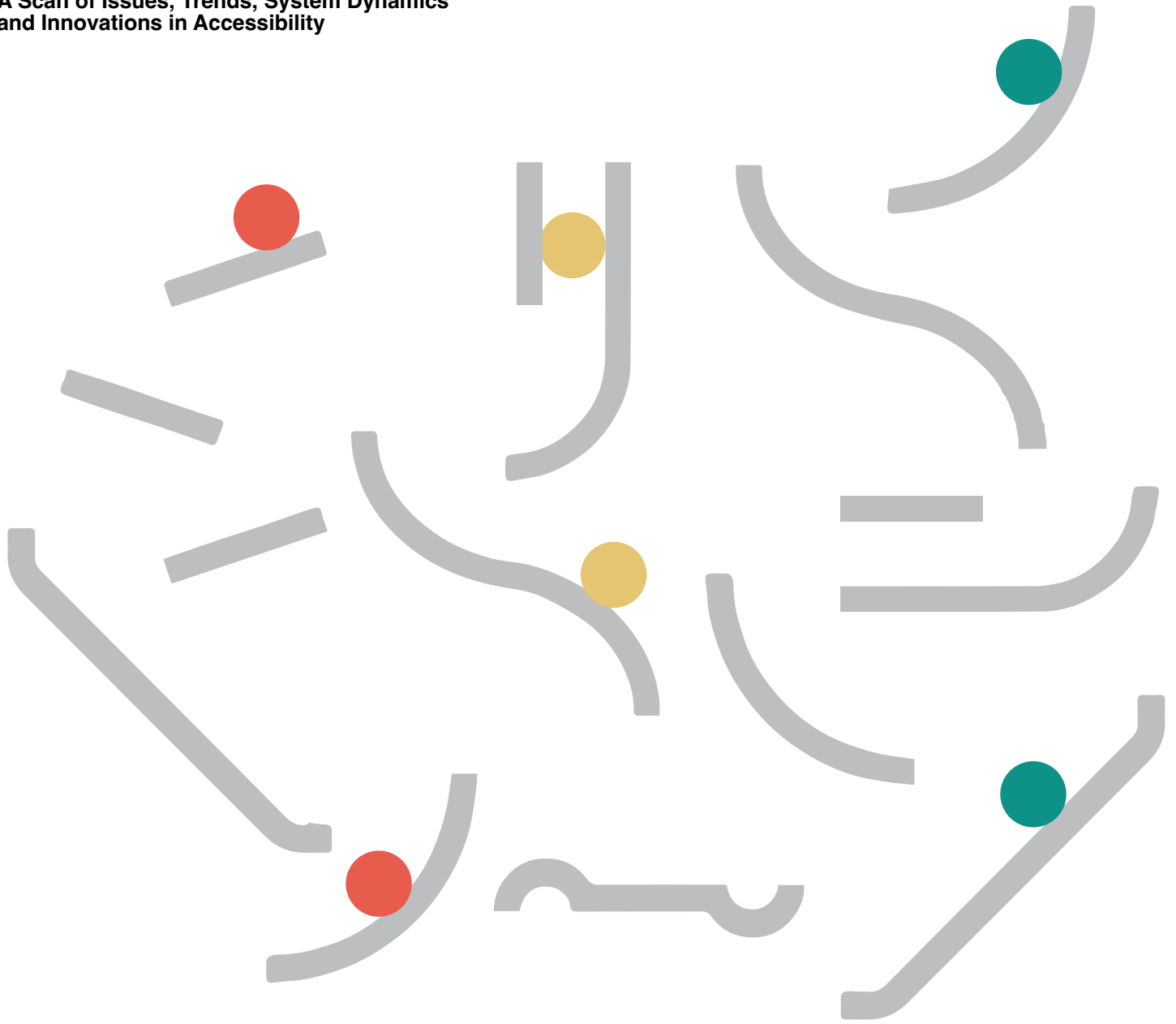


Accessing Canada

A Scan of Issues, Trends, System Dynamics and Innovations in Accessibility



Prepared for **ATCO**

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The **Institute for Community Prosperity** at Mount Royal University connects students with social impact learning through applied, community-partnered research, creative knowledge mobilization, and systems-focused education. *Community prosperity* refers to the cultural, economic, social and ecological conditions necessary for human potential to flourish, which encompasses well-being, sustainability, quality of life, and civic vitality. The Institute is interested in big questions about how we invest in social purpose and the common good in the 21st century. To access all of the Institute's recent publications, visit: <https://www.mtroyal.ca/nonprofit/InstituteforCommunityProsperity/Publications/index.htm>

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ATCO SpaceLab is an enterprise-wide framework of support for ATCO employees with the desire and creative energy to pursue sustainable new value for the company. Its mandate is to ensure that ATCO's legacy of success continues for generations to come.

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Disclaimer

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INTRODUCTION

Accessibility affects every aspect of how we inhabit the world, from technology to home and city design, to places where we work and play, to legal and policy frameworks. Accessibility as an issue is sometimes obvious at the surface, but more frequently is buried beneath layers of (often unintentional) exclusion, ableism, and a stubbornly persistent empathy gap between those who move through and access the world relatively unimpeded, and those who encounter multiple barriers to participation, expression and the opportunity to thrive. Accessibility and living barrier-free is a human right, yet there is significant work to be done to ensure that everyone has an opportunity to participate, contribute, and flourish.

The central question driving this scan is as follows:

How might we maximize accessibility to promote human flourishing?

In the face of the many barriers encountered in many domains - from the built environment to the workplace, to the digital realm, and beyond - the diverse stories and collective 'voice' of Canada's large and growing disability community continues to grow. While this voice in many ways has been at the margins, for example with respect to the current wave of introspection and action around equity, diversity and inclusion, the disability voice is nonetheless becoming more important to the design of policy, places, practices, and opportunities for participation across all sectors.

Drawing from our experience at field-scanning and trend-scanning, the Institute for Community Prosperity was engaged by ATCO to produce this scan of access and accessibility, primarily as it relates to the issues facing adults in Canada living with a disability. This is a scan of context, system dynamics, and innovations with a primary audience of people who are relatively new to learning about accessibility. This scan is not a systems analysis, strictly speaking, because the premise for this work is not one 'problem' but rather a series of diverse challenges, trends, and opportunities related to the domain of accessibility. So, while systems mapping tools are used here and there, it is not principally a mapping exercise.

Initiated and commissioned by the ATCO Transformation Team, this scan will inform the company's purpose-driven Research and Development (R&D) and transformation, which might include both commercial and philanthropic interests. But it is also intended to serve as a useful primer for students, practitioners, funders, policy-makers, and the general public. The ATCO Transformation Team requested that this scan go beyond a functionalist inventory of policies, players and technologies, looking deeper at the array of challenges, underlying factors and interconnections.

Most people will experience barriers to access during their lives. This means that everyone should be engaged in conversations about accessibility, and everyone - in their home, work, social relations, and community life, should be interested - and will stand to benefit - from improving access. This scan, introductory in nature, seeks to mobilize knowledge from those working to enhance accessibility in many realms to inform a broad general audience. It also shares insights into content the public may not have easy access to, including through paywalled academic databases. On the other hand, this scan may have limited value for people already heavily involved in this domain, including disability advocates, activists, or policy specialists.

The scan draws on a review of data and literature on the topic of accessibility, including relevant literature from think tanks, non-governmental organizations (NGOs) and foundations, as well as from academia (in particular, systematic reviews, meta-analyses and public policy papers). The scan is also informed by a series of conversations with key identified community practitioners, funders, consultants, academics, and advocates, including those with lived experience with accessibility challenges. Importantly, all partners have committed to making the report open access and freely available as a public resource.

Scope & Focus

The Institute for Community Prosperity conducts a range of ‘scans’ that look at contemporary social problems and other challenges of societal or community concern. We do this for a variety of reasons:

- **Sense-making:** To distill a wide array of insights, perspectives, and approaches to complex topics in one ‘place’, so that the public, students and many different kinds of practitioners, can get ‘up to speed’ on the topic. As such, the scans might be less useful to those living with, or working on, the challenge.
- **Permeability:** To provide permeability between academic insight and practice. Academic research is often paywalled and difficult to access for practitioners. At the same time, this scan serves as a primer for issues, players, and other aspects of policies and practice that may be useful for students and researchers to understand the broader context in which their work could contribute.
- **Open access innovation:** To provide an open access resource that we hope will be helpful for other organizations and changemakers embarking on research and development, policy development, program design, or systems analyses of their own.

This particular scan is organized starting with general *CONTEXT* - concepts, terminology, demographics, intersecting issues, followed by *FRAMEWORKS* for understanding accessibility - design, public policy, non-government organizations, etc., and finally *DOMAINS* - specific subtopics, realms of action, and examples of innovation.

For the purposes of this scan, we are interested in helping inform public understanding about how Canada as a society can maximize accessibility in all aspects of adult life, work, and play. The central question driving this scan - *How might we maximize accessibility to promote human flourishing?* - can be framed more vividly:

How might we maximize access to society’s technologies, institutions, structures, and opportunities such that adult citizens living with disabilities feel welcomed and included, and - with minimum friction - can contribute and exercise their talents, choices, citizenship, career opportunities, and entrepreneurial action to act on their desires, preferences, and dreams?

Each person’s understanding of accessibility is in relation to their particular attempted ‘entry point’ to an activity or opportunity. It can be a digital entry point - hearing feedback from some users that a website does not have sufficient contrast, readable font, or multiple means of navigability. Some people think about accessibility in the context of assistive engineered devices, or perhaps with respect to architectural or landscape design. For still others, accessibility is mainly about economic or workplace exclusion, or participation in community, recreational, cultural, or civic life. For many adults living with disabilities, a combination of these situations (and more) are entry points to either experience or learn about accessibility.

It is also vital to think about accessibility through connections, broader patterns, and trends, as well as underlying root causes, deeper blockages, and leverage points for change. There are also intersections with other aspects of an individual’s identity which can also affect accessibility - age, gender, language, or race, for example.¹ This scan does not aim to expressly cover how other equity-seeking identities experience access. It does, however, occasionally surface some examples of how intersectionality interacts with accessibility. Consider, for example, that according to the Disabled Women Network of Canada, “persons with mental or behavioural disabilities experience personal victimization at a rate four times that of the rate of people who have none”, or that ““60% of women with disabilities are likely to experience some form of violence in the course of their adult lives.”² Also, where there is overlap with issues, trends and innovations relating to older adults or seniors, this scan generally does not go into detail, as this was covered under the *Aging and Thriving* scan commissioned by ATCO and produced by the Institute for Community Prosperity in 2021.³

This scan covers many topics related to accessibility, including basic context-setting overall trends (e.g. demographic trends, shifts in societal attitudes and language, trends in public support, employment, technology and so on). The scan peers into policy and legal frameworks in Canada. It also explores deeper cultural biases and dynamics (e.g. ableism), inclusive and universal design frameworks, and a range of contemporary issues being raised by, and innovations being designed or led by, people with disabilities.

The scan crosses many domains, from adaptive technologies, to urban planning and design, to corporate Equity, Diversity and Inclusion (EDI) and environmental, social, and (corporate) governance (“ESG”⁴) approaches; to inclusive sport, civil society actors, and new frameworks like ‘crip futures’ thinking. We will look at the role of a range of players – accessibility exemplars and potential catalysts or enablers. The scan also highlights terminology and concepts that relate to accessibility throughout. Perhaps most importantly, the scan highlights various system qualities, failures, gaps, and vulnerabilities, as well as potential leverage points for systems change.

While the scan focuses mainly on a Canada-wide context, many international contexts, organizations and innovations are included, and many sections include additional references to the local or regional context in Calgary and Alberta, where the Institute and ATCO are both based.

Positionality & Reflexivity Statement

The Institute for Community Prosperity strives to make the membrane that separates academic insight and community insight more permeable. We are in the highly privileged position of being able to readily access the best of both worlds. Being part of a university gives us access to research and datasets that are usually behind paywalls. At the same time, we believe strongly that any research or knowledge mobilization we undertake must a) be done in partnership with a community organization or institution outside of campus; and b) must be publicly accessible, free of cost, and open access (via Creative Commons license). This scan on accessibility has also prompted us to look more carefully at the other dimensions of access to our publications and communications, beyond financial and scholastic barriers.

Before proceeding further into the insights gleaned during this scan, it is important to describe the positionality of the authors and the frame within which this scan was undertaken. We share this, aware of the maxim “*nothing about us without us*”⁵, and acknowledge upfront that a limitation of this scan is that it has not been authored by someone directly living with significant or permanent barriers to accessibility.

JAMES
I am an able-bodied man. My experience with accessibility is limited to situational and temporary disability, and only in a support role with respect to permanent disability; My partner lives with a mobility-related disability and I had a parent who lived with monocular vision (having lost an eye to childhood cancer). My efforts in learning about accessibility and disability have been deeply informed by my lifelong journey as a planner and social impact practitioner to investigate, co-design, and advocate for forms of citizen access to, and influence on, institutions and systems.

CORDELIA
I am an able-bodied woman. The course of writing this scan coincided with me becoming a support-person for a loved one navigating the process of diagnosing and seeking accommodations for a cognitive disability. My efforts in navigating the realm of disability as a support person has been greatly improved through my work on this scan and this scan has likewise benefitted from my personal journey. My professional experience, based in my education as a social worker, has been as an advocate for accessibility, focusing primarily on advocacy for accommodations in the classroom.

It was also critical to the authors and to ATCO that an array of first-person perspectives help inform this work. Refer to Appendix A on page 77 for a list of interviewees. Aware of the consultation fatigue experienced by many who advocate for greater accessibility, we have also tried to incorporate first-person perspectives gleaned from publicly available interviews, speeches, social media channels, and other resources drawing from and reflecting on lived experience. We have sought sources that are open to the public and aim to go beyond what is usually considered academic research, because people with disabilities’ entry into, and representation in, academic roles, institutions, and databases is more limited. In referencing and crediting these sources, we have used a mix of strategies to ensure sources remain available to our audience. Modifying citation styles, prioritizing links to websites to download pdfs rather than pdfs themselves (which can become dead links more quickly), and noting limitations in referencing content are some strategies we have used to create reliable paths to sources. For more on our methodology and approach, see Appendix B on page 78.

CONTEXT

Although this scan looks expressly at accessibility - i.e. it is not intended to be a primer on disability - it is nonetheless critical to look at a range of contextual concepts, terminology, drivers, and movements relating to ability and disability.

Ability and Disability

Different writers, researchers, advocates or policymakers define or refer to 'disability' in distinct ways. While we generally refer to disability in an expansive way, many of the policies, standards, or publications referenced in this scan have a more precise definition. Similarly, there are sometimes references to the 'disability community', although there is no universally agreed-upon conception of what the 'disability community' is.⁶ Sub-communities organized around specific identifiers - the 'Deaf community',⁷ for example, are sometimes easier to identify and describe.

The UN Convention on the Rights of Persons with Disabilities (UN CRPD) defines those with disabilities as "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 For the purpose of this scan, we are specifically focused on the experiences of adults experiencing any form of disability, whether permanent, episodic or temporary.

One in five Canadian adults live with a disability.⁹ Nearly one in three Indigenous People in Canada live with a disability.¹⁰ More Canadians are experiencing either a disability or chronic illness now than at any time in the nation's history, partly driven by an aging population, but also supercharged by an estimated 1.4 million citizens who may have long COVID.¹¹ In addition, all Canadians experience disability on a temporary or situational basis.¹²

When talking about disabilities, there is nuance in how to refer to persons with disabilities which centers on person-first or identity-first language.¹³ Identity-first places the identifier first, such as in "Blind person", whereas Person-first places the person first, as when saying "a person who is Blind." There is not one approach universally accepted as to how terminology should be used as it can be context, person, and disability specific.¹⁴ This also extends to formatting and capitalization, ie deaf or Deaf.¹⁵ Inclusive language evolves over time,¹⁶ and this scan is not intended to preference one approach over the other. Instead our aim is to use phrases that have been self-identified or used in the resources noted.

People living with disabilities do not have the same access to experiences and opportunities as able-bodied Canadians. They experience entrenched ableism and an array of physical barriers, but also barriers to employment and flourishing economic livelihoods. The combination of accessibility needs and requirements are wide-ranging, and cross many domains of life, work and citizenship.

To say that disability is diverse is an understatement. The pages of this scan could not contain even a fraction of the varieties of disability that different people experience or live with. Disability is encountered and expressed in many different ways,¹⁷ including as sensory limitations (eyesight and hearing most commonly), missing or malformed limbs, pain, limited flexibility or mobility, limited speech, or as any number of mental health challenges. There is also a strong overlap between illness (especially chronic illness) and disability, though they are not the same thing.

Disability can be visible (as when someone is using a wheelchair, white cane, or hearing aid), episodically visible (e.g. epilepsy) or invisible (also called 'hidden' or 'non-apparent', such as renal failure, tinnitus, or conditions where chronic pain, dizziness or vertigo are present). Invisible disability accompanies the vast majority of people with chronic illness. Certain disabilities are sometimes more common within certain demographics. For example, mental health challenges for young adults and mobility challenges for seniors. As one Canadian study summarized, "the most common types of disability are pain, agility, and mobility, followed by learning, hearing, seeing, and speaking [disabilities], followed by psychiatric, memory, and developmental disabilities. The main causes of disabilities are an accident, collision, or injury; a disease or illness; followed by work conditions."¹⁸





“There are only two kinds of people in the world: people with a disability and people yet to have a disability.”

—Judith Neumann, Special Advisor for International Disability Rights at the U.S. Department of State

Disability can be congenital/developmental (e.g. cerebral palsy), acquired through injury or disease (e.g. a brain injury from a ski accident or from encephalitis), or accompanying certain life stages, particularly aging. It can be cognitive (mental) or non-cognitive (physical), although the mind-body distinction is perhaps an arbitrary and arguably false dichotomy (or is more a matter of philosophy than of medical science).

Among the many dimensions is whether disability is permanent, temporary (e.g. a broken limb), or episodic (e.g. snow blindness). According to the Rick Hansen Foundation, over half of adult Canadians have experienced either a permanent, temporary or episodic disability.¹⁹ Episodic disabilities fluctuate between periods of wellness and impairment or ill health (e.g. depression, arthritis, diabetes, lupus). Pregnancy is an example of a temporary disability; though medically or sociologically that is not a correct characterization (and would not show up in disabilities statistics); but, for the practical purposes of talking about accessibility, it absolutely is relevant.

In a very shallow sense, ability and disability are antonyms. But they are far from binary concepts. Ability and disability often serve as the polar ends of a range of continua, for example with respect to vision, hearing, tactile range, ambulatory mobility, oral expression, and so on. Yet there is little value in comparing experiences along this binary when scanning for improved accessibility. Forms of disability which could be considered mild - for example, colour blindness, dyslexia, ADHD, and various phobias - may still be experienced as profound barriers to learning, socialization, or other aspects of the human experience. Some conditions are so common, such as standard myopia or astigmatism, that it would potentially stretch the definition of disability to the point of being almost meaningless. Yet, even these can restrict the full range of options and experiences available to fully able-bodied persons (piloting a plane, for example).

Adding another dimension of complexity, some people with disabilities may have *heightened* skills and aptitudes in some domains. Many visually-impaired people have superior tactile sensing abilities²⁰ or a mastery of music and sound engineering, and some individuals with Autism may have “fixated interests”²¹ in particular subjects that result in an Autistic person becoming an expert in their field of study.²² These heightened skills can be beneficial, but caution is needed to not suggest the disability is any less significant or serious, or that accommodations are not needed.

The final category of disability is situational disability. Situational disability results from micro-incidents of impairment experienced by everyone, in some way, nearly every day (e.g. unable to read a sign due to light glare, or unable to open a door due to your hands being full of bags and/or children, etc.). It is sometimes confused with temporary disabilities, described earlier, which are typically impairments due to injury or illness. While situational disability plays an important role in universal design, it is not typically included in disability statistics and is not explicitly included as part of the ambit of this scan.

Accessibility

Accessibility refers to the design and use of products, devices, services, or environments such that they are usable by people with disabilities. This can include physical accessibility, such as the design of buildings and sidewalks, or digital accessibility, such as the design of websites and software applications. It can also refer to financial, educational, institutional, and workplace accessibility, such that people are able to participate as active citizens, and as consumers, professionals, entrepreneurs, artists, and any other identities or vocations that are available to able-bodied individuals.

Accessibility is vital to inclusivity, equity, independence, and the ability to participate fully in the community. It is also important in design fields and for businesses of all stripes (to expand markets, to be in legal compliance, and to achieve ESG goals). Accessibility is also a crucial measure of the effectiveness of governments in democratic societies.

Barriers

A barrier is something that impedes access - i.e. that gets in the way of people doing what they want to do. The definition of “Barrier” in the 2019 *Accessible Canada Act* “means anything – including anything physical, architectural, technological or attitudinal, anything that is based on information or communications or anything that is the result of a policy or a practice – that hinders the full and equal participation in society of persons with an impairment, including a physical, mental, intellectual, cognitive, learning, communication or sensory impairment or a functional limitation.”²³

There are countless everyday barriers that prevent people with disabilities from working, living, playing, and participating in the way able-bodied people take for granted. Barriers can take many forms:

- Physical barriers, such as the inability to enter a building;
- Technological barriers, such as being unable to use the internet or access certain websites that able-bodied people can access;
- Socio-economic barriers, such as struggles buying food or paying bills; or
- Communicative or institutional barriers, such as being unable to speak with people who have authority to make or enforce policy or other decisions.

Another important set of barriers are psychological and sociological - the stereotypes, fear, blitheness, or other perceptions that colour how people think about people with disabilities. These are discussed in more detail in the next section.

Ableism

It is difficult to think about accessibility in its many forms - physical, societal, institutional, and so on - without considering ableism. Ableism refers to prejudice against individuals with disabilities, giving rise to negative stereotyping, adverse living conditions, and discrimination. It is a set of biases, unconscious or otherwise, that conspire to diminish the status, value, and contributions of people with disabilities. As disability scholar Vera Chouinard describes it, ableism is manifest in the “ideas, practices, institutions, and social relations that presume able-bodiedness, and by doing so construct persons with disabilities as marginalized... and largely invisible ‘others’.”²⁵ As one writer living with a disability suggests “maybe, buried deep in the minds of the not-yet-disabled, there is an ableist belief that chronically ill people just aren’t trying hard enough.”²⁶ Ableism limits the full participation of people with disabilities in society and restricts their ability to realize their full potential.

The extent and manifestation of ableism varies from country to country and is influenced by a range of factors, including cultural attitudes, pop culture depictions, the level of regulation and support provided by the government, and the availability of accessible infrastructure and technology. In Canada, ableism is perhaps only eclipsed by ageism in its ubiquity and degree of tacit social acceptance. It is present in every sector and industry, from education and academia, to commerce and industry, to health care and community services.

There are three types of ableism - hostile, benevolent and ambivalent. Hostile ableism takes the form of bullying, violence or verbally abusive behaviour. Benevolent ableism views people with disabilities as weak, vulnerable, or in need of rescuing. Ambivalent ableism, sometimes referred to as passive ableism, is neglecting to consider the needs and requirements for access and inclusion.²⁷ Ableism most typically manifests as this third form - a kind of low-grade, generalized societal acceptance of exclusion. One study found that over three quarters of the US population displayed an implicit ableist bias.²⁸ Consider, for example, how outraged most people would be at discovering that someone was turned away from a restaurant or café because of their race. Yet, this happens routinely with respect to people living with certain disabilities. The lack of attention, care, and investment in considering even a relatively common physical or institutional barrier (e.g. a new restaurant or public building with poor wheelchair accessibility)²⁹ is evidence of ableism. ‘Micro-aggressions’, despite the hostility implied in the term, is a contemporary proxy for ambivalent ableism.

In some countries, there have been significant efforts to address ableism, through the implementation of policies and programs that promote accessibility, diversity, inclusion, and equal opportunities for people with disabilities. However, in other countries, ableism remains a significant barrier to the full participation of people with disabilities in society.

“Just consider the lost revenue of investing in infrastructure, transportation, mobility, education, or the future of work solutions ... that are not accessible to persons with disabilities. It simply does not make sense economically or socially.”²⁴

— Tamara Giltsoff, Director of the Assistive Technology Impact Fund, Global Disability Innovation Hub

Population Profile and Demographic Trends

To fully appreciate the urgency and scale of accessibility needs, it is helpful to understand the demographic scope of disability. Because there are many definitions of disability, it can be difficult to understand or communicate the true urgency and scale required to think about accessibility. But it can be safely stated that over 1 billion people worldwide live with a disability.³⁰ According to the World Health Organization, “due to persistent health inequities, [many people with disabilities] die earlier, they have poorer health and functioning, and they are more affected by health emergencies than the general population.”³¹ These poor health outcomes are due to inequitable conditions faced by people with disabilities in virtually all facets of life, but an important contributor is compromised accessibility; Health information is often inaccessible, including linguistically, and people worldwide have difficulties accessing health care due to physical barriers, lack of transportation, or financial barriers.³² Roughly 110 million people are considered by the World Health Organization to have significant barriers to functioning in everyday life.³³

In Canada, based on 2017 data, 6.2 million people over the age of 15 live with a disability. However, the true number is likely higher. A more recent count by the Canadian Income Survey (which is not perfectly comparable, as it measures in a different way), counts nearly 9 million Canadians aged 16 years and older (or 28% of the population) with a disability.³⁴ Disabilities are more prevalent in women than in men by a small but significant margin, and Indigenous people are more likely to be living with a disability than non-Indigenous Canadians.³⁵ People with disabilities are more likely to experience social isolation. Based on the most recent data available, 32% of First Nations people living off reserve, 30% of Métis and 19% of Inuit had one or more disabilities that limited them in their daily activities.³⁶ Interestingly, outside Inuit Nunangat (the four Inuit homeland regions in Canada), the disability rate for Inuit is substantially higher (27 percent compared to 16 per cent).³⁷

Within Calgary, the reported prevalence of disability, at under 10% of the population, is much lower than the national average. As the data is over a decade old, when Calgary’s overall population was under a million, and as the City’s population has since aged somewhat, we can expect the number of Calgarians living with a disability to now be well in excess of 120,000.³⁸

An aging population will push the prevalence of disability ever higher. In Canada, this ranges from 13% (ages 15 to 24) to 47% (aged 75 years and over).³⁹ In 2001, there were two people over 65 for every working-aged person in Canada; By 2031 that ratio will double to four-to-one. Refer to the Institute’s publication *Aging and Thriving in Canada* for a detailed picture of demographic and other trends, as well as system dynamics, relating to older adults in Canada.⁴⁰

People with disabilities also represent a growing and formidable market, globally the equivalent size of China, and within Canada representing a population on par with the Greater Toronto Region, with \$47 billion in disposable income.⁴¹ Nearly \$14 billion a year is spent on travel just within North America by people with disabilities, according to the Travel Association of America.⁴² Companies alert to the unmet needs for this massive market stand to gain competitive advantage.

There are countless demographic and socio-economic factors that intersect with disability. For example, women with disabilities are up to four times more likely to experience intimate partner violence than those without disabilities.⁴³ According to a study by the Ruderman Family Foundation, an astonishing 30 to 50 percent of all people killed by law enforcement officers are disabled.⁴⁴

Shifting Language, Cultural Norms, and Social Movements

“For me, disability-inclusive language is really about putting the person first; it’s being human-centered, and acknowledging that disability is an individual’s lived experience and an integral part of a person with the identity. Inclusive language really goes beyond the phrase used to describe a disability. Does the language perpetuate bias and stereotypes? Does it celebrate both the uniqueness and everydayness of the human experience? These, to me, are some of the inclusion decisions that we are empowered to make each and every day.”⁴⁵

—Monica Ackermann, Director - Enterprise Accessibility, Scotiabank

While we have come a long way as a society in how we collectively view, include, and respond to the accessibility needs, rights and dignity of people living with disabilities, we have very far yet to travel. An understanding of the shifting and strengthening voice of those living with disabilities is essential to understanding why and how accessibility has emerged as such a vital topic of public discussion, design, and policy. Moreover, as with other equity-deserving constituencies, disability rights and representation discourse are shifting rapidly.

The disability rights movement over the past century has many distinct narratives, but the prevailing themes are justice, rights, equity, access, inclusion and community.⁴⁶ Over the last century, society’s thinking and attitudes toward people with disabilities have undergone significant changes. Prior to the mid-20th century, people with certain disabilities were often seen as passive, dependent, and in need of institutional care. This led to widespread institutionalization, with people with disabilities frequently being placed in large, congregate facilities where they were often subjected to neglect, abuse, and isolation. These facilities - sanatoriums, psychiatric hospitals, houses for the blind, houses of refuge, and church-run homes - arose out of the Industrial Revolution, alongside reformatories and industrial schools (a precursor to residential schools). At the turn of the last century, the mainstream level of knowledge and understanding about disability is shocking to us today. Language and labeling evolved over the past century, with a move away from using terms that were seen as pejorative or stigmatizing. Needless to say, widespread discourse about accessibility was absent in this era. The first half of the twentieth century in the west was also marked by enthusiasm for eugenics. The Eugenics Archives, a collaboration of scholars, survivors, students, and community partners, has created an incredible resource on this history, essential viewing for all Canadian citizens, and in particular those interested in systems mapping.⁴⁷ In Alberta, the 1928 *Sexual Sterilization Act* was in force until 1972.

