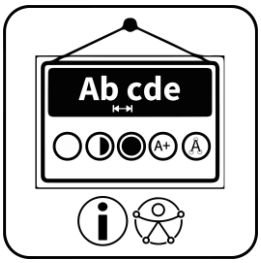
LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Brazilian Inclusion Law (Law No. 13.146 of July 06 2015), Art.46. Technical Nature: Section 5.2 of ABNT NBR 9050:2020.

Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: São Luís International Airport (SLZ) - Maranhão, MA

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

1	There are signage elements, but they do not follow accessibility guidelines and are not installed in the main circulation areas of the airport. They are not in a good state of maintenance and cleanliness.
2	There are signaling elements containing minimally: adequate height, non-serifed contrasting font, adequate spacing and size. However, they are not installed in all the main circulation areas of the airport and are easily accessible and visible to users.
3	It meets the previous level and, in addition, they are installed in the main circulation areas of the airport and are easily accessible and visible to users. Signaling elements include embossed braille where applicable.
4	It meets the previous level and, in addition, all signaling elements present the information in sign language or braille format.
5	It meets the previous level and, in addition, all information elements have all applicable resources for perception and understanding of information, making them available in Portuguese and English.



3100_CO: INDICATIVE SIGNAGE AND LOCATION OF THE ACCESSIBLE CHECK-IN DESK

Airport Operators | Local Practice

DESCRIPTION: The accessible check-in desk must be signposted and located near the terminal entrance so that it is identified by the user from the access to the main entrance. The route between the entrance and the counter must be direct and free of obstacles.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Sections 5.2, 9 and 9.2 from ABNT NBR 9050:2020.

Source: Afonso Pena International Airport (CWB) - Curitiba, PR

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	Accessible check-in counters have signs that do not follow accessibility guidelines and/or are not in good conditions. The location does not allow them to be viewed from the terminal entrance.
2	Accessible check-in counters are signposted OR their location allows them to be viewed from the terminal entrance.
3	Check-in counters are signposted and their location allows them to be easily viewed from the terminal entrance.
4	It meets the previous level and has an accessible route between the terminal entrance and the check-in desk. Requires levels 2 or 3 in practice 3000_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3000_CO.

Source: Afonso Pena International Airport (CWB) - Curitiba, PR

3200_CO: INFORMATION ON MEANS OF TRANSPORT AVAILABLE ON THE WEBSITE AND AT THE AIRPORT

Airport Operators | Local Practice

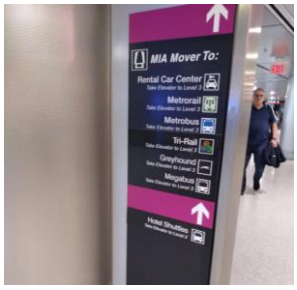
DESCRIPTION: Information on the means of transport serving the airport such as subway, bus, taxi, accessible taxi, app transport and others must be available on the website and on the main entry/exit routes of users in the terminal and in an accessible format. In addition, there must be information on destinations, lines and schedules of these means of transport.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Brazilian Inclusion Law (Law No. 13.146/2015), article 48 from chapter X. Technical Nature: Sections 5.1.2 and 5.11 of ABNT NBR 15599:2008; Section 5.3 of ABNT 9050:2020.

Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

1	There is signalling only at the access points to the means of transport. In addition, these access points are not at the main entrances and exits of the terminal. There is no information about transportation on the airport website.
2	It presents signaling of the location at the access points to the means of transport, with simple information, such as direction indication. Some information about transportation is found on the airport website.
3	Meets the previous level and provides detailed information about the means of transport, such as schedules, stops and routes at the airport and on the airport website.
4	Meets the previous level and the information is adequate to the accessibility guidelines, especially for people with visual impairment. Requires levels 2 or 3 in practice 3000_CO.
5	It meets the previous level and, in addition, information can be accessed in a specific location that has face-to-face service. Requires levels 4 or 5 in practice 3000_CO.



Source: Miami International Airport (MIA) - Miami, USA

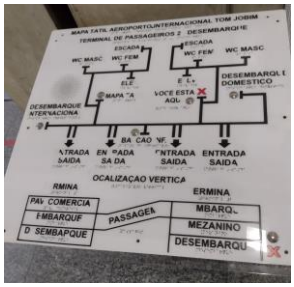
3300_CO: ACCESSIBLE MAP OF THE AIRPORT WITH VISUAL, TACTILE AND SOUND RESOURCES

Airport Operators | Local Practice

DESCRIPTION: Accessible maps of airport environments and services with the aim of locating places and routes. Maps should contain visual, tactile, and sound representations, for example, characters with enlarged, embossed fonts, and audio and braille information. These maps must be located close to the places of circulation, with easy access by users, as well as allowing visual and manual reach.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Article 10 of Decree 5296:2004 The regulations on accessible plans and maps are available in section 5.4.2 of ABNT NBR 9050:2020.

Source: Tactile map of Recife Guararapes International Airport - Gilberto Freyre - Aena (REC) - Recife, PE



Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

1	The map offered is generic and outdated, does not have text with an enlarged and contrasting font, does not have resources for accessible communication (according to the description). In addition, they are not properly signposted and located near the main entrance of the terminal.
2	The map offered has an enlarged and contrasting font. However, they are not properly signposted and located near the main entrance of the terminal.
3	The offered map presents enlarged and contrasting font and features for tactile OR sound communication. In addition, they are properly signposted and located near the main entrance of the terminal.
4	Meets the previous level and offers information in visual, tactile and audible format.
5	It meets the previous level and makes the map available in different areas of the airport, including the restricted area.

3400_CO: TRAFFIC LIGHTS FOR PEDESTRIANS EQUIPPED WITH AUDIBLE SIGNALS

Airport Operators | Local Practice

DESCRIPTION: Traffic lights for pedestrians must have audible warnings to help users transit through the airport and vicinity. Traffic lights must have equipment that emits characteristic visual and audible or visual and vibratory signals, of location, warning and instruction, with 10 dBA, above the momentary noise measured on site, which favors the autonomy of visually impaired people. Traffic light alarms must be associated and synchronized with the visual ones. When manually activated, its command must be between 0,80 m and 1,20 m high from the floor. Dispensable due to: lack of crossings on roads with vehicle circulation.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: CONTRAN Resolution No. 973/2022; Decree 5296:2004, article 10. Technical nature: Sections 5.6.4.3 and 8.2.2 of ABNT NBR 9050:2020.

Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE

Source: Mobiliza Brasil website: Contran regulates standards for sound traffic lights (2022)

Source: Globo.com Website: Sound traffic light helps the visually impaired in Porto Alegre (2022)

1	Existing traffic lights do not have audible signals in operation.
2	Traffic lights that have audible signals in operation are not installed near the entrance of the terminal, bus stops or parking OR some traffic lights installed near the entrance of the terminal, bus stops or parking have an audible signal.
3	Traffic lights installed near the main entrance of the terminal, bus stops or parking lot have sound signals in operation.
4	All traffic lights at the airport have sound signals in operation. In addition, there are signposts and tactile flooring that assist identification by users.
5	It meets the previous level and has light and sound features to alert drivers. In addition, there is braille signage on the device, mainly near the actuation buttons. Dispensable due to: lack of crossings on roads with vehicle circulation.

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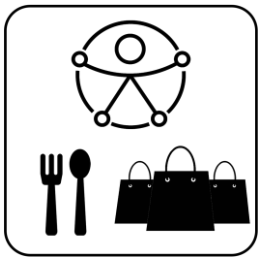


3500_CO: SIGNALING OF RESERVED SPACES FOR PRIORITY USE BY PEOPLE WITH DISABILITIES OR REDUCED MOBILITY

Airport Operators | Local Practice

DESCRIPTION: In all airport spaces (airline lounges, restaurants, exchange offices, concessions, shops and other services) the universal design must be used and there must be clear signage of spaces reserved for people with disabilities, advising on the priority use and ensuring the availability of these spaces for these people and their companions.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Decree No. 5.296/2004, Article 16; Section 5.3.2.1 of ABNT NBR 9050:2020, mainly.

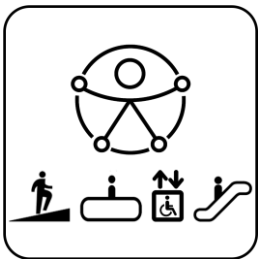
Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Belém/Val-de-Cans International Airport - Júlio César Ribeiro (BEL) - Belém, PA

1	Only the waiting areas for the flight have reserved and signposted seats.
2	There are reserved and signposted spaces in the flight waiting areas, check-in areas, and eating areas, but not all of these areas have seats for people who are obese.
3	There are reserved and signposted spaces in the waiting areas for the flight and check-in and food areas, including for people with obesity.
4	Meets previous level and requires levels 2 or 3 in practice 3000_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3000_CO.

PRESCRIBED



3600_CO: SIGNALING INDICATING THE LOCATION AND ALERT OF RAMPS, ELEVATORS, CONVEYORS AND ESCALATORS

Airport Operators | Local Practice

DESCRIPTION: Indicative signs inform the location of a certain element in a space or in a certain building and guide the user. On ramps, elevators, conveyors and escalators, signs must be presented in two formats: visual (with arrows, figures and symbols) and tactile (embossed characters, braille). Warning signaling must be audible: in elevators and vertical lifting platforms, the sound signaling informs the pavement in equipment with more than two stops; on inclined lifting platforms, there must be an audible alarm during the movement of the platform. Dispensable due to: inexistence of ramps, elevators, conveyors and escalators.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Article 10 of Decree 5296:2004 and Sections 5.2, 5.4 and 6.10 of ABNT NBR 9050:2020.

Source: Belém/Val-de-Cans International Airport - Júlio César Ribeiro (BEL) - Belém, PA

Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE

1	There is only visual signage indicating the location of ramps and equipment for movement in some spaces of the airport.
2	There are visual and tactile signs indicating the location of ramps and equipment for movement in some spaces of the airport.
3	It meets the previous level and there is warning sound signaling on elevators and conveyors on a single accessible route from the airport.
4	Meets the previous level in all elevators and conveyors of the main circulation areas of the airport.
5	Meets the previous level on all ramps and mobility equipment at the airport. Dispensable due to: inexistence of ramps, elevators, conveyors and escalators.

Source: Natal International Airport (NAT) - Natal, RN

3700_CO: FLOORS AND LIGHTING THAT FAVOR THE ORIENTATION, USE OF SPACES AND FLOWS

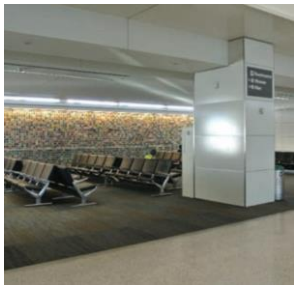
Airport Operators | Local Practice

DESCRIPTION: Coatings, paintings or demarcations with different colors and shades must be used on the floors of the various spaces and routes at the airport. Such characteristics help in guiding the use of spaces (food, circulation, waiting areas, queues and others) and in directing flows. In addition, more intense lighting should be applied to higher flow routes, favoring spatial orientation. The practice also has an educational and guiding role in the various uses of spaces, in which improper uses become evident.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Article 10 from Decree 5296: Sections 5 and 6 of ABNT NBR 9050:2020; ABNT NBR 16537:2016.

Source: Narita International Airport (NRT) - Japan, JAP

Source: Live from a Loung website: The Journey is the reward (2022)



Source: Innovative Solutions to Facilitate Accessibility for Airport Travelers with Disabilities (2020)

1	Floors and lighting are homogeneous in the various areas of the airport, but there are some non-continuous demarcations that are used to indicate routes.
2	Floors and lighting are homogeneous in the various areas of the airport, but there are some continuous demarcations that are used to indicate routes.
3	Floors OR lighting are differentiated in the flow routes at the airport. Observe the criteria on luminance contrast as mentioned in the legal and prescriptive references.
4	Floors and lighting are differentiated in the flow routes at the airport.
5	Meets the previous level, as well as floors and lighting are differentiated according to the uses of the spaces

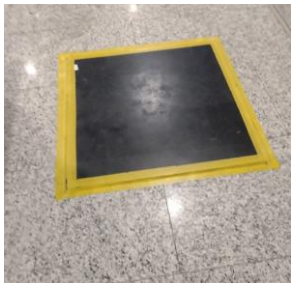
3800_CO: CONTRASTING FLOORS TO INDICATE UNEVENNESS FROM 5MM TO 20MM

Airport Operators | Local Practice

DESCRIPTION: Unevenness of any kind should be avoided. Any unevenness greater than 5 mm up to 20 mm must present contrast, preferably light-dark color combinations, according to ABNT 16537/2016 and 9050/2020. standards. The practice emphasizes the importance of signaling unevenness in the routes to increase safety in travel and avoid accidents. Dispensable due to: lack of unevenness.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Article 10 of Decree 5296:2004 and Section 6.3.4 and Annex B of ABNT NBR 9050:2020.

