

A photograph of a wooden deck and stairs in a lush garden. The deck is made of light-colored wooden planks and has a wooden railing. The stairs are also made of wood and lead up to a higher level. The background is filled with various green plants and trees, including a large banana leaf. The scene is brightly lit, suggesting a sunny day.

BUILT ENVIRONMENT

TOOL 1: Understanding the Building Blocks of
Inclusive Design

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CREATING INCLUSION AT WORK

Creating Inclusion at Work

Each business is unique. Although you may share similarities with other organizations, your workplace culture, your people, your company history, and more, make you distinct. While your uniqueness is an asset, it also means that a ‘one-size-fits-all’ approach to inclusivity does not work. Thankfully, this pushes us to innovate and develop design principles that consider the diversity of human abilities. [1]

Understanding Key Concepts - What is the built environment?

The built environment refers to a range of physical and social human-made elements in a person’s surroundings, as opposed to naturally occurring aspects of the environment. [2] It includes structures that are within, and external to, a building, such as:

- Entryways and exists
- External pathways, including roads and stairs
- Parking
- Transportation access
- Green spaces
- Hallways
- Signage and wayfinding
- Lighting
- Seating and reception areas
- Washrooms
- Offices and meeting rooms

What is the difference between ‘needs’ and ‘use’? [1]

To successfully cultivate an accessible and inclusive built environment, employers need to first understand the difference between ‘needs’ of an individual, and how they ‘use’ aspects of their built environments.



Needs

The individualized requirements that must be considered and met for the full inclusion of all, including people with disabilities, in the environment



Use

The way that people interact with the environment, such as how they enter, move about, perform essential tasks, and leave the environment



CREATING INCLUSION AT WORK

Both principles are crucial considerations for building and facilities managers, when designing new spaces, retrofitting old ones, or making adjustments to enhance the accessibility of existing environments. Here are some helpful questions for you to think through:

- Can users reach the premises via public transport? How easily?
- Is there a parking facility? How many accessible parking spaces are there? Can visitors easily reach the premises from the parking facility?
- What types of doors and door handles might a user need? Are accessible or automatic doors available? How easy will it be for someone to proceed through an entrance?
- What signs are present, and alternate formats available? Would it be easy for all users to find their way around the building?
- What conditions are available for working? Are there quiet spaces, brightly lit spaces, or open-concept spaces?
- Are there accessible washrooms and facilities? Are they easy to find?
- Will all potential users be able to use furniture in the facility? Are all tables, chairs, etc. offered in a variety of sizes and heights?
- Can visitors easily leave the premises, especially during an emergency?

“When a survey of individuals with physical disabilities asked what the key features of a truly accessible workplace were to them, physical modifications/accessible infrastructure were identified as important by 55%, but non-physical considerations were equally reported as important: management practices, workplace culture, inclusion, and flexibility.” – Gibbard et al., 2018 [9]

UNPACKING APPROACHES TO DESIGN

Unpacking Approaches to Design [3]

There are different design approaches that aim to create built environments for the largest spectrum of possible users. You may have heard of them before – universal design, sustainable design, and inclusive design. Although they may sound different, they share the similar purpose of building for inclusion.

Universal Design

Universal design seeks to design products and environments to be usable, to the greatest possible extent, by all people throughout their lifespan, without the need for adaptation or specialized design. [3] This inevitably means that some people may be left out. Rather than trying to address individual accessibility or inclusion objectives, universal design is a ‘design for all’. [4]

The Seven Principles of Universal Design

The purpose of the 7 Principles of Universal Design is to guide the design of environments, products, and communications. According to the Center for Universal Design, [3] the principles "may be applied to evaluate existing designs, guide the design process and educate both designers and consumers about the characteristics of more usable products and environments."

Flexible

The design is useful and marketable to all people, including people with disabilities

- Provide the same means for use for all users: identical whenever possible, equivalent when not
- Avoid segregating or stigmatizing any users
- Provisions for privacy, security, and safety should be equally available to all users

Simple & Intuitive

The design accommodates a wide range of individual preferences and abilities.

- Provide choice in methods of use
- Accommodate right- or left-handed access and use
- Facilitate the user’s accuracy and precision
- Adapt to the user’s pace



UNPACKING APPROACHES TO DESIGN



Perceptible

Use of the design is easy to understand, regardless of the user's knowledge, language skills, or current concentration level.

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information
- Provide adequate contrast between essential information and its surroundings.
- Maximize legibility of essential information
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions)
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations



Tolerance for Error

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

- Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded
- Provide warnings of hazards and errors
- Provide fail safe features
- Discourage unconscious action in tasks that require vigilance



Low Physical Effort

The design can be used efficiently and comfortably and with a minimum of fatigue.