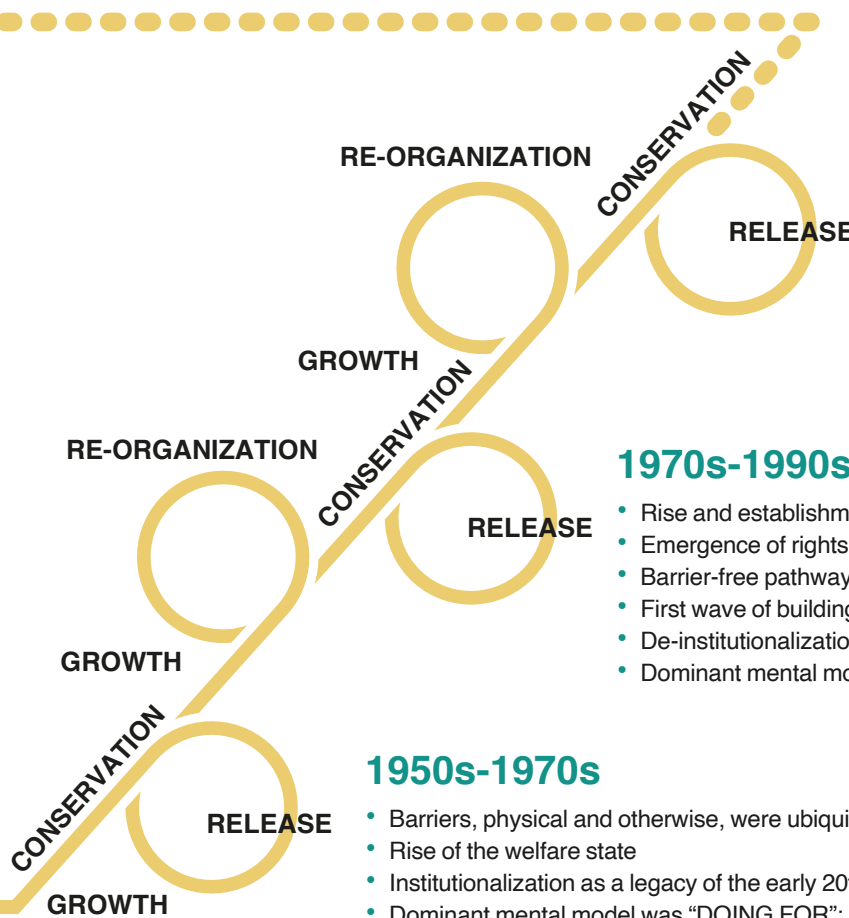
In the mid-20th century, a growing disability rights movement began to challenge institutionalization and the stigmatizing and infantilizing of people living with disabilities, advocating for greater rights, opportunities, and inclusion. This movement helped to shift public opinion

and lead to a change in laws and policies that increased access to education, employment, and community living for people with disabilities. Still, disability had not featured at all in the 1960 Canadian *Bill of Rights Act*.

The following two decades represented a tectonic shift. The accessibility movement was driven by a recognition of the right of people with disabilities to live in a community (i.e. non-institutional) setting and make choices about their own lives, as well as participate in the benefits of community living, such as increased socialization, greater access to services and support, and improved quality of life. With exponential advances in scientific and social scientific understandings, such reforms became commonplace in the post-war era, particularly by the 1970s. For some, such as adults with developmental disabilities, the 24-hour supervised group home settings that followed were a softer form of institutionalization, but were still highly programmed and regimented.

The 1970s was a decade marked by the quest for substantive equality and legal and constitutional recognition of human rights for access-denied groups, with Canada ratifying the two covenants that entrenched the Universal Declaration of Human Rights (UDHR) – the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR)⁴⁸ in 1976. As social rights policy specialist Bruce Porter notes, “[a]s the Charter was being debated, people with disabilities were mobilizing around the International Year of Persons with Disabilities in 1981 and appearing at hearings before an All Party House of Commons Committee considering the rights of persons with disabilities.”⁴⁹ The inclusion of Section 15 of the 1982 *Charter of Rights and Freedoms* made Canada the first democracy to include disability as a constitutionally prohibited ground of discrimination.⁵⁰ Court cases like *Huck v Odeon Theatres*,⁵¹ and expanded public awareness spurred by Terry Fox’s 1980 Marathon of Hope⁵² helped further establish the right to non-discrimination and a positive duty to accommodate the unique accessibility needs of those with diverse abilities. This was also an era of rising representation, in media and film, and in advisory and governance contexts.

SYSTEM SNAPSHOT – THE WIDENING ROAD OF INCLUSION IN CANADA



21ST CENTURY

- Rise of universal and inclusive design frameworks
- Barrièred environments (physical and virtual) start to become non-compliant and even taboo
- Increasing heterogeneity + intersectional recognition; as well as rise of EDI/DEI
- Rise of PWD-led entrepreneurship and social entrepreneurship
- Dominant mental model is “NOTHING ABOUT US WITHOUT US” - PWD in positions of leadership, influence, and defining the terms, norms and expectations

1970s-1990s

- Rise and establishment of self-advocacy movement
- Emergence of rights-based framework
- Barrier-free pathways in many realms start to emerge
- First wave of building codes and design standards
- De-institutionalization; flourishing of group home models
- Dominant mental model was “DOING WITH” (what we might now call “allyship”)

1950s-1970s

- Barriers, physical and otherwise, were ubiquitous
- Rise of the welfare state
- Institutionalization as a legacy of the early 20th century increasingly recognized as flawed
- Dominant mental model was “DOING FOR”; PWD were infantilized and PWD voice largely ignored

A commonly used tool in the analysis of social movements or systems change is the “adaptive cycle”, adapted from Canadian ecologist Buzz Holling’s work on forest change. Using a mobius loop, the tool is used to explore how movements emerge in response to conditions that have over time become stale, complacent, or otherwise stagnantly ‘mature’, to the point of being ripe for disruption or destruction. We can apply this metaphor (see diagram above) to thinking about how social movements have emerged, evolved, matured, then entered a state of ‘release’ (prompted by external conditions) cleaving to newer social movements emerging to think differently about accessibility. As we look back on the last many decades, there have been multiple cycles of growth, conservation, release and renewal.

The self-advocacy movement, starting in the 1980s, profoundly changed these institutional settings (most of the more formalized settings were shuttered permanently), as well as public understanding and framing of disability.⁵³ People were speaking for themselves and asserting their rights as citizens. Freedom and dignity were primary considerations within the disability-serving segment of community services, including in the context of group home settings.

Increasingly, disability support focuses on the unique needs, capacities and desires of the individual, such that people can take control over, and responsibility for, their own lives. This approach goes by various monikers - self-determination, consumer direction, individualized support, user-centered or bespoke solutions, etc. The climb up the ladder of participation for people with disabilities is a more difficult journey than for most, partly because of ableism and accessibility barriers, but also because it is difficult for adults with profound intellectual (and multiple) disabilities (PI(M) D) to achieve full autonomous participation. Such adults are dependent on others in every aspect of their lives, and as such, others control their ability to participate in everyday life decisions.⁵⁴

An important part of this paradigm shift from institutional control to individual agency is a funding model shift from the majority of funding flowing to and through agencies, to a model that sees most of the funding transfer to individuals, so they are more empowered to seek out the community supports they require and admire.

The nomenclature has also adapted with the times. “Handicapped” has in most contexts given way to “disabled”, which in turn has in many instances given way to terminology of “person with a disability” or “living with a disability”, which emphasizes the person first and the disability second.⁵⁵ It also emphasizes that the person is not *defined* by their disability, but rather is attempting to live a full and flourishing life, notwithstanding being challenged by the dimension of disability they are experiencing. As with other equity-deserving communities, disability rights and representation discourse are shifting rapidly. “Differently abled” was used for a time. More recently, the terms *neurodiversity* and *physical diversity* have become more common.

One of the big shifts in our society’s approach to disability is moving away from a medical model, toward a social model.⁵⁶ The medical model views disability as a medical problem that needs to be fixed or cured, or as an individual deficit or impairment that must be treated or managed. A social model of disability views disability as a social construct, rather than a medical or individual problem. According to this model, disability is caused by the interaction between an individual’s physical, sensory, or intellectual impairments and the societal and physical barriers that limit their participation in society. In other words, disability is not an inherent characteristic of an individual, but rather the result of a lack of accessibility and inclusiveness in society. But as one commentator notes “the existing social model of disability, whilst preferable to the medical model, remains framed around the concept of “impairment”.”⁵⁷ Another critique of the social model is that it can oversimplify the experiences of people with disabilities, ignoring the fact that some disabilities do have intrinsic physical or psychological aspects that can limit participation in society. Additionally, some argue that the social model can be too focused on external barriers, such as the built environment, and overlook the internal barriers, such as attitudes and beliefs.

Another paradigm shift still underway is the move away from reductionist models toward particularistic, phenomenological approaches (what we might call bespoke or user-centered design, development, and programming); persons with disabilities designing or co-designing spaces, technologies and policies, instead of having these things designed *for* them by other ‘experts’. This shift parallels the backlash in other realms - responsible tech, for example - against an outdated engineering paradigm that seeks to place “rationality” (with its largely male, ableist, heteronormative, and computationally-confident assumptions) above the fray of human interaction, public welfare considerations, or empathy-seeking.⁵⁸ Along similar lines, looking at the convergence of inclusive and universal design paradigms with techno-futurism, disability is increasingly positioned as an innovative research area that leads designers to new technological discoveries, rather than as a medical problem to be fixed or cured.⁵⁹

SPOTLIGHT

The Disability Community

While the term “disability community” is often used as shorthand for “persons with disabilities”, it is a stretch to say that there really is a readily identifiable “disability community”. More accurately, there are many sub-communities, and many people with disabilities do not necessarily identify with any disability community. The Deaf community is notable in terms of apparent cohesion and self-identification. Other communities identify more along movement, tactical focus, or quasi-ideological lines, like the mad movement, which is confronting the psychiatric paradigm as having been overtaken by pharmaceuticalization.

Much like how the LGBTQI community has appropriated and repurposed the originally-derogatory “queer” label, some in the disability community today are re-purposing language. The “crip” movement and “Mad Pride” movement push for broader meaningful participation and flourishing. As mad movement activist and writer Lisa Archibald explains:

The term “mad” has been reclaimed intentionally as a deliberate interruption or sabotage of the dominant psychiatric perspective. It challenges the entire basis of the medical framework which is that people have illnesses or disorders. Prior to the last 200 years in history, “madness” was a widely accepted term in society and was not a medical term. The reclamation of “mad” is a provocation to psychiatry as it is a complete rejection of their diagnostic expertise and power.⁶⁰

There is even a “crip futures” movement looking at futures studies, architecture, technology, and design through a disability lens. Queer/feminist/crip scholar Alison Kafer describes it as “a longing for a future in which disability is welcome and in which the collective knowledge and practices of disabled people shape the future structures.”⁶¹

Despite society's attitudes having shifted positively over the past century, 30% of persons with disabilities still report being treated badly or differently, often because of ideas, beliefs or attitudes that others have about disabilities; and the majority of complaints to the Canadian Human Rights Commission are on grounds of disability-related discrimination.⁶²

The federal government produces a booklet called *A Way with Words and Images*, which recommends current and appropriate language to accurately and respectfully portray and describe people with disabilities.⁶³ Among the helpful suggestions in the booklet is avoiding normative statements about people with disabilities being either super-achievers or tragic figures - words like "brave," "courageous," and "inspirational" can be patronizing⁶⁴ and serve to reinforce the deeply embedded (but socially and economically unhelpful) mental model that we need barriers in order to be awed and inspired by a disadvantaged minority struggling to overcome. Our psychological and axiological craving for stories of pathos, bravery, and redemption can be unwelcome baggage in this context.

Exclusion v. Inclusion



"Persons with disabilities are still far too excluded from society in Canada, but as a community, we are changing that."

—Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion,

Exclusion and inclusion are two opposing concepts that profoundly impact our understanding of, and ability to prioritize, accessibility.

Exclusion refers to the phenomenon of prohibiting or preventing people with disabilities from participation in society. This can take many forms, such as discriminatory laws and policies, physical barriers to access, and societal attitudes that view people with disabilities as less capable or inferior. Exclusion can result in people with disabilities being denied opportunities for education, employment, and community participation, and can lead to social isolation, poverty, and reduced quality of life. Broadly speaking, exclusion is the denial of access.

In contrast, inclusion refers to the process of making inviting and agentic space for or involving all people, including people with disabilities, in all aspects of society. This includes ensuring that people with disabilities have equal access to education, employment, and community life, as well as promoting positive attitudes towards, and interaction with, people with disabilities. Inclusion requires removing barriers to participation, such as physical and attitudinal barriers, and providing the support and accommodations needed to enable full participation. The goal of inclusion is to create a society in which people with disabilities are valued, respected, and fully integrated, and in which they have equitable opportunities to participate and contribute. Broadly speaking, accessibility is necessary to (though not sufficient for) inclusion. Inclusion Canada's vivid definition of inclusion is as follows:

"Everyone should have the same access to opportunities to lead a regular, fulfilled life: grow up at home with your family; be included in school with friends and peers; immerse in a hobby or sport; have a career; travel; make friends; find a soulmate; have a home of your own; and contribute to your community. These are the common building blocks for life for most people in Canada, and the dreams and aspirations of people with an intellectual disability are no different."⁶⁵

SPOTLIGHT

Is 'Inclusion' Problematic?

Despite being an antonym to exclusion, and its current ubiquitous use in the discourse on equity and diversity, the term inclusion is itself controversial, or at minimum becoming seen as outdated, among many disability activists.⁶⁶ Inclusion could be seen as implying that the dominant society gets to decide when and when not to include. Disability pride, agency, and equity are perhaps more enduring concepts.

The diagram on the following page is a 'timeline map' showing selective markers and milestones that have enhanced inclusion with key policies and pledges on the left and significant movements and mobilizers on the right. As the timeline progresses from top to bottom, inclusion is enhanced as both social movements and public policy evolve.

POLICIES & PLEDGES

MOVEMENTS & MOBILIZERS

1940
1960
1970
1980
1990
2000
2010
2020
2030
2040

- Marsh Report
- Universal Declaration of Human Rights

- Injured veterans returning from WWII elevate awareness of disability and accessibility

- Canada Ratifies ICESCR & ICCPR
- Special Parliamentary Committee on the Disabled and the Handicapped

- First Paralympic Games (Rome)
- Community living movement

- Intl. Year of Persons with Disabilities (1981)
- Charter of Rights and Freedoms (Section 15)

- Group homes emerge as an alternative to institutionalization
- Social model of disability

- Rise of representation in media
- Huck v Odeon Cinemas
- Self advocacy movement
- Disability studies

- Americans with Disabilities Act (1990) (Indirect influence on Canada)

- ‘Reverse integrated’ facility practices
- Neurodiversity movement
- Muir v. Alberta
- Transgenerational design

- UN Convention on the Rights of Persons with Disabilities

- UX and Human-centered design
- Not Dead Yet (countermovement to assisted suicide movement)
- Spoon theory
- Design for all / universal design

- Report: Rethinking disability in the Private Sector
 - Marrakesh Treaty
- Accessibility for Ontarians with Disabilities Act (OADA)
- Accessible Canada Act (ACA)

- Integrated services models
- Disability Pride
- Employment first
- Mad movement

- Disability Action Plan
- **EXPECTED:** Disability Benefit implemented
- **SPECULATIVE:** Alberta establishes Access for All Albertans Act

- Social media and disability culture
- Disability-inclusive response to COVID 19
- Disability Without Poverty

SPECULATIVE: ‘Anti-newgenics’ movement forms in response to hyper-ableist gene editing

2040 – Disability Action Plan Target for full inclusion

Equity, Diversity, and Inclusion

In general, disability has received less attention compared to other forms of diversity such as race, gender, and sexual orientation within the current trend in all sectors toward greater attention to equity, diversity, and inclusion (EDI, or DEI).⁶⁷ This is partly due to the lack of understanding of disability as a form of diversity, but also to deeply embedded ableism in society (discussed previously). In the last decades of the twentieth century, the rights and recognition of people with disabilities, as one writer notes, “were increasingly present in the public view: organizing in political groups, taking up leadership roles in government and social service agencies, and speaking for themselves in media venues that had previously focused a pitying or “inspiring” lens on disabled subjects. On the other hand, as disability issues came to the fore, so did backlash against the causes of inclusion and civil rights.”⁶⁸ This backlash - largely in the form of anti-affirmative action arguments, is mostly an American phenomenon, but there has long been an undercurrent in Canada as well (manifest today, for example, through populist politicians, bloggers, and podcast hosts speaking about “woke culture run amuck”).

Inclusion in the Workplace

The focus of EDI/DEI is often on promoting diversity in terms of demographic characteristics, such as race, gender, and sexual orientation, while the experiences and perspectives of people with disabilities are often overlooked or not adequately addressed. This can result in accessibility barriers being more frequently ignored in the workplace, for example, and with fewer social consequences for the organization or institution implicated.

But while the private sector has much room to grow, the nonprofit sector has not exactly been blazing a trail of inclusion. As the former CEO of the McConnell Foundation, Tim Brodhead, noted in 2010, “there is still a lingering hangover from the charity mentality of helping *others*... Only in the past few years have we begun to see charitable organizations dedicated to serving people with disabilities or immigrants or people living in poverty actively seeking to recruit staff from those communities.”⁶⁹ The situation has changed in the past decade for the better, though not radically so. Still, there are now many interesting nonprofit models of inclusion - including those that would be very high up the Ladder of Participation - organizations controlled by, or run in partnership with, people with disabilities; For example, the Council of Canadians with Disabilities, the Manitoba League of Persons with Disabilities, or the National Educational Association of Disabled Students.

Some of the notable exemplars of disability integration within EDI/DEI frameworks, include the GEDI Hub in Alberta, a workplace resource centre for workplace inclusion, and the Open Door Group, a leading-edge BC-based centre for employment inclusion. This past year, Open Door Group launched a new national tool to help employers create workplaces that are measurably more disability-inclusive.

The inclusion-exclusion dichotomy may seem obvious and binary on the surface. But as Canadian social change expert Marilyn Struthers points out, “[s]ocial justice has promoted specific kinds of inclusion, creating avenues and practices for marginal voice and participation. The price [however] can be enclaves of like-thinkers bound by a web of political correctness that privilege tight networks of those who have worked together before and can claim solidarity. This view of relationships can enable deep thinking and ensure fast turnout in response to social issues, such as a public march, but it can also foster a narrow sorting of public actors as “good guys” and “bad guys.”⁷⁰

Leadership Inclusion and Role Models

Progress on accessibility has been hampered by the lack of representation of people with disabilities in positions of leadership, decision-making and influence. There are, however, many notable exceptions in Canada, a few of whom are listed below:⁷¹

Awareness and Advocacy

- **Terry Fox** - regarded by many to be the greatest Canadian of all time, and certainly among the most famous internationally.
- **David Lepofsky** - prominent disability rights lawyer and advocate who has played a significant role in advancing the rights of people with disabilities in Canada.
- **Rick Hansen** - paraplegic athlete and activist who is known for his Man in Motion World Tour, which raised awareness and funds for spinal cord injury research and disability rights.
- **Leilani Muir** - first person to file a successful lawsuit against the Alberta government for wrongful sterilization under the *Sexual Sterilization Act*.

Politics

- **Carla Qualtrough** - former Paralympic swimmer, currently serves as federal Minister of Sport and Physical Activity.
- **Lucien Bouchard** - former Premier of Quebec and federal cabinet minister who underwent an amputation due to necrotizing fasciitis.
- **Sam Sullivan** - former Mayor of Vancouver, BC MLA living with quadriplegia from a skiing injury. Has also founded numerous non-profits and enterprises.
- **Sarah Jama** - member of Provincial Parliament of Ontario and co-founder of the Disability Justice Network Ontario.
- **Stephanie Cadieux** - former BC Cabinet Minister, now Canada's Chief Accessibility Officer, using a wheelchair since a car accident at the age of 18.
- **Stephen Fletcher** - first Member of Parliament in Canadian history with a permanent disability, who also served as an MLA and federal cabinet minister.

- **Stephen Harper** - 22nd Prime Minister of Canada, who has dyslexia and has been open about the impact it had on his education and career.

Other Publicly-Appointed Roles

- **Beverley McLachlin** - former Chief Justice of the Supreme Court of Canada, who is blind in one eye and has been a strong advocate for the rights of people with disabilities.
- **David Onley** - activist, lawyer, and broadcaster, and former lieutenant governor of Ontario.

Arts, Culture, Media & Sport

- **Michael J. Fox** - screen actor who, at 29 years of age, was diagnosed with Parkinson's who's advocacy has greatly helped advance research and awareness.
- **Robert Davidson** - Haida artist who has been recognized for his contributions to the revitalization of Haida art and culture.
- **W.O. Mitchell** - celebrated Canadian writer, who was blind in his later years but continued to write and publish.
- **Rick Mercer** - Canadian comedian and political satirist who has cerebral palsy and is a strong advocate for disability rights.
- **Josh Dueck** - two-time Paralympian alpine skier who served as Chef de Mission at the most recent Olympics in Beijing.
- **Syrus Marcus Ware** - multi-medium artist and scholar prominently known for co-programming Crip Your World: An Intergalactic Queer/POC Sick and Disabled Extravaganza.
- **Chris Dodd** - award-winning Deaf actor, playwright, accessibility advocate.

In 2020, Canadian social innovator and activist Al Etmanski published a book highlighting the many diverse contributions of people with disabilities to making the world a far more creative, innovative, and compassionate planet, and distilling these insights into vital lessons for social change and human flourishing in general.⁷²



“Many accommodations demanded under COVID-19 were implemented within weeks, including the ability to work from home, to have flexible schedules, to get what we need without excessive and demeaning documentation, to share and celebrate creative adaptation, to work with the knowledge that all schedules can change. These are all things that disabled and chronically ill people have wanted for a very long time. I hope that when we’ve flattened the curve and saved as many people as possible, we don’t return to a world in which disabled people are ignored (especially when COVID-19 will probably produce more of us).”

—Ashley Shew, Assistant Professor in the Department of Science, Technology, and Society at Virginia Polytechnic Institute and State University in Blacksburg

Accommodation

Accommodation is a concept that goes hand-in-hand with accessibility. Accommodation refers to any modification or adjustment made to the environment, equipment, or processes that enables a person with a disability to participate in activities, including work or education, on an equitable basis with others. It is important to note that accommodations should be tailored to meet the specific needs of the individual and may vary based on the type of disability and the context in which they are needed.⁷³ According to the *Federal Disability Reference Guide*, “to overcome physical, technological, or informational barriers, various types of accommodation may be required, including:

- physical accommodation;
- communication accommodation;
- assistive accommodation through technological and human support; and
- procedural accommodation through flexible work / educational schedules and alternate formats.”⁷⁴

In the workplace, accommodations may include modifying work schedules, providing assistive technology, modifying physical workspaces, and making alternative arrangements for essential job functions.

In education, accommodations may include providing extended time for tests, alternative testing formats, note-taking services, or accessible classroom equipment.⁷⁵ The goal of accommodations in education is to provide students with disabilities equitable access to educational opportunities and to ensure that their disabilities do not impede their learning.

Despite many workplaces, universities, colleges and other institutions having formal accommodation policies, the understanding of why such policies exist, and how they can be most frictionlessly implemented is far from universal. While accommodation processes are supposed to be conversations, they often “devolve into bureaucratic processes” for students to navigate.⁷⁶ Accommodation is not typically universal; Institutional accommodation policies and practices typically place the duty to alert institutions on the person living with the disability. Even if the system has a duty to accommodate and is responsive, the obligation to make the request (and the due diligence accompanying it) does create a unique burden.

People living with invisible disabilities are often in a unique form of stigma squeeze, disbelieved by many who are asked to accommodate the difficulties presented by their condition, but also sometimes marginalized by members of the broader disability community. Conditions like fibromyalgia, for example, have long been met with skepticism in certain quarters⁷⁷, but the distinction between a somatic condition (a mental illness manifest as physical pain or impairment) and invisible confirmed physical impairment is fundamentally trivial.

Public Awareness

Article 8 of the UN CRPD highlights the imperative of public awareness of persons with disability, including representation in news, civic institutions, popular media, and so on, as well as intentional efforts through the education system, Public Service Announcements and other means to combat stereotypes and social stigma and to foster inclusion and awareness of rights and contributions.⁷⁸

There are several international efforts underway to increase public awareness of accessibility and promote the inclusion of people with disabilities. The International Day of Persons with Disabilities is a UN sanctioned day (observed every year on December 3rd) to raise awareness of the rights and needs of people with disabilities and promotes the inclusion of people with disabilities in all aspects of society.⁷⁹ World Enable is a global network that promotes the rights of people with disabilities and works to increase public awareness of digital accessibility and inclusion.⁸⁰ #PurpleLightUp is a global movement designed to draw attention to the economic empowerment of disabled people.

Canada has declared the last week in May to be National AccessAbility Week (NAAW). During NAAW in 2022 the Government of Canada held its first Canadian Congress on Disability Inclusion, a public, accessible, virtual and interactive two-day event and over 2,900 participants joined in.⁸¹ There are also many awareness-raising activities undertaken by local governments, NGOs, on campuses, and within the private sector. In British Columbia, for example, SPARC BC works with local community groups to help raise awareness, including on June 3 - Access Awareness Day (nearly three decades running), and through a Vancouver-based Access Festival, replete with art shows, cabarets, workshops, and special events featuring disabled and equity-seeking artists, musicians, and community leaders.⁸²

SPOTLIGHT

Access City Award

Awards and prizes for excellence are a key component of public awareness. The Access City Awards are awarded annually to European cities by the Employment, Social Affairs & Inclusion division of the European Union, both in aggregate, and across a range of categories, including transportation, communication, the built environment, and public facilities and spaces.⁸³ Cities notable for multiple awards include Ljubljana (Slovenia), Grenoble (France), Gdynia (Poland), Skellefteå (Sweden), and Luxembourg.

Intersecting Healthcare Trends

Though this scan observes the move away from a medical model, important health issues and trends still intersect in important ways with the quest for accessibility. Consider, as one small example, the enhanced risk that those with many types of chronic illness and disability had with respect to COVID-19 severity risk, or the challenges that accompany important public health and safety measures, such as the difficulties encountered by hearing-challenged lip readers amid ubiquitous mask-wearing.⁸⁴

Worldwide, according to the World Health Organization, “persons with disabilities have twice the risk of developing conditions such as depression, asthma, diabetes, stroke, obesity or poor oral health.”⁸⁵ The World Health Assembly Resolution WHA74.8 calls on all countries “to ensure that persons with disabilities receive effective health services as part of universal health coverage; equal protection during emergencies; and equal access to cross-sectoral public health interventions.”⁸⁶ But while this might sound like a routinely attainable standard, adults with disabilities may require specialized health care services, including physical therapy, rehabilitation, and counseling services. They may also require assistance with accessing and navigating the health care system, including help with finding a doctor and arranging transportation to appointments. There are also significant areas of overlap in the health systems that older Canadians interact with, and the systems relating to disability. For example, there are over 10,000 young people with a disability living in long-term care in Canada.⁸⁷

Timely, barrier-free access to health care is vital. The World Health Organization calculates that, at least in the US, governments can expect a return on investment of around 10:1 for ensuring disability-inclusive health care access.⁸⁸

Scientific advances hold amazing promise for treatment, cures, and ultimately extending life expectancy, but the expense of new medications, procedures, and technologies will be a barrier to universal adoption and coverage. And we will soon see the rise of med-tech converging with the internet of things; As Hyper Island’s *Changes of Tomorrow* report predicts: “We will all wear devices that capture detailed and personalized health data, measuring heart rate, blood glucose level, blood pressure, and more. Trusted doctors will have access to that data, giving them more information on which to make solid diagnoses, and we will understand the inner workings of our own bodies more intimately.”⁸⁹

The Health Care Crisis

To the extent disability is a medical or health care issue, some broad health care trends are also important to keep in mind: The Pandemic, and the lingering effects of “Long COVID” have placed additional demand and strain on the Canadian healthcare system.⁹⁰ People with disabilities were dying in greater numbers from COVID-19 than non-disabled people, in good measure due to the increased risk of contracting COVID-19 in congregate settings - rehabilitation facilities, state institutions (including prisons), group homes, and care homes.⁹¹ Many people with disabilities during the pandemic were “cut off from the rest of society” with regular reports of overmedication, self-harm, or ill-treatment surfacing.⁹² The pandemic also led to higher mortality rates among persons with intellectual disabilities.⁹³ The astronomically high cost of drugs for those with rare or orphan diseases is another issue that sits in the Venn between the health care crisis and accessibility. The pharmaceutical system in North America tends to place the private (profit-driven) incentives of for-profit companies over public health needs, leading to suboptimal health outcomes.⁹⁴

Both medical and care professionals continue to experience high levels of stress, and are leaving these professions in numbers greater than we have previously seen. This mass exodus is putting additional pressure on health care and extended care systems, beyond the added pressures of COVID 19. Young people are attracted to health care professions in greater numbers, thanks to interest garnered during the pandemic, but little has been done to make this choice an affordable one. Universities tend to charge sharply differential rates for medical school tuition, and sometimes also for other health professions, the rationale being that students are more likely to get well-remunerated employment upon graduation. But this remains a barrier for those from economically-barriered contexts.

An aging population is putting additional health care pressures on certain regions, like the Maritimes and Vancouver Island. The current level of resources within health care across Canada may not only be sub-optimal - for example, the system doesn't cover basic dental care (notwithstanding recent changes for low income Canadians), eye care, fitness, homecare, basic pharmacare etc., all areas with significant public return-on-investment - but increasingly are being seen as unsustainable, as health care eats up a greater and greater percentage of provincial and federal budgets. Despite this, we may also finally see the launch of a *Canada Pharmacare Act* by the end of 2024 to set up a system of universal drug coverage, something that has been part of the NDP platform for 30+ years.⁹⁵

The Mental Health Crisis

The most prevalent disability type among younger Canadian adults (aged 15 to 24 years) in 2017 was mental health-related.⁹⁶ According to the Canadian Life and Health Insurance Association - mental health claims have climbed 75% since the start of the COVID-19 pandemic.⁹⁷ The mental health crisis is affecting young people and women disproportionately. The National College Health Assessment reveals a nearly three-fold increase in reported anxiety among university-aged students over the past decade, along with a quadrupling in ADHD and a more than doubling of depression.⁹⁸ According to Statistic Canada, the proportion of employed women aged 16 to 24 years with mental health-related disability was 17.2% in 2021, an increase of 7.6 per cent from 2019, the largest increase of all major demographic groups.⁹⁹

We also have a bifurcated mental health class system in Canada. An article in the Walrus asks the provocative question “Who gets to be mentally ill?”, pointing out that “those who have the means to seek and pay for professional therapy, and those whose material conditions, economic circumstances and identities prevent them from being poster children for mental illness. If you are *too* mad, and especially black, Indigenous and unhoused, you can get roughed up and shot by police, [or] get your children taken away.”¹⁰⁰ The article adds that mental health interventions risk making things worse (as with policing) or are in the private realm, covered by individuals or company health plans, but not by the system until things get so bad that hospitalization is necessary.

