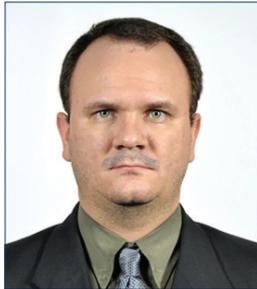


Accessibility inside government buildings and facilities: the contributions of the public works audits of the Federal Court of Accounts of Brazil (TCU)



Marcos Donizete Machado

is a civil servant of the Federal Court of Accounts – Brazil (TCU), in the Department of External Control – Urban Infrastructure



Rafael Carneiro Di Bello

is a civil servant of the Federal Court of Accounts – Brazil (TCU), in the Department of External Control – Urban Infrastructure



Victor Hugo Moreira Ribeiro

is a civil servant of the Federal Court of Accounts – Brazil (TCU), in the Department of External Control – Urban Infrastructure

SUMMARY

Accessibility inside federal buildings and facilities is a constitutional right guaranteed to all citizens. However, the federal government has not been complying with this constitutional requirement, according to recent audits carried out by the Federal Court of Accounts of Brazil (TCU). Based on these audits, TCU has been requesting that bodies responsible for such guarantees accomplish their institutional mission, particularly the Secretariat for Human Rights (SDH/PR) and the Secretariat of Federal Property (SPU/MPOG). Public works, remodeling or alterations in federal buildings and facilities must guarantee full accessibility, as set by the technical standards of the Brazilian Technical Standards Association (ABNT), particularly NBR Number 9050/2004. This technical paper aims to share experiences and the main results regarding accessibility, with data obtained from audits in public works in order to contribute to the technical improvement of public servants working at TCU as well as in other bodies of the federal government. As for methodology, the study was based on revision of legislation, as well as of the professional code of ethics of both architects and engineers. We also revised technical literature and analyzed summaries of audit reports and TCU resolutions, particularly (i) the performance audit carried out in 2011 on the accessibility of existing buildings, and (ii) the acces-



sibility evaluation in new buildings as part of the annual cycle of audits of public works (Fiscobras), from 2012 to 2014. We also present examples of theme audits in public housing programs (Minha Casa Minha Vida), education programs (Proinfância) and primary healthcare units (UBS) and emergency care units (UPA). Despite the legal deadline to turn all federal buildings and facilities into fully accessible buildings being long overdue - more than eight years now -, the results of the study indicate that there are still many challenges to overcome. To begin with, there is no specific budget allocation in the Federal Budget to increase transparency regarding the actions carried out and allows for the proper monitoring of investments regarding accessibility. In addition, our federal public servants are not trained to deal with accessibility. We understand that the Federal Government is far from achieving the minimum accessibility requirements demanded to comply with good technical standards. On the other hand, there is the contribution of TCU audits that encourage ethical behavior, especially for making this issue a priority. The ongoing demand also leads to reflection and innovation, seeking effective solutions concerning accessibility.

Keywords: Accessibility, Disabled Individuals, Senior Citizens, Ethics, Buildings, Public Works, External Control, Fiscobras, Secretariat for Human Rights, Secretariat of Federal Property, *Minha Casa*

Minha Vida, Proinfância, Innovative Methodologies, UPA, UBS, SeinfraUrbana.

1. INTRODUCTION

The first myth that this technical paper intends to put an end to is that accessibility is an issue that concerns only the disabled. Despite being a significant part of the population in Brazil – figures are estimated at more than 45 million people (IBGE, 2013, chapter 8 - part 1), i.e. nearly a quarter of the country's entire population - people with disabilities are not the only ones affected by the lack of accessibility.

From an ethical and legal standpoint the implementation of the basic accessibility requirements at federal buildings and facilities concerns not only those with permanent physical disabilities and those with sight, hearing, intellectual or height impairments, but also those who, even if just temporarily, have reduced mobility and/or sensory abilities. This is the case of the elderly, sick, accident victims, those who have recently been through surgery, very obese individuals, pregnant women, mothers accompanied by infants (or with strollers), and others.

According to the Brazilian Institute of Geography and Statistics (IBGE) (2015), Brazil's population is getting older. Long-term projections (2000-2030) indicate that there will be a threefold increase in the number of senior citizens – they will be about 41.5

million citizens by 2030. Such growth in the share of the population with mobility difficulties, and loss of sensory or cognitive acuity is due to the decline in the fertility rate, according to the IBGE (2013). This means that there is great need for autonomy of the elderly and disabled, so they can carry out their daily activities, making the issue of accessibility something that concerns the entire Brazilian population.

Given the importance of this topic, this article will discuss the constitutional, legal, ethical and technological bases related to accessibility, listing some of the major works already undertaken by the technical units of the TCU. There will be a special emphasis on the results of the performance audit that focused on accessibility in existing federal buildings and facilities, as well as the observations of the annual public works audits (Fiscobras) regarding new buildings under construction.

As for the ethical standpoint, this article will resort to the thoughts of Mario Sergio Cortella, a philosopher, lecturer and researcher at PUC-SP with a PhD in education and 40 years of experience as an educator.

2. ACCESSIBILITY TO GOVERNMENT BUILDINGS AND FACILITIES AS AN ETHICAL, CONSTITUTIONAL AND LEGAL REQUIREMENT

According to Cortella (2013, page 15), the word “ethics” comes from the Ancient Greek *ethos*, meaning “the residence of the human”, that is, where everybody lives together and shares everyday life. For this reason, it is essential that everyone adopt the principles and values of conduct so that everyone can coexist.

2.1 THE ETHICAL CONDUCT TO GUIDE THE ACTIONS AIMED AT ACCESSIBILITY

In the words of the distinguished scholar, “revisiting the ethics issue does not mean doing it until people get sick of it. Instead, it means doing it until they are convinced of the importance of not letting our house [*ethos*] rot and deteriorate”, given that the environment in which we live in not only gives us shelter but also “shapes us, giving us our identity. He adds: (i) “if there is anything that leads to an absolutely strong background towards good ethics it is when someone, be that someone a child or an adult,

is able to see examples (of it)”; and (ii) “ethics is not only related to politics, but it is also related to family, living together, the place where we live; (...) Ethics is not cosmetics, it is not a façade, one must be coherent to implement it” (Cortella, 2013, page 62).

This is also Zajdsznajder’s view (2001: 21-22 and 30), for whom “ethics, rather than just empty words, is a way of doing things, how we base our decisions; (...) We live in a time when technology and strategy seem to debunk everything else, covering up and even pushing ethics aside” and he goes on to say: “an ethical attitude does not seek to condemn, but rather wants to avoid that; (...) if in some cases the recommendation is to punish, about the purpose is setting examples.”

It is crucial that ethics is not thought of as mere rhetoric - the art of writing or speaking effectively -, but as a powerful agent that transforms reality. In order to do so, it should be aligned with the moral values and principles that guide human conduct, promoting the wellbeing of the entire population.