Source: Belém/Val-de-Cans International Airport - Júlio César Ribeiro (BEL) - Belém, PA

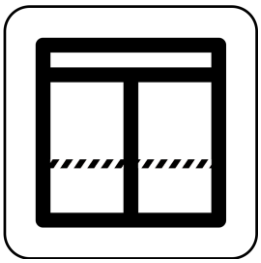


Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: São Luís International Airport (SLZ) - Maranhão, MA

1	There is signaling of some unevenness without continuity in the routes or areas of the airport.
2	There is signaling of all unevenness in the external area of the airport.
3	There is signaling of all unevenness on the floor on accessible routes.
4	There is signaling of all unevenness on the floor in the main circulation areas.
5	There is signage of all unevenness on the floor in all areas of the airport. Dispensable due to: lack of unevenness.

PRESCRIBED



3900_CO: VISUAL SIGNAGE ON DOORS AND GLASS WALLS LOCATED IN CIRCULATION AREAS

Airport Operators | Local Practice

DESCRIPTION: Glazed doors and walls, located in the circulation areas, must be clearly identified with visual signage continuously, to allow visual identification of the physical barrier. The signage must be continuous, composed of a strip at least 50 mm wide, installed at a height between 0,90 m and 1,00 m in relation to the floor. This strip can be replaced by graphic elements installed continuously, covering at least the surface between 0,90 m and 1,00 m in relation to the floor; at the doors of the glazed walls that are part of accessible routes, there must be a visual signaling strip framing them, with a minimum dimension of 50 mm wide, or another way of showing the place of passage. It is recommended that the strip has two contrasting colors between them; it is also recommended to apply two more continuous strips at least 50 mm high, one to be installed between 1,30 m and 1,40 m and the other between 0,10 m and 0,30 m in relation to the finished floor. Dispensable due to: lack of glass doors or walls in circulation places.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Article 10 of Decree 5296: 2004. Technical Nature: Section 6.11.2.13 of ABNT NBR 9050:2020.

Source: Narita International Airport (NRT) - Japan, JAP

Source: Recife Guararapes International Airport - Gilberto Freyre - Aena (REC) - Recife, PE

Source: Afonso Pena International Airport (CWB) - Curitiba, PR

1	All circulation areas or passenger flow routes in public areas have signs on all doors and glazed walls, respecting only the basic criteria of the standards with the installation of a band of only one color.
2	All circulation areas or passenger flow routes, including the restricted area, have signs on all doors and glazed walls, but only respecting the basic criteria of the standards with the installation of a band of only one color.
3	It meets the previous level and in the public area it presents signage with continuous bands of two colors installed.
4	It meets the previous level and, in the restricted area, also presents signage with continuous bands of two colors installed.
5	It meets the previous level and uses continuous bands or graphic elements, significantly exceeding the height of 50 mm, and presenting contrasting colors, helping to highlight the barriers. Dispensable due to: lack of glass doors or walls in circulation places.

PRESCRIBED

4000_CO: ALERT AND DIRECTIONAL TACTILE PAVING ON ACCESSIBLE ROUTES

Airport Operators | Local Practice

DESCRIPTION: Tactile paving is used to alert and direct visually impaired people to points of interest, via accessible routes. These tactile elements provide a unique ground surface pattern with texture of domes, cones or truncated bars, which are detectable by long walking sticks or underfoot. Signaling with parallel bars directs people, while signaling with circular points alerts to the change of direction or obstacle. This type of paving should at least guide the user from the main arrival points at the airport to an information desk, where there is an in-person service. Directional or warning tactile signaling on the floor must be detectable by luminance contrast (LRV) between the tactile signaling and the surface of the adjacent floor, either in dry or wet condition. When the accessible route has a guide line, that is, any natural or built element that can be used as a directional orientation reference by all people, especially those with visual impairment, the directional tactile floor may be dispensable.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Article 10 Decree No. 5.296 of 2004. Technical nature: ABNT NBR 16537:2016, ABNT NBR 9050:2020.

Source: Belém/Val-de-Cans International Airport - Júlio César Ribeiro (BEL) - Belém, PA

Source: Congonhas International Airport (CGH) - São Paulo, SP

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

1	There are non-continuous sections with tactile paving and that do not make up a route.
2	Tactile paving has continuity failures in installation or positioning, but is installed on the main access routes to the airport, or it is possible to detect luminance contrast (LRV) failures between the tactile signaling and the surface of the adjacent floor.
3	There is complete and adequate tactile paving on the main access routes to the airport. The existing tactile paving is complete and adequate on the main access routes to the airport, reaching at least one support point with human assistance, whether it is an information desk or an airline desk.
4	Meets the previous level and there is adequate luminance constrate (LRV) between the tactile paving and the surface of the adjacent floor. Tactile paving shall allow minimum mobility to toilets and food courts. Requires levels 2 or 3 in practice 3300_CO.
5	Meets the previous level on every accessible route, including restricted areas of the airport. Requires levels 4 or 5 in practice 3300_CO.

4100_CO: PROTECTION AND SIGNALING BARS FOR SUSPENDED ELEMENTS

Airport Operators | Local Practice

DESCRIPTION: The protection and signaling bars warn users about the presence of objects that protrude above floor level, avoiding collisions and accidents. Thus, (a) there must be tactile warning signs around suspended elements that project over the circulation area (fire extinguishers or suspended panels/monitors), fixed on a vertical surface (walls), with their own support and (b) protective elements or protection bars with rounded corners must be placed to prevent access in projection of stairs, suspended or inclined structures such as stairways and ramps. The protection bars must be installed at least 70 cm high in relation to the floor finished with horizontal bars at intermediate heights, ensuring at least one bar below 30 cm . Dispensable due to: lack of suspended objects or structures that offer risk.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical nature: Article 10 from Decree 5296:2004 and Section 6.8 of ABNT NBR 16537:2016.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	The protection bars OR tactile floor are installed at inadequate height OR in inadequate conditions of conservation (continuity failures in the installation).
2	The protection bars OR tactile floor are properly installed in up to 50% of the suspended elements in the main passenger circulation areas.
3	The protection bars OR tactile floor are properly installed in more than 50% and up to 75% of the suspended elements in the main passenger circulation areas.
4	The protection bars OR tactile floor are properly installed in more than 75% of the suspended elements in the main passenger circulation areas.
5	The protection bars OR tactile floor are properly installed in 100% of the suspended elements in the main passenger circulation areas. Dispensable due to: lack of suspended objects or structures that offer risk.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

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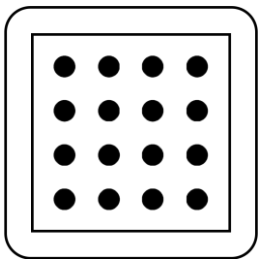


4200_CO: ALERT TACTILE PAVING BEFORE STAIRS, ELEVATORS, RAMPS AND OBSTACLES

Airport Operators | Local Practice

DESCRIPTION: Alert tactile paving provides a unique ground surface pattern with the texture of domes (circular dots), which are detectable by long walking sticks or underfoot. It must be applied at changes of direction on accessible routes and before stairs, elevators, ramps and obstacles. It must also be installed next to information counters, ticket offices and other equipment or services to alert about its location and positioning of the user for its activation or use. The tactile warning signaling on the floor must be detectable by the luminance contrast (LRV) between the tactile signaling and the surface of the adjacent floor, in the dry or wet condition. Dispensable due to: lack of stairs, elevators, ramps and obstacles.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Decree No. 5.296 of December 02 2004. Technical Nature: ABNT NBR 16537:2016 and ABNT NBR 9050:2020.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	Tactile paving presents conservation problems or installation failures.
2	There is tactile warning paving signaling most of the obstacles on the main airport routes
3	There is tactile warning paving signaling all existing obstacles.
4	Meets previous level and requires levels 2 or 3 in practice 4100_CO.
5	There is tactile warning paving signaling 100% of the existing obstacles. Meets previous level and requires levels 4 or 5 in practice 4100_CO. Dispensable due to: lack of stairs, elevators, ramps and obstacles.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

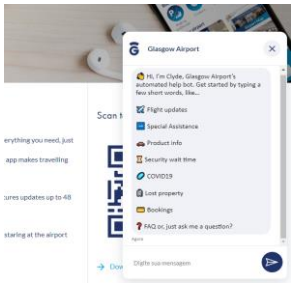
4300_CO: COMMUNICATION BETWEEN USER AND AIRLINE OR AIRPORT THROUGH MESSAGING APPS

Airport and Airline Operators | Local Practice

DESCRIPTION: Service via text message and audio in application available for all operating systems. The application must be accessible to all users. An application specifically developed for the airport or air operator can be used, each providing information about its scope or object or providing service through widely used applications, which are usually already found on most smartphones. In addition, chats from company websites can be used. Customer service, if they enable real-time and accessible service in order to provide user support, can be considered.

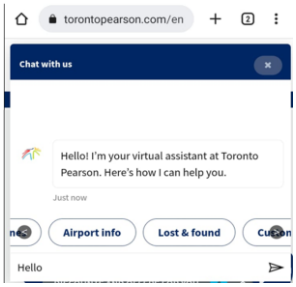
LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Web Content Accessibility Guidelines (WCAG) 2.1. Brazilian Inclusion Law (Law No. 13,146 of July 6, 2015 in art. 63; Decree No. 6.949 of August 25 2009 in art. 9 and art. 21; and Decree No. 5.296 of December 02 2004 in its art. 47.

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ



Source:

1	The application offers service only with chatbot and in a textual way.
2	The application offers service only with chatbot, with at least two accessibility features (sign language and textual OR textual and audio).
3	Meets the previous level and forwards the service to an attendant. The application has a response time between 2 minutes and 5 minutes, works 24 hours with chatbot and there are attendants available throughout the operation period of the airports.
4	Meets previous level without waiting longer than 2 minutes. Requires levels 2 or 3 in practice 2400_CO.
5	Meets previous level and provides immediate responses without waiting longer than 1 minute. Requires levels 4 or 5 in practice 2400_CO.



Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

4400_CO: EQUIPMENT FOR ACCESSIBLE COMMUNICATION WITH THE AIRPORT

Airport Operators | Local Practice

DESCRIPTION: Equipment for accessible communication, which enables the interaction between users and airport employees, constituting points of assistance, must be installed in places of movement of the airport, easily accessible by users, allow independent use and must have different resources for verbal, sign language or written communication. Thus, the conditions of accessibility of intercoms, phones, buttons and screens of the equipment must be respected, especially regarding use and range. In addition, the systems must have information in the native language (Portuguese) and in a foreign language (English), in order to meet the diversity of users who attend the airport, it is recommended that these devices observe the principles of Universal Design (Annex A – ABNT 9050:2020), especially those related to equitable use and easy-to-perceive information.

Source: Totem pole at Narita International Airport (NRT) - Japan, JAP

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: ABNT NBR 15599:2008. Technical nature: Section 10.5 of ABNT NBR 9050:2020. Web Content Accessibility Guidelines (WCAG) 2.1.

Source: ANAC Totem pole - Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

1	There is at least one piece of equipment, but it does not work or is not accessible.
2	There are equipment, but they are not installed in the main circulation areas of the airport that are easily accessible by users and there is a lack of interactive features to make them accessible.
3	There are equipment in the main circulation areas of the airport that are easily accessible by users, and that provide verbal or textual communication.
4	Meets the previous level, including resources for communication through sign language (through videos).
5	Meets the previous level, with the presence of the equipment in all areas of the airport. Includes availability of information in Portuguese and English. It also meets the normative requirements of furniture size for equitable use.

Source: Vancouver International Airport (YVR) - Canada, CAN

4500_CO: INFORMATION AND ASSISTANCE POINTS WITH FACE-TO-FACE SERVICE

Airport and Airline Operators | Local Practice

DESCRIPTION: The airport and airline operator must make teams available in person at information spots or Information desk near the entrance to the terminals and check-in to provide assistance to the user. These information spots can be flying or through active search, with the presence of a person qualified to play a host role. At these spots there must be devices for communication in sign language or people qualified for such communication.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Resolution 280/2013, Articles 15 and 39.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	The information service is not close to the entrance of the terminal or check-in, or is hidden or does not work most of the time when there are commercial flights with in-person service.
2	The information service is near the entrance of the terminal or check-in, but does not work most of the time when there are commercial flights with in-person service.
3	The information service is close to the entrance of the terminal or check-in and operates full-time with face-to-face service.
4	Meets the previous level and has trained attendants to provide initial assistance to passengers. Requires levels 2 or 3 in practice 1700_GE.
5	It meets the previous level and also has an information service in the restricted area. Requires levels 4 or 5 in practice 1700_GE.