SPOTLIGHT

A “Mass Disabling Event”: Long COVID

While disability is not universal, it has the potential to be universally experienced. Anyone could become disabled, and at any time. Post COVID-19 Condition, or what is colloquially referred to as “Long COVID”, has been referred to by some journalists as a “mass disabling event”.¹⁰¹ Employers have reported an increase in the prevalence of disability in the labour force of nearly 3 per cent (to 21.5%) between 2019 and 2021, most of this due to a rise in reported mental health-related disability.¹⁰² The World Health Organization estimates that 10 to 20 per cent of COVID-19 infections result in long COVID.¹⁰³ Much of long COVID's effects are on the brain. One study in the journal *Nature*, observed “a degenerative spread of the disease through olfactory pathways, of neuroinflammatory events, or of the loss of sensory input due to anosmia [permanent full or partial loss of smell].”¹⁰⁴ A *Lancet* study affirmed that dementia, psychotic disorders and seizures are among the long COVID symptoms two plus years beyond infection.¹⁰⁵ In addition to Long COVID, mental health insurance claims – according to the Canadian Life and Health Insurance Association - have nearly doubled since the start of the COVID-19 pandemic.¹⁰⁶

FRAMEWORKS

Building on the previous chapter’s foundational context for understanding accessibility, inclusion, disability, and related concepts and terminologies, it is important to next understand the frameworks within which progress and innovation can occur. These include design frameworks, policy frameworks, key societal institutional actors, and attempts to measure progress and innovation.

Design Frameworks for Accessibility

User Experience (UX)

“User experience” is a term that has been in common use in certain fields for nearly a century, particularly within industrial design, public administration and public service design, and in more recent decades in digital hardware and software design, where the shorthand “UX” is ingrained in the digital design lexicon. UX refers to the overall experience that a person has while interacting with a product, service, or environment. In the context of design, UX encompasses all aspects of a user’s interaction with a product, including ease of use, accessibility, usability, and enjoyment. The goal of UX design is to create products that are easy to use, intuitive, and provide a positive experience for the user. This includes considering the needs of people with disabilities and making sure that the product is accessible to as many people as possible. UX design takes into account factors such as the user’s emotions, needs, and motivations, as well as the physical and digital environments in which the product will be used. Ultimately, the aim of UX design is to create products that are usable, accessible, and enjoyable for everyone. UX is also the precursor to other human-centered design frameworks, including universal and inclusive/co-design.

“...truly inclusive policy requires an acknowledgment that disability is an expected part of human life, not a tragedy or “special” consideration. Designing an accessible America—still a vision left unfulfilled—requires embedding design in systems that can support rights and equality in ways that go beyond the material.”¹⁰⁷

—Bess Williamson, Art Institute of Chicago

Universal Design (UD)

Universal design is a design approach that aims to make products, services, and environments accessible to the greatest extent possible to a wide range of users, including those with disabilities. As a general maxim, if you build a community around the needs of people with disabilities (sometimes this is called building to ‘extremes’), it is bound to help everyone, including the able-bodied.¹⁰⁸ According to the Centre for Excellence in Universal Design, “Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.”¹⁰⁹ Universal design (UD) can apply to fine scale design, such as tools and computerized applications, through industrial design and architecture, all the way up to the scale of urban design. UD removes the stigma attached to one particular group by adhering to principles like equity, flexibility, low physical effort and simple and intuitive use. It also recognizes that all people have ‘situational disabilities’ (such as when our hands are full of grocery bags as we exit a store). For example, the use of electric toothbrushes, dark screen mode, push buttons, curb cuts, wide entrances, automatic doors, elevators, and ramps that were initially designed to enhance functionality or accessibility for people with disabilities, are features that everyone uses and prefers. A practical application of the UD ethos, for example, is that automatic sliding doors should be the entrance of choice whenever there is a double-door commercial or institutional setting.¹¹⁰

Seven university design principles were first published by a team of architects, designers, and activists at North Carolina State University in 1997. These principles - equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, size and space for approach and use - are included in more detail in Appendix E on page 82. Many of these principles can apply beyond the physical design realm. Universal instructional design, for example, is a concept expanded upon elsewhere in this scan. Universal health care, or universal basic income are forms of universal design related to well-being or socio-economic status, respectively.

The Curb Cut Effect

Universal design was an idea first disseminated by US architect Ron Mace in the mid-1970s, who came up with curb cut designs around the North Carolina legislature.¹¹¹ The “curb cut effect” refers to the idea that accessibility improvements for people with disabilities can have unintended positive impacts for a wider range of individuals, including those without disabilities. The term “curb cut” refers to the cuts or ramps in curbs that make it easier for people with mobility impairments, such as those using wheelchairs, to navigate sidewalks and other public spaces. The curb cut effect suggests that when accessibility features, such as curb cuts, are designed and implemented, they can have benefits beyond the intended user group. For example, curb cuts make it easier for everyone, including people with strollers, delivery workers, and bicyclists, to navigate sidewalks and public spaces. In the same way, accessibility improvements in technology, such as closed captioning or audio description software, can benefit a wider range of individuals, including those who are not deaf or hearing-impaired. The curb cut effect can be seen in how many mainstream technologies started their life as assistive inventions. Alexander Graham Bell first developed the telephone as a speech aid for deaf people, Nokia introduced texting as an alternative for audio communication, and voice-activated chatbots like Siri and Alexa use technology first developed for assistive purposes.¹¹²

Post-Normate Design

Other early precursors to universal design include the introduction of adjustable seats for pilots in aviation (later copied in automobile design), along with adjustable foot pedals, helmets, seat belts and so on, which was a radical departure from designing to an average archetypal ‘norm’.¹¹³ Rosemary Garland-Thomson, in her book *Extraordinary Bodies*, used a similar term - “normate” - which is not just able-bodied, but also male, white, and cisgendered.¹¹⁴ Urban designer Hannah Silver notes that

“Da Vinci’s Vitruvian Man, Le Corbusier’s Modulor Man, and a long line of subsequent dimensioned human silhouettes make up this normalized architectural occupant.”¹¹⁵ Others have noted how this “myth of average” impedes universal design applied to learning (also known as universal instructional design).¹¹⁶ It also leads to the design of cities for adult middle-class drivers - the average user - rather than for seniors, children, youth, those living in poverty, and people with disabilities.

8 to 80 and 80/20

The acceleration of universal design as a concept did not really pick up steam until well into the 21st century, reaching a new milestone in the fall of 2016, when the White House held a *Design for All Showcase*, a fashion show and symposium highlighting “inclusive design, assistive technology, and prosthetics”, the show positioned disability as a source for innovation in design.¹¹⁷ The concept of “8 to 80” is a sub-variant of universal design that aims to create products, buildings, and cities that work for everyone from age 8 to 80. The iPad is an example of an “8 to 80” design. Voice command internet searches, voice-to-text applications, and voice-controlled personal assistants, for example, while designed for the general consumer marketplace, have obvious appeal to a generation who may have visual difficulties or arthritis (or otherwise find it challenging to type commands). And what is important to understand is that these technologies are not designed and marketed to those with disabilities only. Livio AI, developed by Minnesota-based Starkey Hearing Technologies, is an interesting example of universal design: It is a hearing aid with additional features that non-hearing-impaired individuals find desirable (like music streaming, GPS, and other features). Such utility, along with its sleek design, removes the otherwise strong stigma attached to a hearing aid as a classic marker of aging.¹¹⁸

Universal design is sometimes maligned as “one size fits all” or “lowest common denominator” design, falling into an (albeit more enlightened variant of) Taylorist design; design decisions reliant on scientific and engineering insight. Some do appear to interpret universal design to be not strictly-speaking universal, but instead conforming more to a Pareto principle (in occupational health and safety policy, for example, a normal distribution curve, or 80/20 ratio, assumes that if you design to address 20 percent of all possible barriers then 80 per cent of people with disabilities will be accommodated).¹¹⁹ Instead of limiting to a lowest common denominator, many proponents and practitioners of universal design today would aspire to be closer to the concept of both the “highest common factor” and engagement with the end user, maximizing the likelihood of access for the greatest number of people.¹²⁰

Scandic Hotels

Scandic is a Swedish company with a chain of 230 hotels in Europe. The company has high standards for accessibility, and these are addressed at multiple levels. A culture of accessibility includes mandatory accessibility training for all staff and the requirement that executives navigate their hotels in wheelchairs to better understand the challenges. Design features include elevator controls at multiple heights, accessible rooms, and braille hotel fact sheets. Technology solutions include alarm clocks in all rooms that vibrate (for visually-barriered guests) and shine a blue light (for auditory-barriered guests).¹²¹ As noted by Scandic and many other smartly-run businesses, not only does this expand their potential market by as much as 20% for individual travelers, but increasingly large event bookings are being determined by accessibility requirements. A 500-person wedding or conference location can be shaped by even one participant with accessibility requirements.

Inclusive Design



“Inclusive design considers the needs of all users as a product or service is being developed, from start to finish. With inclusive or human-centered design, a person with a disability is simply another individual with specific lived experiences. Organizations that design for diversity and edge cases, including individuals with disabilities, will create better solutions and experiences for all users.”¹²²

—Laurie Henneborn and Ray Eitel-Porter. *AI for Disability Inclusion* (2021)

An important corollary and enhancement to both UX and UD is inclusive design, also sometimes called “co-design.” Inclusive design entails shifting the power base from providers to clients, engaging the end-user (and ‘edge user’ - those on the farthest margins) from ideation to manufacturing and testing. It is a design approach that seeks to create products and environments that are usable by everyone.

Inclusive design goes beyond most user-centered design frameworks, as it reintroduces diversity - and with considerable intention - back into design. We need ways to check, balance, and measure the inclusivity of our designs. Inclusive environmental design through architecture, planning and industrial design, as well as inclusive technology design “considers the full range of human diversity with respect to ability, language, culture, gender, age and other forms of human difference”¹²³ The approach has been used in the development of many types of accessible environments, including housing, recreation centres, and some public spaces. While inclusive design can be more daunting and costly upfront for smaller firms and start-ups, the design benefits are enormous.

Microsoft’s *Inclusive Design Toolkit* emphasizes that “designing inclusively doesn’t mean you’re making one thing for all people. You’re designing a diversity of ways for everyone to participate in an experience with a sense of belonging.”¹²⁴ Paralleling the distinction between the medical and social models, it starts from the premise that disability is not just a human health condition, but is a product of the shortcomings of environmental design - i.e. recognizing that our built and manufactured environments produce mismatches and sub-optimal outcomes in human interaction. Similarly, Apple’s Human Interface Guidelines emphasize inclusive design, and in particular empathy, in the development of apps.¹²⁵

Design the Future

Design the Future is a week-long three-tiered workshop created to make human-centered design more inclusive of people with disabilities. Co-convened by social impact design firm DC Design and the Hasso Plattner Institute of Design at Stanford University, Design the Future helps organizations and companies in the San Francisco Bay region improve their own programs, but more importantly radically enhance access and participation for people with disabilities - employees, managers, clients, and others.¹²⁶ The workshop starts with the tier of regulatory and industry-standards (e.g. ADA and WCAG standards), but goes well beyond that through a participatory discovery process.

Customized and Decentralized Design

There is a polarity between universality and customization. Both goals are vital, and while sometimes held in tension, need to be approached as a “yes, and...” Given the diversity in such factors as body types and range of mobility, when designing for accessibility a great deal of customization is necessary to optimize the experience of each individual user. It is estimated, for example, that 8 out of 10 wheelchairs do not meet the specific needs of their users. But customization has historically had its own accessibility barriers, including added time and expense in manufacturing, the availability or proximity of design specialists, and the safety risks associated with ‘at home’ improvised customizations.

With the advance and convergence of Fourth Industrial Revolution technologies, in particular 5G networks, 3D printing, and parametric design (essentially AI-enabled next-gen computer-assisted design, or CAD), it is increasingly feasible to customize design solutions to individual users and to even prototype, test, and manufacture such designs closer to where the user resides.

Autonomous vehicles have the potential to provide new transportation options for people with disabilities. With fully autonomous vehicles, people with disabilities who may have previously been unable to drive could have newfound independence and mobility. The significantly augmented configuration of the powerhouse and drivetrain of electric vehicles (EVs), relative to internal combustion-powered vehicles, means that designers can develop an exponentially greater range of customized automobile types.

Advances in artificial intelligence (AI) also hold promise. As a report on AI and disability inclusion from Accenture notes, “AI, when developed and used responsibly and ethically—has the potential to facilitate the entire employment journey for persons with disabilities. It can help organizations identify candidates (and vice versa). It can enable engagement at work. And it can drive a culture of confidence in this underutilized segment of the workforce while supporting advancement within organizations.”¹²⁷ The report further notes that just over a third of C-Suite executives polled report that they have inclusive design principles in place to support “human + machine” collaboration, which is essential to the development of solutions that will work to expand human accessibility.

As *crip futurists* Laura Herman and Molly Bloom warn, “AI can both usurp self-determination and heighten discrimination for disabled people... AI systems that embrace ‘crip futurity’ would embed disabled perspectives into algorithm design and development. Additionally, it is imperative that disabled people are represented within the datasets on which artificial technologies are trained. These datasets directly shape the learned habits and ultimate outcomes of these ever-evolving technologies; by controlling the data that they are served, we control the reality that this machine intelligence operates within and, thus, the future that they build. Crip futurity can ensure that this data-driven context is better representative of our soon-to-be inseparable reality.”¹²⁸

Disrupt Disability

Disrupt Disability, a company incubated under the National Endowment for Science, Technology, and the Arts (NESTA) in the UK is using parametric design, digital fabrication and distributed manufacture to make affordable wheelchairs that users can continually customize. Founder Rachael Wallach was inspired by seeing a fully customized prosthetic hand created (cost \$39 USD) while on a trip to Jordan. Disrupt Disability now produces the first modular wheelchair system, with parts that can be easily switched out depending on road and weather conditions (or even fashion requirements - the company also aims to make wheelchairs as fashion-forward as eyeglasses).¹²⁹

Literacy

An accessibility framework that is often overlooked is literacy. Literacy - in its many forms, including phonological awareness, numeracy, and digital literacy - are necessary to access even modest participation in, and full benefits from, civilization (including civic participation, economic prosperity, and social mobility). As the title of a recent Canada West study points out, *life is hard when you can't read*, noting that “at a time when workers face harder problems and require higher literacy levels, the proportion of adults with adequate skills, including those aged 16-25, has fallen over time.¹³⁰ The problem is perpetuated in the “train the best, leave the rest” individual excellence obsession that infects education education frameworks in the Anglo-American world.¹³¹

Literacy is among the United Nations Sustainable Development Goals (UN SDGs); Goal 4 aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”, with Target 4.6 aiming, by 2030, to “ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.”¹³² However, Canada has struggled to create widespread adult functional illiteracy,¹³³ - i.e. the level of literacy required to navigate daily life, most workplaces, and basic democratic participation. Canada places a tepid 23rd globally on literacy progress (as measured by fourth grade reading achievement).¹³⁴

Approximately 50% of Canadian adults with disabilities experience literacy barriers.¹³⁵ These barriers can be in either printed or spoken form, and include unnecessary words; small or congested fonts; overly baroque, academic or professional jargon, acronyms; and information or services available in online access only.¹³⁶ Most mainstream literacy programs lack the experience, skills, tools or financial capacity to accommodate people with disabilities.¹³⁷ In the Accessibility and Wayfinding section, later in this report, a range of issues and innovations are covered, including Braille and sign language, that help address literacy through an accessibility lens, but there is much that can be done using the frameworks of inclusive and user-centered program design, as well as accommodation.

Existing Policy Frameworks for Accessibility

Standards for accessibility can be implemented throughout systems of governance, whether through international frameworks, government regulation, or industry or civil society codes or accreditation. Sometimes, these function as minimum standards, other times as guiding principles or best practices. Regulations can often be superficial, which allows governments, organizations, employers, and developers to ‘check a box’ and move on.¹³⁸ In addition to public policy frameworks, there are also many voluntary guidelines and standards, from the global to the local.

International Frameworks



“Upholding the rights and ensuring the full inclusion of the world’s 1 billion persons with disabilities is not only a moral imperative, but a practical necessity.”¹³⁹

—António Gutierrez, UN Secretary General

Canada is a signatory to the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD). It is notable in that no UN convention has had as many signatories on the first day of its declaration; in this case 84 countries signed on December 13, 2006. Canada was not, however, among these initial signatories, but did sign the following year. Article 9 of the convention pertains to accessibility, requiring states to provide equal access to facilities and services. Article 9 is included in Appendix D on page 81. In 2018, Canada also signed on to the Optional Protocol that accompanied the UN CRPD, which provides Canadians with additional recourse to launch a complaint to the UN Committee on the Rights of Persons with Disabilities, if they believe their rights under the Convention have been violated.

The UN Sustainable Development Goals (UN SDGs) contain three specific provisions relating to disability: 4.a) Build disability sensitive education facilities; 11.2 Provide accessible transport systems; and 11.7 Provide accessible public and green spaces. The UN's Disability and Development report notes that virtually all of the SDGs impact or implicate people with disabilities, noting further that they are disadvantaged with respect to most of the SDGs.¹⁴⁰ The UN also has a Disability Inclusion Strategy (UNDIS) to promote inclusion within all UN agencies.

There are a number of other key pieces of international policy that impact Canada. The International Covenant on Economic, Social and Cultural Rights (ICESCR), for example, undergirds the rationale for and design of Bill C-22, the Canadian Disability Benefit, recently enshrined into legislation.¹⁴¹ The 2013 Marrakesh Treaty is a legally binding international agreement under the World Intellectual Property Organization (WIPO) that aims to increase access to published works for persons who are blind, visually impaired, or otherwise print disabled.¹⁴² The World Health Organization created and stewards the International Classification of Functioning, Disability and Health (ICF), which provides a framework for measuring health and disability at both individual and population levels. The International Code Council develops global standards for building safety and accessibility codes.¹⁴³

With respect to cognitive / intellectual disabilities, far more widely known and referenced is the *The Diagnostic and Statistical Manual of Mental Disorders*, published by the American Psychiatric Association and currently in its 5th edition (DSM-5-TR).¹⁴⁴ In the 1950s, there were about 30 “disorders” catalogued by the DSM, ballooning to over 300 by the 1980s, with the number now well into the thousands. Neurodiversity scholar and activist Temple Grandin (also a brilliant systems thinker) has observed that this DSM bloat is a function of the growth and influence of the pharmacological industry, and a broader tendency of society to medicalize and pathologize deviance from the norm rather than build an education and community support system that truly supports neurodiversity. The use of user-centered, decentralized, customizing design frameworks (discussed in the previous section) could transform education, and ultimately other societal priorities like innovation, productivity, sustainability, and social mobility.

Europe and the U.S.

Internationally, Europe has the strongest legislative commitment to accessibility, with 95% of Europe's nations having accessibility guidelines and standards. The European Union's *European Disability Act* took effect in 2019.¹⁴⁵ The laws, regulations and administrative provisions necessary to be in compliance had to be adopted by member states last year, and must be in force by 2025. There are also a set of European Harmonized Accessibility Standards for digital accessibility, mandated for all public procurement processes in the EU. These standards cover a greater range of technologies than the WCAG 2.1 guidelines.¹⁴⁶

The 1990 *American Disabilities Act* (ADA), updated in 2008, is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and with respect to all places (whether public, nonprofit, or commercial) that are open to the general public. The ADA had broad bi-partisan support, and the day it was passed then-Senator Tom Harkin, who's brother was deaf, delivered the first speech in Congress entirely in American Sign Language.¹⁴⁷

Indigenous Governments

Indigenous nations have a long history of addressing accessibility. For example, going back to well before contact with the Europeans, many Indigenous nations had sign languages. Perhaps the best well known, still being used today, is Plains Sign Language (PSL).¹⁴⁸

Although the level and nature of support varies substantially among the over six hundred First Nations in Canada, some Indigenous governments provide support to people with disabilities. Some communities offer specialized health services for individuals with disabilities, including rehabilitation and therapy services, as well as traditional healing practices, while some also provide support services such as personal care services, home modifications, and assistive technology. Some Indigenous governments, training bodies, and economic development organizations offer education and training programs to help individuals with disabilities reach their full potential, including job skills training and life skills development. For example, the Community Futures Treaty 7 Disability Employment Program “works towards the increased employment inclusion of First Nations People with disabilities through innovation,

community engagement, partnership development and capacity-building. CFT7 delivers culturally appropriate programs for persons with disabilities and those facing multiple barriers and residing in urban and rural areas within the Treaty Seven territory.¹⁴⁹ Indigenous communities may also provide programs to promote community inclusion for individuals with disabilities, including cultural activities, sports and recreation, and community engagement opportunities.

Indigenous Disability Canada (IDC) is run out of the BC Aboriginal Network on Disability (BCAND) and hosts a periodic national Indigenous Disability and Wellness Gathering.¹⁵⁰ BCAND, formed in 2015 as Canada's only province-wide Indigenous disability organization (so far, at least), also declared November to be Indigenous Disability Awareness Month. Indigenous Disability Awareness Month is now recognized by a number of provinces and territories, organizations (e.g. the Assembly of First Nations), as well as many companies.

Federal Government

In Canada, there are laws and policies at all levels aimed at enhancing accessibility, or that protect the rights of people with disabilities to participate more fully in society and the economy, but the tone is set by the federal government, the signatory to international covenants and commitments.

A Special Parliamentary Committee on the Disabled and the Handicapped, tabled a report in 1981 entitled *Obstacles* which was ahead of its time in affirming a “social model of disability”.¹⁵¹ The Charter of Rights and Freedoms provides high level protection from discrimination for those with disabilities, as does the *Canada Human Rights Act* and the *Employment Equity Act*. Canada's ratification of the UN CRPD in 2010 means that it has committed to developing national accessibility legislation. This was done in the form of the *Accessible Canada Act* (ACA), which came into force in 2019. The Act aims to achieve a barrier-free Canada by 2040. The ACA makes federal government buildings, services, and communications accessible to people with disabilities. Although municipalities and provincial governments are the primary regulators with respect to the built environment, the National Building Code, last updated in 2020, describes universal standards for accessibility requirements, in areas such as “barriers related to anthropometrics, plumbing facilities, signage, entrances and elevators.”¹⁵²

In addition to statutes, there are a number of other important federal policy initiatives. The new *Disability and Inclusion Action Plan* is a comprehensive, whole-of-government approach to disability inclusion guided by the ACA and the international commitments referenced previously.¹⁵³ The Plan has four main pillars of activity: financial security, employment, accessible and inclusive communities, and a modern approach to disability. It also has five key objectives:

1. improve the social and economic inclusion of persons with disabilities
2. reduce poverty among persons with disabilities
3. achieve the *Accessible Canada Act* goal of a barrier-free Canada by 2040
4. develop a consistent approach to disability inclusion across the Government of Canada and make it easier for persons with disabilities to access federal programs and services, and
5. foster a culture of disability inclusion

Accessibility Standards Canada is a new entity created under the ACA to create accessibility standards for federally-regulated entities and federal organizations, including government buildings, banks, and courts.¹⁵⁴ The Elections Canada Accessibility Plan outlines steps to ensure that elections are accessible to all Canadians, including those with disabilities. In April, 2022, Michael Gottheil was appointed Canada's first Accessibility Commissioner to the Canadian Human Rights Commission, and in May, 2022 Stephanie Cadieux, a former BC Provincial Cabinet Minister, began a four-year term as Canada's first Chief Accessibility Officer.¹⁵⁵

Previous federal governments introduced a number of reforms that expanded recognition of people with disabilities. For example, the Mulroney government created the first ministerial portfolio expressly about disability, and introduced tax deductions on disability-related expenses, as well as financial support to disability sector civil society groups. The Chretien government established a Taskforce and Office on Disability, and the Harper government introduced the Registered Disability Savings Plan (RDSP). Although replaced recently in the portfolio, the minister responsible for Minister of Employment, Workforce Development and Disability Inclusion under most of the Justin Trudeau government was occupied by someone living with disability - Carla Qualtrough.

Other federal policies and programs, while not focused on accessibility per se, nonetheless enable a more empowered disability community, some focusing specifically on veterans. The Opportunities Fund for Persons with Disabilities, which provides various supports and wage subsidies, was recently doubled. The Enabling Accessibility Fund (EAF) provides funding for projects that make Canadian communities and workplaces more accessible. *The Disability Action Plan* notes that “improved financial security is the most urgent priority... people simply do not have enough money to live a comfortable life... leading to feelings of exhaustion, hopelessness, and anger.”¹⁵⁶ The federal government early in the Pandemic pledged as well to create a Canada Disability Benefit, entered into law in Fall of 2023, which is a new federal income supplement targeted to working-age people with disabilities. The benefit will begin rolling out sometime in 2024 or 2025. The big questions regarding the Disability Benefit are how much it will cost and how effective it will be in eliminating poverty for those with disabilities. Scotiabank estimates it would require between four and five billion dollars annually “just to lift those living in *deep* poverty—estimated at 550,000 individuals—to the poverty threshold.”¹⁵⁷ The real number invested is likely to be substantially less than this.

Provincial Governments

Some provinces have passed accessibility legislation aiming to remove barriers preventing full participation. However, the robustness of these policies is highly variable, with only the most recent coming close to the standards outlined in the *Accessible Canada Act*. The most recent notable statutes include Ontario's *Accessibility for Ontarians with Disabilities Act* (passed in 2005), which requires that organizations in Ontario make their buildings and services accessible to people with disabilities by 2025, as well as Manitoba's *Accessibility for Manitobans Act* (2013), and Nova Scotia's *Accessibility Act* (2017). This means that - thus far - only Ontario, Manitoba and Nova Scotia define accessibility standards for all businesses and institutions. The *British Columbia Accessibility and Inclusion Charter* is probably the one other noteworthy policy, which sets out the government's commitment to accessibility and inclusion for people with disabilities in British Columbia.

Alberta

In Alberta, there is no accessibility statute per se, but a number of legislative frameworks reference accessibility. *The Persons with Developmental Disabilities Program Act*, for example, governs financial assistance and support services for individuals with developmental disabilities. Most important is the *Alberta Human Rights Act*, which prohibits discrimination on the basis of disability, and requires employers and providers of public services to accommodate the needs of individuals with disabilities. However, the Act does not establish an *active* duty to accommodate people living with disabilities,¹⁵⁸ which is fast becoming the norm elsewhere in Canada. There is currently no legislation in Alberta that deals expressly with accessibility¹⁵⁹ (to nearly the extent that Ontario, Manitoba, Nova Scotia do, and soon BC and Newfoundland and Labrador will).¹⁶⁰ However, there is an active grassroots campaign underway - under the banner Barrier-Free Alberta - to bring in comprehensive accessibility legislation.¹⁶¹ The Premier's Council on the Status of Persons with Disabilities provides advice to the provincial government about opportunities for persons with disabilities to participate equally and fully in society, but there is no indication at this point that new legislation is in the works. In some provinces, including Alberta, the Disability Advocate Office is another way for people to access services and navigate support.¹⁶²

Local Municipal Government

The City of Calgary's Corporate Accessibility Policy guides the provision of services for people with disabilities.¹⁶³ City Council takes advice on broad policy, facilities, and service questions from an Advisory Committee on Disability, as well as an Access Design Subcommittee. The transit authority, airport authority, and policy board also have separate advisory boards on accessibility and disability. The City of Calgary has several by-laws that pertain to accessibility and to people with disabilities, including the municipal Building Code (which includes accessibility requirements for new construction and renovations of buildings, including provisions for ramps, elevators, and accessible washrooms), Accessibility Design Standards (which set guidelines for accessible design in the public realm, including sidewalks, curb cuts, and pedestrian crossings), the Parking By-Law (which requires that accessible parking spaces be provided in all publicly accessible parking lots, with designated signage and markings), and the Animal Control By-Law (which allows for service animals to be exempt from leash and muzzle requirements when accompanying individuals with disabilities). The City of Calgary also provides annual awards for advocacy and for universal barrier-free design. The City of Calgary has also struck a Social Wellbeing Advisory Committee with the goal to provide guidance to City Council and Administration on how to reduce barriers (related to age, ability, religion, race, sexual orientation, gender identity, gender expression, socio-economic status or heritage) and improve service delivery for all Calgarians.¹⁶⁴

Other Key Players and Roles

Knowledge Centres

Although there are wider structural issues with respect to the barriers between research insight and either policy or practical application, it is worth noting some of the key centres of knowledge in Canada contributing to the discourse on accessibility.