Regarding the urgency of implementing the basic accessibility requirements and its relation to ethics, it is worth mentioning Cortella (2013, page 78). “One of the most important things in forging people, whether they be researchers or independent professionals (...) is that they have a sense of duty and a sense of urgency (...) to comply with a deadline; (...) without delays or procrastination.”

Many are the reasons given by public managers for not implementing fully accessibility in federal buildings and facilities. The most common and generic one is the lack of financial and/or human resources. However, it is public managers’ duty to promote good allocation of resources to prioritize the most urgent issues. It is also their duty to protect the most fragile part of society to the detriment of other actions that can wait.

Regarding the ethical priority to be given to investments in accessibility, aiming to cater to a portion of those that are notoriously vulnerable, once again we bring to mind the teachings of Cortella (2013, pages 68 and 87.).

(i) “When it comes to ethics, our values of conduct, our social life, our ability to think that people may think differently or act in various ways does not force us to believe that just because people are different, they are also doing the right thing; this can lead us to moral relativism; (...) There are ethical principles such

as decency, honesty, solidarity, which are our references”;

(ii) “if we fail to have compassion, if we fail to look at someone who suffers as someone we are connected to, it threatens our ability to talk about the human condition; (...) I repeat, it does not mean feeling sorry for others; it means to feel, to understand and be sympathetic to the suffering of others as if it were our own.”

The eventual omission of public servants responsible for caring for the public assets, particularly the duty to give full accessibility to all citizens, is an insult to ethics and morality. However, omission is also a violation of the law, for it disrespects the Constitution and the standards that regulate this matter. This is what we will show here.

2.2 THE CONSTITUTIONAL REQUIREMENTS CONCERNING ACTIONS AIMED AT ACCESSIBILITY

The 1988 Federal Constitution (CF/88) places the dignity of the human person as one of the foundations of the democratic state (article 1, item III). Article 3, items I, III and IV set the establishment of a free, just and solidary society, through the reduction of social inequalities and the promotion of the good for all, without any discrimination, as the fundamental objectives of the Federative Republic of Brazil.

Article 23, items II and V of the Federal Constitution (CF/88) establishes that the federal government - along with the states, the Federal District and the municipalities - are responsible for the care and protection of people with disabilities. In addition, they are responsible for providing this group with equal conditions, “the means of access to culture, education, science, technology, research and innovation” (Amendment 85/2015). In addition, article 230 also establishes a duty to assist the elderly, ensuring their participation in the community, safeguarding their dignity and well-being.

As a means to provide accessibility to constitutionally established rights, the Constitution itself establishes in its article 227, paragraph 2, that “the law shall regulate construction standards for public sites and buildings of public use (...) in order to ensure proper access to the disabled.” However, it does not limit its extent to new buildings, for it also includes

existing buildings (Article 244.): “The law shall provide for the adaptation of currently existing public spaces and public buildings.”

There is no doubt that the denial to make reasonable adaptations to a federal building is unethical to a large number of Brazilian citizens, who have the constitutional rights to be assisted by state agents.

It is impossible not to pay urgent attention to the basic requirements of accessibility, under penalty of serious harm to several constitutional provisions. Besides the above-mentioned ones (articles 1, 3, 23, 227, 230 and 244), the lack of accessibility goes against the principle of administrative morality, set forth in article 37 of the Constitution. In the words of Zajdsznajder (2001, page 71), “we do not distinguish moral from ethics; the word ethics comes from the Greek ethos, meaning character or habit and also place of residence.. When the Romans translated it, they used the term *mores*, meaning habits. Both expressions try to capture something that is complex.”

2.3 THE COMPETENT BODIES AND THE DEADLINES FORESEEN IN THE LEGISLATION AND REGULATORY ACTS FOR IMPLEMENTING FULL ACCESSIBILITY

The first deadlines for the government to ensure the full and effective functioning of the buildings, so that “the obstacles to the disabled can be avoided or removed, enabling their access to buildings” dates back to October 1990, i.e., twelve months after the enacting of Law 7.853/1989 (article 2, item V, paragraph “a”, along with article 18).

In order to make the implementation of accessibility operative, the 1989 law established that “public-interest civil actions aimed at protecting common or collective interests of people with disabilities” might be proposed either by the prosecution or by any government body that “includes among its institutional purposes, the protection of the disabled” (article 3). Matters relating to persons with disabilities will receive priority treatment by the Federal Government (article 9, paragraphs 1 and 2) and its “plans, programs and projects are subject to deadlines and goals.”

Twenty years later, Law 11,958/2009 has incorporated changes regarding Law 7,853/1989, giving authority to the Secretariat for Human Rights (SDH/PR) to promote superior coordination of all matters and measures related to people with disabilities, taking

advantage of their cooperation with other government bodies (article 10 and sole paragraph of the 1989 Law).

According to the various items of article 12 of the same 1989 Law, it is also the duty of the Secretariat for Human Rights: (i) to propose the necessary steps for the full implementation of the National Policy for the Integration of Persons with Disabilities, including those related to necessary resources and interaction with the Legislative Branch; (ii) monitor and guide the implementation of the policy by the Federal Government (bodies listed in article 9, paragraph 2, of the Law); (iii) maintain close relationship with them and help the federal prosecutors, along with the public officials of TCU, to start a public-interest civil action when necessary, by giving them the information and the evidence to do so (article 84 of Law 8,443/1992).

With respect to the services offered to citizens, there is also Law 10,048/2000, which establishes priorities for people with disabilities and senior citizens, through “individualized services to ensure special treatment and immediate care” (article 2). The same law reinforces the concern about accessibility in public spaces, restrooms and public use buildings, which must comply with the relevant technical standards (article 4). Finally, the Law states that any offenses committed by public servants and senior officials will be liable to the penalties provided for in the legislation (article 6, section I).

In chronological order, other important milestones were (i) Decree 5296 of December 02nd, 2004, which determined that the existing public buildings and facilities must ensure accessibility starting in June 2007 (article 19, paragraph 1), and (ii) Decree 6949 of August 25th, 2009, which granted the International Convention on the Rights of Persons with Disabilities (article 1) the status of constitutional amendment, stating that “the denial of reasonable accommodation” is a form of “discrimination on the basis of disability” were also significant milestones.

Finally, it is also possible to observe regulatory initiatives in specific areas, such as the institutions regulated by the Central Bank of Brazil, which launched the Central Bank Note 3369, of October 19th, 2007, which “demands compliance with the requirements of accessibility set out in Decree number 5296 of 2004”, setting the year 2008 as the deadline. The Term of Commitment for Adjustment of Behavior (Accessibility TAC) is in force. It was signed on October 16th, 2008 by the Federation of Banks (Febraban), the federal

prosecutors of the State of Sao Paulo and the federal prosecutors of the state of Minas Gerais.