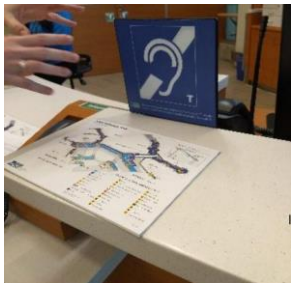
4600_CO: MAGNETIC RIM IN SERVICE SECTORS

Airport Operators | Local Practice

DESCRIPTION: The magnetic hoop, also called a magnetic induction amplifier, consists of an assistive technology that provides a magnetic and wireless signal, which is picked up by hearing aids extending their listening range. It is intended for people who use hearing aids. It eliminates interference, echoes, reverberations and unwanted background noise and thus enables the understanding of information and communication in the places where it is available. It must be installed indoors, such as areas that have information counters, service areas and boarding lounges.

Source: Magnetic Hoop - Incheon International Airport (ICN) - South Korea, KOR

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ADA Standards for Accessible Design Title III Regulation 28 CFR Part 36 - Apendix A4.33.7 Types of Listening Systems. Portal Support ADA Compliance Directory: 706 Assistive Listening Systems.



Source: Vancouver International Airport (YVR) - Canada, CAN

1	Magnetic hoop is implanted but not working.
2	The magnetic hoop is available in only one location.
3	The magnetic hoop is available in the main service areas of the airport.
4	Meets the previous level and is available at airline facilities.
5	Meets previous level and is available at dealers premises.

Source: Dublin International Airport (DUB) - Dublin, IRL

4700_CO: SIGN LANGUAGE TRANSLATOR-INTERPRETER AND GUIDE-INTERPRETER

Airport and Airline Operators | Local Practice

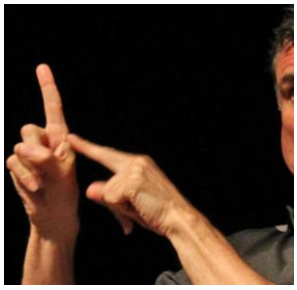
DESCRIPTION: Brazilian Sing Language (Libras) Translator Interpreter is the professional who translates and/or interprets from one language presented orally or sign to another, in any modality that presents itself, oral or sign. With specific training in Libras and Portuguese, this person is responsible for mediating communication between airport/airline professionals and the person who uses Sign Language. In addition, there is the importance of inserting signs that indicate the presence of a Libras interpreter, to inform the availability of this service at service locations. IG - The interpreter-guide is the professional who interprets according to the specific communication modalities used by the deafblind person, which facilitates their mobility; and who describes what occurs in the communication situations in which they are acting.

Source: Signaedu website (2023)

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Law No. 12.319, of September 1 2010: Regulates the profession of Translator and Interpreter of Brazilian Sign Language (Libras) and Technical Note 01-2017 of FEBRAPILS.

Source: Signaedu website (2023)

1	There is a sign language interpreter available only at previously scheduled times or there are some employees with basic training in sign language, but no fluency.
2	There is at least one sign language interpreter available at the airport OR the airline. The service is not available during the entire time of operation or for all people using Sign Language.
3	There is at least one sign language interpreter available at the airport unit. The service is available at times of increased passenger movement at the airport.
4	It meets the previous level, and has another professional, the sign language Interpreter Guide.
5	It meets the previous level and the service is available for the entire time there are operations at the airport.



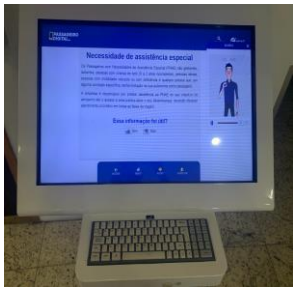
Source: Signaedu website (2023)

PRESCRIBED

4800_CO: BRAZILIAN SIGN LANGUAGE (LIBRAS) WINDOW

Airport and Airline Operators | Local Practice

DESCRIPTION: Refers to communication in Brazilian Sign Language (Libras) through audiovisual, television or virtual productions. The production is carried out with the aid of digital resources, such as a programmed avatar or, preferably, through videos previously recorded by the professional Libras interpreter. This feature must be adequate to the standards, containing caption, sufficient lighting for the camera to capture the image with quality, clear contrast between the background and the professional and the height and size of the Libras window, which must occupy at least one fourth of the height of the television. This material must be present on all screens that communicate information relevant to the journey (such as check-in areas, boarding gates and baggage claim).



Source: Cofins International Airport (CNF) - Belo Horizonte, MG

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Article 10 of Decree 5296:2004 and standard ABNT NBR15290/2016, which establishes the technical requirements for communication in Libras on screens. See also ABNT NBR15610-3.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	It is available at only a few airport facilities. Only in the public area OR only in the restricted area and does not meet the minimum sizes of the sign language window.
2	It is available IN public and restricted areas, but does not meet the minimum sizes of the sign language window on all screens.
3	It is available at all airport facilities. The sign language windows are in adequate sizes and the translation is done through translator avatars.
4	It meets the previous level and, in addition, in recurring situations, there are videos recorded in advance by sign language interpreters.
5	Meets the previous level and there are features to update information in real time, such as gate changes or delays.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

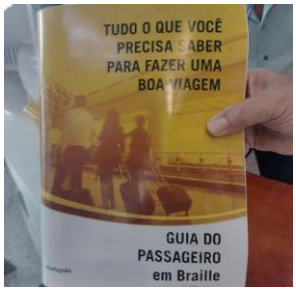
PRESCRIBED

4900_CO: INFORMATION MATERIALS IN BRAILLE WITH INSTRUCTIONS ON THE TRAVEL CYCLE

Airline Operators | Local Practice

DESCRIPTION: Card, brochure, booklet or other types of printed materials with braille instructions on relevant travel cycle information. Must be available to visually impaired passengers at check-in. These materials must, at a minimum, contain information on 1) Items allowed and prohibited in luggage; 2) Safety procedures on the aircraft; 3) Procedures for boarding, disembarking or connections.

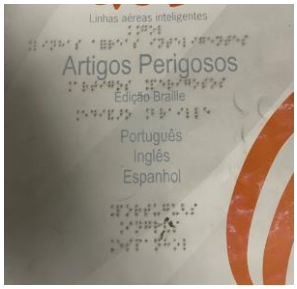
LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Article 10 of Decree 5296:2004 and Section 5.2.9 of ABNT NBR 9050:2020; ABNT NBR 15599:2008;



Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	The braille material is in poor condition or not up-to-date.
2	The braille material is in good condition and has only one of the information mentioned in the description.
3	The braille material is in good condition and has only the information 1 and 2 mentioned in the description.
4	It meets the previous level and also presents the information in item 3 of the description.
5	It meets the previous level and also makes the material available in digital format, allowing the user to have access to it on their personal electronic devices.



Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

PRESCRIBED

5000_CO: ACCESSIBLE PHONES

Airport Operators | Local Practice

DESCRIPTION: (a) Telephones for the Deaf (Telecommunication Device for the Deaf - TDD) must comply with NBR ABNT 9050/2020 accessibility standards with regard to height and furniture conditions. Regarding resources for people with hearing impairment, NBR ABNT 15599/2008. should be considered. Example: sound amplifiers or keyboard phones, which allow telephone contact by coupling a device that converts typed text into voice, and also the reverse. There must be at least one TDD in the terminal. (b) Each set of Public Use Telephones must have at least one that meets the universal design criteria in relation to the height and condition of the furniture.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Decree No. 5.296/2004, Chapter 2, art. 6,‹ §4 ABNT NBR 9050:2020 in sections 8.3.1 and 8.3.4. Also ABNT NBR 15599:2008.

Source: Juazeiro do Norte Airport (JDO) - Juazeiro do Norte‹ CE

Source: Juazeiro do Norte Airport (JDO) - Juazeiro do Norte‹ CE

Source: Juazeiro do Norte Airport (JDO) - Juazeiro do Norte‹ CE

1	Both telephones devices for the deaf (TDD) and ordinary telephones are not in working condition.
2	It meets, in relation to its installation and accessibility features, but has instability in the network/connection/telephony, making it difficult to use.
3	There is at least one TDD phone installed at the airport and at least one with accessible height in each set. The equipments work properly.
4	It meets the previous level and, in addition, TDD phones are installed in the main areas of the airport (pre-boarding, boarding and disembarkation).
5	Meets the previous level and all accessibility criteria in relation to signage, allowing the user to find the equipment.

PRESCRIBED

5100_CO: ACCESSIBLE BUTTONS FOR ACTIVATING THE ELEVATORS

Airport Operators | Local Practice

DESCRIPTION: Internal and external buttons for activating the elevators must have braille characters and there must be a feedback produced by sounds or signals so that users realize whether their requests have been applied or not. The elevator must not be operated by sensors. The instructions must be printed in relief, 0,5 cm wide and 0,1 cm deep, so that they can be used by visually impaired people. Dispensable due to: lack of elevators.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Decree nº 5.296/2004. ABNT NBR 9050:2020, section 5.4.5, and ABNT NBR NM 313:2007 and ABNT NBR ISO 9386-1:2013. standards.

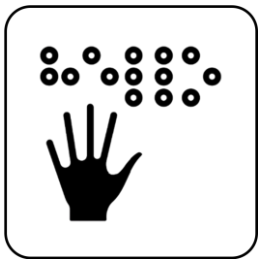
Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

1	The buttons have braille characters, but are worn or unmaintained and have no audible feedback.
2	The buttons have instructions in braille in conditions of use, but do not have sound feedback.
3	The buttons offer instructions in braille and at least one type of audible feedback.
4	The buttons are positioned at an appropriate height, easily accessible, and are in braille, embossed and have more than one type of sound return.
5	The buttons follow all the accessibility features mentioned in the description and are available in all airport elevators. Dispensable due to: lack of elevators.

PRESCRIBED



5200_CO: BRAILLE AND EMBOSSED CHARACTERS IN INSTALLATIONS (E.G. DOORS AND HANDRAILS), EQUIPMENT (E.G. VENDING MACHINES AND DRINKING FOUNTAINS)

Airport Operators | Local Practice

DESCRIPTION: (a) Doors and passageways when signposted shall have numbers and/or letters and/or pictograms and signs with embossed text, including braille. All bathroom and changing room doors must also be signaled in braille, as well as on floor change handrails, the braille signage must be positioned at the beginning and end of the handrail, facing upwards; (b) Equipment activation buttons, such as vending machines, telephones, ATMs and drinking fountains, must present information in braille and elevated characters. When the buttons are pressed, there must be a feedback produced by audible or vibrotactile signals, so that users can understand whether their requests have been applied or not.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Article 10 of Decree 5296:2004 and Standard ABNT NBR 9050:2020 section 5, specifically 5.2.6.3, 5.2.8.3 and 5.2.9.2.

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

Source: Macapá International Airport (MCP) - Macapá, AP

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

1	There are elevated characters and braille signage at various locations in the airport, but there are inadequacies or they are not installed correctly in their entirety.
2	Elevated characters and signage in braille are inserted in only a few installations, such as in the floor change handrails or in signs/signs at the entrances of sectors or spaces or in equipment such as vending machines, ATMs, drinking fountains and telephones.
3	The raised characters and signage in braille are present in the main areas of passenger circulation, in all the floor change handrails, in the signage at the entrances of sectors or spaces and in equipment such as vending machines, ATMs, drinking fountains and telephones.
4	All installations with elevated characters and braille signage are correctly installed in full compliance with the standards and with conditions that provide understanding by users.
5	It meets the previous level and, in addition, all equipment that has buttons to be pressed, has feedback produced by sounds or signage to instruct users.

PRESCRIBED

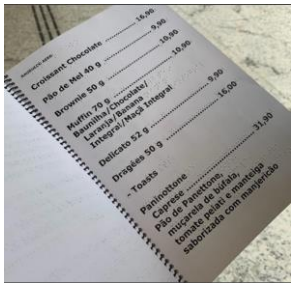
5300_CO: ACCESSIBLE SERVICE AND MENU PROCEDURES

Airport Operators | Local Practice

DESCRIPTION: Food services must provide updated menus in physical and/or digital formats, according to the needs of users with disabilities. Extra attention to the means of information to achieve the service, using two or more senses: visual, tactile or audible. There must be accessibility in the order (choice, payment, etc.) and in the receipt, with information not only auditory (calling the customer to pick up) or not only visual (only panel and password).

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Article 10 from Decree 5296:2004 and ABNT NBR 9050:2020 in section 5 (5.2.6.3, 5.2.8.3, 5.2.9, 5.2.9.2 and 9.4.3 and ABNT NBR 15599:2008 and ABNT NBR 15250:2005.

Source: Macaé International Airport (MEA) - Macaé, RJ



Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	There is at least one establishment that presents a menu in Braille, however, the information presented falls short of that made available to the general public.
2	At least one establishment per terminal, encompassing public and restricted areas, presents at least one copy in Braille and in text with enlarged characters.
3	All establishments that have a menu have at least one updated copy in braille and in text with enlarged characters.
4	It meets the previous level and presents adequate procedures for the achievement of the service with the use of two senses: visual and tactile or audible.
5	It meets the previous level and presents adequate procedures for the achievement of the service with the use of three senses: visual, tactile and audible.