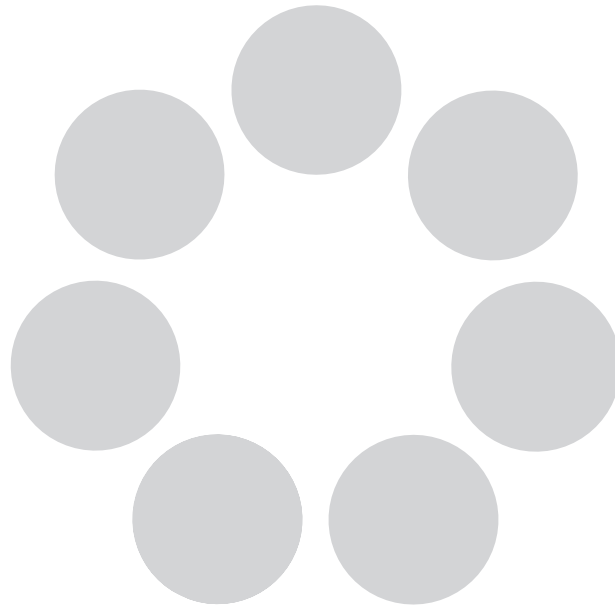
Academic Hubs, Consortia and Research Centres

The Canadian Accessibility Network (CAN), under the leadership of the Accessibility Institute at Carleton University, is a national collaboration to advance accessibility for persons with disabilities through research, innovation and related activities.¹⁶⁵ The Inclusive Design Research Centre (IDRC) at OCAD University, founded in 1993 by Dr. Jutta Treviranus, is "an international community of open source developers, designers, researchers, educators and co-designers who work together to proactively ensure that emerging technology and practices are designed inclusively."¹⁶⁶

The Live Work Well Research Centre at the University of Guelph takes an intersectional, community-engaged approach to disability studies. The Accessibility Research Lab at Mohawk College combines accessibility and usability knowledge to deliver solutions that help organizations outside of the college meet their accessibility requirements.¹⁶⁷ The RehabiMed Research Group, based at Simon Fraser University, focuses on researching rehabilitation and accessible environments. The Disability Policy Research Program (DiPo) at the University of Calgary's School of Public Policy provides and uses evidence-based information to shape public policy and improve the lives of persons with disabilities.¹⁶⁸ The Centre for Research on Educational and Community Services (CRECS), based at the University of Ottawa, focuses on disability and community services research.¹⁶⁹ The Canadian Disability Studies Association (CDSA) is a professional organization for scholars, researchers, and students in the field of disability studies in Canada.¹⁷⁰ The CDSA conducts research and provides a forum for the exchange of ideas and information related to disability and accessibility issues. It also publishes the open-access peer-reviewed Canadian Journal of Disability Studies, based at the University of Waterloo, which contains "original articles that advance research in the multidisciplinary, international field of disability studies."¹⁷¹

Evidence Centres and Think Tanks

The Institute for Research and Development on Inclusion and Society (IRIS) is a national research institute dedicated to the study of inclusive society, with a focus on disability and diversity.¹⁷² They engage in interdisciplinary research and knowledge transfer activities. The Canadian Disability Policy Alliance is a national network of organizations and individuals working to improve disability policy in Canada. They engage in policy analysis, research, and advocacy.¹⁷³ The Rick Hansen Foundation works to create a more inclusive world, through research, raising awareness of accessibility issues, and providing resources and support for people with disabilities.¹⁷⁴ Toronto's Centre for Addiction and Mental Health (CAMH) is Canada's largest mental health and addiction teaching hospital and a world leading research centre in this field. They also engage in research related to disability and accessibility issues. Some think tanks, notably the Institute for Research on Public Policy (IRPP), frequently publish on disability or accessibility. The Roehrer Institute is a policy think tank that "generates knowledge, information and skills to secure the inclusion, citizenship, human rights and equality of people with intellectual and other disabilities."¹⁷⁵



Civil Society

Civil society organizations have been vital to the advancement of accessibility, inclusion, and recognition of the rights and agency of persons with disabilities. Support groups for caregivers, and adaptive sport and recreation clubs are among the legion of grassroots community groups who have pushed the needle on accessibility. As is the trend in other realms of civil society, many organizations begin their life as grassroots citizen-led groups or movements and over time evolve into more professionalized organizations or coalitions. Among the many shifts in terminology attached to civil society groups, we have seen a shift from organizations with “for” to “of” as prepositions; i.e. to be a society “for” (people with X disability) - implying there is an exogenous agent of care or concern - is different than being an association “of”, which suggests rooting in lived experience and legitimacy of voice.

There are many international civil society organizations important to pushing for accessibility globally. The London-based International Disability Alliance is a coalition of coalitions (members include the World Blind Union, Down Syndrome International, and the World Federation of the Deaf). The Alliance operates a Global Disability Summit every four years, the most recent in 2022.¹⁷⁶ The Global Alliance of Assistive Technology Organizations (GAATO), which operates a grand challenge on assistive technology at the Global Summit, has a mission to “advance the field of assistive technology (AT) and rehabilitation engineering (RE) to benefit people with disabilities and functional limitations of all ages.”¹⁷⁷ The International Association of Accessibility Professionals (IAAP), a division of the Global Initiative for Inclusive ICT’s (G3ict), aims to support the accessibility profession globally through certification, education, and networking in creating accessible products, content, services, and environments.¹⁷⁸ Inclusion International is a global advocacy organization for people with intellectual disabilities that works “to create a world where people with intellectual disabilities and their families can take part and be valued equally in all areas of their lives.”¹⁷⁹ #WeThe15 is a global movement led initially by the disability sports sector to end discrimination, change attitudes, create more opportunities, and improve mobility and accessibility.¹⁸⁰ The European Disability Forum (EDF) is a pan-European organization that represents the interests of 80 million Europeans with disabilities, working to raise awareness of accessibility and inclusion issues across Europe.¹⁸¹

Civil Society in Canada

In Canada, there are over 5,000 organizations that focus expressly on accessibility or disability, from the Canadian Standards Association to local grassroots advocacy groups.¹⁸² Strangely, the Canada Revenue Agency (CRA), which regulates charities, does not have a specific category for organizations serving people with disabilities (among 32 categories of charitable activity).¹⁸³ As such, it is challenging to measure the number of organizations or the charitable funding that flows toward accessibility and disability issues. At the time of writing, there are 103 organizations nationwide with “disability” or “disabilities” in their name, and 49 with “ability”.¹⁸⁴ Charitable nomenclature also appears to be more frozen in time than the societal norm. In some ways shockingly so, with 38 organizations having “handicapped” in their name, 4 with “crippled”, and incredibly, 2 still using the “R-word”. Conversely, only 2 organizations have “accessibility” in their title and none use “neurodiversity”.

There are several national non-profit organizations that focus on disability or accessibility. The Council of Canadians with Disabilities (CCD), a national cross-disability organization that works to advance the rights and interests of Canadians with disabilities, providing information, resources, and advocacy on accessibility and disability issues and works to promote the full participation and inclusion of people with disabilities in all aspects of life. Inclusion Canada, formerly the Canadian Association for Community Living (CACL), is a national federation of provincial and territorial organizations that represents and supports the full inclusion of individuals with intellectual disabilities and their families in all aspects of life.¹⁸⁵ The DisAbled Women's Network Canada (DAWN Canada) is dedicated to the advancement of women and non-binary individuals with disabilities.¹⁸⁶ The Canadian Disability Foundation created and manages Accessible Transportation Canada (ATRACAN), which works to remove barriers in the public and private transportation sectors.¹⁸⁷ People First Canada is a rights-focused national voice for people who have been "labeled with an intellectual or developmental disability."¹⁸⁸ The Canadian Council on Rehabilitation and Work (CCRW) focuses on equitable and meaningful employment for persons with disabilities.¹⁸⁹ The Canadian Foundation for Physically Disabled Persons runs the Canadian Disability Hall of Fame.¹⁹⁰ The National Institute of Disability Management and Research provides education, research, policy development and implementation resources to promote workplace-based reintegration programs. The Rick Hansen Foundation runs the Accessibility Professionals Network (APN), supporting professionals and students working in accessibility through learning, professional development and networking opportunities.¹⁹¹

There are also a large number of national organizations specific to certain specific domains of disability. Two prominent examples include the Canadian National Institute for the Blind (CNIB) and Spinal Cord Injury Canada. The CNIB, founded in 1918, provides support and services to people who are blind or partially sighted, working to increase accessibility and improve the lives of people with vision loss, and offering a range of programs and services, including low vision rehabilitation, assistive technology, and peer support.¹⁹² Spinal Cord Injury Canada, incorporated in 1945 as the Canadian Paraplegic Association, provides support and services to people with spinal cord injuries, working through rehabilitation, advocacy, and peer support to promote independence and full participation in all aspects of life. Spinal Cord Injury Canada also convened the Federal Accessibility Legislation Alliance, which included over 100 organizations and thousands of people with a broad range of disabilities collaborating to improve and strengthen Bill C-81 – the 2019 *Accessible Canada Act*.¹⁹³

Civil Society in Alberta

A number of Alberta-wide civil society organizations advocate for, or serve, the disability community. The Alberta Council of Disabilities provides information, resources, and advocacy support.¹⁹⁴ The Alberta Ability Network, funded by the United Way of Calgary, is a collaborative of stakeholders, people with lived experience and those who support them, health practitioners, academia, community advocates, and government working to address systemic barriers, strengthen the sector and influence policy.¹⁹⁵ Inclusion Alberta provides services and support to individuals with developmental disabilities and their families, including early intervention, education, and community living programs.¹⁹⁶ The Alberta Disability Workers Association builds recognition of the professionals who work in the field of disability community service work, which is roughly 15,000 in the province.¹⁹⁷

Civil Society in Calgary

Within Calgary, there are hundreds of organizations serving, or created by, Calgarians with disabilities. Some were formed decades ago, with the aim of better integrating people with disabilities into the broader community. Following is a list of some of the key nonprofit organizations that cut across a range of disability types:

- The Developmental Disabilities Resource Centre (DDRC), founded in 1952, provides programs and services to support children and adults with developmental disabilities, and serves as a resource centre to the general public to support the inclusion of all people.¹⁹⁸
- Chrysalis, founded in 1968 with both a Calgary and Edmonton presence, offers personalized services to provide meaningful opportunities for growth and community inclusion. The organization now embraces and advocates for a human-centered design approach.¹⁹⁹
- The Vocational and Rehabilitation Research Institute, envisioned by University of Calgary researcher Christine Meikle and spurred by a Canada Centennial grant, was founded in 1968.²⁰⁰ Now called Vecova, the organization has pioneered many cutting edge approaches to well-being, including some of the first employment-inclusive social enterprises in Canada (described elsewhere in this scan), and, starting in the 1980s, the practice of 'reverse integration' - integrating mainstream users into disability-friendly spaces and experiences.²⁰¹
- Calgary Alternative Support Services (CASS) was founded in the late 1980s in response to social isolation and loneliness experienced by many in the community.²⁰² It provides support to find housing (also operating two of its own residential properties), employment, or learning and opportunities for community participation.

- The Independent Living Resource Centre of Calgary (ILRCC), also founded in the 1980s, provides resources, support, and advocacy, including information on disability rights, access to assistive technology, and independent living skills training.
- In addition to Vecova and CASS, there are many other accessible housing providers in Calgary, including Accessible Housing Calgary, Onward Homes, Calgary Society for Persons with Disabilities, L'Arche Association, Aspire Housing (a project of the Sinneave Foundation), Calgary Progressive Lifestyles Foundation (CPLF), and Community Living Alternative Services (CLAS).
- A number of organizations provide adaptive technology or other accessibility resources, including the Ability Society, Calgary Adapted Hub, and Rocky Mountain Adaptive.
- There are also many employment and/or equity and diversity-focused organizations not specifically focused on disability, such as Prospect Human Services, Future Ancestors, and the Canadian Centre for Diversity and Inclusion.

Others were formed in more recent years and decades, typically starting as grassroots advocacy groups led by citizens with disabilities. Disability Action Hall, hosted by the Calgary Scope Society, is focused on telling stories, taking action and changing lives in five areas: disability pride and culture; relationships and networking; living wage, the right to housing; and essential services.²⁰³ Focused strongly on public policy advocacy, the Hall stewards and reports on a provincial performance tracker. The Calgary Employment First Network organizes and hosts Disability Employment Awareness Week (DEAM). Calgary's disability pride movement is only one of two such entities in Canada. Now widespread in the US, having started in 1990, the disability pride movement – there called AmeriPride – has a focus on “accepting and honoring each person's uniqueness and seeing it as a natural and beautiful part of human diversity.”²⁰⁴

Philanthropy & Accessibility

While there are a handful of important global foundations addressing accessibility, such as the Boston-based Disability Rights Fund and the Ford Foundation's Disability Rights program, accessibility is not a specific focus of grantmaking or investment for many foundations in Canada. Philanthropic foundations can choose to devote their charitable resources either to grants to other organizations, or to their own programming. The Calgary-based Sinneave Family Foundation is an example of the latter, an operating foundation that aims to improve education, employment and housing outcomes for autistic youth and adults. In addition

to a wide range of learning, employment-preparedness, and scholarship programs, the Foundation provides programming related to affordable housing and independent living, and operates The Ability Hub, a 17,000-square-foot space located on the University of Calgary campus.²⁰⁵

Private Sector

In 2013, the Harper government tabled the *Rethinking Disability in the Private Sector* report, which led to the creation of a Canadian Employers Disability Forum “to bring greater private sector attention to the employment needs of Canadians with disabilities.”²⁰⁶ In the decade since, as part of investors', executives', and the public's growing interest in ESG, there is increasing demand for information on disability inclusion efforts. A growing number of companies are recognizing that disability inclusion can not just help address ESG, but help address the labour shortage, expand markets, and spur innovation. The biotech, pharma, communications, utilities, and energy sectors are the highest performing sectors, while retail, manufacturing, and insurance are the poorest performing in terms of employment inclusion.²⁰⁷

There are a small number of other corporate disability inclusion tracking and recognition initiatives: Disability:IN is an international nonprofit that serves as a resource for business disability inclusion worldwide. 400 corporations, including many Canadian companies, have committed to the Disability:IN principles. They also publish the Disability Equality Index, billed as “The most comprehensive benchmarking tool for disability inclusion in business.”²⁰⁸ DiversityInc. has conducted a Top 50 (US) Companies for Diversity survey and ranking since 2001. Among the sub-rankings are the Top Companies for People with Disabilities, in which TD Bank has ranked 1st eight years in a row. TD is notable not only for their workplace inclusion efforts, but because they invest in leadership development and professional advancement opportunities for people with disabilities.²⁰⁹ PwC's CEO Action for Diversity and Inclusion initiative points to a self-assessment tool called the Disability Employment Tracker™, developed by the National Organization on Disability (NOD).²¹⁰ The Rick Hansen Foundation certifies companies with respect to the accessibility of their built environments.²¹¹ The Presidents Group is a network of 25 British Columbia business leaders who are champions for more accessible, inclusive workplaces.²¹²

Paralleling the rise of ESG frameworks, there have since been a number of notable moves by companies to innovate with respect to workplace inclusion. Some of these are discussed later in this Scan, as are a variety of accessibility start-ups and other small-to-medium enterprises, including social enterprises.

Accessibility and the Private Sector: Spotlight on Microsoft

In a recent academic case study on Microsoft, the authors noted that the company “has integrated inclusion into every aspect of the business—physical design of its facilities, development of its workforce, product innovation, and sales and marketing.”²¹³ Microsoft’s focus on inclusive design is driven by its CEO Satya Nadella, whose oldest son was born with cerebral palsy. The same study emphasizes that a proper disability inclusion approach is about whole-company strategy, not about philanthropy or corporate charity.²¹⁴ As part of its strategy, a company must not just consider hiring policies, but also training, product and service development, supply chain, and marketing. It is critical to focus on fostering awareness and commitment from middle management. Companies’ suppliers should also have an incentive to adopt inclusive practices. The authors also note the lack of disability-related data in the private sector generally.

Measuring Progress: Accessibility and Metrics of Progress

Beyond ESG-driven attempts to measure corporate actions on accessibility and inclusion, it is worth looking at how governments, international bodies, and independent organizations include accessibility in attempts to measure community wellbeing. What is striking is how few community wellbeing measurement tools include accessibility, at virtually every scale, from the global to the local. Disability data in general is in short supply; As the New York-based Disability Research Initiative notes, “disability questions of any kind are absent for 24 percent of countries and 65 percent of datasets.”²¹⁵ In social science, it is easier to theorize (or qualitatively describe) a social construct than to measure it. As such, to the extent disability is a social construct, good quality quantitative measurement is elusive.

International Metrics

At an international scale, the UN’s Human Development Index (HDI), for example, includes metrics of access to education or health care for the general population, but there are no metrics pertaining to accessibility in a disability context. Similarly, the Social Progress Imperative (SPI), while measuring a greater range of access variables (e.g. to sanitation, recreation, participation in democratic institutions, and so on), and though it includes certain indicators relating to other kinds of minority groups, also does not include any metrics on accessibility in a disability context. Neither the World Happiness Report or Happy Planet Index reference access either.

Among other countries, the New Zealand Living Standards Framework is the most robust and high-level national wellbeing index. While the Framework notably includes many measures designed by, and specific to, Māori inclusion and cultural vibrancy, there is no consideration of disability or accessibility. As one study critical of this exclusion noted, “disabled people and their whānau have poorer outcomes across a wide range of wellbeing and living standards measures. Yet disability analysis does not appear to

be well integrated into government decision-making on wellbeing.”²¹⁶ Scotland appears to be the country with the most integration of disability considerations into overall well-being indices. Scotland’s National Performance Framework includes breakdowns within most indices based on population, including by disability.²¹⁷ Scotland also has a very user-friendly way of organizing data by population, including a dashboard on disability metrics related to demographics, access, health, employment, business ownership, etc.²¹⁸

Despite this arid landscape, there are some international accessibility benchmarks worth noting: The UN Economic and Social Council produces the Disability and Development Report, which benchmarks progress on accessibility against the UN SDGs. Disability:IN, in partnership with the American Association of People with Disabilities (AAPD), runs a Global Disability Equality Index, designed for companies to benchmark their disability inclusion journey.²¹⁹ The International Network on the Disability Creation Process (a Quebec-based research-driven NGO) offers assessment tools to measure the quality of the environment and the life habits of people with impairments or disabilities. One of these tools is the *Assessment of life habits (LIFE-H)* a questionnaire measuring the accomplishment of life habits in the home, workplace or school, neighborhood, and identifies the disabling situations experienced in these same realms.²²⁰ HealthMeasures, a platform powered by Northwestern University, is useful for finding all gold-standard, open-access measures related to well-being, life satisfaction, and meaning and purpose related to various disabilities (as well as caregivers).²²¹ There are also a number of specific independent ratings of accessibility of countries and cities. The Say Foundation ranks countries for overall accessibility, particularly from a tourism perspective, ranking Portugal, Brazil, Australia, the UK, and the US as the most accessible countries in descending order (though it is not clear what, if any, quantitative measurement criteria the Foundation uses).²²²



Measurement in Canada

In Canada, the federal government is working towards a national well-being measurement framework, noting that “better measurement of distributional differences in quality of life outcomes should complement direct engagement with historically marginalized groups, including... persons with disabilities...”²²³ Domestic national metrics of accessibility are challenged by the availability of data, or lack thereof. The UN Committee on the Rights of Persons with Disabilities as recently as 2017 highlighted their concern that Canada “does not have up-to-date quantitative and qualitative data on the situation of persons with disabilities.”²²⁴ Statistics Canada and other federal departments are collaborating under authority of the 2019 *Accessible Canada Act* to collect and analyze accessibility data. This 5-year Accessibility Data and Measurement Strategy includes the recent launch of the Accessibility Data Hub.²²⁵ The Hub includes data on the built environment, transportation, communication, employment, information technology, and federal programs and services. The Canadian Survey on Disability (CSD) is another initiative that will collect and share information every 5 years about the lived experiences of Canadian youth and adults living with disabilities or long-term health-related problems.²²⁶ The CSD, introduced in 2012, adapting the former Participation and Activity Limitation Survey (PALS), was most recently conducted in 2022 (data release is pending). Some of the main findings of the 2017 survey are referenced elsewhere in this scan. The Treasury Board Secretariat of the federal government has drafted an accessibility strategy for the public service, with the aim of becoming the most accessible and inclusive public service in the world.²²⁷ This *Federal Data and Measurement Strategy for Accessibility* will include 10 metrics across 5 goals.

Locally, the Calgary Equity Index²²⁸ does not currently include indicators for accessibility or data relating to disability, nor does the Calgary Foundation Quality of Life Report (formerly Vital Signs).²²⁹ The City of Calgary publishes a Disability Population Profile, but the most recent one (2016) relies on 2012 CSD data. Sustainable Calgary’s State of Our City Report, while not addressing accessibility directly, does include metrics on financial vulnerability, including those dependent on AISH, showing a positive trendline between 2005 to 2014, then a neutral trend line subsequently.²³⁰ Although a 2022 Community Wellbeing Report, produced by Vibrant Communities Calgary, did not have disability-specific indicators, it noted that “participants with disabilities faced the challenges of restrictive work schedules, mobility challenges, money to pay for outings or extracurricular activities, and transportation barriers.”²³¹

DOMAINS: ISSUES & INNOVATIONS

There are countless domains within which barriers to accessibility are encountered by people living with disabilities. Some of the domains outlined in this section - such as urban design, employment, and digital accessibility - are more frequently discussed in the public sphere, and standards are more frequently encountered around these topics. Other domains, such as arts and culture, democratic engagement, and sexuality, are less frequently discussed, but are nonetheless critical to full participation in life and society.



DOMAIN 1: Economic Participation and Employment



DOMAIN 7: Accessible Education



DOMAIN 2: Accessible Building and Urban Design



DOMAIN 8: Accessible Sport and Recreation



DOMAIN 3: Accessible Wayfinding



DOMAIN 9: Accessible Arts and Culture



DOMAIN 4: Adaptive and Assistive Technology



DOMAIN 10: Accessibility and Sexuality



DOMAIN 5: Digital Accessibility



DOMAIN 11: Accessible Community Service and Social Enterprise



DOMAIN 6: Accessing Democracy: Citizenship, Rights and Participation



DOMAIN 12: Accessibility in Rural and Remote Regions



Economic Participation and Employment

People living with disability are particularly stigmatized in market-based societies. As Sarah Rose argues in her book *No Right to be Idle: The Invention of Disability, 1840s to 1930s*, the shifting economic and social structure following the Second Industrial Revolution “effectively barred workers with disabilities from mainstream workplaces and simultaneously cast disabled people as morally questionable dependents in need of permanent rehabilitation to achieve ‘self-care’ and ‘self-support’.”²³³ There is also a persistent, misguided perception that locating, hiring, onboarding, accommodating and training persons with disabilities is too difficult—not worth the effort and resources of employers.²³⁴

Disability is unfortunately strongly associated with economic disadvantage. As researcher Michael J. Prince summarizes, “employment issues of central concern to the Canadian disability movement are threefold: first, the disabling attitudes, built environments, public policies, and professional practices; second, the high proportion of people with disabilities receiving exclusionary day programs or activity services that do not offer employment supports and authentic employment placement options; third, the long-term unemployment and the chronic and pervasive poverty experienced by most adults with disabilities.”²³⁵ Disability movement leaders worry that without more sustained and robust public policy actions, the Canadian labour force could well become *more* exclusionary, not less, driven by technological developments and such practices as outsourcing work.²³⁶

“I’ve heard it said that people with disabilities are not born to live; they’re born to advocate. I think that’s absolutely unfortunate, but true because we spend so much of our daily energy educating and explaining our needs. People who have power in the workplace need to be cognizant of asking people with disabilities how they can be accommodated. It is also a necessity for a person with disabilities, when they encounter barriers, to speak up. I believe that working together, we’re able to make the world better.”

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—Wissam Constantin, President, Canadian Association of the Deaf

Even though people with disabilities are among the most economically marginalized groups, they ironically represent huge untapped markets for not just consumption, but also entrepreneurship and design innovation. The Toronto-based data analytics firm Return on Disability (ROD) has run some interesting numbers on the market potential of disability access and inclusion. Placing a fine point on the market opportunity, ROD estimates the worldwide spending power of people with disabilities and their friends and family to be roughly \$13 trillion in annual disposable income.²³⁷

Access to Dignity: Poverty and Disability

As a recent Scotiabank report noted, in Canada “disability and poverty go hand in hand.”²³⁸ Poverty and disability can interact in a positive feedback loop, a ‘vicious cycle’ where disability can severely limit work or make employment prospects bleak, resulting in poverty, which makes living with a disability substantially more difficult. A Maytree report estimates that the (weighted) gap between the poverty line and a single person with a disability is about \$7,500 annually.²³⁹ Nearly 14% of food bank users nationally report provincial disability support as their main source of income.²⁴⁰ A Nanos poll in November 2022 noted that Canadians self-reporting a disability were nearly twice as likely to eat less due to inflated food costs.²⁴¹ While a very large number of people with disabilities live in poverty, the situation has improved over the past decade. Encouragingly, the percentage of people with disabilities living in poverty has declined from just over 20 per cent in 2015 to 8.5 per cent in 2020 (although the biggest drop was in 2020, likely related to temporary pandemic-related income supports).²⁴² Yet, this remains nearly double the poverty rate of those without disabilities. Fewer people with disabilities are in the lowest two of nine earning categories measured in Statistics Canadian Income Survey, and more people are in the higher earnings categories.²⁴³



Economic Participation and Employment

Both the average and median incomes of Canadians with disabilities have improved over the past decade relative to Canadians without disabilities, but are still lagging at about 81 and 73 per cent respectively.²⁴⁴ However, if you strip away public income supports and focus on employment earnings only, the gulf between the average and median is somewhat wider (85 vs. 67 percent, respectively), which suggests that more people with disabilities are employed in low wage jobs and fewer are in higher income employment categories, compared with Canadians without disabilities. Statistics Canada’s most disturbing socio-economic finding is that “persons with more severe disabilities (28%) aged 25 to 64 years - prime income earning years - were more likely to be living in poverty (as measured by the Market Basket Measure) than their counterparts without disabilities (10%) or with milder disabilities (14%).”²⁴⁵

Poverty and disability can interact in mortally hazardous ways. One area where access for Canadians has been eased is in medically-assisted dying. While there are many reasons to applaud this, for human rights, bodily autonomy, and compassion for those experiencing pain and suffering, there is also a shadow side to this improved access. Consider the story of a quadriplegic Ontario woman living in poverty considering medically assisted dying due to long wait times for support services. Alex Schadenberg of the Euthanasia Prevention Coalition observed that “it was argued that expanding euthanasia to people with disabilities, who are not otherwise dying, provided equality. But in fact it undermines the equality of people with disabilities who are often living in poverty.”²⁴⁶ When medically assisted dying is easier to access than social and community supports, there must be an adjustment to our collective policies and human service priorities. Indeed, doctors in Canada have reported a number of incidents of people seeking medically-assisted dying because they are living in poverty.²⁴⁷

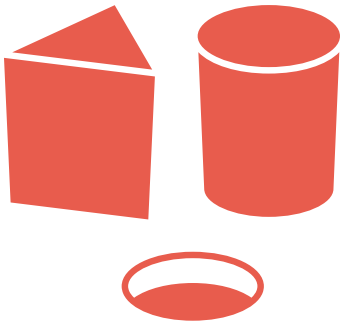
Access to Employment

As noted earlier in this scan, and as Canada’s Disability Action Plan recognizes, persons with disabilities are far more likely to be unemployed and to work in lower-skilled jobs; and the vast majority of accessibility-related human rights complaints are in the workplace context.²⁴⁸ Adults with disabilities may require support to find and maintain employment, including job placement services, accommodations in the workplace, and assistance with navigating the job market.

There has been a growing recognition in recent decades of the importance of including people with disabilities in the workforce, manifest through policies and programs aimed at increasing employment opportunities, such as through affirmative action or accommodation. However, there is still a large gulf between intention and action. Through the late 1990s to about 2006, people with disabilities made notable gains in overall workforce participation. However, from the onset of the 2008/09 Great Recession and in the decade following, those earlier gains were eroded.²⁴⁹ The past few years have been mixed in terms of access to the labour market, the onset of COVID-19 being a notable low point. It is not clear if an uptick in stats measuring participation in the workforce simply flows from low overall unemployment (a very tight labour market), or if efforts to increase awareness and access are finally paying dividends. Another issue is the intersection of ableism and rampant, systemic ageism in the workplace. Older employees - already stigmatized in the Canadian workplace (as reported in the Institute’s 2021 scan on aging) are more likely to be living with a disability, and to require a broader range of accommodations.

There are two slogans or phrases that tend to capture the employment vision for people with disabilities: 1) “Real work for real pay”, which refers to freely chosen work on an equal basis with others in open and inclusive settings with reasonable accommodations when and where required; and 2) “Employment first”, which means that among the economic inclusion options available, employment is considered as the first and best option.²⁵⁰

On that latter point, closing the poverty gap for people with disabilities is an expensive proposition if just looking at public expenditures via subsidy programs. There is also a cost to the economy from underemployment of people with disabilities. Harvard economist David Cutler estimates that the cost to the US economy of Long COVID alone is \$3.7 trillion dollars.²⁵¹ A *Lancet* study looking at a sampling across North American and Europe found 22 per cent of employees were unable to work and another 45 per cent were working reduced hours.²⁵²



In line with this *employment first* imperative, employment is a key pillar of the federal Action Plan. The government announced a \$270 million investment in the existing Opportunities Fund for Persons with Disabilities, which - bolstered by an independent review noting a 170% social rate of return (or SROI) - provides supports such as training, placement and wage subsidies to just over 4,000 individuals.²⁵³ As a Scotiabank report notes, “lifting the income of the 4.7 million Canadians working with disabilities to the median of their peers would translate into an additional \$60 billion” in macroeconomic impact.²⁵⁴

Calgary’s Disability Employment Awareness Week (DEAM) has made great strides not merely in normalizing employment of people living with a disability as a matter of equity – an ethical imperative in its own right – but also in raising awareness of the unique talents, contributions, and insights that those in the disability community bring to the workplace and to enterprise development.