2.4 PROFESSIONAL LEGISLATION AND CODES OF ETHICS TO ENSURE THE TECHNICAL QUALITY OF ACCESSIBILITY

Turning to the ethical and professional issues, it is important to emphasize that, in accordance with current legislation, legally qualified professionals must be responsible for the accessibility in buildings. Law 5,194/1966 provides that the studies, reports and any other engineering work may only be submitted for appraisal by the competent authorities and will only hold legal value to obtain, for instance, the budget for the work, when its authors are qualified professionals (articles 13 and 14). In addition, Law 6,496/1977 establishes the need for professionals to sign a Technical Responsibility Note (ART) in accordance with their Regional Council of Engineering and Agronomy (CREAS) (Articles 1 and 2). More recently, Law 12,378/2010 has required that architects have a Technical Responsibility Registration (RRT) at their regional Architecture and Urban Planning Councils (CAU) (article 2 and articles 45-47).

The ethics of engineering and architecture are an extension of the ethical standards that all people as human beings must follow. Ethical rules are among the rules of interaction that govern the relationship between individuals and society, in order to eliminate conflicts over (abstract) moral and conceptual issues, or (more concrete) factual matters. Engineers and architects have a longstanding widely recognized tradition of ethical behavior, for they must make difficult decisions about the appropriate allocation of resources in order to maintain acceptable levels of risk and safety (HOLTZAPPLE 2011, pages 34 and 52).

The lack of accessibility harms the principle of protection of fundamental rights of individuals as set by the Constitution and international agreements. It goes against the provisions of items 1.1.5, 2.1, 2.2.7 and 2.3.3 of the code of ethics and discipline of architects, established by Resolution CAU/BR Number 52/2013 (CAU/BR, 2013). Similarly, it hurts the human development goals and duties present in the professional code of ethics of engineers, as provided for in article 6 and 8, sections I and IV, article 9, subsection I, article 10, item I of Brazilian Federal Council of Engineering, Architecture and Agronomy (CONFEA) Resolution Number 1002/2002 (CONFEA, 2014).

The understanding that the solutions to accessibility must come under the scrutiny of a qualified professional to certify compliance with the relevant technical standards is also a part of the aforementioned Decree 5,296/2004 (article 11, paragraphs 1, 2 and 3). TCU Precedent 260/2010 also points out that it is the duty of public managers to demand the RRTs/ARTs related to architectural/engineering services (plans, technical specifications, budgets etc.), to ensure discipline and oversight of professional activities by special agencies, which aim to “protect public works from unregistered professionals for the sake of safety (TCU, 2014, pages 3 and 27-29).”

Even before the 2004 Decree, Law 4,150/1962 already required public managers to comply with the minimum technical requirements as set forth by ABNT. Thus, the Federal Government should follow the ABNT’s 2004 standard of accessibility, NBR 9050, and meet the principle of legality set forth in article 37 of the 1988 Constitution.

Even in face of all legal and ethical framework presented, the country has had serious difficulties to implement full accessibility in public buildings and facilities, particularly federal ones. That is why TCU has devoted special attention to this issue, as we will show in the following section.

3. BRIEF HISTORY OF PUBLIC DIALOGUES ON FEDERAL ACCESSIBILITY TO PUBLIC BUILDINGS AND FACILITIES AND THEIR IMPACT ON THE PLANNING OF THE CONTROL ACTIONS BY TCU

On June 29, 2011, the Association of Prosecutors of the Public Accounts Ministry (Ampcon) launched the national campaign “Public Accounts Ministry for Total Accessibility”. The campaign aims to “promote accessibility for people with disabilities or reduced mobility (including senior citizens), as set by ABNT, mostly through external control activities”. The campaign has adopted innovative strategies to (i) educate senior public managers about the importance of building an accessible country, and (ii) through the Facebook page “MPC Full Accessibility”, receive complaints, which “have been evaluated and redirected to different control agencies, according to their specific activities” (AMPCON, 2012).

The campaign is part of the Practices Bank of Institute Innovare, whose mission is to identify, reward and disseminate innovative practices carried

out by judges, state and federal prosecutors, public defenders, assigned counsel and lawyers, with proven results on increasing the quality and updating the Brazilian Justice System (INNOVARE, 2013).

On September 21, 2011, TCU decided to join the campaign. The TCU-plenary stated that “because we consider accessibility an issue of great importance and because it is the duty of the Federal Government to provide the necessary resources for the full exercise of citizenship” we have decided to conduct performance audits “to assess the accessibility conditions in federal buildings and facilities.”

Besides the external control actions, TCU invests in Public Dialogues on Accessibility. The technical debate “Control of Public Accessibility Policies”, held on September 12 and 13, 2012 at TCU headquarters, was an opportunity to discuss the effective implementation of public accessibility policies in Brazil with representatives from government agencies and civil society as well.

More recently, on June 30, 2015, TCU held the Public Dialogue “Accessibility: a path to inclusion”. Minister Raimundo Carreiro, Vice-President of the TCU, opened the event, which also counted on the active participation of Federal Deputy Mrs. Mara Gabrielli, rapporteur of the Brazilian Law of Inclusion of People with Disabilities, in the Chamber of Deputies. Prosecutor Sergio Caribé, a member of the Public Prosecution Office inside TCU and Supervisor of TCU’s Accessibility Policy, coordinated the works and technical discussions. Many representatives from various government agencies came to the event, as well as members from public and private entities, such as the National Social Security Institute (INSS), CONFEA and public servants from TCU as well.

Our next topic is performance audit, but first we would like to highlight the fact that, as soon as TCU joined the Ampcon campaign in 2011, the then public works oversight departments began to incorporate procedures to evaluate accessibility in their standard planning matrix for public works and buildings audits.

4. PERFORMANCE AUDIT REGARDING ACCESSIBILITY IN EXISTING FEDERAL BUILDINGS AND SITES (2011)

TCU evaluated accessibility in six federal agencies and entities with the largest number of branches and customer service centers, namely: Brazilian Fed-

eral Savings Bank (Caixa Econômica Federal/MF), Brazilian Revenue Service (RFB/MF), Federal Public Defenders (DFU/MJ), Postal Services (ECT/MC), INSS and the Ministry of Labor and Employment.

Based on sampling techniques, the performance audits undertaken by the former Department of External Control and Government Program Evaluation (Seprog), with the support of the former 1st Department of External Control of Public Works (Secob-1), assessed the situation of accessibility regarding two main areas:

- a. the accessibility inside buildings - checking tactile flooring and maps (for the visually impaired), elevators, restrooms, tables, counters, ramps, stairways, corridors and accessible doors (for physical disabilities); and
- b. the accessibility of services offered by the same federal agencies, such as public servants able to interpret the Brazilian Sign Language - Libras (for the hearing impaired).