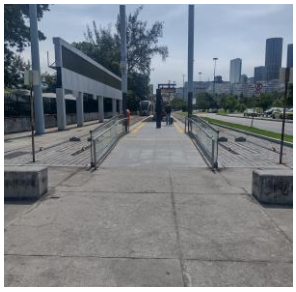
Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

PRESCRIBED

5400_DE: ACCESSIBLE PUBLIC TRANSPORTATION SYSTEMS: BUS, SUBWAY OR OTHER MEANS OF TRANSPORTING THE USER TO THE AIRPORT

Airport Operators | Local Practice

DESCRIPTION: Accessible public transport to transport people with disabilities, ensuring access to the airport. To fulfill this purpose, the bus, subway, train or other means of transport must have a lifting platform or access ramp, free maneuvering area and preferred seats. It is important to ensure access between the public transport endpoint and the airport entrance. It is up to the airport operator to act with the government to ensure the effectiveness of accessibility in the means of transport that serve the airport.



Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Article 10 of Decree 5296:2004 and for Trains and subways: ABNT NBR 14021:2005; Urban Collective Transport: ABNT NBR 14022 and ABNT NBR 15570. Vehicle lifting platform and access ramp to ABNT NBR 15646:2016.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	There is public transport that partially meets the accessibility conditions, with low time availability or the drop-off point does not have an accessible route to the terminal route.
2	There is public transport that meets the accessibility conditions, but with low availability of schedules and the pick-up/drop-off point is far from the airport entrance and does not have an accessible route.
3	There is public transport that meets the accessibility conditions, with a distant boarding/disembarkation point, but with an accessible route to the airport entrance. Time availability is low.
4	Meets the previous level with availability of time that meets the demand.
5	It meets the previous level and the pickup/drop-off point is located at the airport entrance.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

PRESCRIBED

5500_DE: PARKING: RESERVED SPOTS FOR PEOPLE WITH DISABILITIES AND THE ELDERLY, NEAR THE TERMINAL ACCESSES, WITH ACCESSIBLE ROUTE AND SIGNALING

Airport Operators | Local Practice

DESCRIPTION: Accessible parking spots should be reserved for people with disabilities and the elderly. The spaces must be close to the terminal, at a maximum distance of 50 m to an access, with a route on accessible routes and therefore free of obstacles. The spots must be properly signposted. Preferably, they should be protected from the natural elements. Example: rain, sun and strong winds. Reserved spots must be intended for vehicles that transport or are driven by the elderly or people with disabilities.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Law no. 13.146/2015 art. 47 and section 6.14 of ABNT NBR 9050:2020.

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

Source: Manaus International Airport - Eduardo Gomes (MAO) - Manaus, AM

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	There are reserved spots, but in insufficient quantity, with precarious signage and located more than 50 meters from the main entrance.
2	There are reserved spots within 50 meters of the main entrance. However, in insufficient quantity or with signage subject to specific improvements.
3	It meets the previous level and in sufficient quantity, but with vertical and horizontal signage subject to occasional improvements.
4	It meets the previous level and, in addition, has good vertical or horizontal signage.
5	Meets the previous level and the signage conditions are adequate, both vertical and horizontal.

PRESCRIBED

5600_DE: PARKING LOTS, SIDEWALKS AND STREETS: SIDEWALK RECESSES, ELEVATED CROSSWALKS, ACCESSIBLE FLAT, LEVELED AND NON-SLIP ROUTES

Airport Operators | Local Practice

DESCRIPTION: In parking lots, sidewalks and streets, there must be constructive or structural conditions that promote the displacement of the user on the access roads to the airport, regardless of the type of transport or equipment used. It is important that the distance between each accessible entrance and the others does not exceed 50 m.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Article 10 from Decree 5296:2004 and ABNT NBR 9050:2020 in section 6, mainly.

Source: Salvador International Airport - Dep. Luís Eduardo Magalhães (SSA) - Salvador, BA

Source: Manaus International Airport - Eduardo Gomes (MAO) - Manaus, AM

Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

1	Architectural accessibility is available on all airport access roads. However, there is degradation of the structures or these are subject to improvement: in the lowering of the sidewalk, in the leveling, in the elevated sidewalks in pedestrian crossing, in the quality of the floor/pavement, in the unevenness or holes and width adjustments.
2	On all routes or access roads to the airport there is architectural accessibility in an adequate state of conservation. However, there is a need for specific corrections in the degradation of sidewalk lowering or leveling correction needs.
3	Meets the previous level, but in need of corrections in the paintings.
4	Meets the previous level without the need for any corrections.
5	Meets the previous level and has a raised crosswalk.

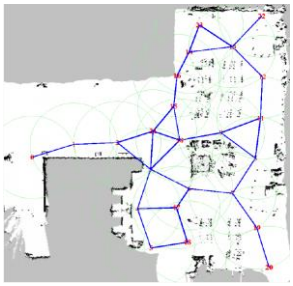
5700_DE: EQUIPMENTS THAT ASSIST IN THE SPATIAL ORIENTATION OF PASSENGERS IN AIRPORT MOBILITY

Airport Operators | Local Practice

DESCRIPTION: The practice refers to the provision of physical resources (tangible, touchable or palpable) such as robots, small vehicles or other equipment used to assist people with sensory or cognitive disabilities in traveling through the airport.

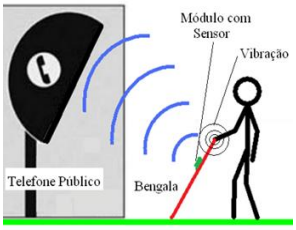
LEGAL AND PRESCRIPTIVE REFERENCES: No legal and prescriptive references were found for this practice.

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC



Source: Presentation of the Accessibility Program at Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

1	Tangible but not yet fully functioning technologies are offered.
2	The tangible technology offered is functional and up-to-date, but only covers the main routes of the airport's public area.
3	It meets the previous level and, in addition, the airport operator offers guidance assistance on the use, service and emergency maintenance.
4	It meets the previous level and, in addition, must allow mobility to the bathrooms and food courts, including in the restricted area.
5	It meets the previous level and can be used to find all airport services, in particular the boarding gates.



Source: SANTOS, et. al. (2010)

5800_DE: ACCESSIBLE PASSENGER TRANSPORT FOR BOARDING AND DISEMBARKATION OR BETWEEN TERMINALS

Airport Operators | Local Practice

DESCRIPTION: Existence of accessible transport, meeting the requirements of ABNT 15320:2018, ensuring access between terminals and boarding/disembarkation. To fulfill this purpose, the vehicle must have a lifting platform or access ramp, adequate access doors, supports for boarding and disembarking, manoeuvring area free of seats, preferred seats, guide dog accommodation and safety/securing systems. Dispensable due to: all boarding and disembarking is done by fingers and the operation takes place in a single terminal; or when the terminal is small and the aircraft are positioned in the areas adjacent (close) to the terminal.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: Article 10 from Decree 5296:2004 and ABNT NBR 15646:2016 and ABNT NBR 15320:2018.

Source: Belém/Val-de-Cans International Airport - Júlio César Ribeiro (BEL) - Belém, PA

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	The airport has an accessible means of transport with a platform or access ramp.
2	It meets the previous level and has a reserved space for people with wheelchairs.
3	It meets the previous level and has reserved seats for people with disabilities or reduced mobility.
4	Meets the previous level and has safety/fastening systems such as seat belts and wheelchair restraint and fastening.
5	Meets previous level and has guide dog accommodation. Dispensable due to: all boarding and disembarking is done by fingers and the operation takes place in a single terminal; or when the terminal is small and the aircraft are positioned in the areas adjacent (close) to the terminal.

PRESCRIBED

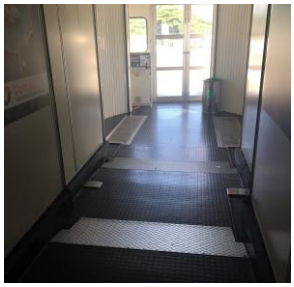
5900_DE: SAFE FLOORS FOR MOBILITY

Airport Operators | Local Practice

DESCRIPTION: The floor must offer safety for mobility at the airport, always presenting a non-slip, regular, firm and stable surface finish. The use of patterning on the surface of the floor that may cause a feeling of insecurity (such as prints, which by the contrast of design or color can cause the impression of three-dimensionality). The non-slip floor must be installed in internal or external areas of the airport that offer a risk of falling and must be present on stairs, ramps and toilets.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: ABNT NBR 9050:2020 topic 6.3.2, mainly.

Source: Viracopos International Airport (VCP) - (Campinas / SP)



Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

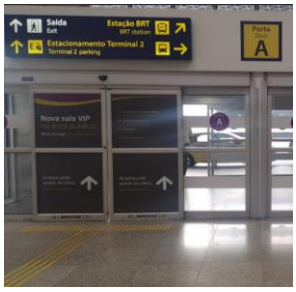
1	There are non-slip floors on the stairs, ramps and toilets, but the general condition of the other floors is subject to maintenance or improvements in the pattern.
2	It meets the previous level with floors in adequate conditions, but needs improvements in the pattern.
3	Meets previous level with proper patterning.
4	Meets previous level and requires levels 2 or 3 in practice 3700_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3700_CO.

6000_DE: FLUSH INTERNAL AND EXTERNAL ACCESSES WITH WIDE AND SIGNPOSTED PASSAGES

Airport Operators | Local Practice

DESCRIPTION: (a) The main airport entrances and exits shall be wide, signposted, level and accessible to all persons. Traffic accident protection barriers must not disturb the flow, being installed at least 1,5 m from the entrances. The passages must not contain any object that obstructs the displacement and, preferably, do not contain doors or keep them always open. (b) If there are doors, revolving models should be avoided. On sliding doors, it is recommended to install rails on its upper part. If this is not possible, these rails must be level with the floor surface and any cracks resulting from the lower guide must have a width of a maximum of 15 mm. All doors equipped with automatic opening or closing sensors shall be adjusted to detect persons of short stature, children and wheelchair users. When opened, the doors must meet the dimension of a free span of at least 0,80 m wide and 2,10 m high. In addition, the doors must have a safety device that prevents the door from closing on the person. Locations where there are revolving doors or safety access must provide accessible and signposted alternative entry.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: NBR 9050:2020 specifically in section 5.4.1 and 6.11.2.



Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

Source: Afonso Pena International Airport (CWB) - Curitiba, PR

Source: Vancouver International Airport (YVR) - Canada, CAN

1	Meets the dimensional specifications of large and signaled passages, but these have obstructions that make it difficult for the user to move and are not in proper conservation conditions.
2	It meets the dimensional specifications of wide and signaled passages and does not have obstructions that make it difficult for the user to go through. However, the accesses are in inadequate conditions of conservation.
3	Meets the previous level with access in suitable conditions throughout the airport.
4	Meets previous level and requires levels 2 or 3 in practice 3900_CO.
5	Meets level 3 and requires levels 4 or 5 in practice 3900_CO.

PRESCRIBED

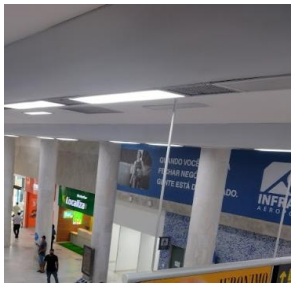
6100_DE: NATURAL AND/OR ARTIFICIAL LIGHTING SYSTEMS

Airport Operators | Local Practice

DESCRIPTION: The practice allows people with low vision and sensitivity to light, especially, to be able to read signs and move safely inside the airport. The levels and quality of lighting should be suitable for people with low vision and, in places where the general level of lighting is low, specific lighting should be used to highlight stairs, ramps and handrails. Every accessible route must be provided with natural or artificial lighting with a minimum illuminance level of 150 lux measured at 1,00 m from the floor. In addition, in the airport circulation areas, reflex or glaring lights should be avoided, ensuring the sharpness of signs, equipment and operating devices.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: ABNT NBR 9050:2020 sections 6.1 and 6.1.2, 9.4.2.1 and 9.4.3.3 and Annex B, items B5, B6, B7 and B8. Also: Airports & Persons with Disabilities HANDBOOK, Fifth Edition 2018, p. 43.

Source: Viracopos International Airport (VCP) - (Campinas / SP)



Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE

1	The lighting characteristics in most parts of the airport are not compatible with the specifications mentioned in the description of the practice. .
2	The systems illuminate only some specific points of the accessible route and do not signal the positioning of objects/structures.
3	The systems illuminate only some of the required spaces, not catering to all accessible route and low luminance locations.
4	There is good lighting throughout the accessible route, but not all locations with low luminance have indications of positioning of the necessary objects/structures.
5	Accessible routes are well lit and places marked with artificial lighting if necessary, indicating the positioning of objects/structures, without causing reflections and glare.