Accommodation and Equity in the Workplace

Article 27 of the UN CRPD says that every person with a disability has the right to work in an environment that is “open, inclusive and accessible.”²⁵⁵ This implies that people have access to employment opportunities, and are valued and treated with the same respect as all employees (including equity in compensation and collective bargaining). It also requires international promotion of such opportunities, reasonable accommodations, investments in training, and where necessary (recognizing that certain disabilities require extended and/or frequent leaves of absences) rehabilitation, job retention and return-to-work provisions.

In 2020, 21.5 per cent of the Canadian labour force reported a physical, mental health, cognitive or other disability.²⁵⁶ Nearly 40 per cent of employees with disabilities aged 25 to 64 years require at least one type of workplace accommodation.²⁵⁷ According to a Scotiabank report on disability and labour force participation, “only three in five Canadians [with a disability] find employment, and those with disabilities are twice as likely to live in poverty (and thrice as likely if those disabilities are severe).”²⁵⁸ The same report urges that “inclusive labour markets need to do more of the heavy lifting to help Canadians with disabilities achieve financial security,” and notes that “moral arguments aside, structural labour shortages and an aging population suggest the impacts will be all the more acute if left unaddressed.”²⁵⁹ Currently the income gap between those employed and not employed is almost as significant a gulf as for the general population, even for those with more severe disabilities.

To help capture the systems and processes a person with a disability may experience in finding and maintaining employment, the diagram on the following page outlines a journey map of accommodations in the workplace. Rather than focus on a specific experience, as with the student map on page 65, this map focuses more on processes as these can still be faced across disabilities. It should also be noted that while a person is navigating this path, they may be expected to carry on without accommodations or take a leave of absence while the employer figures out an accommodation.



Project SEARCH

Project SEARCH is a national program that helps adult students with intellectual and developmental disabilities transition into the workplace.²⁶⁴ The one-year program provides classroom instruction, career exploration and job skills training through three 10-week internship rotations. Its partnership with TD is one of the main reasons TD is continually ranked among the most disability-inclusive corporate employers.

Corporate Inclusion and the Road to Scaled Innovation

The potential for corporate social innovation with respect to accessibility is enormous. As Ted Kennedy, Board Chair of the American Association of People with Disabilities, notes “persons with disabilities present business and industry with unique opportunities in labor-force diversity and corporate culture, and they’re a large consumer market eager to know which businesses authentically support their goals and dreams. Leading companies are accelerating disability inclusion as the next frontier of corporate social responsibility and mission-driven investing.”²⁶⁶ The global professional services firm Accenture adds that “companies that embrace best practices for employing and supporting more persons with disabilities in their workforce have outperformed their peers... leading companies were, on average, twice as likely to have higher total shareholder returns than those of their peer group.”²⁶⁷

But there is a big gap between these insights and widespread practice, as recent incidents involving Canada’s two major airlines underscore. One of the strong points of agreement among interviewees is the lack of accessibility leadership among companies. When pressed, the vast majority could not recommend a single corporate exemplar, or wanted to avoid the tendency to benchmark against others and not go above the average in accessible organizations.²⁶⁸ The data appears to affirm this: According to Caroline Casey, Ashoka Fellow and founder of The Valuable 500, a movement to get 500 CEOs and brands to put disability inclusion on their leadership agendas, while 90% of global companies prioritize inclusion, only 4% consider disability.²⁶⁹ Some estimates are closer to 3%.²⁷⁰ Casey has also brought this message to the World Economic Forum in Davos in 2019, where she was the first disability leader to speak on inclusion. Casey opines that “we don’t need to fix disabled people – we need to fix the business system.”²⁷¹ Currently, CIBC, Canada Post, Spotify, and TD are the only Canadian companies signed on to the Valuable 500.²⁷² That said, a number of global companies have Canada-specific commitments and practices. For example, Inployable is a new collaboration between the Canadian Down Syndrome Society and LinkedIn to connect employers with people with Down syndrome.²⁷³



“More than relying on esoteric investment concepts like ESG, achieving competitive, integrated employment requires us to act with empathy and put our needs as human beings in the center of our actions. Yes, ESG has emerged as a useful framework that allows conversations to occur and strategy to be defined. But that is all it is – a framework. For meaningful change to occur, all of us must appreciate the simple fact that this is about real people trying to live their best lives.”²⁶⁵

—Robert Ludke, The Harkin Institute for Public Policy & Citizen Engagement

Walgreens

US-based pharmaceutical chain Walgreens implemented a disability inclusion policy beginning in 2007. Forty percent of Walgreen’s workforce now lives with a disability. The policy has had demonstrable positive effects on corporate reputation, and is an interesting example of a strategic approach to an element of equity, diversity, and inclusion that yields a competitive advantage for the company. Elements of the strategy include investments in training (including training of regional and store managers), partnering directly with local nonprofits and grassroots disability groups, and leadership on the issue at the C-Suite level.²⁷⁴



Economic Participation and Employment

Accessing Entrepreneurship and Business Development

Even more alarming that the data around workplace inclusion are the statistics around entrepreneurship and corporate leadership. According to a BDO Canada study, despite nearly one in five Canadians living with a disability, only 0.5 per cent of small or medium-sized businesses in Canada are owned by a person with a disability.²⁷⁵ Moreover, Ontario vastly outranks the other provinces, even on a per capita basis. Alberta, for example, is closer to 0.02 per cent, which means able-bodied people own 99.98 per cent of the small and medium businesses in Alberta. Eyra Abraham, founder of Lisnen, a mobile app that uses AI to convert audio alarms to visual and tactile signals for deaf individuals, notes that there is an “awkward silence” whenever she is in a room with potential investors.²⁷⁶

Enterprises Owned or Operated by Disability Community

HearVue is an Ontario-based social enterprise founded by lawyer and activist Lorin MacDonald that provides captioning at live and virtual events. HearVue’s clients include live theatre, universities, Superior Courts and social justice tribunals.

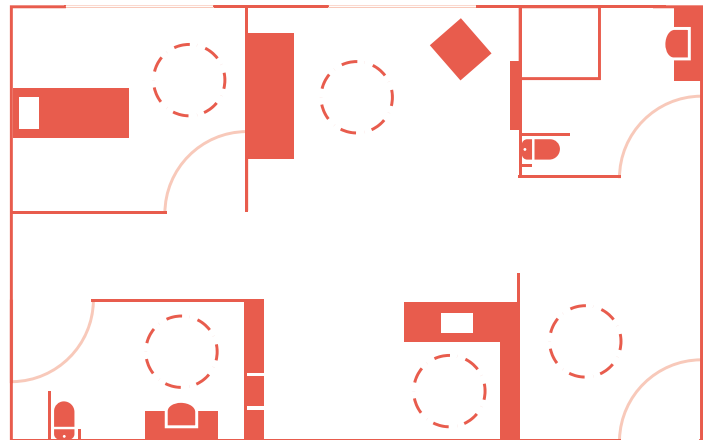
There are also a number of enterprises *founded* and *led* by Calgarians with disabilities, such as Darby Lee Young’s Level Playing Field, an accessibility consulting agency, or Sean Crump’s Included By Design, which helps clients see an ROI (Return On Inclusion) built on leading legislated accessibility standards. Both firms are among Canada’s top universal design consultancies, experts also on international accessibility guidelines.

Community Futures across Western Canada operates an Entrepreneurs with Disabilities program, which helps people in rural areas with barriers or health conditions to start and grow businesses.²⁷⁷ Momentum in Calgary and Prospect Human Services in Edmonton provide similar support to those in urban areas.

SPOTLIGHT

Dayle Sheehan Interior Design

Calgary-based designer and entrepreneur Dayle’s Sheehan leveraged own experience as a wheelchair user to offer bespoke consulting to anyone who struggles with mobility in their home or office. Dayle Sheehan Interior Design (DSID) is a full service Interior Design Firm that aims to create safe, barrier free and beautiful spaces for anyone with mobility challenges. Dayle has also partnered with the Synaptic Rehabilitation Centre to help people with new injuries and has also co-founded a charitable organization - Girls that Give.²⁷⁸





Empathy-Building Enterprises

One of the big collective mindset shifts that persons with disabilities have pushed for over the decades is a shift from sympathy (or pity, or awe at overcoming obstacles), toward empathy. Actioning empathy, in turn, is more likely to lead to universal inclusion. But how might empathy be actioned in a constructive way? As Microsoft's Inclusive Design Toolkit notes, "empathy is an important part of many different forms of design, [but] when building empathy for exclusion and disability, it's misleading to rely only on simulating different abilities through blindfolds and earplugs. Learning how people adapt to the world around them means spending time understanding their experience from their perspective."²⁷⁹ Increasingly, folks are pushing back against empathy games or suits as the temporary nature of these tools does not reflect the reality of navigating their experience full time,²⁸⁰ and instead finding other ways to connect and increase awareness.

Many enterprises, which may also be owned, operated, and/or employing people with disabilities, focus on building awareness of, and empathy toward, the lived reality of those who may have physical or cognitive impairment.²⁸¹ Dark Table, a restaurant in Vancouver (also formerly in Calgary), provides an experience where customers dine in total darkness. Among a growing number of restaurants around the world, including O.Noir in Toronto and Montreal, that offer "blind dining", Dark Table's proprietors note that "with an unemployment rate of 70%, those with vision loss face obvious challenges in a society that is preoccupied with visual communication, but in a dark dining environment, the tables are turned—the non-sighted servers guide the sighted."²⁸²

SPOTLIGHT

Persona Spectrum

Many design firms, among other companies, including Microsoft,²⁸³ utilize a visual tool called The Persona Spectrum using simple icons across an array of broad disability categories to build an empathy bridge between those who experience situational (i.e. everyone), temporary (i.e. many if not most people), and permanent disabilities. For example, a new parent situationally loses the use of one arm when holding a baby. An arm fracture temporarily removes the use of an arm, and an amputated arm is of course permanent. The Persona Spectrum attempts to exploit the imagination of the situational and temporary to appreciate, integrate, and act upon the accessibility requirements of those with a permanent disability.



Accessible Building and Urban Design



“In my work, I often ask people to imagine what a radically inclusive future would look and feel like. Rather than making incremental changes to a built environment that has, for hundreds of years, excluded many people by design, I want us to be bold. I encourage people to ask for accessible spaces that are generated from a place of unapologetic, authentic need, unbridled creativity, and collective care.”²⁸⁴

—Hannah Silver, disability activist and Urban Designer, Portland State University

Design is a vital means by which society expresses concretely its values of mobility, autonomy, and economic participation. The accessibility provisions of the UN CRPD emphasize as Point One that “buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces” must be designed and built to enable independent living and full participation. In addition to the accessibility provisions of Article 9, Article 19 of the UN CRPD outlines the right of people with disabilities to live independently in the community, with choices equal to others, including the choice of location and residence.²⁸⁵

The journey toward an ethos of accessibility in physical design has been a long and incremental one. In the Post-War era, the University of Illinois in Urbana-Champaign had the largest college program for students with disabilities (it was also the first wheelchair-accessible campus). Its program director, Timothy Nugent, drilled into his students the notion that the world outside of the school would be inhospitable and even hostile toward making accommodations or adaptations to meet their accessibility needs. He was the leading influence in the 1950s and 60s for adaptive architecture, but the emphasis in this era was on design adaptations that would be acceptable and inconspicuous.²⁸⁶

But despite considerable progress in the ensuing half century, the world is a long way from achieving the UN goal of enabling widespread independent living and full participation. Consider, for example, that over half the world’s schools are not wheelchair accessible. Nearly 80% of the world’s residents are unable to evacuate their premises (or would face significant difficulty doing so) in the event of a disaster such as a fire.²⁸⁷



“In urban planning and design, [ableist] prejudices are played out and reflected in the built and digital form – through our housing and streets, infrastructure, interiors and exteriors, public and private spaces. Exclusion of body-mind diversity is far and wide – disabled people are constantly reminded that “you don’t belong—the world is not built for you.”²⁸⁸

— Lisa Stafford, Leonor Vanik, & Lisa K. Bates. “Disability Justice and Urban Planning”

Urban Planning

As a recent review of disability and urban planning notes “ableism exists across urban and regional planning, yet it is largely unknown, untaught, and unchecked in planning education and practice. It is entrenched in urban policy, codes, transport systems, and in the designs of our streets and communities.”²⁸⁹ Even progressive urbanists often fall into ambivalent ableism - think of “walkability scores” or the narrowcasting of universal design (discussed later in this scan) as merely in the realm of physical design.

Access to the public realm within a city, a vital requirement for democracy to function, is not just a matter of physical access. As Canadian disability activist Gabriel Peters notes “Carding and street checks, the criminalization of poverty, systemic racism and ableism – all these things are barriers to accessibility of public space and active transportation for disabled people. I can’t imagine something more fundamental to active transportation and accessibility than the idea of being able to go outside without worrying about someone calling the police on you for existing in public space and that resulting in your arrest or death.”²⁹⁰

In recent decades, there has been a shift towards a more inclusive approach to urban planning, with an emphasis on accessibility for individuals with disabilities. This has resulted in the implementation of universal design principles, such as providing curb cuts, accessible public transportation, and accessible buildings. As reported in the Institute’s Scan on Aging and Thriving in Canada, numerous cities have also declared age-friendly strategies to help guide their planning (though with wildly different implementation commitments). Age-friendly strategies can be a very useful corollary to disability-friendly planning commitments.



Accessible Building and Urban Design

An example of how certain urban priorities or movements have been reframed is the shift from pedestrian and cycling advocacy and infrastructure toward the less tokenistic, more inclusive notion of “active transportation”. A simple example of a universal design spec that enhances safe local mobility, not just for seniors and people with disabilities, but for everyone, is automated pedestrian crossing signals at all intersections (which is actually cheaper than the non-universal design alternative of installing “beg buttons”). Seattle requires automated pedestrian signals at three quarters of the city’s intersections.²⁹¹

Some countries set a higher standard for planning. One standout example is Norway, which has embedded universal design as a required component of urban planning across all municipalities.²⁹² Some cities also set a higher standard for accessibility in land use planning, transportation planning, and building requirements. In the US, the ADA requires municipalities to be compliant with a minimum set of physical accessibility standards. But some municipalities go beyond these minimum specifications. Some cities in the US, for example, require all new houses to include a full bathroom and bedroom on the main level.

SPOTLIGHT

AccessTO

AccessTO is a citizen-led effort to provide reliable, verified and quantitative information about accessible spaces in Toronto’s experience economy.²⁹³ It maintains an online database of barrier-free restaurants, bars, cafes, music venues, museums, galleries, and other attractions. Qualifying businesses can display the AccessTO sticker in their window.

Architecture and Building

In Canada today, 50 percent of persons with disabilities regularly experience barriers that limit their ability to move around public buildings and spaces.²⁹⁴ According to the 2017 Canadian Survey on Disability, the most commonly mentioned built environment accessibility requirements are bathroom aids (such as raised toilet or grab bars) (31.7%), a walk-in bath or shower (16.9%), and an access ramp or ground-level entrance (12.4%).²⁹⁵ With the notable exception of New Brunswick’s 100 per cent barrier-free public apartment buildings, the percentage of barrier-free publicly owned housing is mostly in the single digits (most provinces also fail to collect this data across most housing types).²⁹⁶ Alberta is sitting at just under 5% barrier-free status in the only housing category it maintains such statistics for - row housing. The situation is substantially worse with respect to private and commercial spaces. Persons with disabilities often feel like an afterthought in building design. The Calgary Central Library, though a stunning building architecturally, is a local case study in accessibility-as-afterthought.²⁹⁷ In the workplace, 6 percent (over 175,000) of Canadians with disabilities require building modifications or adaptation features, such as accessible parking or elevators.²⁹⁸

In architecture, the trend towards accessibility has grown significantly over the past few decades, with a focus on inclusive design. Partially mandated through building codes and/or incentivized through certification systems, this has led to the creation of buildings with ramps, elevators, and other features that make them accessible to people with disabilities. However, building designers who include elements of accessibility checklists into their designs often use a ‘checklist’ approach, and still manage to miss the mark on creating inclusive spaces. When we see buildings with long winding ramps which limit the access of those who cannot walk longer distances,²⁹⁹ ramps without rails,³⁰⁰ or accessible cabinets or braille being out of reach of individuals in wheelchairs,³⁰¹ these are all examples showing the importance of bringing people with lived experience into the design process rather than just inserting required components. As Canada’s 2022 Disability Action Plan notes, action on “disability inclusive spaces must go beyond physical access, and include communication, awareness raising, and inclusive system design.”³⁰² Architectural accessibility means more than built access elements like ramps, accessible washrooms, and automated entrances. It also means, for example, providing calming spaces, clear wayfinding, and written information in large, high-contrast print. Many civil society groups are active in advocating for accessible spaces, such as The StopGap Foundation, a Toronto initiative that promotes accessibility through brightly colored ramps.



ACCESSIBILITY ICEBERG – THE SIMPLE YET SYSTEMIC CHALLENGE OF ENTERING A RESTAURANT OR RETAIL ESTABLISHMENT

EVENT

Adult with a mobility-related disability requires wheelchair access to enter a cafe, pub, restaurant or other retail establishment. There is no ramp or lift accompanying stair access and the door is hand pulled and narrow.

PATTERN

- This is a common occurrence on main streets especially.
- Nearly 60% of retail businesses in Canada are not wheelchair accessible.

PRACTISES

- Some businesses voluntarily provide access, particularly newer businesses or franchised businesses.
- Some businesses are setting a new practice standard, whether by virtue of being owned by a person with a disability, as part of a local community commitment, or as part of an ESG metric if a publicly traded franchise.
- Staff lack accessibility customer service training.

POLICIES

- Ontario, Manitoba, and Nova Scotia have rules requiring nearly all retail businesses to be wheelchair accessible. Rules are being developed in BC. Other provinces do not (or it is a patchwork).
- Municipal building codes often lack accessibility provisions.

INSTITUTIONAL BEHAVIOUR & STRUCTURES

- Able-bodied people own 99.95% of small and medium businesses in Canada (99.98% in Alberta)
- Building and renovations sector, as well as architecture and design professions, continue to under-consider accessibility requirements
- Absence of a universal design or human-centered/inclusive design ethos or widespread practice

MENTAL MODELS & CULTURAL ASSUMPTIONS

- Systemic ableism
- Small business off the hook because of economic sacrifices, reliance on 'bootstrapping', etc.
- 'Social contract' that preferences personal responsibility over societal responsibility
- Culture in the engineering and allied professions that resists empathy-based action

Accessible Building and Urban Design

It can be particularly challenging to implement accessibility retrofits in historic neighbourhoods or mainstreets, where heritage values can sometimes compete with or challenge accessibility requirements. In Ontario, the implementation of the AODA, requiring businesses to be accessible, has posed particular challenges to the province’s many historic mainstreets. But as a guide produced by the Ontario BIA Association notes, accessibility should be top of mind for any business wanting to maintain market share with an aging population. Moreover, most of the provisions are low (or zero) cost, and there are many creative solutions for structural adaptations, as well as business model adaptations like introducing online shopping and home delivery options.³⁰³



Building Codes and Architectural Standards

Universal and inclusive design principles are also slowly making their way into building codes and architectural design standards. In Canada, the National Building Code and Canadian Standards Association (CSA) provides a baseline set of standards. But beyond this, the country is a patchwork of provincial and municipal standards and codes. Ontario’s Building Code is being updated to the standards of the OADA, but most other provinces are yet to have legislated accessibility requirements beyond public buildings. Section 3.8 of the *Alberta Building Code* has Barrier-Free Design provisions (nowhere near as rigorous or as universally applicable as Ontario.³⁰⁴ Local municipalities in Alberta may mandate additional measures for municipally-owned spaces, such as Calgary’s Access Design Standards.³⁰⁵ Absent this, many developments rely on the Canadian Standard Association’s *Accessible Design for the Built Environment*.³⁰⁶ There are also a number of guides produced by nonprofit groups, such as the Accessibility Signage Guidelines authored by Braille Literacy Canada.³⁰⁷

California has its own accessibility standards, through the *California Building Code*, that are stricter than the federal ADA standards. As an example of how this Code builds in universal principles it requires all public swimming pools to be fully accessible, something that in the past would have been restricted to special rehabilitation centres.³⁰⁸ In the UK, much like Ontario’s OADA, the Equality Act and accompanying Building Regulations (passed in 2010) require accessibility in new and renovated buildings.

The Rick Hansen Foundation Accessibility Certification™ (RHFAC) program works to help improve accessibility of the built environment in Canada.³⁰⁹ The Certification is a national voluntary rating system that measures and certifies the level of meaningful access of buildings and sites. The rating system, last updated in 2020, works with a team of trained certification professionals to help property owners and managers measure the accessibility of their sites and promote increased access through the adoption of Universal Design principles.³¹⁰ The Foundation also partners with Athabasca University to provide building accessibility training.³¹¹

SPOTLIGHT

The Parkdale Community Association Outdoor Rink

Alberta’s first outdoor community rink that is inclusive and accessible to everyone, the Parkdale Community Association Outdoor Rink provides public access to outdoor ice, as well as for organizations like the Calgary Sledge Hockey Association. The facility, designed with Darby Lee Young’s firm Level Playing Field, has accessible change rooms and barrier-free pathways to the ice surface. The project received the 2022 City of Calgary Award for Universal Design, but it remains to be seen whether this will serve as a prototype for city-wide public rink standards.



Accessible Housing

In Canada, the trend toward deinstitutionalization did increase opportunities for independent living in the community, but it also was a factor in pushing a subset of people into precarious, street-involved, or outright unhoused conditions. In recent years, there has been a growth in support for innovative housing models, such as supportive living, that can help individuals with disabilities to live independently and fully participate in their communities.

Finding accessible accommodations, as permanent housing or during travel, can be challenging for a number of reasons. Some adaptive or accessible units have accessible drawers or showerheads which were then placed too high for someone in a wheelchair to access without another person.³¹² Labeling these spaces as accessible can be misleading if a person is expecting an independent experience. Relatedly, housing or accommodations may have accessible units, but how spaces are assigned can be inappropriate or create additional barriers. Rather than having catch-all categories (i.e. a spot to request an accessible unit), it can be beneficial to have fill-in-the-blank spaces or options in registration and application forms. For example, consider a hotel form that allows guests to select if they prefer to be near or far from the elevator. This allows those who need less sensory stimuli or someone who can only travel short distances to request a space without signing up for an accessible unit.

Much like other domains of innovation, accessible housing benefits from a convergence of technological and design frameworks:

- Universal design principles can be applied to housing to make it accessible and usable by people with disabilities, including features such as wide doorways, lower light switches, raised toilets, and bars on bathroom walls.
- Smart home technology can be used to control lighting, heating, and appliances with voice commands or through a smartphone app, making it easier for people with disabilities to live independently.

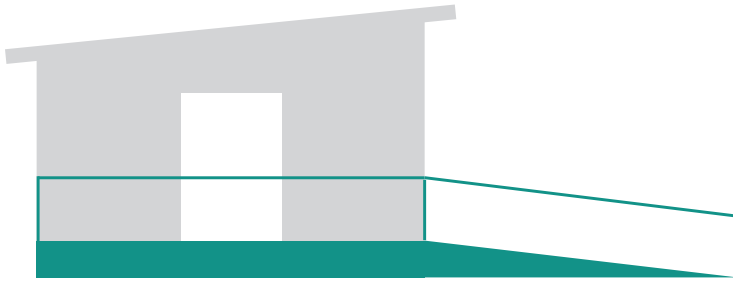
- Assistive technology - increasingly also able to integrate into smart home technology - includes such features as automatic doors, elevators, and voice-activated lighting. There are a range of technologies designed for older adults, such as various kinds of fall detectors and voice activated chatbots, that will enable aging in place for months or even years longer than would otherwise be practical.
- Universal home modification services provide people with disabilities with the support they need to modify their homes to meet their accessibility needs. These services typically involve a comprehensive assessment of a person's home and can include modifications such as the installation of ramps, handrails, and accessible bathroom features.
- Even modular construction, a method of building that involves constructing pre-fabricated components off-site and then assembling them on-site, is becoming increasingly popular for accessible housing as it allows for quick and efficient construction of homes that can be customized to meet the needs of individual users.

Such innovations are helping to improve not only accessibility, but autonomy, making it easier for people with disabilities to live independently and participate more fully in their communities outside of congregate or institutional settings.

In 2019, Canada passed into law the National Housing Strategy Act (NHSA). The NHSA notes that housing is essential to the inherent dignity and well-being of the person. Despite this strategy, Canada has had a rapidly worsening housing crisis, fueled by inflation, high interest rates, financialization, a construction trades shortage, rising immigration numbers, and many other contributing factors. New housing stock - not just social housing, but market rental, and entry-level owner-occupied, is also slow to get built at the scale required.

Future of Home Solutions Lab

One notable bright spot investment stemming from the NHSA is the Future of Home Inclusive Solutions Lab, a project stewarded by Edmonton's Skills Society, in partnership with Inclusion Alberta, Civida (formerly Capital Region Housing), and Homeward Trust, to address the gaps in housing for people with developmental disabilities.³¹³ Using inclusive design and other socially innovative participatory techniques, the lab is engaging those with lived experience to develop and prototype inclusive and affordable housing solutions in Edmonton.



Often conversations about the accessibility of housing are focused on meeting basic needs and providing housing, without consideration of meeting diverse physical, cultural, or community needs, especially when more advanced adaptations are required.³¹⁴ More organizations are turning their attention to creating housing that meets a variety of needs beyond those that specifically serve people with disabilities. For example, Calgary’s Horizon Housing, which provides a range of accessible housing for people with mental health and mobility challenges or low-income families and individuals, has continued to expand its portfolio of affordable, accessible, supportive housing. It has also recently joined forces through a rare (in the nonprofit world) merger, in this case with Forward Housing.³¹⁵

However, it is essential to not rely just on nonprofit community organizations to fill the housing gap. Organizations that serve or are led by people with disabilities have valuable insights into how housing can and should be more accessible, but they should not be expected to carry the responsibility of providing accessible housing. As one conversation participant noted “there is such an increasing demand and the government is looking to nonprofits to provide solutions, but we would then have to compete in the market for things like land acquisition and construction and that is not our expertise.”³¹⁶ In 2022, Alberta’s Disability Advocate, in its report to the Minister of Seniors, Community, and Social Services, expressed concern over the lack of affordable housing that is also accessible.³¹⁷

SPOTLIGHT

Housing for Health

Housing for Health, based at the University of Alberta Department of Medicine and funded by the Public Health Agency of Canada, is an initiative “that aims to improve the health and well-being of community residents in Alberta and across Canada.”. Housing for Health focuses on evidence-based insights on how the built environment affects health and well-being, including physical activity levels, access to healthy foods, and social connection, “showing that strategies that improve the healthiness of communities can have co-benefits for accessibility, the environment, and even our businesses and the economy.”³¹⁸ This is notable, as it is relatively rare for departments of medicine to apply an interdisciplinary lens or systems-approach.



Accessible Wayfinding



“When you see a person with a disability, don’t focus on their condition. Instead, think about how the environment and assumptions make the world less accessible. Consider whether a building has ramps, whether a comedy show or basketball game provides sign-language interpretation, whether the signs at an airport are placed high up or in small font, or whether the lighting at a restaurant is dim... While a disability begins with a physical condition, it is the social policies we enact and the attitudes we hold that truly disable.”³¹⁹

—Paras Shah, Former Crown Prince of Nepal

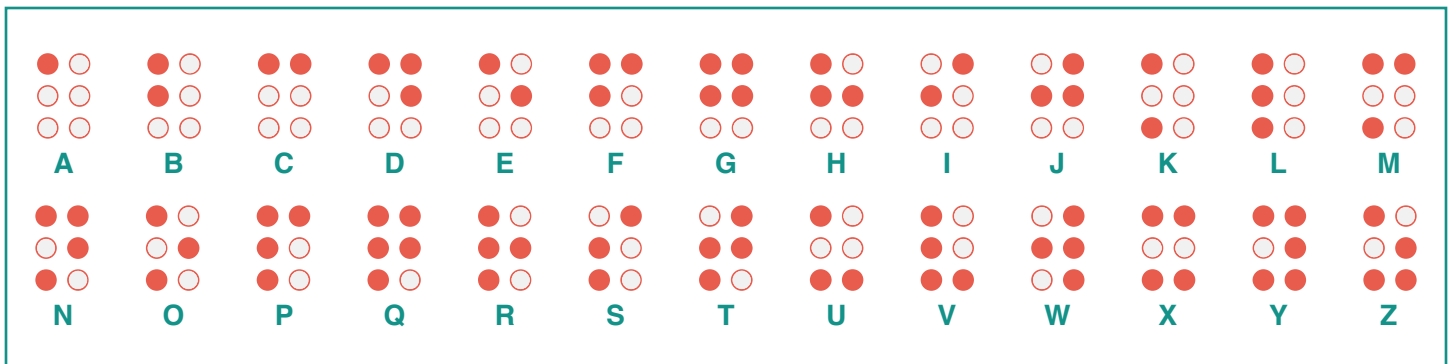
Communication

While communication is a dimension of accessibility that suffuses virtually every other realm described in this Scan, it is worth mentioning in its own right. There are three innovations, in particular, that have revolutionized the accessibility of communications - sign language, braille and closed captioning. Digital communications will be addressed in a subsequent section.

In the early days of the *schools for the deaf*, there were many different sign languages being used across Canada. However, as more and more hearing impaired students began attending the schools in the 19th Century, a standardized sign language began to emerge. This new language eventually became known as American Sign Language, or ASL.³²⁰ Transformative in its impact, today ASL is recognized as a complete and independent language, with its own linguistic structure, vocabulary, and cultural norms, and is used by millions of people in North America.

Another major innovation was Braille. In 1821, Louis Braille was introduced to a military code developed by Charles Barbier, which was intended to be read by soldiers in the dark using raised dots and dashes on a flat surface. Braille was intrigued by the idea and began working on a modified version of the code that could be used for reading and writing more general literature. Braille spent several years refining the code, which eventually evolved into the system of six dots that we know today.