Regarding the methodology used by TCU, based on statistics resulting from a survey conducted with the public managers themselves, we would like to highlight that the ECT (Brazilian Postal Service) undertook their own survey and compared it to ours. By using a checklist sent to all heads of agencies, the ECT obtained 5,630 responses. Despite the different methodologies, the results obtained both by TCU and ECT were very similar. Here are the numbers of the four major accessibility items (% of accessible buildings/facilities): (i) Tactile Flooring and Maps: TCU = 18% x 20% = ECT; (ii) Accessible Results: TCU = 28.6% x 25% = ECT; (iii) Accessible desks and counters: TCU = 49.4% x 49% = ECT; and (iv) Accessibility Ramps: TCU = 52.5% x 53% = ECT.

Besides public managers, the TCU team also interacted with representatives of 21 associations that provide support for people with disabilities. The perception of these groups corroborated the perception that public bodies generally lack accessible facilities, as well as proper furniture, well-trained personnel, etc., that meet basic accessibility requirements as set forth in NBR 9050/2004 (ABNT).

As a result of this audit, Ruling 2170/2012-TCU-Plenary of August 15th, 2012, recommended a series of measures to the above-mentioned federal agencies, in order to improve accessibility in their units.

In addition, resolutions directed to the Secretariat for Human Rights and the Secretary of Federal Property were issued. In general, they requested action plans to remedy the deficiencies found by TCU.

Ruling 3244/2013-TCU-Plenary analyzed the request for reexamination filed by the Office of the Federal Attorney (AGU) and extended the deadline for the SDH/PR to present the National Plan for Accessibility (item 9.1 of the original decision), extending the initial deadline from 180 days to eighteen months (540 days) to meet the resolution. According to TCU, the plan should be comprehensive, strategic, and minimally contemplate the information obtained at the 1st National Conference on the Rights of Persons with Disabilities.

The Minister-Rapporteur of the appeal commented on the nonconformity with the determinations set by TCU (The vote that based Ruling 3244/2013-TCU-Plenary):

We would like to point out that the determinations set by this Court **seek to remedy a series of existing violations of legal norms and regulations**. In this scenario, the first Ruling on the matter was correct (...)

The **planning** set out by TCU **challenges** the Secretariat for Human Rights to fulfill its **institutional mission**, based on, I repeat, **Law 7,853/1989**, which provides support for people with disabilities and their social integration. (...)

In this case, the resolution aims to **remedy the omission** of the Public Administration - particularly of the Secretariat for Human Rights - and **their duty to adapt, eliminate and remove** existing architectural barriers in federal buildings and sites (Article 23 of Law 10,098/2000.).

According to a specific regulation from the executive branch, **existing buildings** for public use should **“ensure accessibility** to persons with disabilities or reduced mobility” **since June 2007** (article 19, paragraph 1 of Decree 5,296/2004). (...)

The Secretariat for Human Rights seems to believe that its institutional mission is restricted to creating events, formulating ideas without the

effective solution of the problems experienced by people with disabilities. Contrary to what the law establishes, it does not see itself as the body responsible for planning, coordinating, monitoring and guiding integration policies for the disabled, as set by **relevant legislation.**

The difficulty that the Secretariat for Human Rights has in recognizing its institutional mission, however, does not exonerate it from **fully complying with its obligations according to the law.** (Highlights added)

In addition to what was stated in the Vote of the Rapporteur of the appeal, the MP-TCU, in a statement that is part of the report of the same Ruling 3244/2013-TCU-Plenary, adds that such national plan must include “not just a technical aspect, but also budgetary, financial and management aspects. It must also “be compatible with the federal government modernization efforts”. With respect to the quality expected from the National Plan, the MP-TCU considered (i) “the difficulties that will be faced in a project of this kind, in view of the fact that the properties, in significant numbers, are scattered around the vast Brazilian territory” confronting these challenges with (ii) the need for “technical accuracy and quality excellence”.

The performance audit judged in 2012 accomplished its goal of obtaining an initial diagnosis about the accessibility conditions in effect in federal buildings and facilities at the time. We recognize, however, that the diagnosis is only the starting point in search of the ultimate goal of achieving a truly accessible country. In other words, the federal government must not only recognize problems, but also work hard to find and implement solutions, putting public policies into effect.

In this sense, it is up to the SDH/PR to coordinate with other federal agencies, especially with the Secretary of Public Property of the Ministry of Planning Budget and Management (SPU/MPOG) pursuant to item 9.8 of Ruling 2170/2012-TCU-Plenary. The participation of SPU/MPOG is essential to demand the effective implementation of accessibility in federal buildings and facilities, and the effort is part of the “Federal Government Real Estate Equity Modernization Program - PMG/SPU.” In the words of the current Secretary of the SPU, spoken in her inaugural speech: “we will collaborate for the reduction of so-

cial inequalities respecting the sustainability, security and **accessibility**; (...) to modernize **respecting citizenship** is our problem; (...) it is not only a revenue collection agency “(SPU, 2013, highlights added).

Finally, the judgement of the performance audit determined that **each of the six agencies** should offer and **internal plan** for the diagnosis and proposal of solutions to the challenges of accessibility (item 9.3). The decision also established that Segecex (General Secretariat of External Control) should include in the content of the annual rendering of accounts “an analysis of the measures adopted by the agency or entity to enforce rules on accessibility, especially Law 10098/2000, Decree 5296/2004 and applicable technical standards of the ABNT” (item 9.9 of Ruling 2170/2012-TCU-Plenary). The concepts and guidelines related to the “action plans” are found in TCU Resolution No. 265/2014, and, in short, require the plan to provide a description of the goals, deadlines and responsible parties (art. 2, item I, and art. 4).

Segecex complied with the determination through **TCU Normative Decision No. 134 of 12.04.2013** (Annex II, item 3.6). Thus, management reports to be submitted in 2015 (fiscal year 2014) should already contain the partial implementation of the respective plans.

The TCU has been monitoring compliance with the 2012 determinations (TC 020833/2014-8).

5. UNFEASIBILITY TO MONITOR INVESTMENTS IN ACCESSIBILITY IN EXISTING FEDERAL BUILDINGS AND FACILITIES: NO SPECIFIC BUDGET ALLOCATION IN THE FEDERAL BUDGET (OGU) (2015)

Public managers themselves consulted by TCU in 2011 identified the lack of financial resources for construction works and renovation, as one of the most important issues impeding the accommodation of buildings and facilities to offer full access to people with disabilities or reduced mobility.

According to Castro (2013, p. 27-28), “investing in accessibility is synonymous with cost reduction; it is not difficult to construct a building prioritizing accessibility. Measured in numbers, the increase is no greater than 1.5% of the total value of the public work. However, this cost becomes considerably greater if a building is modified after construction is completed, about 25% of the total cost of construc-

tion; (...) a recent study by civil engineer Radegaz Nasser Junior from the state of Espírito Santo pointed out that property prices appreciate between 3.3% and 4.5% if they are modified to accommodate people with disabilities.