PRESCRIBED

6200_DE: AISLES AT LEAST 150 CM WIDE FREE OF ANY OBSTRUCTION

Airport Operators | Local Practice

DESCRIPTION: The corridors must be sized according to the flow of people, ensuring a free range of obstructions. The 150 cm wide dimension is the measure that serves as the minimum free span parameter, considering the rotation of a wheelchair. Dispensable due to: lack of aisles.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: ABNT NBR 9050:2020 specifically in section 6.11.1.

Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: Viracopos International Airport (VCP) - (Campinas / SP)

1	There are long corridors (above 10m), designed to accommodate high flow of people, which are not in accordance with the specifications of the description of the practice.
2	The long aisles (over 10m) meet the specifications, but have obstructions in the circulation area, such as pots, bins, totems and others. .
3	Long aisles (over 10m) meet specifications and have no obstructions in the circulation area.
4	It meets the previous level, but has aisles smaller than 10m, which do not meet the specifications of the practice (1,5m) and requires levels 2 or 3 in practice 6000_DE.
5	All aisles are in accordance with the specifications of the practice (1,5m) and requires level 4 or 5 in the practice 6000_DE. Dispensable due to: lack of aisles.

Source: Natal International Airport (NAT) - Natal, RN

PRESCRIBED

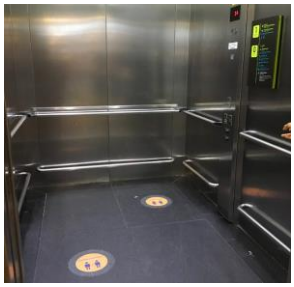
6300_DE: ACCESSIBLE ELEVATORS WITH GRAB BARS, WIDE SPACE OR OPPOSITE DOORS, LOCATED NEAR THE MAIN AREAS OF USE

Airport Operators | Local Practice

DESCRIPTION: All levels of a building must be accessible by elevators and such elevators must meet specifications to ensure the safety of the individual. The elevator must have adequate sizing for the wheelchair maneuver or opposite doors (on two sides of the elevator) and contain support bars. In addition, the elevator must be located on an accessible route. Dispensable due to: lack of other floors or pavements.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Article 10 of Decree 5296:2004 and NBR NM 313:2007.

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

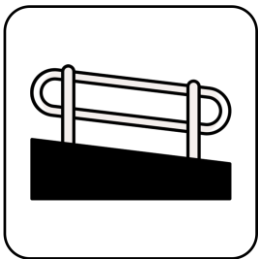


Source: Salvador International Airport - Dep. Luís Eduardo Magalhães (SSA) - Salvador, BA

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

1	There are some elevators with ample space for wheelchair handling, however, without the other accessibility features or are not located on accessible routes.
2	There are some elevators with the necessary recommendations (ample space, good sizing and grab bars), however, they are not located on accessible routes.
3	All elevators have structural aspects to ensure accessibility and are located on accessible routes and in sufficient quantity to meet demand.
4	Meets previous level and requires levels 2 or 3 in practice 3600_CO.
5	Meets level 3 and requires levels 4 or 5 in practice 3600_CO. Dispensable due to: lack of other floors or pavements.

PRESCRIBED

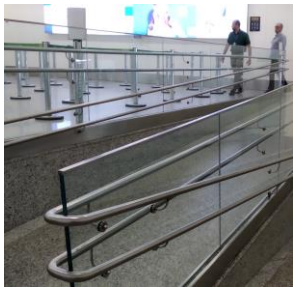


6400_DE: ACCESS RAMPS TO WIDE AIRPORT AREAS WITH BEACON GUIDE, GUARDRAIL, HANDRAILS AT TWO HEIGHTS, SLOPE, LANDINGS AND FLOOR MEETING THE NORMATIVE SPECIFICATIONS

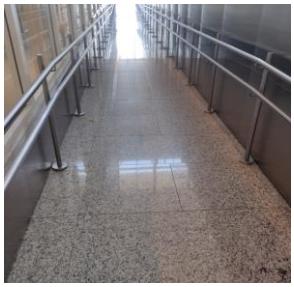
Airport Operators | Local Practice

DESCRIPTION: The ramps, to be considered accessible, must meet the specifications of the technical standards: slope less than or equal to 8,33% or 1:12 (Height:Length ratio) with a maximum slope of 80 cm at each segment or between landings; and width ideally above 1,5 m with a minimum of 1,2 m. Floor with non-slip finish, handrail on each side and at two heights, rest areas when necessary and smooth or level ends. When there are no side walls, there must be a beacon guide with a minimum height of 5 cm and a guardrail. Dispensable due to: lack of unevenness, floors or pavements.

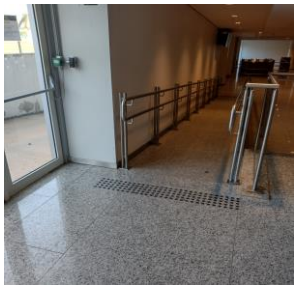
LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: NBR 9050:2020 in section 6.6, mainly.



Source: Brasília International Airport (BSB) - Brasília, DF



Source: Viracopos International Airport (VCP) - (Campinas / SP)



Source: Viracopos International Airport (VCP) - (Campinas / SP)

1	There are access ramps through the terminal but they have nonconformities in relation to the items of the description, mainly in relation to the slope and lack of non-slip floors.
2	There are access ramps that require a safety landing or handrail at two heights. Moreover, not all are located on accessible routes.
3	All ramps have all the items highlighted in the practice description.
4	Meets the previous level and requires level 2 or 3 in practice 5900_DE.
5	Meets level 3 and requires level 4 or 5 in practice 5900_DE. Dispensable due to: lack of unevenness, floors or pavements.

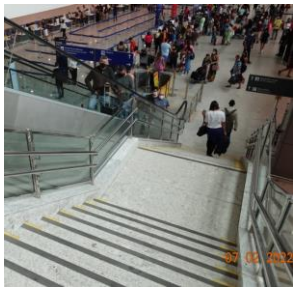
PRESCRIBED

6500_DE: STAIRS: WIDE WITH BEACON GUIDE, GUARDRAIL, SAFETY LANDING, HANDRAILS AT TWO HEIGHTS, VISUAL SIGNAGE APPLIED TO FLOORS AND MIRRORS.

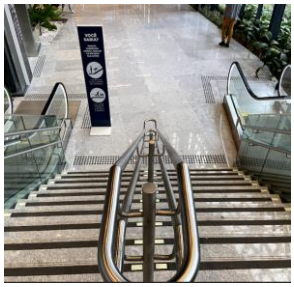
Airport Operators | Local Practice

DESCRIPTION: The stairs must have a minimum width of 120 centimeters, with adequate and constant signaling and dimensions on the floor and mirror, safety level, handrail at two heights and guardrail, in addition to signaling when there is alteration of the floor. When there are no side walls, there must be a beacon guide with a minimum height of 5 cm. Dispensable due to: lack of unevenness or existance of ramps and elevators that fully meet the vertical mobility demand.

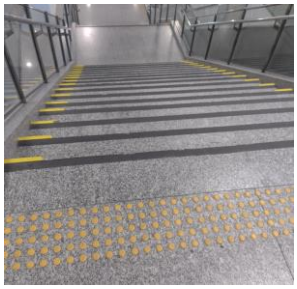
LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: NBR 9050:20, specially sections 4, 5 and 6.



Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE



Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC



Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

1	The stairs have an inadequate state of conservation, dimensional non-conformities or do not have most of the mentioned accessibility features.
2	The stairs do not have handrails at two heights OR signaling on the steps (floor and mirror).
3	The stairs meet all the items contained in the practice description.
4	Meets the previous level and requires level 2 or 3 in practice 5900_DE.
5	Meets level 3 and requires level 4 or 5 in practice 5900_DE. Dispensable due to: lack of unevenness or existance of ramps and elevators that fully meet the vertical mobility demand.

6600_DE: ESCALATORS: WIDE AND SIGNPOSTED

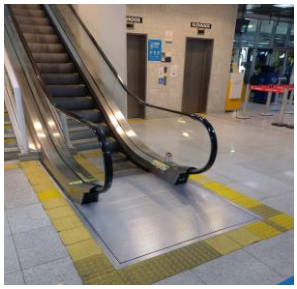
Airport Operators | Local Practice

DESCRIPTION: Escalators must have a minimum width of 120 cm. They should be signposted for users to find and use intuitively and safely. There must be audible or visual signaling, in order to alert the user at the end of the escalators in order to avoid accidents. Dispensable due to: lack of unevenness, floors or pavements.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Article 10 of Decree 5296:2004 and ABNT NBR 16734-1 and NBR 16734-2. Also: NBR 9050:20 item 6.10.6 .

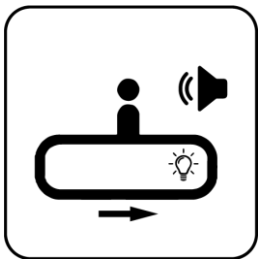
Source: Congonhas International Airport (CGH) - São Paulo, SP

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ



Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

1	There are escalators to access the terminal, but with nonconformities.
2	There are escalators for use by passengers, but they need specific adjustments, whether in signage with signs or indications, safe spacing of entry, speed or width.
3	Escalators have all accessibility features, are located on accessible routes and are properly signposted.
4	Meets previous level and requires levels 2 or 3 in practice 3000_CO.
5	Meets level 3 and requires levels 4 or 5 in practice 3000_CO. Dispensable due to: lack of unevenness, floors or pavements.



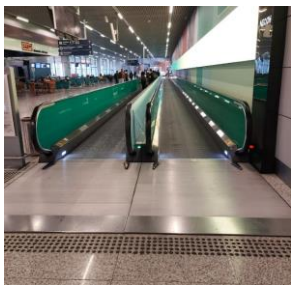
6700_DE: CONVEYOR BELTS: WIDE AND SIGNPOSTED

Airport Operators | Local Practice

DESCRIPTION: Conveyor belts are electromechanical equipment that aim to facilitate the movement of users at airports where it is necessary to travel long distances. They must have a minimum width of 120 centimeters to allow the flow of users. They should be flagged so that users can find them easily and use them intuitively and safely. There must be audible or visual signaling in order to alert the user at the end of conveyors in order to avoid accidents. If the distance between each accessible entrance and the others is greater than 50 meters, with no possibility of rest areas, it is recommended to adopt the practice. It should be noted that the conveyor belt is not part of the accessible route, so it should not replace the main circulation accesses, which must remain free of any obstacles permanently. Dispensable due to: lack of long distances or existence of an alternative option. Example: trolley cart

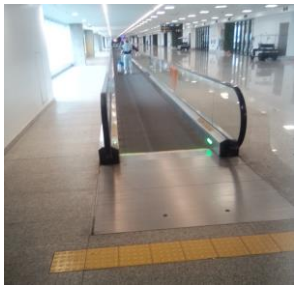
Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: NBR 9050:20 6.10.5. Also: NBR 16734-1.



Source: Cofins International Airport (CNF) - Belo Horizonte, MG

1	There are access conveyors through the terminal, but with non-conformities or inadequate state of conservation.
2	There are conveyors for use by passengers, but with occasional adjustment needs. For example, in signage with signs or indications, safe entry spacing, speed and width.
3	All conveyors meet the items presented in the description of the practice and are located near the accessible routes, but are not part of these.
4	Meets previous level and requires levels 2 or 3 in practice 3000_CO.
5	Meets level 3 and requires levels 4 or 5 in practice 3000_CO. Dispensable due to: lack of long distances or existence of an alternative option. Example: trolley cart



Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

6800_DE: WHEELCHAIRS AVAILABLE FOR AIRPORT USERS AND PASSENGERS

Airport and Airline Operators | Local Practice

DESCRIPTION: Both the airline and the airport must make wheelchairs available to airport users free of charge and for use during the terminal stay. At least one wheelchair must be available for people with obesity and people with trunk instability (keep the spine and trunk upright). Wheelchairs that can be manipulated by the user must be provided, avoiding chairs with small wheels that require assistance for movement.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical nature: ABNT NBR 9050:2020 section 4.2.1. Also see ABNT NBR ISO 7176-1 and ANAC Resolution nº 280/2013 art. 14 can be consulted.

Source: São Luís International Airport (SLZ) - Maranhão, MA

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

Source: Viracopos International Airport (VCP) - (Campinas / SP)

1	There are wheelchairs, but they require maintenance or renovation.
2	There are wheelchairs that meet the demand, but there is a reliance on sharing between airlines and airports as an interim solution.
3	There are enough wheelchairs to meet the demand, but they do not meet specific demands, such as chairs for people with obesity and chairs for people with trunk instability
4	There are chairs in adequate condition, in sufficient quantity to serve passengers who need it, including a chair for people with obesity.
5	There are chairs in adequate condition, sufficient to serve users and passengers, including people with obesity and people with trunk instability (keep the spine and trunk upright).