Closed captioning, initially developed in the 1970s, is the process of displaying text on a television, movie, or video screen that corresponds to the audio track. Initially used to provide access to content for individuals who are deaf or hard of hearing as well as for non-native speakers, it has proved to be an indispensable universal design spec on all broadcast motion-picture-based entertainment and information, helpful for people in noisy environments, who have trouble discerning accents, to enhance retention (some pedagogical theories contend that information absorption is best when simultaneously heard and read), or for people living with certain cognitive or learning disabilities. Closed captioning, extended now beyond broadcast, cable and satellite cable services to streaming platforms, is now a requirement for all publicly distributed media regulated through the Canadian Broadcast Standards Act.³²¹ A related communications accessibility tool - the web-based Communication Access Realtime Translation (CART) - provides live, word-for-word transcription in both official languages of speech to text so that individuals can read what is being said at public events, in group settings and at personal appointments on a laptop or a larger screen. This is critical for accessible events planning, as not all people who are deaf or hard of hearing can use ASL.³²²





Transportation

In addition to the accessibility provisions of Article 9, Article 20 of the UN CRPD aims to ensure personal mobility with the greatest possible independence for persons with disabilities.³²³ Many adults with disabilities require specialized transportation services, including accessible buses and taxis, to get around their community. They may also need assistance with planning trips and navigating public transportation systems. Many also use active transportation pathways and infrastructure (e.g. via adaptive bicycles, quadracycles, mobility scooters, wheelchairs, and so on).

There are many ways in which transportation, including the design of streets, sidewalks, and public transit systems, presents barriers. The very fact that North American cities are designed to be automobile-oriented is a source of countless barriers, and is also a contributor to a variety of health problems, some *resulting in* disability. When viewed through the social lens of disability, our dependence on driving is a failure of urban and transportation planning (or its acquiescence to political and market forces that lead to auto-oriented communities).³²⁴ Many Canadians with disabilities are transport-captive; a national issue that is particularly acute in smaller isolated communities in the Mid-North, Far North and throughout most of Western Canada.³²⁵ As the population ages, this is an important systems-challenge; What might transportation look like if it was considered a vital public utility rather than assumed to be the purview of the private, autonomous realm?

The early 20th century saw the first accessible streetcars and buses in some major cities. By the mid-20th century, specialized transportation services, such as paratransit, were becoming more common for people with disabilities who could not use regular public transportation. In the US, the Americans with Disabilities Act (ADA) of 1990 established specific guidelines for accessible public transportation, including requirements for low-floor buses, kneeling buses, and accessible train platforms. In the 1990s and early 2000s, the widespread adoption of the accessible minivan and the growth of ride-hailing services, such as Uber and Lyft, provided new options for private transportation. The development of accessible parking and increased enforcement of accessible parking laws has also helped to improve mobility for people with disabilities. In recent years, the use of technology, such as GPS and real-time transportation information, has made it easier for people with disabilities to plan and navigate their trips.

Canada's *Accessible Transportation for Persons with Disabilities* regulations describe the legal mandates that are required to make all federally-regulated transportation, including air travel, interprovincial and international passenger rail, bus and ferry service, and security and border crossing accessible.³²⁶ In Calgary, Fair Calgary Community Voices is a community collaboration which advocated for the first low-income transit pass in Canada that can be used on paratransit as well as through fixed route service (i.e. public transit).³²⁷ Following a great deal of advocacy from many groups, including the Alberta Ability Network, the program is now funded by both municipally and provincially. Encouragingly, the City of Calgary has also now adapted an equitable policy stating equitable access to all city services and city subsidized programs.³²⁸ Financial equitable access to public transport continues to expand into more municipalities across Alberta to begin to address inter-regional travel within and between smaller cities.³²⁹ Public accessible transportation has challenges in sprawling, under-resourced, Canadian cities, and may not be serving persons with disabilities well enough. Nearly 800,000 Canadians with disabilities consider themselves housebound due to their condition.³³⁰ One in six residents attribute this to a lack of specialized transportation, a barrier most frequently mentioned by those with loss of vision.³³¹ A recent report by Radical Inclusion, a grassroots group supported through the John Humphreys Centre for Peace and Human Rights, outlines the significant challenges that people living with disabilities in Edmonton are experiencing, for example.³³²

Calgary's challenges in recent years have been in the spotlight. Calgary Transit Access, the City's specialized public transportation solution for Calgarians with disabilities, is underinvested in, relative to other Canadian cities of comparable size, with often long circuitous, often tedious routes and inadequately trained drivers, making it an unreliable service for most persons living with a disability.³³³ For example, an excellent end-of-year portrait of a person living with dyspraxia, a mobility-limiting motor disorder, and their revealing journey using Calgary transit, reveals a matrix of careful planning, patient waiting, and ubiquitous frustration and inconvenience that most Calgarians would have difficulty relating to.³³⁴ The accessibility taxi system is in even more of a state of neglect; While Calgary used to have over 100 accessible taxis on-call, as part of its Wheelchair Accessible Vehicles (WAV) program, that number is now 52, in a city with a far larger population. For all practical purposes, taxi service is no longer accessible.³³⁵

Accessible Wayfinding

There are also emerging issues associated with new transportation technologies, such as the safety risk posed by quiet electric vehicles to people with vision loss (and EVs are often heavier, so potentially more damaging at the same speed).³³⁶

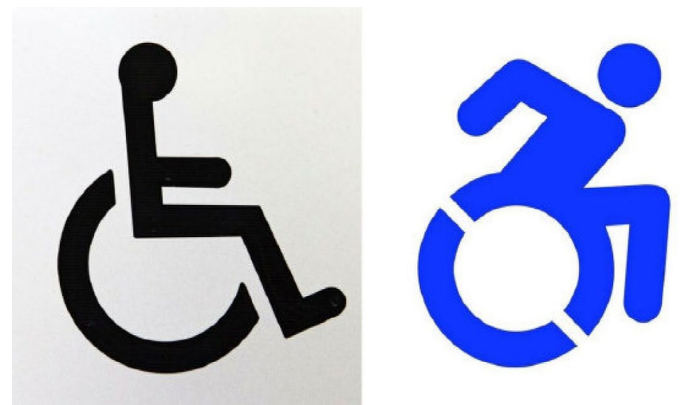
On the positive side, Calgary’s approach to active transportation is more obviously inclusive. The Calgary’s Pathway and Bikeway Network (5A) Program, updated in Fall, 2023, uses the core principle of *Always Available for All Ages and Abilities*.³³⁷ This implies building active transportation infrastructure for all to use year-round.

Wayfinding through Symbols and Signage

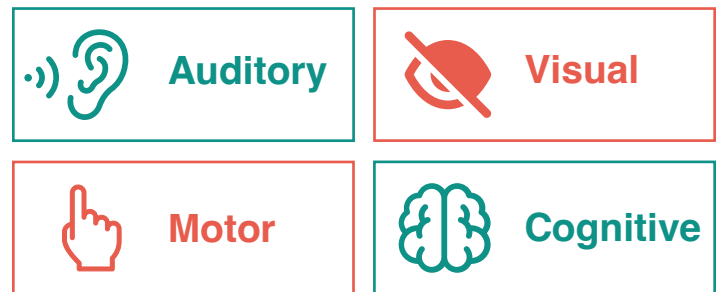
The history of innovations in wayfinding for people with disabilities can be traced back to the 19th century, when the first raised-letter signs and braille were introduced to help people with visual impairments navigate public spaces. In the mid-20th century, the development of new materials, such as photoluminescent and tactile signs, allowed for better wayfinding solutions in low-light conditions and for people with both visual and physical impairments. The 1990 ADA established specific guidelines for accessible signage, including requirements for typeface, size, contrast, and the use of braille. In recent years, technology-based innovations, such as audio-enabled and GPS-based navigation systems, have been developed to enhance the wayfinding experience.

Braille, a tactile writing system that is widely used by those with vision loss to read and write, can also be used in wayfinding in the built environment, particularly in public and private buildings or spaces. Braille most frequently appears on elevator buttons and signage, as well as restroom signs, but it can also be used on menus in restaurants, to demarcate room names and numbers, to provide museum and art gallery interpretation, and for wayfinding in airports and transit stations. In general, Braille is most commonly used in public buildings, such as schools, government buildings, museums, and transportation hubs. The US ADA requires Braille to be used in certain public spaces, such as elevators, restrooms, and exit signs. Some state and local building codes may also require Braille to be used in additional locations or for other purposes.

A number of universal, or near-universal, graphic design icons have been developed that assist with transportation, wayfinding, or identification of specific accessibility requirements. The original International Symbol of Access, designed in the 1960s by Susanne Koefoed, is one of the most widely used and recognized icons in the world. While the ubiquitous presence of the symbol has contributed to accessibility being part of the visual language of navigating our day-to-day world, it is also a fairly static symbol. The Accessible Icon Project is a work of design activism encouraging businesses and other organizations to adopt a more active icon appropriate to the 21st century.



The following icons are increasingly used in the context of digital assistive technology, but also increasingly in the built environment.



While there have been tremendous strides in transportation, from accessible taxi services and wheelchair-accessible buses to adaptations in subway and light rail car and station design, there is much work to be done. A 2021 study by Accessible Transportation Canada (ATRACAN), for example, notes that in order for Ontario to reach its nation-leading 2025 accessibility targets, it will have to take the following measures:³³⁸



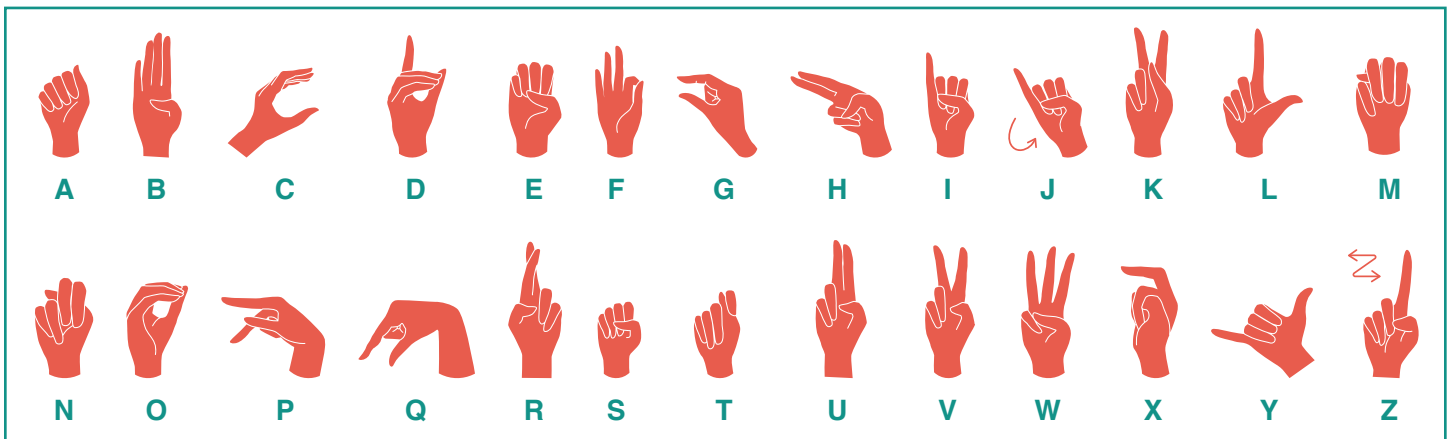
Accessible Wayfinding

- “Greatly increase standardization across municipalities and regions for on-demand transportation with respect to licensing, regulations, training, technology, and customer & driver rights
- Broaden travel borders for both public and private accessible transportation providers
- Support development and implementation of technologies that are public- and industry-facing
- Create incentives to make on-demand taxicabs more economically viable
- Developing measures of success tied to industry success and user experience”

SPOTLIGHT

Krooshl

Krooshl is a Calgary-based start-up that uses the international accessibility standards to identify businesses and community venues accessible, highlighting these through geolocation. It also operates in Edmonton.³³⁹





Adaptive and Assistive Technology



“Improving the assistive technology system means developing and strengthening its four components: products, provision, personnel and policies. Where possible, assistive technology should be integrated within health and social care systems.”³⁴⁰

—WHO and UNICEF, Global Report on Assistive Technology (2022)

Among Canadians with physical disabilities, 45 percent require at least one type of aid or assistive device or an accessibility feature in their home.³⁴¹ Assistive technology refers to products and devices that are designed to assist individuals with disabilities in performing everyday tasks, and to enhance functionality, comfort, and mobility. In recent decades, industrial designers have worked to create products that are both stylish and functional for individuals with disabilities, such as hearing aids, prosthetics, and adaptive equipment. Adaptive technology refers to devices, tools, or systems that are modified or customized to meet the needs of people with disabilities and help them perform tasks more efficiently - tasks that they would otherwise be unable to complete. It is an adaptation of their technological environment to meet their needs. The difference between adaptive and assistive technology is subtle, and there is such a liberal overlap that they are nearly synonyms, and are generally treated as such in this Scan.

Such technology can include both low-tech solutions such as canes, magnifying glasses, and eyeglasses; and high-tech solutions such as speech recognition software, hearing aids, and electronic wheelchairs. Access to assistive technology for children with disabilities is vital to access education, participation in sports and civic life, and preparing for employment. Children living with disabilities have the additional challenge of requiring much more frequent adjustments or replacements of their assistive products as they grow.

There are now thousands of organizations - commercial and nonprofit; academic and community-focused - across North America involved in co-designing, developing, testing, disseminating, and utilizing adaptive technologies. Locally, the Calgary Adaptive Hub convenes groups designing, testing, and using adaptive technologies.

Last year, the Global Report on Assistive Technology presented for the first time “a comprehensive dataset and analysis of current assistive technology access, drawing the attention of governments and civil society to the need for, and benefit of, assistive technology, including its return on investment. The Global report, produced by the World Health Organization and UNICEF sets out ten recommendations for improving access to assistive technology, which in turn support the achievement of the Sustainable Development Goals, inclusive Universal Health Coverage, and alignment with the Convention on the Rights of Persons with Disabilities.”³⁴² Among the report’s many findings, the majority of the world’s people who require assistive technology don’t have access, there are extremes of access inequality among nations (from a low of 3% to a high of 90%), and by 2050 it is estimated that 3.5 billion people will require some form of assistive technology.³⁴³ The Report makes a powerful appeal for integrating all of the design-frameworks discussed in this Scan, overlaid on a rights-based framework:

“There are many barriers to accessing assistive technology, including lack of awareness and affordability, lack of services, inadequate product quality, range and quantity, and procurement and supply chain challenges. There are also capacity gaps in the assistive technology workforce, and a low policy profile for the sector. In addition, people may also face barriers related to their age, gender, type and extent of functional difficulty, living environment and socioeconomic status. It is therefore important that strategies to improve access to safe, effective and affordable assistive technology employ a people-centred, rights-based approach, actively engaging users in all aspects of assistive technology.”³⁴⁴



Evolution and Future of Adaptive Tech

Over the last century, adaptive technology has evolved significantly. In the early days, it was mainly focused on providing basic support, such as simple prosthetics, crutches, and wheelchairs. As injured veterans returned to North America at the end of World War II, there were two trends that accompanied this - the demand from veterans for less ‘emasculating’ design solutions for prosthetics and to enable ‘manly’ pursuits like autonomous automobile driving, and the pressure from the broader society for design modifications to be as subtle and invisible as possible, so as not to draw undue attention to those who require assistive solutions.³⁴⁵ However, with the advent of computers and the development of more advanced materials, the field of adaptive technology has rapidly grown, with the rate of innovation growing almost logarithmically.

Medical technology breakthroughs in the last few decades have been extraordinary in many realms of disability. For example, cochlear implants, developed in the 1980s, have been transformative for hundreds of thousands of hearing impaired individuals.³⁴⁶ But they also were the first major innovation in surgically implanted neural interface technology.

Some of the most promising and exciting breakthroughs in adaptive technology over the last decade include robotics, home-integrated systems, wearable technology, speech recognition, eye-tracking and gesture control, AI-assisted technology, 3-D printed technology, and virtual and augmented reality (which expands the range of activities, environments, and experiences that can be ‘accessed’).

These are further enabled through exponentially more powerful computer-assisted design (CAD), composite materials such as carbon fibre and fibreglass, lightweight metals such as titanium and aluminum, and biocompatible alloys like cobalt-chromium used in the development of orthopedic devices such as artificial joints and spinal implants. The use of advanced polymers, such as silicone and polyurethane, has enabled the development of soft, flexible prosthetics and orthotics that can conform to the user’s body and provide improved comfort and mobility.

Shape memory alloys, such as nitinol, are being used to develop new types of assistive devices that can change shape in response to changes in temperature or external stimuli. For example, shape memory alloys can be used to develop prosthetics that can be adjusted to different positions or to develop exoskeletons that can provide additional support and stability to the user.

The use of 3D printing has revolutionized the development of assistive and adaptive technologies by enabling the rapid production of custom-fit devices. This has greatly improved the accessibility and affordability of assistive devices, making them more widely available to people with disabilities.

Smart textiles, such as wearable sensors and intelligent fabrics, are being used to develop new assistive devices that can monitor and respond to the needs of the user. For example, smart textiles can be integrated into orthotics to provide real-time feedback to the wearer and can be used to develop wearable devices that can detect and respond to changes in the user’s environment.



Adaptive and Assistive Technology

The use of exoskeletons in automobile manufacturing, to add to and augment workers' strength and endurance limitations, is a universal design innovation that holds potential for people with certain musculo-skeletal disabilities. Some exoskeletons are specifically designed for high-performance athletes, providing additional strength and stability to enhance performance.

Biomedical and Biomechanical Technology

Rapid advances in assistive devices are an important domain of research and development across many fields, but increasingly in the bio-mechanical sciences. Certain new technologies like gene editing and transhumanist technologies have some incredible current and potential applications. But in other ways, these technologies are fraught, especially from the perspective of the disability community. Gene editing, if not guided by strong ethical frameworks and regulations, could develop to become a modern version of eugenics - i.e. having the *a priori* ability to rank and select embryos that successfully have been edited fit for purpose. Over time, without strong international regulation and enforcement, a genetic caste system could emerge. As the co-discoverer of CRISPR, Jennifer Doudna, herself warns: "The power to control our species' genetic future is awesome and terrifying. Deciding how to handle it may be the biggest challenge we have ever faced."³⁴⁷ These concerns notwithstanding, there are many promising potential advanced technological innovations that hold enormous potential; Far too many to recount in these pages.

Last year's iteration of the annual Environmental Scan produced by the Institute for Community Prosperity in partnership with the Calgary Foundation described brain-computer interface technologies (BCIs), essentially mind-machine melds:

We are now seeing applications of BCIs being tested: "More recent advances brain-computer interfaces, neuro-prosthetics, subcutaneous micro-electrode arrays, and other bio-technology, while potentially liberating for people with brain injuries or cognitive disabilities, also offer possibilities for early-stage integration of our biology with the metaverse; Texas start-up *Paradromics' implantable BCIs* use platinum-iridium [microwires] placed under the skull and on the surface of the brain to interface with neurons. These advances signal a kind of proto-"cyborgification", where humans – in a sense - "transcend" our bodily frame."³⁴⁸ BCIs have the potential to revolutionize how people with disabilities interact with technology and the world around them. People with mobility impairments could use BCIs to control prosthetic limbs, while people with communication disabilities could use BCIs to speak through computers. As one example, a device called *Epoc-X*, currently being tested in Toronto, converts brainwave intention patterns of those living with cerebral palsy (and potentially anyone with comparable verbal and physical communication barriers) into actionable commands that a computer can execute.³⁴⁹

Industrial and Artisanal Design

In industrial design, the physical design of products for (typically mass) manufacturing, accessibility considerations are increasingly a driver of innovation.³⁵⁰ Industrial design's adoption of principles of universal design, inclusive design and human-centered design is helping to create products and environments that are more accessible and usable for people with disabilities.

Many start-up communities, libraries, and colleges and universities have been launching makerspaces, physical spaces where artisans and learners in the community can gather and share resources and knowledge, work on projects, and build. Universal design considerations are especially critical in such spaces, as access to such settings is essential to creating and prototype user-designed solutions.



Digital Accessibility



“We live in a digital age of wild possibility. Fed a stream of images like *The Jetsons*, *Her*, *Black Mirror*, and *NASA landings*, I’m as guilty as the next person of associating the word “future” with intergalactic pioneers and shiny, techy gadgets. We are not wrong to think that an accessible future depends on technology, but it is so far from rocket science.”³⁵¹

—Hannah Silver, disability activist and Urban Designer, Portland State University

Twelve percent of Canadians with a disability use an electronic device (smartphone, smartwatch, desktop computer, laptop or tablet) with specialized software and/or hardware adaptations.³⁵² Three of the eight measures that countries commit to under Article 9 of the UN CRPD pertain to enhancing access to electronic technology and digital information. Despite this commitment, over 60% of government websites worldwide are currently not accessible by persons with disabilities.³⁵³ It is further estimated that 97% of all websites globally, a number that is now over a billion, fail to meet accessibility requirements.³⁵⁴ The UN CRPD does not contain a specific Article on digital technology, other than those provisions outlined in Articles 9 and 20, and by implication and interpretation potentially elsewhere.

The computer industry has made significant progress in making hardware and software more accessible to people with disabilities. This includes the development of assistive technologies such as screen readers, voice recognition software, and magnifiers, as well as the adoption of accessibility standards such as those set by the World Wide Web Consortium (W3C). As a recent article in the journal *Nature* points out, the pandemic also created a teachable moment for disability tech: The pandemic showed us that “Supermarkets, restaurants and pharmacies (even outside cities) can deliver; Remote working, medicine and education are possible for many; and social lives can be rewarding without requiring us to leave home.”³⁵⁵

SPOTLIGHT

Calgary Digital Equity Strategy

The City of Calgary began work in spring 2021 and has now finalized a Digital Equity Strategy that identifies the guiding principles and values and builds a road map for how Calgary will reduce the digital divide. The “goal is to make lives better every day by reducing barriers that form the digital divide and helping Calgarians to access devices, internet connections, and the skills required for them to connect online the way they want to.”³⁵⁶

When one speaks of ‘digital access’, there is also an interesting overlap between the accessibility interests of people with disabilities, and the accessibility interests of those who advocate for access to data and knowledge-sharing as a human right, imperative to creating a democratized digital commons. This includes such organizations as SPARC, the Centre for Digital Resilience, the Wikimedia Foundation, and - in Canada - Open North.



Digital Accessibility

Accessible Hardware

There have been several innovations in computer hardware over the years to increase accessibility for people with disabilities. Following are some notable innovations:

- **Alternative Input Devices:** These include devices such as voice recognition software, alternative keyboards, mouth wands (that interact with keyboards), and joysticks, which allow people with disabilities to interact with computers in different ways.
- **Accessible Mobile Devices:** Mobile devices such as smartphones and tablets have become more accessible in recent years, with features such as voice recognition, touch screens, and text-to-speech capabilities.
- **Wearable Technology:** Wearable technology, such as smartwatches and fitness trackers, can also be used to increase accessibility for people with disabilities. For example, some wearable devices can be used to control other devices, such as smartphones, using gestures or voice commands.

Some companies build in more accessibility features than others. Apple, for example, builds screen magnification and VoiceOver—a gesture-based screen reader - into all of their devices.³⁵⁷

Accessibility Software and Applications

There are many software applications and tools that have been developed to enhance accessibility for people with disabilities. Some examples include:

- **Screen readers:** Screen readers are software programs that read the text on a computer screen out loud, making it possible for people with visual impairments to access and use computers.
- **Magnification software:** This type of software magnifies the text and images on a computer screen, making it easier for people with visual impairments to see and use the computer.
- **Voice recognition software:** Voice recognition software allows users to control their computers using voice commands, making it possible for people with physical disabilities to use computers without having to use a keyboard or mouse.
- **Closed captioning and audio description software:** This type of software provides text captions for spoken dialogue and audio descriptions of visual elements in videos and multimedia content, making it accessible to people with hearing impairments.

- **Alternative keyboard software:** Alternative keyboard software allows users to interact with their computers using alternative input devices, such as eye-tracking software, head switches, or on-screen keyboards.
- **Accessibility extensions:** Accessibility extensions, such as extensions for web browsers, can be installed to add accessibility features to existing software applications.

SPOTLIGHT

Pedesting

An app developed by a Calgary start-up company and launched in September, 2023, Pedesting helps people find the easiest, safest and most accessible way to reach a destination.³⁵⁸ Currently in BETA-testing mode, the app uses navigation technology to analyze urban spatial data, combined with personal mobility needs or preferences, recommending the best indoor and outdoor routes possible. Pedesting is co-founded by Nabeel Ramji, who has lived experience with a physical disability and is a recognized accessibility advocate.

Digital Accessibility Standards

There are several digital accessibility standards that exist to ensure that digital products and services are usable by people with disabilities. The Electronic and Information Technology Accessibility Standards (EITAS) is a set of accessibility standards used by the Canadian federal government to ensure that its electronic and information technology is accessible to people with disabilities. Some of the most widely recognized standards used internationally are as follows:

- **Web Content Accessibility Guidelines (WCAG):** Developed by the World Wide Web Consortium (W3C), WCAG is a set of guidelines for making web content accessible to people with disabilities. It provides specific guidelines and success criteria for accessibility in areas such as text, images, multimedia, and navigation.

Digital Accessibility

- **Section 508 of the Rehabilitation Act:** This is a US law that requires federal agencies to make their electronic and information technology accessible to people with disabilities. It includes specific requirements for accessibility in areas such as software, hardware, and websites.
- **Accessible Rich Internet Applications (ARIA):** ARIA is a set of technical specifications for making web content and applications more accessible to people with disabilities. It provides ways to add additional information to web pages, such as accessibility information for screen readers, to make the content more usable for people with disabilities.
- **The EU Web Accessibility Directive:** This is a directive from the European Union (EU) that requires public sector websites and mobile apps to be accessible to people with disabilities.

These standards help to ensure that digital products and services are usable by people with disabilities, and that they can participate in the digital world on an equal basis with others. They provide specific guidelines and requirements for accessibility, and serve as a benchmark for designers, developers, and organizations to ensure that their digital products and services are accessible to everyone. A very simple example is the “Tab Test”: People with certain disabilities, such as vision loss, cannot use a mouse, so a website should be navigable by using the tab key, with web-based text components (menu headers, etc.) highlighted accordingly. Another good rule of thumb is to avoid virtue signaling on websites. Instead, build the tools to the appropriate specs, and then invite people to give feedback.



SPOTLIGHT

Pheedloop

Creating accessible events has become an increasing priority. Hybrid events are being seen as more of a minimum standard than a luxury with an emphasis on ensuring virtual participants in particular can access and engage with content in meaningful ways. One conferencing platform that has stood out from a user’s perspective is Pheedloop, which was recently used for the Canadian Congress on Disability Inclusion and the Ontario Library Association Superconference.

Pheedloop is both WCAG 2.1 AA and AODA compliant,³⁵⁹ and carries a suite of options for users to customize their experience. The level of customization which includes both profiles, for example ADHD Friendly Profile or Vision Impaired Profile settings, or specific settings, including Stop Animations and Monochrome, allows users to discover the arrangement that will best meet their needs.



Digital UX

Digital UX (User Experience) refers to the experience that people have when they interact with digital products and services, such as websites, mobile apps, and software applications. It encompasses all aspects of the interaction between a user and a digital product, including ease of use, accessibility, and enjoyment. The goal of digital UX design is to create digital products that are easy to use, intuitive, and provide a positive experience for the user. This includes considering the needs of people with disabilities and making sure that the digital product is accessible to as many people as possible. Digital UX designers take into account factors such as the user's emotions, needs, and motivations, as well as the physical and digital environments in which the product will be used.

To achieve this goal, digital UX designers use a variety of techniques and tools, including user research, prototyping, testing, and data analysis. They work to understand the needs and goals of users and design digital products that meet those needs in a way that is both functional and aesthetically pleasing. Ultimately, the aim of digital UX design is to create digital products that are usable, accessible, and enjoyable for everyone.

SPOTLIGHT

Inclusive User Testing

A number of new intermediary organizations have emerged over the past couple of years to help broker inclusive user testing. Fable, for example, is an inclusive user testing company that enables software or web designers to connect to people with disabilities remotely and on-demand to accelerate user research, design, and development.³⁶⁰ Sometimes modeled as social enterprises, in Canada these include IncluCity Calgary and the Toronto-based GRIT.



“The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.”

³⁶¹

— Tim Berners-Lee, W3C
Director and inventor of the
World Wide Web

Accessible Cyberspace

While four in five adult Canadians with a disability use the internet, one in five do not, which is a substantially higher figure than the general population.³⁶² Nearly 3 percent of Canadian adults with disabilities require a type of specialized software or other adaptation to access the Internet, though 70 per cent of these people reported that they did not have access to the specialized software or adaptations required.³⁶³ Web accessibility can be especially challenging for small companies to implement, especially if they don't have development capacity or access to their code, which is frequently the case.

The first web accessibility guidelines were introduced in 1999, nearly a quarter century ago. Yet, web accessibility continues to be far from universal. Consider the implementation of cookie banners in recent years, as highlighted in a recent TEDx talk featuring advocate Clive Loseby. While these banners were meant to enhance transparency and choice in terms of collection of browsers' digital data and identity, they were hastily implemented such that they have effectively shut people out of nearly 95% of websites (based on a 2021 study). Loseby notes that someone encountering a website that said “This website is designed for white people only; follow this link to confirm that you are white” would rightly cause an uproar.³⁶⁴



Digital Accessibility

The *Web Content Accessibility Guidelines* (WCAG), currently in WCAG 2.2 draft version, outline universal web accessibility benchmarks, including such elements as minimum font size, colour contrast, the use of text transcripts for audio (and vice versa), and text/audio descriptions for images, functionality with a keyboard (not just a mouse), and many other features and provisions, including for screen readers and accessible keyboard standards. The WCAG, which also functions as an ISO standard, is underpinned by Four Principles of Accessibility, described as follows:³⁶⁵

“Anyone who wants to use the Web must have content that is:

- **Perceivable:** *Information and user interface components must be presentable to users in ways they can perceive. This means that users must be able to perceive the information being presented (it can’t be invisible to all of their senses)*
- **Operable:** *User interface components and navigation must be operable. This means that users must be able to operate the interface (the interface cannot require interaction that a user cannot perform)*
- **Understandable:** *Information and the operation of user interface must be understandable. This means that users must be able to understand the information as well as the operation of the user interface (the content or operation cannot be beyond their understanding)*
- **Robust:** *Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.*

This means that users must be able to access the content as technologies advance (as technologies and user agents evolve, the content should remain accessible). If any of these are not true, users with disabilities will not be able to use the Web.”