Although Law 10098/2000 (heading and sole paragraph of articles 22 and 23) provides for appropriation by the Federal Government of funds to carry out accommodation, elimination and removal of existing architectural barriers in buildings and facilities, the respective budgetary resources are dispersed in various programs and actions, consigned to each agency or public entity. This circumstance prevents the transparency of investments made and hinders oversight regarding the prioritization of resources to ensure accessibility.

For this reason, MP-TCU's opinion issued at the time of the performance audit report stressed the importance of specific classification in the Federal Budget (OGU). The Prevailing Vote in Ruling 2170/2012-TCU-Plenary ratified the importance of this issue. The TCU then concluded that it is up to the Ministry of Planning, Budget and Management (MPOG) to promote studies to evaluate the possibility of creation and introduction of this budget clas-

sification, or the adoption of another measure that enables the verification of investments in accessibility.

In addition to the provisions of Law 10098/2000, the provisions of the "Plan Living Without Limits", as per Decree 7612/2011, require that agencies involved in implementing the Plan ensure the availability, in a particular system, of information regarding the respective appropriations and the results of the their budgetary execution (article 8 and article 11, item I). Despite the above, to date there is no evidence that the MPOG has complied with the recommendations of item 9.7 of Ruling 2170/2012-TCU-Plenary, aiming at enabling the verification of investments in accessibility to public buildings and facilities.

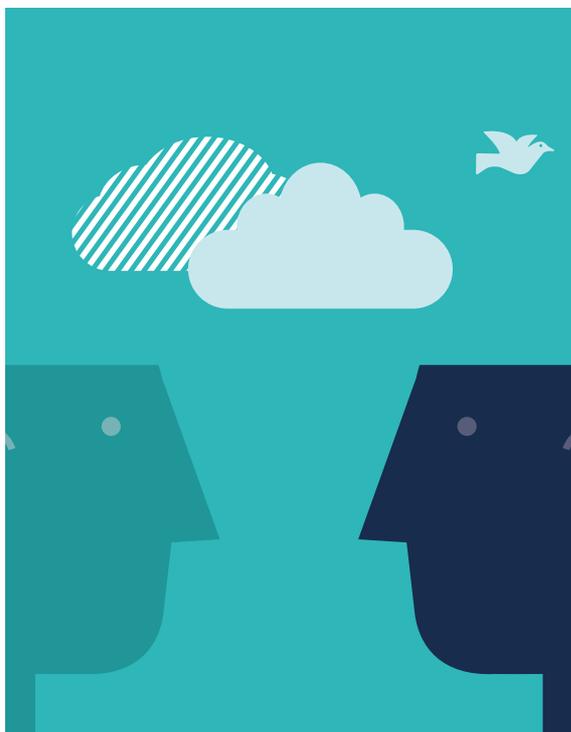
On the contrary, research undertaken within the scope of the monitoring mentioned in the previous , regarding the Annual Budget Laws (LOAs) of 2014 and 2015 (program "2063 - Promotion and Defense of the Rights of Persons with Disabilities" and Organizational Unit "UO - 64101- Secretariat for Human Rights"), found that (i) the only functional classification nationwide (14.242.2063.210N.0001) shows the amount of R\$ 6.73 million in 2015, and (ii) this amount reflects a 3% decrease compared to 2014.

6. ACCESSIBILITY ASSESSMENT IN FEDERAL BUILDINGS AND FACILITIES WITHIN FISCOBRAS (ANNUAL AUDIT PROGRAM) AUDITS

Since fiscal year 2012, the accessibility quality assessment procedures are incorporated into the standard planning matrix for the construction of buildings and facilities that are part of the annual cycle of supervision of works by TCU (Fiscobras). Initially, simple questions were formulated (checklist), about the existence, or not of (i) ramps, (ii) curb ramps, (iii) tactile flooring, (iv) accessible restrooms, among others. As experience was gained, , audit procedures began to incorporate more complete verification forms, including assessment of: (v) water closet grab bars height and (vi) service counters/windows, (vii) ramp slopes and rail height/clearance, (viii) width of hallways, and (ix) width of doorways, among others on a case by case basis.

The application of these audit procedures resulted in observations such as:

- i. Construction of the Brazilian Central Bank Headquarters, in Rio de Janeiro, RJ: in the



auditorium - lack of seats for obese people and those with reduced mobility, and lack of ramp or electromechanical equipment for wheelchair access from the audience to the stage (Ruling 2928/2012-TCU-Plenary);

- ii. Repairs and Expansion of Canarinho Stadium in Boa Vista, RR: slope and height issues with the access ramps to the bleachers (Ruling 2088/2013-TCU-Plenary).

Experiences gathered through individualized audits of major construction works in 2012 and 2013, allowed the expansion of the teams' procedures for Audits of Centralized Guidance (FOCs). Three thematic works are highlighted as follows:

6.1 EVALUATION OF ACCESSIBILITY IN HOUSING CONSTRUCTIONS IN THE MINHA CASA MINHA VIDA PROGRAM (2013)

Chapter 4 of the Preliminary Opinion of the 2013 Government Accounts presented analyses undertaken by the former Secob Energia based on "FOC quality of housing" of the Minha Casa Minha Vida Program (MCMV), focusing on the income bracket of the lowest income group.

Based on a systemic analysis, program indicators were evaluated, particularly that of the goal "to promote accessibility" in the units offered by the MCMV. It was considered inappropriate for the Ministry of Cities to consider residential dwelling units as fully accessible units based solely on the fact that interior and exterior door openings met the minimum required width of 80cm. The concept of accessibility adopted by the Ministry does not adhere to the ones prescribed by Law 10098/2000 and Technical Standard NBR 9050 of the Brazilian Techbucak Standards Association.

Generally speaking, the construction sites visited did not have many of the alterations required in restrooms (installation of grab bars, sink and toilet with differentiated height, etc.) and stairs (modified handrails and guard rails, tactile flooring, larger shower compartments, etc.). They also did not meet minimum dimension requirements for circulation areas (both external and internal), or solutions for changes in level by means of ramps and/or elevators. In addition, no specific signals, such as audible and/or visual alarms, among other features were installed.

Some buildings in the MCMV program had up to five floors, without any plans for elevators. However, even in these cases, the Ministry of Cities labeled all of the building's apartments as "accessible", though access depended essentially on stairs. Therefore, it was concluded that accessibility indicators were unreliable.

Lack of accessibility in construction works under the MCMV Program was also reported in several cities across the country, such as in Santo Estevão, in the state of Bahia (TC 019 675/2013-5), where an audit found that a residential dwelling unit intended for residents with physical disabilities was not in accordance with the required technical specifications. Access to the unit entrance consisted of a small dirt ramp, not aligned with the door, hindering the use of a wheelchair, which sank into the soil when wet. It is worth mentioning that it was the resident himself who built the ramp, as his unit had been delivered without any proper modification. In addition, the dimensions of said accessible unit doors were inadequate because internal door openings measured 70 cm and the restroom door opening measured 60 cm, a clear violation of NBR 9050 of the Brazilian Technical Standards Association, which requires a minimum of 80 cm. Finally, the restroom did not have shower and toilet seat grab bars.