6900_DE: VEHICLES TO TRANSPORT THE USER OVER LONG DISTANCES WITHIN THE AIRPORT

Airport Operators | Local Practice

DESCRIPTION: Small and medium-sized electric vehicles used to move users inside the terminal, especially when it is necessary to travel long distances. All airport users can use this service, however people with disabilities or reduced mobility should have preference in their use. If the distance between each accessible entrance and the others is greater than 50 meters, with no possibility of rest areas, it is recommended to adopt the practice. Dispensable due to: lack of long distances or existence of an alternative option. Example: conveyor.

LEGAL AND PRESCRIPTIVE REFERENCES: No legal and prescriptive references were found for this practice.

Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

1	There are vehicles, but they require maintenance or renewal.
2	The service exists, however it does not meet the demands.
3	The service exists and meets the demand of the airport, but does not have accessible elements.
4	There are vehicles that meet the airport's demand and have accessibility elements, such as grab bars, seats suitable for people with obesity, two-way signaling (example: audio and tactile), etc.
5	Meets previous level and offers assistance for use. Dispensable due to: lack of long distances or existence of an alternative option. Example: conveyor.

Source: Miami International Airport (MIA) - Miami, USA

7000_DE: FREE AREA FOR MOVEMENT OF PEOPLE WITH DISABILITIES OR REDUCED MOBILITY IN FOOD COURTS AND STORES

Airport Operators | Local Practice

DESCRIPTION: Locations selling products and services (such as stores and restaurants) must have free areas to facilitate the movement of people with disabilities and people with reduced mobility. Passages with a width of less than 0,8 m (between objects and furniture) must be avoided, also paying attention to the dimensions of corridors provided for in item 4.3.2 of ABNT NBR 9050:2020. It is up to the airport operator to ensure in the implementation and operation of these services the conditions prescribed in the projects.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and Technical Nature: Decree 5.296/2004, ABNT NBR 9050:2020 in sections 10.8 and10.17. Also, sections 9.3 and 9.4.3 and 4.3 can be consulted.

Source: Cofins International Airport (CNF) - Belo Horizonte, MG

Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: Viracopos International Airport (VCP) - (Campinas / SP)

1	There are establishments and common areas that meet the items described in practice, but some of these places need to comply with the rules to provide spaces for free movement.
2	Common areas meet the standards on circulation spaces, but some establishments do not meet them.
3	The common areas and establishments meet the items mentioned in the description of the practice.
4	Meets the previous level and requires levels 2 or 3 in 1100_GE practice.
5	Meets level 3 and requires level 4 or 5 in practice 1100_GE.

7100_DE: ACCESS BRIDGE FOR ACCESSIBLE BOARDING/DISEMBARKATION (FINGER)

Airport Operators | Local Practice

DESCRIPTION: The access bridges (finger) must be installed to provide adequate access to the aircraft (boarding and disembarkation). They must follow the normative recommendations of ramps according to ABNT NBR 9050:2020 until close access to the entrance of the aircraft, including handrails at two heights on both sides, safety levels and soft ends.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Decree nº 5.296/2004 art. 44. In addition, ANAC Resolution 280/2013 art. 20 and in ABNT NBR 9050:2020 item 6.2 can be consulted.

Source: Salvador International Airport - Dep. Luís Eduardo Magalhães (SSA) - Salvador, BA

Source: Natal International Airport (NAT) - Natal, RN

1	There are small numbers of fingers with few accessibility features.
2	There are enough fingers to meet the demand, but with few accessibility features.
3	There are enough fingers to meet the demand and they have the accessibility features mentioned in the description of the practice.
4	Meets the previous level and requires level 2 or 3 in practices 5900_DE and 6100_DE.
5	Meets level 3 and requires level 4 or 5 in practices 5900_DE and 6100_DE.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

7200_DE: ACCESS EQUIPMENT FOR BOARDING AND DISEMBARKATION ASSISTANCE (GROUND/EXTERNAL)

Airport Operators | Local Practice

DESCRIPTION: Ideally, boarding is carried out by bridges, however, in the absence of these, the ramps for boarding and disembarking, or elevating platform (ambulift), or even modules for accessible boarding (with elevation) can be used for ascension and descent of users with motor disabilities, including for aircraft whose maximum height from the bottom of the access door to the passenger cabin in relation to the ground does not exceed 1,60 m, for which there are specific models of ramps or other models of equipment. According to Article 20 of Res. 280: The airline operator is allowed to make available and operate its own ascending and descending equipment or ramp. Dispensable due to: every boarding and disembarking is done using fingers.

Source: Palmas International Airport (PMW) - Tocantins, TO

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Decree nº 5.296/2004 art. 44. In addition, ANAC Resolution 280/2013 art. 20 and ABNT NBR 9050:2020 in item 6 can be consulted.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	There are resources (ramps for boarding and disembarking, or ambulift, or modules for accessible boarding with elevation), but they are not enough to meet the average demand of airline operators.
2	There are resources (ramps for boarding and disembarking, or ambulift, or even modules for accessible boarding with elevation), but there is no sharing of these resources and only some airline operators have their demand met.
3	The existing set of resources at the airport (regardless of ownership) meets the demand (except during peak periods) of airline operators, but the existing equipment is not compatible with some aircraft models.
4	The existing feature set at the airport (regardless of ownership) fully meets the demand of airline operators, even in peak periods, but the existing equipment is not compatible with some aircraft models.
5	The set of resources existing in the airport unit is operated on a shared basis and meets the demand of airline operators, even at peak times, and serves all types of aircraft. Dispensable due to: every boarding and disembarking is done using fingers.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

7300_DE: CHAIRS TO ASSIST THE PASSENGER TO CLIMB/DESCEND STAIRS

Airline Operators | Local Practice

DESCRIPTION: Chair for use on boarding and disembarking stairs in situations where there are no fingers or other means available. The equipment is developed to assist in an assisted manner the mobility of people with disabilities and/or difficulty in locomotion (which can be with three wheels, conveyors or other technologies). These may be used in addition when other resources are unavailable for boarding or disembarkation or when the aircraft model is incompatible with the other resources. Dispensable due to: every boarding and disembarking is done using fingers.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Decree 5.296/2004 in art. 44. In addition, ANAC Resolution 280/2013 art. 20 may be consulted.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Juazeiro do Norte Airport (JDO) - Juazeiro do Norte‹ CE

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	The equipment is presented in insufficient quantity or in poor condition.
2	There is equipment in working condition, with manual traction, fully meeting the demand.
3	There is electromechanical equipment in working condition.
4	Meets the previous level and requires level 2 or 3 in practice 7200_DE.
5	Meets level 3 and requires level 4 or 5 in practice 7200_DE. Dispensable due to: every boarding and disembarking is done using fingers.

7400_DE: PASSENGER TRANSFER SYSTEM FROM THE SEAT TO THE AIRCRAFT SEAT WITHOUT PERSONAL CONTACT

Airline Operators | Local Practice

DESCRIPTION: Transfer systems must be suitable for the restricted space of the aircraft. These have the purpose of moving people with walking difficulties and/or wheelchair users without human contact. The transfer can be done through a base with handles (transfer chair), which is moved manually or by small lifts and hydraulic or mechanical winches.

LEGAL AND PRESCRIPTIVE REFERENCES: No legal and prescriptive references were found for this practice.

Source: Van Horn et al. (2021)

Source: Ferreira (2010)

1	This system is available, but without conditions of use due to poor condition.
2	Only the transfer seat is available.
3	The airline provides the mechanical transfer winch, which requires significant effort for operation.
4	The airline makes the hydraulic transfer winch available, requiring little effort for operation.
5	This equipment is available for operation, has motorized or automated drive features and ANVISA certification.

Source: Van Horn et al. (2021)

7500_DE: WHEELCHAIRS FOR ACCESS AND MOBILITY INSIDE THE AIRCRAFT

Airline Operators | Local Practice

DESCRIPTION: The onboard wheelchairs are specially designed to fit the aircraft, with a width compatible with the corridors, so that passengers using a wheelchair can reach their seat or go to the bathroom. In addition, these chairs must have minimum comfort attributes such as footrests or armrests and support for chest belt or pelvic belt.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: ANAC Resolution 280:2013, Annex II.

Source: Newark International Airport (EWR) - New Jersey, USA

Source: Presidente Itamar Franco International Airport (IZA) - Goianá, MG

Source: Presidente Itamar Franco International Airport (IZA) - Goianá, MG

1	There is an on-board wheelchair only inside aircrafts with more than 200 seats. In those with a capacity between 100 and 200 seats, there might not be on-board wheelchairs depending on the aircraft model. On aircraft below 100 seats, there are usually no on-board wheelchairs.
2	There is an on-board wheelchair only inside aircrafts with more than 120 seats. In those with a capacity between 100 and 120 seats, there might not be on-board wheelchairs depending on the aircraft model. On aircraft below 100 seats, there are usually no on-board wheelchairs.
3	On aircraft with more than 100 seats, at least one on-board wheelchair is available.
4	All aircraft have onboard wheelchairs, regardless of the size of the aircraft.
5	It meets the previous level and the onboard wheelchairs have armrests and other comfort and safety items for the passenger.

7600_US: ACCESSIBLE DEVICE FOR SELF-SERVICE CHECK-IN

Airline Operators | Local Practice

DESCRIPTION: Feature used for self-service check-in, which has adequate height, headphone jack with volume control for audible instructions, braille information and mechanical and touch-sensitive keys.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: ABNT NBR 9050:2020 in section 9 and 9.2. The references for the accessible interface are determined by the Content Accessibility Guidelines (WCAG) 2.1”

Source: Congonhas International Airport (CGH) - São Paulo, SP

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

Source: Viracopos International Airport (VCP) - (Campinas / SP)

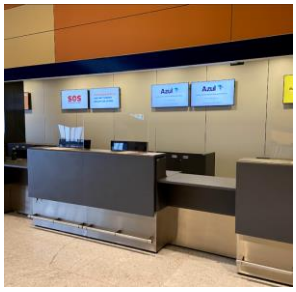
1	Automatic check-in devices have only one accessibility feature, as described in the practice description.
2	Automatic check-in devices have only two accessibility features, as described in the practice description.
3	The check-in devices have all the accessibility features, according to the description of the practice, but in insufficient number to meet the demand or in places with crowds of passengers
4	There are devices for automatic and accessible check-in and these are sufficient to meet demand and are not in places with crowds of passengers.
5	It meets the previous level and is on accessible routes and there is an attendant to assist passengers who need it.

PRESCRIBED

7700_US: ACCESSIBLE SERVICE COUNTERS

Airport Operators | Local Practice

DESCRIPTION: All terminal service desks (including those at the terminal entrance, check-in, services/assignees, boarding and disembarkation) must have at least one part with height that provides interaction between the user and the attendant. Their measures should allow wheelchair users or people of short stature to approach to use them. These service counters must have a minimum surface width of 0,90 m and a height between 0,75 m and 0,85 m from the finished floor, ensuring a minimum free width under the surface of 0,80 m. Free height under the top of at least 0,73 m and minimum free depth of 0,30 m must be ensured, so that a person using a wheelchair has the possibility to advance under the counter. The counters must be correctly signposted and visible from the main accesses (entrances, boarding and disembarkation).



Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive Nature: Decree n. 5.296/2004, article 21. In addition, further information can be found in section 9 of NBR 9050:2020.

Source: Vancouver International Airport (YVR) - Canada, CAN

1	There are accessible counters in the check-in area, but other counters in the public and restricted area need to comply with the standards mentioned in practice. In addition, there are counters that have objects or items that hinder eye contact.
2	There are accessible counters in the check-in area as well as in the public and restricted area. However, there are counters that have objects or items that hinder eye contact.
3	All airport counters are compliant with standards regarding heights, depths and surface dimensions.
4	Meets previous level and requires levels 2 or 3 in practice 3000_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3000_CO.

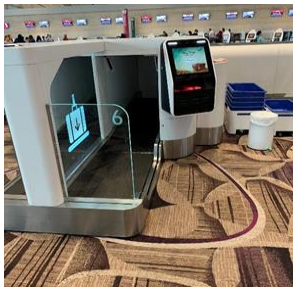
Source: Salgado Filho International Airport (POA) - Porto Alegre, RS

7800_US: ACCESSIBLE CONVEYOR BELT FOR BAGGAGE CHECK-IN

Airport Operators | Local Practice

DESCRIPTION: The baggage check conveyor must be close to the ground or have a device that facilitates the accommodation of baggage on the conveyor belt. Dispensable due to: airports where there are no conveyors or where passengers do not use the c, wonveyor, which is operated by a specific employee.

LEGAL AND PRESCRIPTIVE REFERENCES: No legal and prescriptive references were found for this practice.