There are a number of off-the-shelf widgets, plug-ins, and add-ons that help with accessible web design and enhanced UX. The company *accessiBe*, for example, sells an *accessWidget* interface that allows every visitor to a website to adjust website design, UI and accessibility to their specific needs.³⁶⁶ *WP Accessibility*, built specifically for Wordpress design, is a favourite among many who use screen readers.³⁶⁷ *WP ADA Compliance Check Basic* is a plug-in that checks for the latest version of WCAG compliance.³⁶⁸

SPOTLIGHT

Video Game Accessibility

While games specifically designed for persons with disabilities are becoming more common, modifications to leading industry games are making it easier for players to customize their experience. Projects like *Can I Play That?* provide review games and help players find games that meet their needs.³⁶⁹

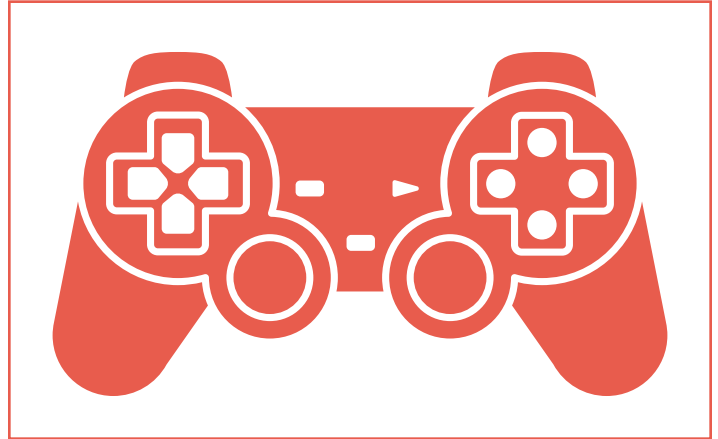
Accessibility and Web3

The newest iteration of cyberspace is often called Web3, a melange of crypto transactions, decentralized autonomous organizations (DAOs), an explosion of AI-assisted tools, and the Metaverse. The Metaverse is, broadly speaking, a virtual space where digital representations of people – avatars – interact in all kinds of scenarios, from the banal to the fantastical.³⁷⁰ The term, which has been around in science fiction for a few decades, was appropriated by Meta CEO Mark Zuckerberg to describe a splendid vision of an “even more immersive and embodied internet” where “you’re gonna be able to do almost anything you can imagine—get together with friends and family, work, learn, play, shop, create—as well as entirely new categories that don’t really fit how we think about computers or phones today.”³⁷¹

Some maintain that Web3 provides users agency over content, data and assets and is built on models of co-ownership and decentralization of decision-making and control.³⁷² Rather than being at the whims of someone else’s platform - typically a large corporation that views you as a product - the ‘promise’ of Web3 is that persons with disabilities will own or co-own not just content, but the platform itself. Web3 tools, in particular DAOs, could be a key in rebuilding equitable systems. But, this rosy assessment has an all too familiar ring to it. Web1 and Web2 were similarly stuffed with liberatory potential in their early days.

Digital Accessibility

It's still early days for Web 3 and the Metaverse, but there are some initiatives that aim to make these new digital spaces accessible and inclusive for people with disabilities. Companies such as Immersive Labs are developing application programming interfaces (APIs) that can be used to add accessibility features such as text-to-speech, voice commands, and alternative control methods to virtual environments. Some companies, such as ViSenze, are developing assistive technologies specifically for the Metaverse, such as tools to navigate and interact with virtual spaces using only one's gaze. There are also communities within the Metaverse, such as the Virtual Ability Island in Second Life, that are dedicated to supporting people with disabilities.



SPOTLIGHT

The Last of Us II

The Last of Us II is the first first-person immersive video game that is fully accessible to people with vision loss.³⁷³ Accessibility features include audio cues, text reading, and automated aiming.



Accessing Democracy: Citizenship, Rights and Participation

Article 29 of the UN CRPD commits nations to provide for the effective and full participation in political and public life on an equal basis with others. It further commits nations to supporting the organization of persons with disabilities within civil society (forming advocacy groups and other associations).³⁷⁴

Accessibility as a citizen-led movement received a huge push at the end of both world wars, as veterans - many of whom were permanently injured in the war - returned as heroes. The War Amps, for example, successfully advocated for services like rehabilitation, investments in adaptive technology, and employment-related services like training programs. The push against forced sterilization (practiced in Alberta, for example, until 1972), and the deinstitutionalization movement led to a blossoming of civil society action in Canada over the half century from the 1970s through the present.

The Federal Elections Act introduced provisions in 2000 to improve the voting process for people with disabilities, including measures to facilitate such as using adaptive voting equipment. The AODA in Ontario sets standards for accessibility in government services and elections, making it more frictionless for citizens with disabilities to participate in the democratic process. Since 2018, Elections Canada “has committed to the full and equal participation of people with disabilities in all aspects of the electoral process, which is to be achieved through the removal of barriers by 2040, as required by the Accessible Canada Act (ACA).”³⁷⁵ The use of accessible voting machines, expansion of advanced polling stations, and the introduction of online voting options are integral to this.

Despite progress on the electoral access front, democratic participation continues to be hampered by rights violations. Of all of the Canadian Human Rights Commission complaints received annually, 54% are on grounds relating to disability.³⁷⁶

Some of the civil society organizations mentioned earlier in this scan, such as the CCD, CACL, and Inclusion Canada, focus at least in part on expanding access to democratic participation. ARCH is a legal clinic that focuses on disability rights and access to justice, providing legal advocacy to ensure equal access to political and legal systems. Many local and regional groups throughout Canada, such as the BC Disability Alliance and Calgary’s Disability Action Hall, work at the grassroots level to advocate for rights, legal access, and equitable participation in democratic processes. Access 2 Accessibility in Halifax provides training and coaching in public speaking for its members.³⁷⁷

Alberta Ability Network’s Newcomer’s Disability Table is creating solutions to help address the service gap for racialized Calgarians with disabilities. A resource guide is available in eight languages.³⁷⁸ Action Dignity, a local non profit serving the diverse newcomer community, also speaks to the success of using cultural brokers to fill gaps by facilitating cross-cultural communication between caseworkers, service providers and clients. Action Dignity employs frontline worker training to help understand the newcomer and refugee experience, including the notion of the “Excessive Demands Clause”, which perpetuates the myth that immigrants and refugees with disabilities are a burden to society.³⁷⁹



Accessible Education

Only 20% of Canadians with disabilities have a university degree compared to 41% of non-disabled Canadians.³⁸⁰ Yet, Article 24 of the UN CRPD asserts that every person with a disability has the right to “inclusive, quality and free” education on an equal basis with others, no matter their disability, gender, race and socio-economic and cultural background.³⁸¹ Article 24 is very clear that educational institutions at all levels - primary, secondary, and tertiary - “employ teachers, including teachers with disabilities, who are qualified in sign language and/or Braille, and to train professionals and staff who work at all levels of education. Such training shall incorporate disability awareness and the use of appropriate augmentative and alternative modes, means and formats of communication, educational techniques and materials to support persons with disabilities.” This means that all administrators, teachers, professors, instructors, and educational support workers must not just be required to accommodate, but must undertake training or professional development to better understand disability and accessibility needs and requirements.

Accessing Specialized Education for Neurodiversity

Our K-12 system is still largely an industrial model. While inclusion and in-school supports have vastly improved over the past few decades, the actual pedagogies, curriculum, and content remain fairly static and standardized in the vast majority of settings. Although public schooling is an important historic innovation for expanding the labour market, promoting social mobility, and enabling universal access to basic education, public schooling (and the vast majority of charter and private school settings for that matter) are not well equipped to address neurodiversity or to help those with learning disabilities or intellectual disabilities thrive.

The prevalence of learning disabilities in Canada among school-aged youth is 8.4%,³⁸² and in the US, one in five students within K-12 have been diagnosed with a learning disability.³⁸³ Yet, most classrooms are set up to mainly accommodate just one type of learner. As ADHD advocate Justin Flink notes, “students are asked to sit still for most of their day, and frequently work alone; their papers are assessed on the basis of their spelling ability, rather than the ideas they contain; and their performance is measured according to their standardized testing ability: just three of the myriad sources of struggle for young people who

learn differently.”³⁸⁴ Many intellectually diverse students underperform in this standardized model, with too many dropping out or discounting their potential to thrive in post-secondary. They are more likely to experience bullying and fewer than 10% of students with learning disabilities enroll in post-secondary education, and more face higher unemployment and incarceration.³⁸⁵ A failure of this system is that students develop low self-esteem, low self-awareness, and a lack of agency. Although individualized education plans - contracts between the school and the child’s family that outline particular accommodations - now exist in most jurisdictions, these are unevenly adhered to or maintained.

Moreover, as Flink points out, “such efforts have failed to tackle the root cause of the problem: a pervasive cultural stigma, and a tendency to conflate learning differences with a lack of intelligence.”³⁸⁶ Both teachers and parents tend to lower their expectations for youth labeled with a learning disability, which contributes to “a debilitating cycle of failure, depression, isolation, and behavioral problems.”³⁸⁷

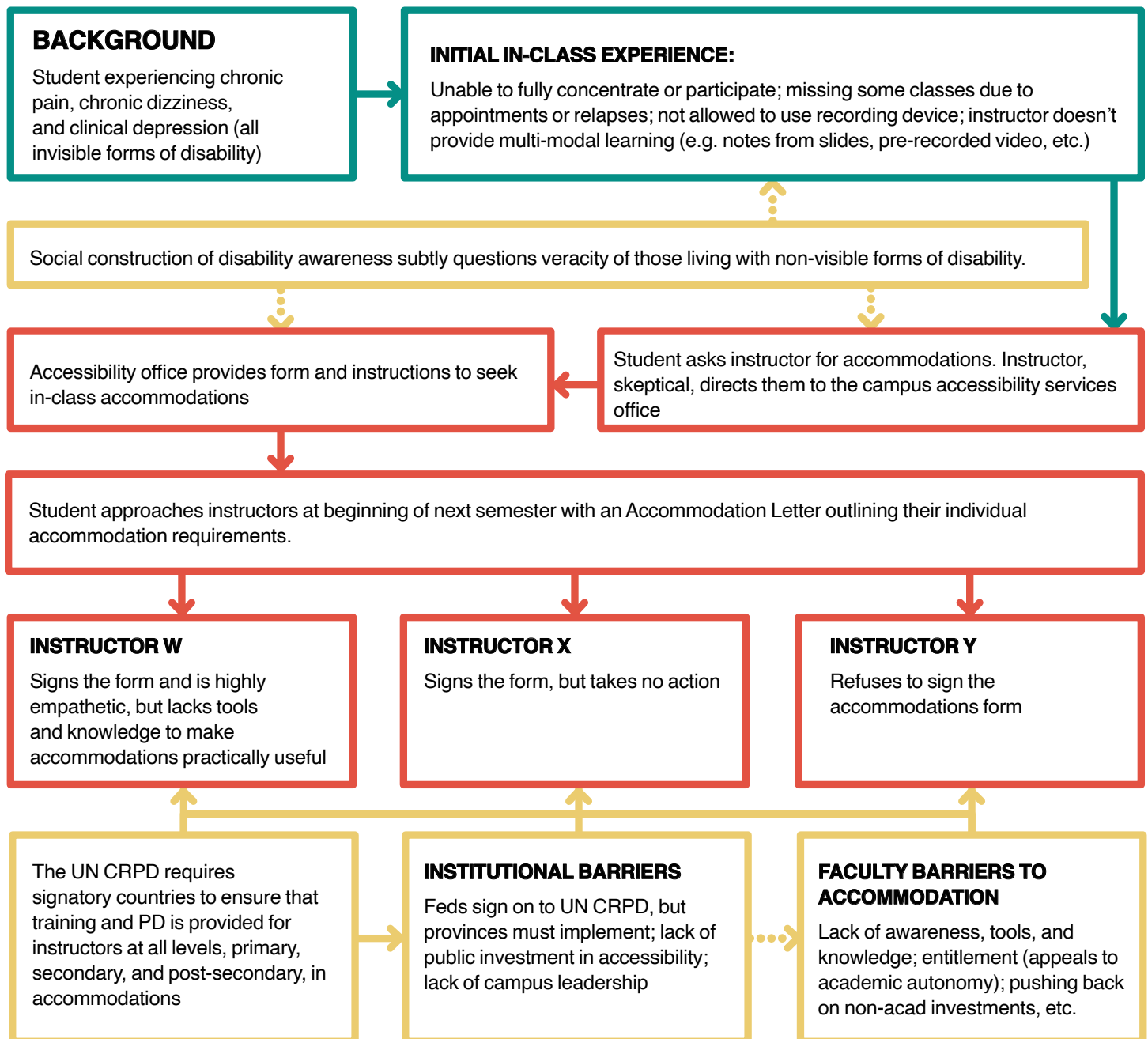
Adults with disabilities may require specialized education and training services, including support for continuing education and job training programs. They may also need assistance with accessing educational resources and finding appropriate training programs. As the pandemic helped able-bodied people appreciate the time, mobility, and productivity constraints of persons with disabilities, the relationship between time and learning is being recalibrated. As engineering professor and disability activist Ashley Shew writes in the journal *Nature* “my non-disabled colleagues are now struggling to adjust, but my team appreciates that ‘clocks should bend to our bodies’, not the other way around. Some disabled people call this concept Crip Time, reclaiming a derogatory term in pride.”³⁸⁸

Additionally, there is a rapidly growing youth mental health epidemic affecting learners especially at secondary and post-secondary levels.³⁸⁹ The National College Health Assessment reveals a nearly three-fold increase in reported anxiety among university-aged students over the past decade, along with a quadrupling in ADHD and a more than doubling of depression.³⁹⁰ As educational thought-leader Alex Usher concludes from these numbers, “the student body we are teaching these days is fundamentally different – fundamentally less well – from any we have seen before.”³⁹¹

Accessing Academic Accommodations

Students must navigate a challenging path to access accommodations in learning environments. The journey map, see below, follows the path of a student seeking accommodations. This student in the example is experiencing an invisible cognitive disability as this experience is often overlooked.

STUDENT JOURNEY MAP – INVISIBLE DISABILITY & ACCOMMODATION



Educational Adaptations

Some of the general adaptations and innovations that education has available to it, with varying levels of uptake, include multi-sensory delivery (visual, auditory, and kinesthetic), using assistive technologies such as text-to-speech and speech-to-text. Some students require accommodations such as the use of a calculator or a quiet testing environment. Modified teaching methods and personalized adaptive learning strategies to adjust learning plans, pace, media, and style of instruction to student’s needs are required (for example, some students thrive with gamified digital math learning, while others thrive with problem-based and/or narrative-based math learning, while still others benefit from role-playing, tactile learning, or cooperative learning). Similarly, some students require a highly structured learning environment while others require the exact opposite. An investment in visual aids (maps, charts, graphs, videos, etc.) beyond text-based learning is also critical. Certain mind-mapping software also exists to help with reading, writing and organizing learning. Psycho-social supports that build self-awareness, self-esteem and whole-person learning are also important (indeed, one of the great benefits of public schooling is socialization, but this can also come with many negative experiences if not paid attention to specifically).

Such adaptations should be universally available - not just to “coded” students - and public resources and investments must be made to enable this, again recognizing the positive long-term ROI.

In a similar vein, professors and other post-secondary instructors must make their teaching and scholarly materials “multi-modal”: Produced in multiple formats that work for people with different physical and cognitive barriers, who have different ways (and rates) of reading, writing, communicating, collaborating, and participating. The paradigm needs to shift from “accommodation” to multi-modality (i.e. universal design applied to accessing learning). Multi-modality actions the universal design principle of “flexibility in use” - providing a wide range of choices in methods of use, so people can customize their experience to fit their needs. Well designed classrooms and student exam spaces are a costlier, but nonetheless essential, part of the mix. A simple example is providing Word or Google documents alongside PDFs, as PDFs can be difficult for screen readers to interpret. Incidentally, universal design principles are not just in relation to accommodation for people with disabilities - they are a framework to address other forms of classroom (or workplace) inequity, including embedding anti-racist practices.³⁹³

The application of universal design to learning results in enhanced student sense of belonging, motivation, engagement, and self-esteem.³⁹⁴

It is also prudent to assess the academic standards by which a student may be barred from entry to a program or course to open up access to education. These standards often include physical requirements based on the expected skills a student needs to eventually be successful in the workplace,³⁹⁵ but there are many opportunities for campuses to determine access by more than just perceived physical expectations. Not only are there many professions where future careers are more knowledge-based than skills-based,³⁹⁶ but also there are creative solutions and accommodations that would address barriers.³⁹⁷

SPOTLIGHT

Eye to Eye

David Flink, an Ashoka Fellow who struggle all his life with a learning disability, specifically ADHD, launched Eye to Eye when he was a freshman at Brown University. The program pairs university students living with ADHD with students in elementary schools living with the same struggles, providing role models to younger students develop metacognition - understanding how their brains worked, how they learned best, and how they can self-advocate for what they needed out of school. They also learn about individualized accommodations and assistive technology that can lessen or eliminate their academic struggles. This doesn’t remove the need for systems change, which Eye to Eye also advocates for, but it provides immediate help to reduce drop-out rates and enhance love of learning for many neurodiverse individuals.³⁹⁸



Accessible Sport and Recreation

Adults with disabilities may require support to participate in social and recreational activities in their communities, including access to accessible parks and recreation facilities, as well as amateur sport and recreation activities inclusive of, and specifically organized by and for, persons with disabilities. Article 30 of the UN CRPD aims to ensure that signatory states provide access to the full range of mainstream sporting, recreation, and leisure activities (e.g. from NHL hockey games to accessing nature in national and other public parks).³⁹⁹

Innovations in the sport and recreation realm have taken place in at least four domains - adaptive technologies, field-building, organized sport, and inclusive community recreation.

The range and level of sophistication of adaptive technologies to enable participation, and performance excellence, is truly staggering; from early inventions like monoskis to aerodynamic ultra-light racing wheelchairs, and bionic prosthetics that uncannily mimic (or in some cases vastly exceed the capacities of) natural limbs. Adapted physical activity (APA) has also exploded as a branch of applied kinesiology focused on enabling participation in the context of sport and recreation. APA services and supports are provided in all kinds of settings requiring active movement or high performance.⁴⁰⁰

Access to Competitive Sport

Organized sport globally and in Canada has made great strides in recent decades on disability inclusion and participation. After a series of demonstration events following World War II, in 1960 the first official Paralympic Games were held in Rome. These games were for athletes with spinal cord injuries and featured 400 athletes from 23 countries competing in archery, athletics, swimming, and wheelchair fencing. The Paralympic Games have grown and evolved considerably, now featuring athletes with a wide range of disabilities, including amputations, vision loss, and cerebral palsy, competing in across 28 winter and summer sports. The Paralympic Games, governed by the International Paralympic Committee (IPC), are now held in the same year as the Olympic Games and are one of the largest international sporting events in the world. The Paralympic movement has gone from marginal to much more visible, with paralympians starting to share the spotlight, alongside corporate sponsorship, product endorsements, etc. with able-bodied athletes. This is an enormous shift in two decades.

The Invictus Games are an international adaptive multi-sport event for wounded, injured, or sick service personnel and veterans. Modeled after the Paralympic Games, with the goal of inspiring and motivating wounded service personnel and veterans on their journey to recovery, the first Invictus Games were held in 2014 in London, featuring more than 400 athletes from 13 nations competing in nine adaptive sports, including wheelchair basketball, sitting volleyball, and indoor rowing. Toronto hosted the Invictus Games in 2017. There are many other international and national sporting events organized and designed for persons with disabilities, including the World Para Athletics Championships in track and field, and World Para Championships in hockey, swimming, powerlifting, dance and other sports. Hockey Canada hosts the Canadian National Para Hockey Championships, and there are national Para sporting events in swimming, athletics, skiing, and many other sports, from lawn bowling to archery.

Nonetheless, issues remain. As paralympian and professor of kinesiology Dr. Danielle Peers at the University of Alberta asks, “what is the relationship of disability sport practices, policies and forms of representation to larger social justice issues around disability as well as other forms of marginalization?”⁴⁰¹

Access to Community Recreation

Community recreation opportunities have also met new standards of excellence in inclusivity and design in recent decades. Inclusive fitness classes, adaptive amateur sports leagues, and adaptive E-sports. There are many simple changes, like increased court dimensions or the introduction of the double-bounce rule in wheelchair tennis, as well as small modifications like adjustable seats, modified paddles, and specialized grips. But it is also more common to see advanced modifications in the context of community recreation, such as wearable augmented reality devices that provide audio and visual cues. Alberta Parks’ *Push to Open Nature* initiative aims “to increase opportunities and invite the full participation of all Albertans in parks”, including barriered Albertans “due to injury, aging or as a caregiver to a loved one.”⁴⁰²



Accessible Sport and Recreation

In terms of accessibility of sport and recreation facilities, New Brunswick, Saskatchewan, and Alberta outperform the rest of the country on most measures, having accessibility features typically in between 80 and 90 percent of facilities across most categories.⁴⁰³ MNP Community & Sport Centre in Calgary, for example, has been recognized by the Canadian Paraplegic Association (Alberta) for its commitment to accessibility, from adaptive workout and high performance training equipment to pool lifts, water wheelchairs, and wheelchair access throughout.⁴⁰⁴ Quebec has the poorest accessibility of the provinces and territories, by quite a wide margin.⁴⁰⁵ Access to public parks is highly variable across jurisdictions. Three quarters of Ontario's provincial parks have been modified to remove barriers to persons with disabilities.

SPOTLIGHT

Rocky Mountain Adaptive

Rocky Mountain Adaptive, founded in 2009 in Canmore, Alberta, creates and provides accessible adventures for individuals (adults, youth and children) living with physical and/or neuro-divergent challenges. With the aim of radically enhancing access to adventure sport and recreation in the Canadian Rockies, and motivated by the phrase "No Limits!", the organization specializes mainly in ski or snowboard-based alpine adventures. Serving everyone from entry-level participants to competitive athletes, the organization provides lessons, guided experiences (including multi-day camps) and equipment rentals.⁴⁰⁶



Accessible Arts and Culture



“...[A]ll bodies and brains deserve joyful participation! People with cerebral palsy dance. Blind and Deaf people go to comic book readings. Disabled people visit museums, parks, the permit counter, and neighborhood association meetings at their local churches and libraries... Joyful access requires that we embrace deviation.”⁴⁰⁷

—Hannah Silver, disability activist and Urban Designer, Portland State University

Article 30 of the UN CRPD not only provides for accessibility of public cultural facilities (museums, galleries, theatres, performing arts venues, etc.), and in the context of media through access to and representation in film and television, but it also mandates that signatory states “take appropriate measures to enable persons with disabilities to have the opportunity to develop and utilize their creative, artistic and intellectual potential, not only for their own benefit, but also for the enrichment of society.”⁴⁰⁸ It also provides for the promotion of distinctive linguistic and cultural expressions unique to segments of the disability community, such as sign language and deaf culture.

The relationship between the arts and culture sector and people with disabilities is complicated. Some art movements - such as “outsider art” or *Art Brut* - have tended to exploit or ‘other’ people with intellectual disabilities. But even within these movements there are many moments of recognition and celebration of such artists. Starting in the 1970s and 80s, there has been much more recognition and support for artists living with disabilities in general. The subgenre of Deaf View/Image Art, also known as De’VIA, “is art that examines and expresses the Deaf Experience from a cultural, linguistic, and intersectional point of view.”⁴⁰⁹ Crip Culture is a movement that emerged in the 1990s, led by artists and activists with disabilities who wanted to challenge ableist norms and create a more inclusive society. Crip culture often incorporates humor, satire, and a DIY aesthetic. Dance and theatre companies are increasingly creating performances that feature dancers and actors with disabilities. Representations of characters with disabilities in media have been improving with more frequent storytelling specifically focused on people with disabilities, and also storylines where a disability is not a central feature. For example, the television series *Push Girls* broke new ground chronicling the lives and drives of four women living with paraplegia. However, there is still media that portrays disabled people as villains or casts non-disabled actors to play people with disabilities amidst increasing calls to curb these practices.⁴¹⁰

Three quarters of Canada’s arts and culture facilities have accessibility features, with Saskatchewan and Alberta leading the way with roughly 80 per cent of arts and culture facilities having accessibility features.⁴¹¹

Newfoundland has the fewest, at just under 60 per cent. Toronto’s ReelAbilities Film Festival is the largest disability film festival in North America.⁴¹² Operated by the Wagner Green Centre for Access & Inclusion at the Miles Nadal JCC, the festival showcases shorts, features, and documentaries about Deaf and disability cultures. The design of concert, events, and sporting venues has often treated accessibility as an afterthought, with wheelchair accessible seating, for example, relegated to the back. Accessibility advocates are expecting Calgary’s new events centre, with a jaw-dropping \$1.2 billion price tag, to feature state-of-the-art provisions, with one interviewee noting that “Accessibility should be the default; it should be embedded into everything, from the design stage, through to purchasing concert tickets, and the experience for disabled fans at the show itself.”⁴¹³

Inside Out Theatre, for example, is “a Deaf, Disability, and Mad Theatre company invested in artistic excellence, community development, and deepening our cultures’ accessibility.”⁴¹⁴ They are an example of an organization that intentionally sets out to deepen cultural accessibility, aiming to enhance human agency while reducing social isolation.

SPOTLIGHT

National accessArts Centre

Founded in 1975 as the In-Definite Arts Society, the National accessArts Centre (NaAC) is Canada’s oldest and largest disability arts organization. In 2020, it became the country’s first multidisciplinary disability arts organization, now “supporting more than 350 artists living with developmental and/or physical disabilities through on-site studio supports and workshops, and an even broader community of Canadian artists with disabilities through immersive programs delivered online.”⁴¹⁵

Appendix C on page 79 of this Scan includes a list of films, podcasts, and content creators notable for expanding awareness of accessibility and adjacent perspectives and experiences of adults with disabilities.



Accessibility and Sexuality

Adults with disabilities often face barriers and challenges with respect to sexuality and sexual expression. One recent academic study frame the issue as follows:

“Sexuality is an important aspect of human life and contributes to identity and physical and psychological health. For people with disabilities (physical, intellectual, developmental), sexuality is equally important. However, many studies showed that [people with disabilities] have fewer sexual experiences, are less likely to have a sexual partner, and are less likely to engage in solo sexual activities (e.g., masturbation). In other words, their sexual citizenship is hampered. [People with disabilities] often face prejudice, such as being seen as asexual or hypersexual, and when they want to express their sexuality they encounter many barriers.”⁴¹⁶

Adults with disabilities may have limited opportunities to express their sexuality, including difficulties finding sexual partners, accessing sexual health services, and participating in sexual activities. They may “crawl into their shells”, as one writer puts it.⁴¹⁷ Adults with disabilities may also face discrimination and negative attitudes from partners, family members, and care providers, or the feelings of shame and stigma they experience within society can sometimes limit their ability to form meaningful sexual relationships and express their sexuality. For example, a person with a disability isn’t expected to flirt, as people tend to view them as ‘perverts’ if they do.⁴¹⁸ CBC News profiled five women sharing their stories about dating and disability, noting that while dating is hard enough for able-bodied people, it is substantially more challenging for people with disabilities.⁴¹⁹ In addition, people with disabilities are at great risk of experiencing sexual violence.⁴²⁰

Some (in particular older adults) may have been shielded from accurate, comprehensive, and age-appropriate information about sexuality and sexual health, leading to misunderstandings and misconceptions about their sexual experiences and needs. Adults with disabilities may also face physical and accessibility barriers that prevent them from accessing sexual health services, including doctor’s offices, clinics, and pharmacies. They may also face barriers in accessing sexual health information and educational materials. They may also lack access to assistive technology and other resources that can help them to express their sexuality in a safe and fulfilling way. These challenges can lead to feelings of isolation, low self-esteem, and decreased quality of life for adults with disabilities.

Sex Surrogacy

Sex surrogacy is a therapeutic approach that involves a trained professional engaging in sexual activities with a client with the goal of helping the client to overcome sexual difficulties or improve their sexual functioning. In some cases, this may involve clients with disabilities who are seeking to improve their sexual experiences or increase their sexual confidence. The legality of sex surrogacy varies by country and sub-national jurisdiction. In Canada, sex surrogacy is considered to be a controversial and unregulated field, but in the Netherlands, for example, sex surrogacy is recognized as a legitimate therapeutic practice and may be covered by health insurance.⁴²¹ Flekszorg and Stichting Alternatie Relatiebemiddeling are both non-profit foundations, collectively providing sex surrogacy to a few thousand clients annually. There are other smaller organizations that provide these services, ranging from expensive private billing to publicly subsidized options. The issue is obviously not without controversy, with issues of informed consent sometimes being muddled with respect to adults with intellectual disabilities. Attitudes toward prostitution complicate the issue as well, whether from feminist or conservative perspectives. Journalist Marguerite Ward notes, “I don’t want a world where it’s easier for disabled people to visit sex workers, I want a world that sees disabled people as sexual and valid prospective partners.”⁴²²

Closer to home, the Disability Action Hall has teamed up with Centre for Sexuality to create the initiative Right to Love, which acknowledges that persons with disabilities are sexual beings, and promotes healthy choices about love, relationships, and sexual health.⁴²³ One of the Right to Love group’s major victories was a ten year campaign to amend the Government of Alberta’s *Vital Statistics and Life Events Modernization Act* (Bill 29) for represented adults to marry without using a doctor’s note.⁴²⁴ Much of this work is now being championed by the Centre for Sexuality, as well as supporting the acknowledgement of intersectionality for people who identify as queer and disabled.⁴²⁵

To learn about the Centre for Sexuality educational courses, webinars, training and counselling for all ages, refer to Appendix C: Resources.