There were similar findings in audits of public works in Rio Branco, in the state of Acre (TC 039947/2012-2). An audit of two modified residential dwelling units found that, in order to make the toilet and bathing room accessible it was necessary to increase its width. As a result, the toilet and bathing room had to be extended into the adjoining bedroom, since the total area of the "accessible" home was the same as the other residential dwelling units that were not modified. The bedroom was then reduced in size to 1.5 m wide by 3.2 m long, which does not meet the original technical specifications, since the smaller bedroom only fits a twin size bed, and not a double size bed. Thus, the unit, which originally would accommodate four people, became a three-person home. Also, the residential dwelling unit's external access ramps had a greater slope than the maximum allowed by NBR 9050, and there were stairs in the access to the back of the residential dwelling units, where the laundry sink is located. As reported by a wheelchair bound resident to TCU's team, occupants with disabilities tend to stay only inside their homes, because although the interior of the home maybe in

Pictures:

obstacles without warnings on directional tactile flooring at innovative daycare center in Aparecida de Goiânia, GO.



theory modified to their needs, access to the outdoor areas is not. It is a situation that promotes social isolation when it should promote inclusion, as determined by the Federal Constitution.

Failure to observe accessibility criteria in public works projects in the MCMV Program were also observed in several other audit proceedings, such as the ones in Linhares, in the state of Espírito Santo (TC 039 957/2012-8), Colatina, also in Espírito Santo (TC 039 956/2012-1), Anápolis, in the state of Goiás (TC 041044/2012-6) and Areal, in the state of Paraíba (TC 019681/2013-5).

The operational audit of the Minha Casa Minha Vida Program (MCMV) was judged by Ruling 524/2014-TCU-Plenary, being it appropriate to highlight the Opinion Statement by the Honorable Minister Raimundo Carreiro. In addition to the required compliance with Law 10098/2000, the Minister points out that the Minha Casa Minha Vida Program, governed primarily by Law 11977/2009, must respect its art. 73, which contains provisions on the right to accessibility, stating that “ensures that a minimum of 3% (three percent) the total number of housing units built under the MCMV Program in each municipality are modified for use by persons with disability” (included by Law 12424/2011).

Therefore, Ruling 524/2014-TCU-Plenary instructed the Brazilian federal savings bank Caixa Econômica Federal, operating agent for the Minha Casa, Minha Vida Program and the Residential Lease Fund (FAR), to submit an action plan to “align properly the projects with the technical standards of accessi-

bility designed for people with disabilities or reduced mobility. This is provided in Laws 11977/2009 and 10098/2000, as well as in other laws and regulations aimed at ensuring this right” (item 9.3.2).

6.2 EVALUATION OF ACCESSIBILITY IN THE CONSTRUCTION OF DAYCARE CENTERS, SCHOOLS AND SPORTS COURTS WITH FUNDS FROM THE NATIONAL EDUCATION DEVELOPMENT FUND - FNDE (2013 AND 2014)

The evaluations of accessibility in public works carried out with federal resources improved in number and quality with the “theme” audits, which required new procedures.

In 2013 the construction of daycare centers under the Proinfância program, conducted by municipalities with FNDE resources, were audited. Based on the assessed risks, including lack of accessibility, duly illustrated by several pictures, new audits were proposed for the year 2014.

Regarding accessibility, it is important to illustrate the severity of the problems uncovered by the pilot audit conducted at the first daycare center built in the country through an “Innovative Methodology” in concrete-PVC (TC 002556/2014-6). Located in Aparecida de Goiânia, in the state of Goiás, the Proinfância program daycare center, although recently concluded, showed serious accessibility problems. Some of them were the design and installation of tactile flooring to convey directional guidance, which did not follow signaling logic (hazard warning) be-

fore obstacles such as glass doors, water fountains and even lavatories and sink counters, as shown in the pictures above.

The example of the innovative daycare center (concrete-PVC methodology), which brought gains in efficiency since it reduced the usual 18 months building time to about 4 months, but that does not fully comply with accessibility requirements, is an example that shows that innovation and ethics must go together. Innovation must be total, technological and ethical, as it can both promote as well as frustrate the well-being of citizens. Quoting Zajdsznajder (2001, p. 85), “technological culture seems focused on effectiveness; (...) ethical culture seems centered on the idea of good quality of life, that is, well lived.” Ethics becomes a measuring tool of the effectiveness of the results accomplished by the changes brought about by innovation.

The audits in 2014 did not address only daycare centers, but also included educational spaces (primary and secondary education) and sports courts, as seen in Ruling 608/2015-TCU-Plenary, which adjudicated the consolidation of FOC, with a series of determinations to FNDE.

Generally speaking, the FNDE, when performing its duties as coordinator of policies, was instructed to, , observe accessibility requirements, including, in its in loco audits, “specific procedures to guide local managers and construction companies in this regard, in accordance with Law 4150/1962, articles 3 and 11 of Law 10098/2000, article 2, item I, and articles 8, 10 and 11 of Decree 5296/2004, and ABNT technical standard NBR 9050, in addition to article 3, item II, sub item e, of Resolution 24 of FNDE’s Deliberative Council , dated 07/02/2012 “(item 3.6 – Ruling 608/2015-Plenary)

The determination aimed to correct and prevent the occurrence of things such as: (i) excessive height, as was the case of the service counters in the conventional design and the reception benches at the daycare facility in the innovative methodology; (ii) ramps that did not obey the maximum prescribed slope for access within the property; and (iii) installation of grab bars in restrooms in violation of height and clearance standards. This, in addition to lavatories and sinks with columns, making the approach in a wheelchair difficult.

In addition to the TCU, the Federal Supreme Court (STF) has also shown concern with accessibility in schools. “It is the duty of the state to remove

any and all physical barriers, as well as to conduct the necessary repairs and alterations required in order to allow persons with mobility restrictions to access public school” (Ruling-Extraordinary Appeal 440028-STF -1st panel).

6.3 EVALUATION OF ACCESSIBILITY IN CONSTRUCTION PROJECTS OF EMERGENCY CARE FACILITIES (UPA) AND PRIMARY HEALTH CARE FACILITIES (UBS) WITH FUNDS FROM THE MINISTRY OF HEALTH (2013 AND 2014)

In 2013 a “FOC quality” of public works projects of Emergency Care Units (UPAs), was also conducted with funds from the Ministry of Health (Ruling 1101/2014-TCU-Plenary). More recently, in June of 2015, the consolidation report of the Fiscobras 2014 “health theme” audit, contemplating not only the UPAs, but also the Primary Health Care Facilities (UBS), was judged.