Source: Changi Singapore Airport (SIN) - Singapore, SIN

Source: Dailyhive Website: Self-serve baggage drop system launched at Vancouver International Airport

Source: Wikemedia Commons website (2022)

1	There are such equipment and they promote accessibility opportunities, but with nonconformities: lack of indicative signage, dimensional adjustments, such as height close to the floor, and do not have sufficient width for the placement of luggage to be facilitated.
2	There are such equipment for use by passengers, but with specific adjustment needs. For example: in the introduction of signage with signs or indications or in the adequacy of the width, which facilitates the placement of the luggage and in the height in relation to the floor.
3	There are such equipment for use by passengers, duly signposted with signs or indications, and suitable in relation to the width, which facilitates the placement of luggage and height in relation to the floor.
4	The baggage check conveyors have all accessibility features, are properly signaled and there is face-to-face service to carry out the dispatch procedure for the passenger.
5	The baggage check conveyors have all accessibility features, are properly signaled and there is face-to-face service to carry out the dispatch procedure for the passenger, or instruct the passenger to have autonomy to carry out the dispatch of their luggage. Dispensable due to: airports where there are no conveyors or where passengers do not use the c, wonveyor, which is operated by a specific employee.

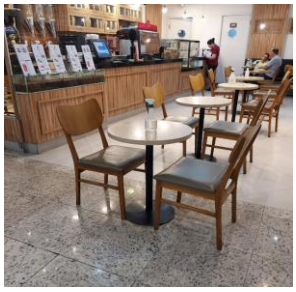
PRESCRIBED

7900_US: TABLES, CHAIRS AND OTHER ACCESSIBLE FURNITURE

Airport Operators | Local Practice

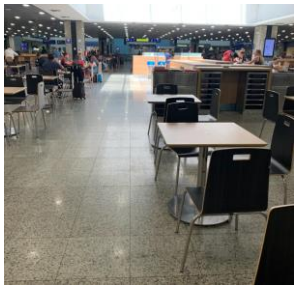
DESCRIPTION: Stores, restaurants, and other dealer services must have accessible tables, chairs, and other furniture. All furniture must follow the principles of universal design. Merchants must provide at least 5% of the total tables, with at least one wheelchair accessible table. These tables must be interconnected to an accessible route and integrated with the others, especially in service and amenities locations at the airport.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Decree on 5.296/2004 in its art. 16 and ABNT NBR 9050:2020 in section 9 and 10.



Source: Cofins International Airport (CNF) - Belo Horizonte, MG

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ



Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE

1	There is accessible furniture, but in insufficient quantity or in poor condition or are isolated from the accessible route, causing embarrassment to users.
2	Accessible furniture exists, is preserved, but is not positioned on the accessible access route to the establishment.
3	Counters, tables and other accessible furniture exist, but the counters feature items that hinder the customer's access to chat with the attendant or the tables and chairs are in a tight space, which does not allow maneuvering with a wheelchair.
4	Accessible furniture exists, is in full use, with all accessibility features, but there are still tables and chairs arranged on inaccessible routes, with barriers or space limitations.
5	Counters, tables and other accessible furniture exist and fully meet the needs regarding height and accessible use, and in addition, they are available on accessible routes, without barriers or space limitations.

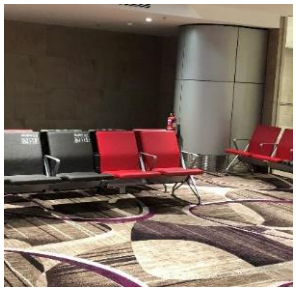
PRESCRIBED

8000_US: RESERVED SEATS AND SPACES IN AREAS CLOSE TO CHECK-IN, BOARDING GATES AND OTHER AREAS OF USE

Airport Operators | Local Practice

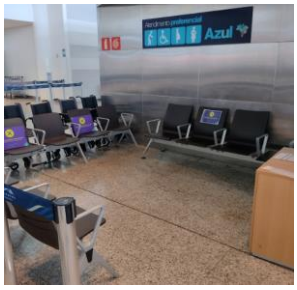
DESCRIPTION: In the main waiting areas of the terminal, the following must be available: (a) Seats reserved for preferential use by people with disabilities or reduced mobility, pregnant women, lactating and elderly people or people with obesity. At least 5% of the total seats must be suitable for people with obesity, with at least one seat, if the total is less than twenty seats. Another 10% of the seats must be reserved and suitable for the elderly and people with reduced mobility, pregnant or lactating women, with at least one seat, if the total is less than ten seats. The seats must meet the specific measures of height, width, depth and angle, according to section 8.9 of ABNT NBR 9050:2020. (b) Space modules with at least 0,8 m x 1,2 m next to the fixed seats (which does not interfere with the free circulation range) for the permanence of people in a wheelchair, and the number of modules must correspond to 5% of the seats, with at least one module, if the total is less than twenty. (c) Both seats and spaces must be signposted (with indication of the International Symbol of Accessibility, ensuring their availability. (d) In addition, such seats and spaces shall be close to accessible routes.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Brazilian Law nº 13.146/2015. In addition, ABNT NBR 9050 section 7 e section 5.6.4.1 can be consulted.



Source: Changi Singapore Airport (SIN) - Singapore, SIN

Source: São Paulo-Guarulhos International Airport (GRU) - São Paulo, SP



Source: Viracopos International Airport (VCP) - (Campinas / SP)

1	There are seats OR reserved space modules in some waiting areas of the terminal, partially meeting only items (a) OR (b) of the description.
2	There are seats and reserved space modules in some waiting areas of the terminal, partially meeting only items (a) and (b) of the description.
3	There are seats and reserved space modules in all the main waiting areas of the terminal, fully meeting items (a) and (b) of the description, but requiring improvements in items (c) signaling and (d) proximity to accessible routes.
4	It meets the previous level, but is sufficiently close to accessible routes, but item (c) "signaling" is subject to improvement. Requires levels 2 or 3 in practice 3500_CO.
5	Meets the previous level and, in addition, the specifications related to item (c) "signage" are met. Requires levels 4 or 5 in practice 3500_CO.

8100_US: ACCESSIBLE DRINKING FOUNTAINS

Airport Operators | Local Practice

DESCRIPTION: Water drinking devices which have dimensions that allow wheelchair users or people with short stature to approach to use them and reach the water source in an accessible, independent and hygienic way. The identification of the buttons must contain a description in braille. It is recommended that water fountains be installed with at least two different spout heights. The spout must be of the inclined jet type, be located on the front side of the drinking fountain and also allow the use of cups.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: ABNT NBR 9050:2020, section 8.5.

Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

1	Accessible drinking fountains are in poor condition or away from accessible routes and without signage.
2	Drinking fountains are installed with at least two different spout heights, but do not have the other accessibility features as described in the practice description.
3	Accessible water fountains feature all the features specified in the description and are located on accessible routes.
4	Meets previous level and location of all drinking fountains are signposted. Requires levels 2 or 3 in practice 3000_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3000_CO.

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

8200_US: ACCESSIBLE VENDING MACHINES AND ATMS

Airport Operators | Local Practice

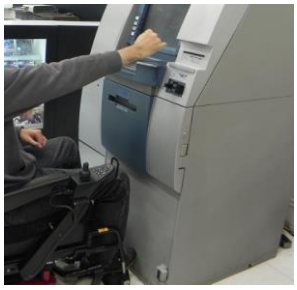
DESCRIPTION: ATMs and vending machines must present instructions for use at an accessible height for people using wheelchairs or with short stature. The buttons must have information in legible, embossed and braille characters. Collection points for cash or products sold must also be accessible and in places that are easily accessible to all users. The equipment must be connected or close to the accessible routes of the airport. Dispensable due to: lack of ATM terminals or vending machines

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Decree 5.296/2004, ABNT NBR 9050:2020 and ABNT NBR 15250.2005.

Source: Viracopos International Airport (VCP) - (Campinas / SP)

Source: Viracopos International Airport (VCP) - (Campinas / SP)

1	Accessibility features are present on ATMs and vending machines. However, with the instructions and illegible characters, or are present in only some equipment.
2	Some equipment has adequate heights on all buttons for activation, payment and removal of the item. They have braille numeric keys with legible indications for people with low vision.
3	All equipment has adequate heights on all buttons for activation, payment and removal of the item. They have braille numeric keys with legible indications for people with low vision.
4	Meets previous level and requires levels 2 or 3 in practice 3000_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3000_CO. Dispensable due to: lack of ATM terminals or vending machines



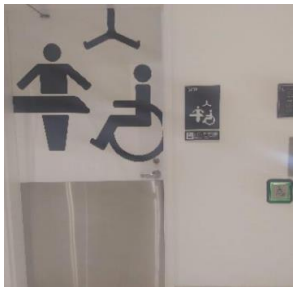
Source:

8300_US: ACCESSIBLE TOILET: LOCATION AND AVAILABILITY

Airport Operators | Local Practice

DESCRIPTION: Accessible toilets must be widely signposted and located on accessible routes, close to the main circulation areas, close to or integrated with other toilets, preventing them from being in isolated places (facilitating assistance in cases of emergency).

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive nature: Brazilian Law 10.098/2000. In addition, ABNT NBR 9050, section 7 and section 5.6.4.1 can be consulted.



Source: Dublin International Airport (DUB) - Dublin, IRL

Source: Toronto Pearson International Airport (YYZ) - Canada, CAN

1	Toilets in insufficient numbers or are not located in the main passenger circulation areas, on accessible routes.
2	Toilets in sufficient quantity, but in a location that does not meet the specifications mentioned in the description.
3	Toilets in sufficient quantity and suitable location.
4	Meets previous level and requires levels 2 or 3 in practice 3000_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3000_CO.

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

PRESCRIBED

8400_US: ACCESSIBLE UNISEX TOILET WITH STRUCTURE FOR CHANGING CLOTHES FOR CHILDREN AND ADULTS

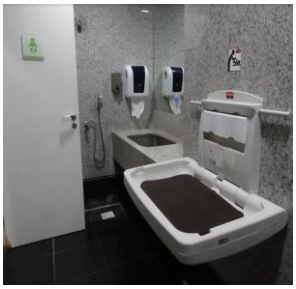
Airport Operators | Local Practice

DESCRIPTION: The toilets accessible with a changing room must be located in the main passenger circulation areas and have: (a) independent entrance, allowing assisted use by people of the opposite sex; (b) toilet and sink; (c) internal space that allows the wheelchair maneuver, with a minimum free space of 1,5 m; (d) disposal place, according to accessibility standards, to serve adults and children who need to use diapers or similar; (e) hygienic shower with registration for flow regulation; (f) children's bowl for use by children and people with short stature; (g) changing table for children and adults with a structure for changing clothes in the lying position, with minimum dimensions of 0,70 m wide by 1,80 m long and 0,46 m high, and must support at least 150 kg, and provided with support bars; (h) compartment for storing bags and backpacks; (i) breastfeeding armchairs; (j) items for personal hygiene, such as soap, diaper oint, disposable diapers and wet wipes.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Article 10 of Decree 5296:2004 and NBR 9050:2020, in section 7.

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE



Source: Natal International Airport (NAT) - Natal, RN

1	There are dressing and changing rooms that have only the resources (a), (b) and (c) described in practice. There is a small changing room, with dimensions smaller than the criteria mentioned in the description of the practice.
2	It meets the previous level, but also has the feature (d) described in practice.
3	It meets the previous level, but also has the features (e) and (f) described in practice.
4	It meets the previous level, but also has the features (g), (h), (i) and (j) described in practice. Requires levels 2 or 3 in practice 8200_US.
5	It meets the previous level and, in addition, offers (e) hygienic shower with temperature adjustment. Requires levels 4 or 5 in practice 8200_US.

PRESCRIBED

8500_US: TOILET WITH RESOURCES FOR OSTOMATES

Airport Operators | Local Practice

DESCRIPTION: Toilet that facilitates ostomized people to discard the contents of the collection bags and sanitize them properly. The place must be exclusive to this public and have features such as hygienic shower, support bars and toilet at a height similar to the sink. In addition, the bathroom must provide holders or holders for hand items, such as bags or the like, and offer personal hygiene items, such as paper towels or wipes.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical nature: Article 10 of Decree 5296:2004 and NBR 9050:2020. Although there is no specific standard, NBR 9050:2020 adopts, in Annex D, a solution reported by the Brazilian Society of Ostomates.

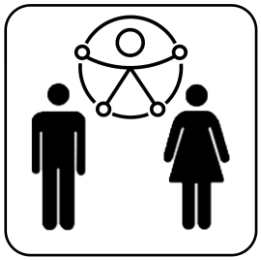
Source: Fortaleza International Airport - Pinto Martins (FOR) - Fortaleza, CE

Source: Congonhas International Airport (CGH) - São Paulo, SP

Source: Ostomizados & Cia website: Regulation of public bathrooms adapted for ostomates (2022)

1	The bathroom has some of the features mentioned in the description, but they do not work or are in poor condition. In addition, the bathroom is located only in the public area.
2	The bathroom has some of the features as described, it is located in the public area but does not have exclusive access.
3	The bathroom features almost all of the features mentioned in the description, but is located only in the public area.
4	The bathroom features all the features mentioned in the description, but is located in the public area only.
5	The toilets feature all the features mentioned in the description, and are located in the public area and restricted area of the airport.