- Allow user to maintain a neutral body position
- Use reasonable operating forces
- Minimize repetitive actions
- Minimize sustained physical effort



UNPACKING APPROACHES TO DESIGN

Size

Size is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility

- When considering the size of the physical spaces provide a clear line of sight to important elements for any seated or standing user. Make reach to all components comfortable for any seated or standing user. Accommodate variations in hand and grip size

Space

Use of the design is easy to understand, regardless of the user's knowledge, language skills, or current concentration level.

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information
- Provide adequate contrast between essential information and its surroundings.
- Maximize legibility of essential information
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions)
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations

“With roughly 20% of the population currently reporting as having a significant disability and 1,000 people turning 65 every day in Canada, the inescapable truth is that, in the new millennium, it is normal to have a disability. The built environment today has to adjust to accept this as the new ‘normal’.” – Brad McCannell [10]



UNPACKING APPROACHES TO DESIGN

Inclusive Design

Inclusive design aims to offer solutions to all users, across their broad spectrum of intersectional needs, perspectives, and behaviours, and across time: [5]

- It welcomes the provision of accommodations and adjustments for anyone who may require them to use features within the built environment
- It explains that an important aspect of design is including a diverse group of people in the design process
- It focuses on building for the present and the future, to promote sustainability in design.

If an environment is accessible, usable, convenient and a pleasure to use, everyone benefits.

Inclusive design draws from and expands upon universal design. By considering the diverse needs and abilities of all throughout the design process, inclusive design creates products, services and environments that meet everyone's needs. It can even be applied to processes such as meetings, workshops or conferences, and your day-to-day interactions with colleagues and clients.⁶ Inclusive design is seen as a process and challenges a design team to think creatively to mitigate barriers that may exclude diverse populations from using the end design.

INCLUSIVE DESIGN IN CANADA

Inclusive Design in Canada

Accessibility Standards Canada (ASC) aims to develop accessibility standards for a variety of essential topic areas. [7] As one of the ASC's leading priorities since 2020, the mandate of the organization is to help achieve a Canada without barriers by January 1, 2024. It does this by:

- Developing and revising accessibility standards
- Providing information, products, and services about new and revised standards
- Supporting and conducting research on barriers to accessibility
- Sharing best practices for removing and preventing accessibility barriers

Keeping abreast of the accessibility standards for the built environment is critical in your pursuit to create a disability confident and inclusive workplace.



Recognize Diversity & Inclusion

As individuals spread out from the hypothetical average, the needs of individuals that are outliers, or at the margins, become ever more diverse. Most individuals stray from the average in some facet of their needs or goals. This means that a mass solution does not work well.



Inclusive Process & Tools

Inclusive design teams should be highly diverse & include individuals with lived experience of the users the designs are intended for. This honours the principle of “nothing about us, without us,” avoiding relegating people w/ disabilities to mere research subjects or token participants in design exercises.



Broader Beneficial Impact

It is the responsibility of inclusive designers to be aware of the context and broader impact of any design and strive to effect a beneficial impact beyond the intended beneficiary of the design.

The more accessible your organization, the better your worker retention and engagement.

REFERENCES

- [1] Business Disability Forum (2022, March 14). Global report: Access for all – Creating inclusive global built environments. <https://businessdisabilityforum.org.uk/knowledge-hub/resources/global-guide-access-for-all-creating-inclusive-global-built-environments/>
- [2] Portella, A. A. (2014). Built environment. In A. C. Michalos (Ed.) Encyclopedia of Quality of Life and Well-Being Research (p. 22). https://doi.org/10.1007/978-94-007-0753-5_240
- [3] Centre for Excellence in Universal Design (1997). The 7 Principles. Raleigh: North Carolina State University. <https://universaldesign.ie/what-is-universal-design/the-7-principles/#p1>
- [4] Iwarsson, S., & Ståhl, A. (2003). Accessibility, usability and universal design—positioning and definition of concepts describing person-environment relationships. Disability and Rehabilitation, 25(2), 57-66.
- [5] Waller, S., Bradley, M., Hosking, I., & Clarkson, P. J. (2015). Making the case for inclusive design. Applied ergonomics, 46, 297-303.
- [6] The Inclusive Design Guide (n.d.). Ontario College of Art and Design: Inclusive Design Research Centre. <https://guide.inclusivedesign.ca/>
- [7] Government of Canada (n.d.). Accessibility Standards Canada. <https://accessible.canada.ca/>
- [8] Inclusive Design Research Centre (n.d.). Ontario College of Art and Design. <https://idrc.ocadu.ca/>
- [9] Gibbard, R., Desormeaux, M., Persaud, P., & Wright, R. (2018). The business case to build physically accessible environments. The Conference Board of Canada. <https://www.conferenceboard.ca/e-library/abstract.aspx?did=9434>
- [10] Brad McCannell (2018). From Where I Sit: Busting Five Myths of Universal Design. Rick Hansen Foundation. <https://www.rickhansen.com/news-stories/blog/where-i-sit-busting-five-myths-universal-design>