The results of these works demonstrate TCU’s contributions to broaden the culture of accessibility in all federal buildings, but especially to those whose purpose is to guarantee the fundamental right to public health. According to Ruling 1426/2015-TCU-Plenary, the Ministry of Health was alerted “regarding the need for compliance with accessibility requirements for people with visual, physical impairments, among others, or with reduced mobility, in order to overcome the violation of articles 3 and 11 of Law 10098/2000, art. 2, item I, and arts. 8, 10 and 11 of Decree 5296/2004 and technical standard NBR 9050/2004 of the Brazilian Technical Standards Association coupled with Law 4150/1962” (item 9.1.12).

In this respect, the correction of the following irregularities was ordered: (i) excessive height of service counters; (ii) absence or inadequacy of ramps (inadequate slopes, preventing persons in wheelchair from moving with autonomy); (iii) grab bars in restrooms (water closet, lavatory and sink and shower compartments), in quantity, position, clearance and heights that do not meet standards; (iv) absence of or inadequate external access for wheelchair users and people with reduced mobility, by eliminating unacceptable slopes, steps and obstacles from the gate at the property line wall to the entrance door of each building; (v) insufficient width and/or presence of obstacles in the internal the units internal hallways, preventing the passage of wheelchairs; (vi) absence or inadequacies in tactile floors, which must respect

the signaling logic before each obstacle, such as doors or steps, making sure further to avoid obstacles in the paths; and (vii) lack of communication cards in Braille, in all areas, especially those that may pose risk to the visually impaired, such as laboratories and procedure rooms. It The Ministry of Health was also instructed to “guide borrowers of funds on the requirement of the Technical Notes or Records Form from engineers and architects for project design or implementation and supervision of public works projects.”

In view of what has been presented in this topic, it is possible to see how TCU has been firmly acting to require compliance with accessibility legislation, indicating which problems should be tackled as a priority, highlighting the guidance and pedagogical nature of the actions that have been developed.

7. CONCLUSION

This article shows that, according to the technical teams’ reports and TCU’s decisions, full access to federal buildings is still a very distant reality. That is, although TCU teams’ technical reports are not intended to show only the unacceptable side of accessibility in the country, they have a duty to disclose the critical situation found in federal buildings, existing or under construction.

This article also demonstrates that the goal of meeting minimum accessibility requirements established in ABNT technical standard 9050/2004 is attainable. However, one has to rely on public ethics tirelessly acting to bring awareness to public officials in charge, and to society as a whole society regarding the seriousness of the problem and its priority.

With respect to existing federal buildings, we note that the deadline given by the presidential decree of 2004 for all federal buildings to be modified expired almost ten years ago. The performance audit undertaken with respect to eight agencies responsible for planning, supervising, coordinating and implementing accessibility actions in more than 13,000 units that provide services to the public is being monitored by TCU, which also mandated that all federal agencies that provide ordinary accounts include the topic of accessibility in their annual management reports.

Federal buildings with different levels or obstacles, without ramps or electromechanical means of movement prevent the independent mobility of a person in a wheelchair. In addition to disrespecting the constitutional rights of people with disabilities,

the lack of action by public officials in charge to ensure full access to federal buildings is unethical.

In this respect, we take the liberty of adapting a passage by Cortella (2013, page 50), which mentions a mere “banana peel”, as an analogy to assess the character of the people responsible for eliminating architectural barriers. According to the professor, “a banana peel that is thrown on the ground [or a barrier to accessibility, such as a change in level designed without a ramp or elevator] is an expression of negligence [regarding the collective behavior]; a banana peel, which, when found, is left untouched, indicates someone who is complacent, who is negligent, who fails to do what should be done; the removal of banana peel from the ground shows someone who is cautious and well-mannered”. Thus, he concludes: “banana peel on the ground, how it gets there, whether it stays there or is removed, oddly enough, is an ethical indicator.

In the search for effective solutions, we must review the existing accessibility, and carefully plan the necessary interventions, which is only possible with the participation of qualified architecture and engineering professionals. Public managers must seek the resources required to comply with their mandate. The TCU has been demanding from the agencies in charge, particularly the Secretariat for Human Rights (SDH/PR) and the Secretary of Public Property (SPU/MOP), the fulfillment of their institutional missions.

From an ethical point of view, public managers cannot be neutral with respect to the issue of full access because “the lack of deliberate acts is a choice, and, therefore also an act. When dealing with a nation, a democracy which is being structured in our society, we must protect it; also regarding the decency in our coexistence anywhere, ethical neutrality is extremely evil or dangerous” (Cortella, 2013, p. 77). Keeping in mind that basic accessibility requirements are determined by the law, the words of Rui Barbosa, in a speech given in Argentina in 1916 are fitting: “between those who destroy the law and those who observe it, there is no possible neutrality”.

It is inadmissible to have architectural physical barriers in buildings, in the design or construction phase. As seen in this article, for almost three decades the Federal Constitution and a number of laws, decrees, codes of ethics and technical standards have been written and re-written to prevent this serious flaw. However, worse than the lack of solutions for accessibility, is to see that sometimes they are poorly

implemented, due to lack of technical knowledge, which is nevertheless a serious ethical and professional misconduct.

To illustrate this situation, we offered examples of accessibility issues identified in thematic audits in government housing (Minha Casa Minha Vida), education (Proinfância) and basic health care and urgent care (UBS and UPA) public works projects, which demonstrate that the TCU audits have contributed in encouraging ethical behavior, in particular the sense of priority in dealing with the issue. Continued demands also create the expectation of control, providing reflection and innovation, seeking effective solutions for accessibility.

To illustrate this situation, examples of accessibility problems identified in audits of the government programs for housing construction (Minha Casa Minha Vida), for education (Proinfância) and for primary and emergency care health units (UBS and UPA). This showed that TCU audits have contributed to promote ethical behavior, especially with regard to the sense of priority of the issue. Continuous demand also creates an expectation of oversight and this promotes reflection and innovation, aiming at effective solutions for accessibility.