PRESCRIBED



8600_US: ACCESSIBLE TOILET: LAYOUT AND EQUIPMENT

Airport Operators | Local Practice

DESCRIPTION: The layout of an accessible bathroom should ensure that all persons with disabilities or reduced mobility can use it. For the installation of sanitary basins, lateral, perpendicular and diagonal transfer areas must be provided. The sanitary facilities must be accessible with a toilet at a height of 0,46 m with a seat, with non-slip floor, support bars, discharge and faucet within reach of the user, emergency button and accessories such as storage compartments, hangers, soap dishes and towel racks. In addition, the trash bin cannot be pedal operated and must be positioned outside the maneuvering area. Accessible toilets must also have an independent entrance, allowing a disabled person accompanied by a person of the opposite sex to use the toilet. It is recommended that these bathrooms be equipped with a shower and, also, when there is more than one accessible toilet, the second unit has a symmetrically opposite (inverted) layout.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Law 10.098/2000. In addition, ABNT NBR 9050, section 7 and section 5.6.4.1 can be consulted.

Source: Belém/Val-de-Cans International Airport - Júlio César Ribeiro (BEL) - Belém, PA

Source: Brasília International Airport (BSB) - Brasília, DF

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

1	Accessible to all installations from both sides (left and right), chair maneuvering space, non-slip floor, grab bars, proper flush and faucet activation. However, the entrance is not independent (with restriction by sex) and does not have all accessories.
2	Meets the previous level, but presenting accessories: storage compartments, hangers, soap dishes and towel racks. However, entry is not independent (restricted by sex).
3	Meets the previous level, but without restriction by gender, with independent entry, allowing a companion/assistant of the opposite sex. There are emergency buttons and accessories such as storage compartments, hangers, soap dishes, towel racks and trash can without pedal activation.
4	Meets the previous level and, in addition, the toilet must be equipped with levers, electronic sensors or equivalent devices that do not require excessive effort (max. 23 N). In addition, taps with automatic cycle must have an adequate closing cycle (from 10 s to 20 s). Requires levels 2 or 3 in practice 8200_US.
5	Meets previous level. Requires levels 4 or 5 in practice 8200_US.

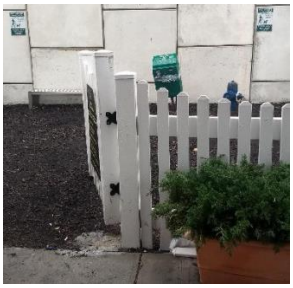
8700_US: DEDICATED AREAS FOR THE PHYSIOLOGICAL NEEDS OF ANIMALS (GUIDE DOG, ASSISTANCE DOG AND OTHERS).

Airport Operators | Local Practice

DESCRIPTION: External or internal locations/lounges in airport terminals, including restricted boarding and disembarkation areas, must include areas specifically designed to accommodate users traveling or with service or emotional support animals. These areas must be accessible (level floor, adequate lighting, etc.) and locations must be made available for the physiological needs of these animals. Staff assistance must be available upon passenger request.

LEGAL AND PRESCRIPTIVE REFERENCES: This practice is not prescriptive. However, there are recommendations about the importance of this type of spaces in ACI Manual, 2018, Airports & Persons with Disabilities HANDBOOK, Fifth Edition.

Source: Presentation of the Accessibility Program at Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC



Source: New York International Airport (JFK) - New York, USA

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

1	The existing space does not provide adequate infrastructure: signage, accessibility, or safety for use.
2	There is a single location outside the terminal designated as a relief area for animals accompanying passengers, but there is no adequate signage for the passenger to locate this area.
3	There are adequate spaces and areas to meet physiological needs, however they are not in spaces with accessible routes or are not in the restricted area of the airport.
4	There are adequate spaces and areas to meet physiological needs, including in restricted areas of the airport, however they are not well located/signposted.
5	There are adequate and signposted spaces, especially in restricted areas.

8800_US: SENSORY ROOM

Airport Operators | Local Practice

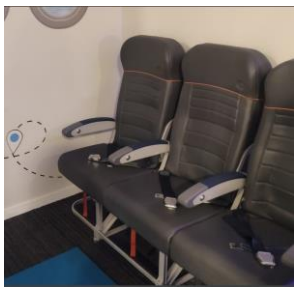
DESCRIPTION: The sensory room is a type of environment dedicated to people with sensory or cognitive disabilities, who demand to mitigate the effects caused by the various stimuli existing at the airport. It functions as a place of relaxation and entertainment, having diverse resources that promote perceptual stimuli (visual, olfactory, auditory and tactile). This space is usually installed in the boarding lounge, near aid points and toilets, and may provide staff trained to accompany passengers and companions.

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

LEGAL AND PRESCRIPTIVE REFERENCES: Technical nature: Airports Council International (ACI) Manual: Airports & Persons with Disabilities Handbook Fifth Edition, 2018. And, one of the Civil Aviation Authority (CAA) manuals: CAP 1629 - Supporting people with hidden disabilities at UK airports, 2018.

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

1	The airport has a sensory room, but in lounges or VIP areas at an additional cost to the passenger.
2	The airport has a sensory room in the public area, but the resources available are limited or provide few sensory stimuli: one or two of the auditory, olfactory, visual or tactile stimuli.
3	The airport has a sensory room in the restricted area, but the resources available are limited or provide few sensory stimuli: one or two of the auditory, olfactory, visual or tactile stimuli.
4	The airport has a sensory room in the restricted area, the resources provided provide various sensory stimuli: auditory, olfactory, visual or tactile.
5	It meets the previous level and, in addition, there is an employee to accompany passengers and their companions during the use of the space.



Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

PRESCRIBED

USE
Preferred spaces and environments dedicated to the service and waiting of people with disabilities, companions and service animals

8900_US: PREFERRED SEATS ON AIRCRAFT, WITH REMOVABLE ARMRESTS, CONFIGURED AND SIZED FOR ACCESSIBILITY

Airline Operators | Local Practice

DESCRIPTION: Passengers with motor disabilities have priority to occupy the seats next to the aisle, located in rows near the main boarding and disembarkation doors of the aircraft and the lavatories, as close as possible to the exits. These seats must be equipped with movable armrests, and their location at the emergency exits is prohibited. If the passenger has joint limitations in the knees that prevent the maintenance of the flexed leg, the airline operator must allocate them in rows with extra spaces or seats equipped with specific devices, if available, in a place compatible with the chosen class and the air ticket purchased. Aircrafts with 30 (thirty) or more seats must have at least half of their aisle seats with movable armrest.

Source: Melhores Destinos website (2022)

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical Nature: Law 10.098/2000 and ANAC Resolution 280/2013 - (Section V and Annex II) In addition, ABNT NBR 9050 in items 4.7 and 8.9 can be consulted.

Source: Presidente Itamar Franco International Airport (IZA) - Goianá, MG

1	In 25% to 50% of the aircraft, the requirements established in the description of the practice are verified.
2	From 50% to 75% of aircraft meet the requirements set out in the practice description.
3	All aircraft with thirty 30 or more seats have at least half of their aisle seats with movable armrests.
4	All aircraft operated by the company have at least half of their aisle seats with movable armrests.
5	All aircraft operated by the company have all of their aisle seats with movable armrests, except those with safety restrictions.

Source: GOL Aircraft Macapá International Airport (MCP) - Macapá, AP

9000_US: INFIRMARY AND ACCESSIBLE EMERGENCY EQUIPMENT

Airport Operators | Local Practice

DESCRIPTION: The Airport Emergency Response System ward must serve everyone: have accessible entrances and doors, have accessible emergency equipment and professionals prepared to serve people with disabilities and reduced mobility. Restrooms and waiting spaces associated with the ward must also meet accessibility requirements.

LEGAL AND PRESCRIPTIVE REFERENCES: Technical Nature: ANAC Resolution 234 items 5 and 6. In addition, ABNT 9050:2020 in section 10.10 discusses recommendations about health services.

Source: Afonso Pena International Airport (CWB) - Curitiba, PR

Source: Tom Jobim International Airport - RIOgaleão (GIG) - Rio de Janeiro, RJ

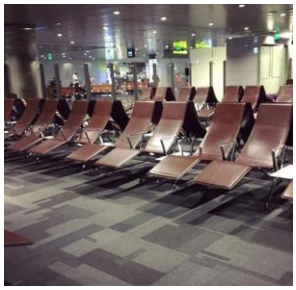
Source: Santos Dummond International Airport (SDU) - Rio de Janeiro, RJ

1	There is an infirmary, but the entrance is not accessible or there are no professionals prepared to assist people with disabilities and reduced mobility, or there are no bathrooms and waiting spaces associated with the infirmary that meet the accessibility requirements.
2	In the infirmary, the entrance is accessible and there are professionals prepared to assist people with disabilities and reduced mobility. However, there are no restrooms and waiting spaces associated with the ward that meet accessibility requirements.
3	It meets the previous level, and in addition, there are restrooms and waiting spaces associated with the ward that meet accessibility requirements. However, these bathrooms are not independent, restricting access by companions/assistants of the opposite sex.
4	It meets the previous level and the bathrooms have independent entrance, allowing privacy and companion/assistant of the opposite sex.
5	It meets the previous level and, in addition, has professionals trained to respond to psychological emergencies, given that an airport environment can emanate common health problems during the journey to those with a predisposition such as anxiety, stress, fear of flying or other type of neurodivergent behavior.

9100_US: QUIET SPACES WITH LOW EXPOSURE TO SENSORY STIMULI

Airport Operators | Local Practice

DESCRIPTION: Quiet spaces can be installed at the airport to allow some passengers to avoid sensory input generated by crowded or busy locations, blinding lights, or noise. These spaces are mainly dedicated to long-stay situations at the airport. They must be located near toilets and service points, present signs that emphasize the adoption of silent behaviors and be found following alternative routes to access roads, properly signposted quieter and less stressful. The provision of these spaces does not replace policies for maintaining environments free of noise and visual pollution.



Source: Frankfurt Airport Portal (2022)

LEGAL AND PRESCRIPTIVE REFERENCES: This practice is not prescriptive. However, international civil aviation regulatory bodies such as the Civil Aviation Authority (CAA) recommend this practice, especially in the manual CAP 1629: Supporting people with hidden disabilities at UK airports. and Airports & Persons with Disabilities Handbook Fifth Edition.

Source: Sleeping in Airport Portal (2022)

1	The airport has quiet spaces, but in lounges and VIP areas at additional cost to the passenger.
2	The airport has these spaces, but there are no signs on the route to these places. In addition, the space itself is also not flagged to mitigate noise.
3	The airport offers these spaces dedicated to passengers with sensitivities (neurodiverse). They are flagged as areas that should be kept quiet. However, there is no signage that guides the passenger how to get to the place.
4	The airport provides one or more such spaces to passengers, duly marked as quiet places, and presenting alternative access routes to the main traffic routes, also marked as quiet routes. In addition, these environments are close to bathrooms and aid points.
5	It meets the previous level and, in addition, these spaces have facilities equipped to promote relaxation during waiting periods, such as comfortable seats with characteristics similar to sofas or beds, for example, as well as visually accessible panels for the passenger or companion to keep track of the flight time.

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

9200_US: DEDICATED AREAS FOR BAGGAGE COLLECTION BY PASSENGER WITH DISABILITIES OR REDUCED MOBILITY

Airport Operators | Local Practice

DESCRIPTION: There must be a free area near the baggage claim, intended for people with disabilities or reduced mobility, allowing access to their luggage. The space available for each wheelchair user must be at least the size of the reference module of 0,8 m x 1,2 m. In addition, signage must comply with regulatory requirements.

LEGAL AND PRESCRIPTIVE REFERENCES: Prescriptive and technical character: ABNT NBR 9050:2020 from section 5.2. Also, on the same norm, items 4.2.2 and 4.3.

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

Source: Florianópolis International Airport - Hercílio Luz (FLN) - Florianópolis, SC

Source: Goiânia International Airport - Santa Genoveva (GYN) - Goiânia, GO

1	The area is signposted, on the floor OR by means of temporary signs, but has obstructions or barriers to the passenger, both on the route and in the space itself, which is insufficient.
2	The area is signposted, on the floor OR by means of provisional signs, but the space does not meet the criteria according to the description of the practice.
3	The space favors access without barriers or obstructions for the safe collection of luggage, but this space is not connected to the accessible route.
4	It meets the previous level, in addition to being connected to the accessible route. Requires levels 2 or 3 in practice 3500_CO.
5	Meets previous level and requires levels 4 or 5 in practice 3500_CO.

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