As developments for future studies, based on the reported experiences, and to contribute to the elimination of bottlenecks, which still prevent the effective implementation of accessibility, we suggest the following:

- i. further assessment of the lack of a specific allocation in the Federal Budget, to allow monitoring of investments in accessibility, suggesting possible solutions;
- ii. the main causes that inhibit greater awareness and restrict incentives for training of federal public officials to deal with the problems of accessibility in the construction, renovations and alterations of buildings and facilities, also evaluating knowledge retention and sharing, the impacts of the rotation of public servants observed in some agencies;
- iii. select best practices of internal accessibility plans of federal agencies, such as the creation of permanent accessibility committees, with authority to set and monitor compliance with targets;

- iv. evaluation of case studies of alterations in historic or old public buildings;
- v. legally assess the possibility of federal investments in accessibility when properties in which federal agencies are headquartered have been leased from third parties; and
- vi. study cost saving innovations in accessibility;

REFERENCES

ABNT – Brazilian Technical Standards Association. Brazilian Standard - NBR 9050:2004 - *Accessibility in buildings, furniture, urban spaces and equipment (incorporates Errata 1, of 12.30.2005)*. Establishes criteria and technical parameters required when designing, building, installing and modifying buildings, furniture, urban spaces and equipment to meet accessibility requirements. 2004. Available at: <http://www.abntcatalogo.com.br/>

AMPCON – National Association of the Public Accounts Ministry. *Report on Government Actions in the campaign for Full Access*. 2012. Available at: <http://www.ampcon.org.br/input/userfiles/image/noticia/0,7722284.pdf>

BCB – Brazilian Central Bank. *Circular nº 3369, of October 19, 2007*. Provides for the substantiation of accessibility requirements established in Decree nº 5.296, of 2004, by financial institutions and other institutions authorized to operate by the Brazilian Central Bank. Available at: http://www.bcb.gov.br/pre/normativos/circ/2007/pdf/circ_3369_v1_O.pdf

BRAZIL. *Federal Constitution*. October 5, 1988.

BRAZIL. *Law nº 4.150, November 21, 1962*. Establishes a mandatory regime of preparation and observance of technical rules in public works and purchasing contracts of the government, public utility companies, agencies and government controlled private companies, through the Brazilian Technical Standards Association and other measures.

BRAZIL. *Law nº 5.194, December 24, 1966*. Regulates the practice of engineering, architecture and agronomist engineering and other measures.

Articles

BRAZIL. *Law nº 6.496, of December 7, 1977*. Creates the "Technical Notes Form" for engineering architectural and agronomy services; authorizes the establishment, by the Federal Council of Engineers, Architects and Agronomists - CONFEA, of Mutual Professional Assistance; and other measures.

BRAZIL. *Law nº 7.853, of October 24, 1989*. Prescribes the support to persons with disabilities, their social integrations, the National Coordinator for the Integration of Persons with Disabilities - Corde, establishes judicial protection of collective or diffuse interests of such person, governs the work of the Prosecution Office, defines crimes, and other matters.

BRAZIL. *Law nº 8.443, of July 16, 1992*. Establishes the Organic Law of the Federal Court of Accounts and other provisions.

BRAZIL. *Law nº 10.048, of November 8, 2000*. Establishes priority service to certain persons, and other provisions.

BRAZIL. *Law nº 10098, of December 19, 2000*. Establishes general rules and basic criteria for promoting accessibility for people with disabilities or reduced mobility, and other provisions.

BRAZIL. *Law nº 11958, of June 26, 2009*. Amends Law nº 7.853, of October 24, 1989.

BRAZIL. *Law nº 12378, of December 31, 2010*. Regulates the practice of Architecture and Urbanism; creates the Council of Architecture and Urbanism in Brazil - CAU/BR and the Architecture and Urban Planning Councils of the States and the Federal District - CAUs; and other measures.

BRAZIL. *Decree nº 5296, of December 2, 2004*. Regulates Law nº 10048, of November 8, 2000, which gives priority service to certain persons, and Law nº 10098, of December 19, 2000, which establishes general rules and basic criteria for promoting accessibility for people with disabilities or reduced mobility, and other provisions.

BRAZIL. *Decree nº 6.949, of August 25, 2009*. Enacts the Convention on the Rights of Persons with Disabilities and its Optional Protocol, signed in New York on March 30, 2007.

BRAZIL. *Decree nº 7.612, of November 17, 2011*. Establishes the National Program for the Rights of Persons with Disabilities – Living Without Limits Program.

CASTRO, Jary de Carvalho. *Ir e Vir – Acessibilidade: Compromisso de cada um*. Gibim Editors. Campo Grande. 2013. Available at: www.creams.org.br

CAU/BR – Council of Architecture and Urbanism in Brazil. *Código de Ética e Disciplina do Conselho de Arquitetura e Urbanismo do Brasil (CAU/BR) – Resolução 52, de 6 de setembro de 2013*. Brasília. 2013.

CONFEA – Federal Council of Engineers, Architects and Agronomists. *Código de Ética Profissional da Engenharia, da Agronomia, da Geologia, da Geografia e da Meteorologia – Resoluções 1.002/2002 e 1004/2003* (Regulamento para a Condução do Processo Ético Disciplinar). 9th Edition. Brasília. 2014.

CORTELLA, Mario Sergio. *Pensar bem nos faz bem! 2. Família, carreira, convivência e ética*. Vozes Editors. São Paulo. 2013.

HOLTZAPPLE, Mark Thomas; REECE, W. Dan. *Introdução à Engenharia (Concepts in engineering)*. Editora LTC. Rio de Janeiro, 2011.

IBGE – Brazilian Institute of Geography and Statistics. *Atlas do Censo demográfico de 2010*. Rio de Janeiro. 2013. <http://biblioteca.ibge.gov.br/> (accessed on 07/29/2015)

IBGE - Brazilian Institute of Geography and Statistics. *Estudos e Análises – Informação Demográfica e Socioeconômica - número 3 - Mudança Demográfica no Brasil no Início do Século XXI: subsídios para as projeções da população*. Rio de Janeiro. 2015.

INNOVARE –Innovare Institute. Banco de Práticas Inovadoras. 10th Edition. 2013. Available at: <http://www.premioinnovare.com.br/praticas/ministerio-publico-de-contas-pela-acessibilidade-total/> (accessed on 07/29/2015)

SPU - Secretary of Public Property of the Ministry of Planning Budget and Management. Cassandra Maroni Nunes takes office as Secretary of Public Property. 2013. Available at: <http://patrimoniodetodos.gov.br/pastanoticia.2009-07-02.8239097967/cassandra-maroni-nunes-toma-posse-como-secretaria-do-patrimonio-da-uniao/> (accessed on 07/29/2015)

TCU – Federal Court of Accounts. Normative Decision nº 134, of December 4, 2013.

Provides for jurisdictional units whose top managers must present management report for the 2014 fiscal year, specifying the organization, form, content and submission deadlines, pursuant to art. 3 of TCU Normative Instruction Nº 63, of September 1, 2010. Brasília. 2013.

TCU – Federal Court of Accounts - Brazil. Resolution nº 265, of December 9, 2014. Provides for the issuance and monitoring of decisions dealing with determinations, recommendations and knowledge to jurisdictional units within the Federal Court of Audits. Brasília. 2014.

TCU – Federal Court of Accounts - Brazil. Orientações para os conselhos de fiscalização das atividades profissionais. Brasília. 2014.

ZAJDSZNAJDER, Luciano. Ser Ético no Brasil. 4th Edition. Gryphus Editors. Rio de Janeiro. 2001.