Accessible Community Service and Social Enterprise



“Diversity is a fact. Equity is a choice. Inclusion is an action. Belonging is an outcome.”⁴²⁶

— Arthur Chan, diversity, equity, and inclusion strategist and behavioural scientist

Adults with disabilities require varying levels of community support, including advocacy and wayfinding for income support programs, connections to adaptive technologies, securing transportation, and finding and maintaining housing, as well as assistance with paying rent or mortgage installments. Unfortunately, many nonprofit service providers struggle to meet the demand for accessible services, as clients face large wait-lists or poorly suited programs that are not capable of providing personalized support.⁴²⁷ Mental health services in particular often fail to reach those who live on the margins of society. Community-based organizations, typically non-profits dependent on a combination of government contracts and funding, as well as philanthropic donations, have been facing a long-term structural ‘social deficit’ as donations and provincial decline grants decline in many regions in Canada, and specifically in Alberta.

Despite these hardships, innovations in community services, including technology-enabled innovations, are helping ease aspects of community access. Navigate for Kids, for example, is an app developed by the Calgary SCOPE Society to enable easier access to “disability related resources for families with children and youth (up to 18 years of age) with developmental disabilities in Calgary to help parents, guardians, educators, and professionals find supports specific to the child’s needs.”⁴²⁸

SPOTLIGHT

Helpseeker Technologies

At the intersection of social innovation, tech innovation, and community service lies a Calgarian success story harnessing the tech space for the greater social good.⁴²⁹ HelpSeeker Technologies, a B Corp social enterprise, helps community members privately browse thousands of services, programs, resources, helplines for support in mental health, parenting, addictions, domestic violence, affordable housing, recreation, and more.⁴³⁰ By enabling direct user access, navigation and understanding of nationwide datasets (over 250,000 listings just in Canada), HelpSeeker is removing the gatekeeping function of social service and health providers, whether nonprofit, private or government-based. As Dr. Matt Parker, Health Sector Lead at fellow AI-driven Calgary venture AltaML, notes, “Our goal in developing this technology was to disrupt the traditional way of running social needs assessments that is very costly and time-consuming.”⁴³¹ To continually improve and learn, the client service inputs create a feedback loop and, thus, puts the power back into the end-user, those in barriered or vulnerable populations, populations whose challenges were exacerbated by the COVID-19 pandemic.



Accessibility and Social Innovation

Despite this social deficit, there are many exciting local innovations or developments led by or serving people with disabilities, with an increasing number focusing on social research and development (social R&D). Future of Good CEO Vinod Rajasekaran defines social R&D as “a combination of competency, culture, and craft that is intentionally applied to continuously learn, evaluate, refine and conduct practical experiments in order to enhance social well-being.”⁴³² Organizations like the Skills Society in Edmonton, through a participatory social R&D approach, have measurably helped improve access to participating in civic life, community involvement, employment and entrepreneurship outcomes.⁴³³ Despite such examples, one study found that only 5% of social impact organizations (excluding health care, where there is already sophisticated R&D) engage in any meaningful amount of R&D.

Maayan Ziv, a Toronto student living with disability, developed an app that enables people with disabilities to crowdsource information about access to public buildings. She speaks about applying social innovation thinking to a social justice problem traditionally approached on campus only through advocacy, which can be a long struggle with only incremental rewards:

“There have been barriers for centuries,” she says. “There has been a certain kind of repetitive approach to how we . . . solve these problems, but [there is something] in the nature of creating a conversation and just literally doing it. There is a lot you can do without fighting . . . Accessibility is traditionally associated with an institutional tone and we want to move away from this. [It] can be sexy, and it can be fun, it needs to be fun, and if it isn’t then we won’t see the engagement that we need to see. With a different tone we are able to inspire people to be a part of what we’ve started.”⁴³⁴

SPOTLIGHT

Curiko: Access to Experience

Curiko (formerly Kudoz) is a Vancouver-based learning exchange for adults with cognitive disabilities. It is a platform “connecting people with and without disabilities to splendid things to do, together.”⁴³⁵ Youth and adults with cognitive disabilities search the free platform and book one-hour experiences to try, anything from learning how to podcast to learning a few words and phrases in a new language. Curiko arose out of a social R&D looking at the experience of social isolation among adults living with cognitive disabilities led by the social enterprise consultancy InWithForward, working with the Burnaby Association for Community Living, posAbilities, and Simon Fraser Society for Community Living.⁴³⁶ Among the many findings in their deep many-months-long ethnographic inquiry process, directly engaging with people with developmental disabilities, they gleaned insights like this: “The diagnosis of ‘developmental disability’ separated them from others. The words they had to describe themselves matched the words doctors and services used to talk about them. With no alternative story about who they were and who they could become, ‘care’ ‘safety’ and ‘protection’ became the organizing principles of their lives, structuring their interactions and narrowing what they considered possible.” Having hosted hundreds of grassroots events, Curiko is helping to create a more inclusive, stronger community.⁴³⁷



Social Enterprise

Social enterprises are businesses that possess a clear social, cultural or environmental purpose and that generate a significant portion of their revenue through the sale of goods or service.⁴³⁸ They can be nonprofit or commercial. In the latter case, they are typically certified as a social enterprise by a third party, such as B-Corp Canada or Buy Social Canada. The social enterprise model is not new. Conventionally associated with thrift stores and museum shops, some nonprofits have been operating social enterprises for half a century or more. Vecova (formerly the VRRRI), for example, was operating a gas station, bottle depot, shops, and various trades and manufacturing programs, all employing and building the vocational skills of persons with disabilities.⁴³⁹ In an early example of social procurement, in 1996 Vecova was awarded the baggage cart retrieval contract at the Calgary International Airport (YYC). Vecova more recently has embarked on an ambitious \$122 million capital campaign to develop its Centre for All Abilities.⁴⁴⁰

There is not a lot of information in Canada specifically relating to the social enterprises and their role in enhancing access to employment, skill development and entrepreneurship. However, the Queen's University's School of Rehabilitation Therapy recently started a community-partnered research *Initiative for Social Enterprise & Disability*, which “brings together entrepreneurs, researchers, disability organizations, policy makers, students and other stakeholders to advance innovative and evidence-informed social entrepreneurship for people with disabilities and other sources of employment disadvantage.”⁴⁴¹

Another Canadian study looking at the role of social enterprise with respect to mental health observed that “models of social enterprise have generally helped alleviate mental health inequities by addressing social problems through innovative interventions that improve social value... Social enterprise may address these changes by mobilizing local resources to support marginalized populations while involving communities in helping to remove barriers that hinder social well-being. These approaches also promote self-sufficiency and efficiency, as they will generally redistribute profits back into the community.”⁴⁴² A social enterprise approach can increase access to community services, while challenging mental health stigma, offering a positive and safe non-clinical environment, and engaging with the public directly by utilizing a storefront model.

Many enterprises employ people with disabilities as the primary or contributing reason they can call themselves “social”: Buy Social Canada, Canada's resource for social

procurement, lists 38 social enterprises across Canada that specifically employ and support people with disabilities.⁴⁴³ This is an underestimate though, as most social enterprises are not Buy Social Canada-certified.

Some social enterprises operate as commercial, for-profit enterprises. Meticulon, founded in Calgary, is a highly customizable web-based platform made for people with autism and certain other disabilities to develop personal, career, and educational skills. Milk Jar Candles is another Calgary-based commercial enterprise employing people living with disabilities which also supports disability-serving organizations with a portion of gross profit. The Cleaning Solution is a Vancouver-based commercial cleaning company dedicated to providing supportive, quality employment to people living with mental illness. Other social enterprises are nonprofit, sometimes run by charitable organizations. Lil E Coffee Café is a nonprofit Calgary-based enterprise that employs people with intellectual disabilities. It is opening its second location in the new National accessArts Centre, which will be a \$12 million learning, gallery, and performance space.⁴⁴⁴ Riverbank General Store & Café in Mill River Nova Scotia is a social enterprise operated by Queens Association for Supported Living - a charitable organization that promotes the social and economic inclusion of people with diverse abilities. The Riverbank provides meaningful work-skills training and employment. Options Printing is a Mississauga-based print shop and office service provider, wholly owned and operated by a charity, employing and training people with intellectual disabilities.

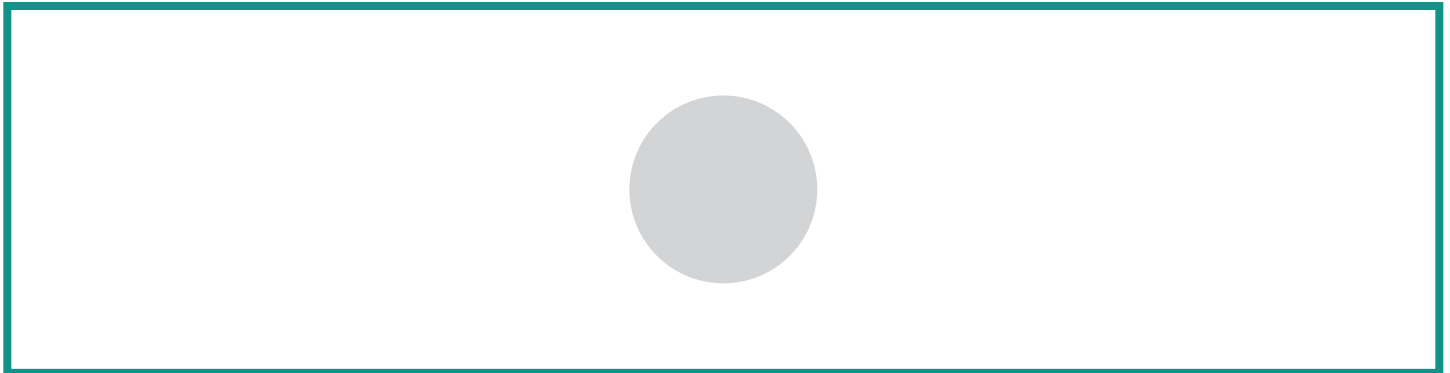
SPOTLIGHT

B-Corp Enterprises

A handful of other enterprises in Canada are B-Corp certified because of their work enhancing access to meaningful employment for people with disabilities. Persephone Brewing Company in Gibsons, BC. (which also operates an 11-acre farm) is a B-Corp part-owned by the Sunshine Coast Association for Community Living (SCACL), a non-profit organization providing services for people with developmental disabilities, a number of whom work at the farm.⁴⁴⁵ The Saul Good Gift Co., operating out of three provinces in Canada, creates locally handmade bespoke gift baskets, assembled by adults with developmental disabilities.⁴⁴⁶



Accessibility in Rural and Remote Regions



People with disabilities living in rural or remote locations often face a number of challenges around accessibility. Rural and remote locations often lack infrastructure and public transportation (especially accessible transportation), and access to healthcare facilities and providers (specialists, in particular) tends to be much more limited, educational opportunities are not as plentiful (there is a significant divide in post-secondary enrollment in particular). Assistive technology that depends on electricity can be compromised by power interruptions. In the far north, cold weather and infrastructure contribute to reduced access to assistive technology. Travel by boats, snowmobile and sleds can be particularly challenging for those with locomotor disabilities.

People with disabilities in rural areas may face additional barriers to employment, arising from lack of transportation, for example. People with disabilities in rural areas may experience social isolation due to a lack of community support and resources, making it difficult to form connections and engage in activities outside of the home. Those who rely on assistive technologies may also face communication barriers in rural areas, where high-speed internet access is limited.

SPOTLIGHT

CanNor

The Accessibility Plan and consultation process developed by the Canadian Northern Economic Development Agency (CanNor) is a notable example of how alignment with the Accessible Canada Act (and accompanying Regulations), as well as the UN CRPD, can produce robust commitments across many domains of public service - employment, communication, the built environment, transportation, procurement, and digital accessibility.⁴⁴⁷ It is a good example of how a public agency can commit to using an inclusive design model of engagement.

FINAL THOUGHTS

The Nobel Prize-winning economist Amartya Sen observed that most modern societies suffer from “conceptual conservatism” - a kind of smugness that prevents them from changing their conceptual models of economic wellbeing and socio-economic justice to incorporate disability.⁴⁴⁸ To Sen, this was surprising, given how central addressing accessibility ought to be in creating a just society. As this scan reveals, accessibility - or in fact any measure related specifically to people living with disabilities - eludes the gaze of international, national and even local measures of wellbeing and community prosperity. Ubiquitous and deep-rooted ableism makes such gaps commonplace.

Despite this, we appear to be on the cusp of an “inclusion revolution”. Or, more vividly and excitingly, a “universal access and disability pride revolution”. Many overlapping and intersecting popular movements have contributed to this revolution, and across many ideological, politico-linguistic and tactical divides, from the Paralympic and other inclusive sport movements to employment equity movements to citizen-led social justice efforts and arts-based futures movements. All these and more have played a vital role in changing the status quo, revealing exclusion, and demonstrating the powerful human rights and equally compelling business and innovation case for radical inclusion.

There have been remarkable technological advances, as well as shifting practices in the private, public, and community sectors, new movements, social enterprises, storytellers, and even policy advances that have pushed accessibility more and more into the spotlight. An aging society, a sandwiched generation of caregivers, and a heightened awareness of equity, diversity and inclusion have all contributed to this, not to mention a pandemic that accelerated broad based societal empathy and awareness of the need for accommodations in the workplace and in educational settings.

Accessibility is a universal human right, as confirmed by more governments than any international concord in history. But, as the frame has flipped from the medical to the social model, it is not the presence of disability that limits access, but rather the flaws in our systems, institutions, built environments, public policies, commercial and community practices. These are the things that create barriers to access.

The best designers in our society - from planners and architects, to software engineers, service designers, and policy analysts - have added to their toolbox a ladder of participation, where human-centered, inclusive, and universal design frameworks are increasingly the default specs, where persons with disabilities are more frequently the primary agents (and increasingly designers and co-designers) of the new world we are struggling to create.

As Sami Schalk, author of *Black Disability Politics* (2022) opines “I want us to prepare for disabled futures, not fear them.”⁴⁹ We all have a stake in creating a radically more accessible world, not merely because even able-bodied (or more precisely not-yet-disabled) people already experience situational and temporary disability, but because it will catalyze economic, technological, and social innovations.

Drawing on the best research, the lived experience of persons living with disability, and mobilizing our collective imaginations, we hope that this scan at least points us in some tantalizing directions. Directions that give us a richer sense of the layers we still need to peel away, the promising practices available to adopt and adapt, and a more vivid picture of what this accessible 21st century world could be.

We are all differently-abled, and we are all only temporarily able-bodied, as each pandemic, and each stage in our life’s short journey on this planet reminds us. We have the frameworks and grand goals - a “full human experience” mindset, universal design, an empathic civilization, an inclusion revolution. With tenacity, political courage, informed allyship, and outlier organizations - public, nonprofit and commercial - leading the way and showing what is possible, the future can (and must) arrive sooner than we might expect.



APPENDIX A

INTERVIEWEES

- Sean Crump** Head Chair & CEO, Included By Design
- Raelene Henderson** Director of Staff & Inclusion, MilkJar
- Kelly Holmes-Binns** Chief Executive Officer, Vecova
- David Legg** Professor of Health and Physical Education, Mount Royal University (also President of the International Federation of Adapted Physical Activity)
- Yvonne Martodam** Chief Operating Officer with Vecova
- Sean McEwen** GEDI-Hub Director; Director of Operations at Gateway Association
- Pam McGladderly** Chief Executive Officer, URSA
- Sarah McCarthy** Vice President, Strategic Initiatives at Rick Hansen Foundation
- Kevin Ng** Director, Technical & Program Content, Accessibility Certification at Rick Hansen Foundation
- Pat Pardo** Director, Access and Inclusion Services, MRU
- Alison Stutz** Chief Executive Officer and colleagues, Deaf & Hear Alberta
- Mahadeo A. Sukhai** Vice-President Research and International Affairs & Chief Accessibility Officer ARIA Team (Accessibility, Research & International Affairs), Canadian National Institute for the Blind (CNIB)
- Alicia Tropak** Director of Transformation, ATCO
- Andrea Van Vugt** Founder and president, Disability Pride Alberta Foundation

APPENDIX B

METHODOLOGY

Drawing from our experience at field-scanning and trend-scanning, the Institute for Community Prosperity has been engaged by ATCO to produce this scan of accessibility issues facing adults in Canada living with a disability.

This work is produced to mobilize and amplify academic, practitioner and public knowledge for the purposes of sparking ideas, enhancing practice, and enriching public insight. It does not constitute formal academic research, and as such will not result in a published academic work or presentation at an academic seminar or conference. Rather, this is instead considered the equivalent of a “program review”, which is specifically exempted from the requirement of approval from the MRU Human Research Ethics Board. Nonetheless, as the Institute is conducting this work under the auspices of MRU, and in the furtherance of sound inquiry involving human respondents, the key principles articulated by the Human Research Ethics Board have been adhered to.

For the interviews, the list of conversations developed in a loose snowball method, first identifying a set of contacts, and then asking participants for additional referrals. The list of conversation participants is included in Appendix A. Potential conversation participants were invited to take part in a video-conference-based meeting, submit a written or recorded piece, or share an existing resource if they felt it answered the topics of interest. Contributions were gathered in Summer of 2022 with twelve key informants, plus two anonymous contributors, with a variety of perspectives on accessibility.

The authors also consulted both academic and non-academic literature (including from government, think tanks, NGOs and foundations) on the topics related to accessibility, with particular reference where possible to Calgary and Canada. These insights are woven throughout the final document, rather than as a discreet “literature review” section. A range of additional resources not commonly considered in academic works (tweets, TikToks, TED Talks, personal YouTube channels, etc.) were also prioritized for our learning in recognition that these platforms are far more accessible - both in their creation and distribution - to the public than academic or other publications.

A reference to any vendor, product or service in this work does not imply any endorsement, recommendation or approval by the author or sponsors of this work.

APPENDIX C

KEY RESOURCES

Recognizing that we are organizationally and personally on unique learning journeys, rather than provide a list of recommended resources, this list is intended to surface content that was a key part of our learning journey (some of which might not already be included in the Endnotes page).

Practical Tools for Workplace Inclusion

- Disability Inclusive Employer Self-Assessment Tool
<https://disabilityinclusion.ca/>
- Gateway To Digital Inclusion (GTDI) mobile app and Digital Literacy (GTDI) Program
<https://gatewayassociation.ca/dih/>
- Inployable - Connecting employers with Canadians with Down Syndrome
<https://inployable.com/>

Practical Tools for Inclusive and Universal Design

- Accessibility Toolkit (BC Open Campus)
<https://opentextbc.ca/accessibilitytoolkit/>
- Accessible Useability Scale (AUS) from Fable (adapted from John Brooke's System Usability Scale⁴⁵⁰)
<https://makeitfable.com/accessible-usability-scale/>
- Alberta Safety Codes Council: Barrier-Free Design Guide
https://ebs.safetycodes.ab.ca/documents/webdocs/PI/Barrier-Free-Design-Guide_WEB-Aug2019.pdf
- Assistive Technology for Learning (Calgary Learning Disability and ADHD Network)
<https://ldadhdnetwork.ca/assistive-technology/>
- CNIB: Clearing Our Path
https://www.clearingourpath.ca/8.0.0-design-needs_e.php

- Designing for All
<https://pressbooks.bccampus.ca/designingforall/>
- Disability:IN [Digital] Accessibility Resources
<https://disabilityin.org/what-we-do/digital-accessibility-program/>
- Inclusive Design Guide
<https://guide.inclusivedesign.ca/insights/>
- Inclusive Design Learning Handbook
<https://handbook.floeproject.org/>
- Queen's University Accessibility Hub: Social Media Accessibility Tutorials
<https://www.queensu.ca/accessibility/tutorials/social-media-accessibility>
- Plain Language, Accessibility, and Inclusive Communications (Privy Council guide)
<https://www.canada.ca/en/privy-council/services/communications-community-office/communications-101-boot-camp-canadian-public-servants/plain-language-accessibility-inclusive-communications.html>
- Rick Hansen Foundation: Accessibility Certification, Training and Professional Networking
<https://www.rickhansen.com/>
- SNOW (OCADU) - Includes Assistive Technology Glossary
<https://snow.idrc.ocadu.ca/>
- Web Accessibility Initiative
<https://www.w3.org/standards/webdesign/accessibility>
- WebAIM
<https://webaim.org/articles/>

Critical Policy Tools for Accessibility

- Accessibility Data Hub
<https://www.statcan.gc.ca/en/topics-start/accessibility>
- Accessibility Canada: Resources
<https://accessibilitycanada.ca/resources/>
- Global Report on Assistive Technology (2022)
<https://www.who.int/publications/i/item/9789240049451>
- Sinneave Family Foundation: Communications Guide
<https://sinneavefoundation.org/resource-listings-page/communications-guide/>

Interesting Reads and Resources to Challenge Assumptions and Mental Models

- Regina Gilbert: Inclusive Design for a Digital World: Designing with Accessibility in Mind
https://www.amazon.com/gp/product/148425015X/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1
- Jenny Morris: Pride Against Prejudice: A Personal Politics of Disability
https://www.goodreads.com/book/show/857755.Pride_Against_Prejudice?from_search=true&from_srp=true&qid=hCvQeZl00k&rank=1

Films

- Picture This... International Film Festival (2000 films in the catalogue)
https://ptff.typepad.com/ptff_main/
- *A Space in Time* - Feature Film (2021)
<https://www.imdb.com/title/tt11828636/>
- *Crip Camp: A Disability Revolution* - Documentary (2020)
<https://www.netflix.com/ca/title/81001496?tctx=0%2C0%2C61b079ed-fb3e-4899-9daa-3009df-65b1a8-330423994%2C%2C&trackId=13752289>
- *My Disability Roadmap* - Documentary (2022)
https://www.imdb.com/title/tt19296698/?ref=fn_al_tt_3
- *Take a Look at this Heart* - Documentary (2019)
https://www.primevideo.com/detail/0GQ-JTPM9IVRAL2W74TETCHSKW4/ref=atv_sr_def_c_unkc_1_1_1?sr=1-1&pageTypeId=Source=ASIN&pageTypeId=B082QY9G6W&qid=1587098205

- *Temple Grandin* - Feature Film (2010)
<https://www.imdb.com/title/tt1278469/>
- *The Artisans* - Documentary (2018)
<https://www.nfb.ca/film/artisans/>
- *Vision Portraits* - Documentary (2019)
<https://www.newday.com/films/vision-portraits>

Content Creators

- Alina-Gene Lee. Content Creator. TikTok @alina.gene, Instagram @alinagene.
- C3 and Maya Ariel. Content Creator. Instagram @TheArielSeries, Website TheArielSeries.com.
- Chella Man. Actor, Content Creator, and Activist. Instagram @ChellaMan.
- Imani Barbarin. Content Creator. TikTok: @crutches_and_spice, Website/blog: crutchesandspice.com
- Jordan. Content Creator. TikTok: @ADHDWhileBlack, Instagram: @theADHDWhileBlack.
- David Hingsburger (Author 1952-2021)
<https://www.openfuturelearning.org/blog/index.php/category/dave-hingsburger/>
<http://diverse-city.com/online-store-2/books/>
- Sarah Harrower
<https://ca.linkedin.com/in/sarah-harrower-1006b2147>
- John Loepky <https://www.cbc.ca/news/canada/saskatchewan/author/john-loepky-1.5510253> and the crip tax
<https://www.cbc.ca/news/canada/saskatchewan/crip-tax-opinion-1.5856848>
- Sara Jama <https://theconversation.com/sarah-jamas-censure-making-people-feel-uncomfortable-is-part-of-the-job-216704>

Disability and Sexuality

- “Tell it Like it Is” - Presentation at the Prairie Sexuality and Disability Conference
<https://nevertmi.ca/psdcon/>
- Sexuality and Disability
<https://article-1.ca/issue-3/sexuality-and-disability/>
Sexual and reproductive health health fund project
<https://www.centreforsexuality.ca/programs-services/srhf-project>

APPENDIX D

UN CONVENTION, ARTICLE 9

UN Convention on the Rights of Persons with Disabilities (CRPD)⁴⁵¹

Article 9 – Accessibility

1. To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia:
 - a. Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces;
 - b. Information, communications and other services, including electronic services and emergency services.
2. States Parties shall also take appropriate measures:
 - a. To develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public;
 - b. To ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities;
 - c. To provide training for stakeholders on accessibility issues facing persons with disabilities;
 - d. To provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms;
 - e. To provide forms of live assistance and intermediaries, including guides, readers and professional sign language interpreters, to facilitate accessibility to buildings and other facilities open to the public;
 - f. To promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information;
 - g. To promote access for persons with disabilities to new information and communications technologies and systems, including the Internet;
 - h. To promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost.

APPENDIX E

THE 7 PRINCIPLES OF UNIVERSAL DESIGN

The seven principles of universal design were developed by a team of architects, product designers, engineers, and environmental design researchers at North Carolina State University in the 1990s.⁴⁵² The principles aim to provide guidance for creating products, environments, and communications that are accessible and usable by as many people as possible, regardless of their abilities, age, or other characteristics. The seven principles are:

- 1. Equitable use:** The design should be useful and accessible to people with diverse abilities. Provide the same means of use for all users; avoid segregating or stigmatizing any users.
- 2. Flexibility in use:** The design should accommodate a wide range of individual preferences and abilities. Provide choice in methods of use, so people can customize their experience to fit their needs.
- 3. Simple and intuitive use:** The design should be easy to understand, regardless of the user's experience, knowledge, or language skills. Use clear and concise language, provide appropriate feedback, and create logical and consistent navigation.
- 4. Perceptible information:** The design should communicate necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. Use different modes (such as text, audio, or visual) to communicate information and provide alternatives for users who may have difficulty perceiving certain types of information.
- 5. Tolerance for error:** The design should minimize hazards and the adverse consequences of accidental or unintended actions. Provide warnings, fail-safes, and barriers to prevent unintended actions and to ensure that errors are not irreversible.
- 6. Low physical effort:** The design should be designed to minimize physical effort required to use it. Reduce repetitive or sustained physical effort, accommodate a wide range of body sizes and postures, and provide appropriate assistive technologies.
- 7. Size and space for approach and use:** The design should provide sufficient space for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility. Consider the range of user's abilities, from those who are standing, sitting, or using mobility aids, and ensure that the design does not create physical barriers that prevent access or use.

APPENDIX F

GOVERNMENT SUPPORTS IN CANADA

As the University of Calgary’s Disability Policy Research Program observes “Compiled data on supports and services for persons with disabilities is currently limited in Canada. This creates difficulties in understanding the extent to which provinces are meeting the needs of Canadians with disabilities, and how Canada is meeting its commitments under the UN Convention on the Rights of Persons with Disabilities.”⁴⁵³

The notion of public support for people with disabilities, or for public action on accessibility, simply did not exist in Canada until the 1943 report *Report on Social Security for Canada* (now colloquially referred to as the *Marsh Report*, named for Advisory Committee Chair on Reconstruction.⁴⁵⁴ The *Marsh Report*, inspired by the *Beveridge Report* in the UK one year prior, contained an initial proposal for a broad-spectrum of welfare state reforms, including occupational disability and care-giver support, as well as universal access to medical care. It would be over two more decades before most of these provisions would start to be implemented in practise.

Although Canada is now a relatively robust welfare state, the level of federal support directly for those living with disabilities is, according to a Scotiabank report, “among the lowest across OECD countries at around 0.7% of GDP”⁴⁵⁵ Denmark’s level of support, by comparison, is at 5% of GDP, and all of the Nordics spend at least five times more than Canada.

Among Canadian provinces over the last decade, Ontario (\$9,157), Manitoba (\$8,461), and Alberta (\$8,228) provide the most cumulative support per capita to people with disabilities, with Atlantic Canadian provinces grouped at the bottom of per capita support. Newfoundland and Alberta’s government benefit programs to be re-indexed starting next year Labrador provides by far the least per capita cumulative support, at less than \$500/year.⁴⁵⁶

A number of provinces provide a basic income for people living with profound disabilities. In Alberta, this is known as Assured Income for the Severely Handicapped (AISH), which costs the province currently about \$1.3 billion per year. It is provided for those with (typically) permanent debilitating medical diagnoses prior to the age of Old Age Security eligibility (another form of basic income, universally provided to all Canadians 65 years of age or older). Prior to 2005, AISH had dropped to only 38% of the Low Income Cutoff Line, or LICO, but between 2005 and 2014, AISH rates improved under pressure and lobbying from disability citizens groups, rising to 98.3% of the LICO – almost to the poverty line, the highest benefit level of all provinces. AISH rates have fallen slightly relative to the poverty line in more recent years, and AISH was untimely de-indexed from inflation in 2020. Recently, Premier Smith announced that AISH will be re-indexed.⁴⁵⁷ AISH is a monthly living allowance, but it also includes a monthly child benefit, health benefits and certain other personal benefits. Another nearly \$1 billion is provided in Alberta under the Persons with Developmental Disabilities (PDD) program, as well as \$200 million through the Family Supports for Children with Disabilities (FSCD) program, and \$150 through the Aids to Daily Living program. There are a number of smaller programs investing in projects and community services, most notably the Assistive Devices Program, which provides funding and support to access assistive devices, such as mobility aids, hearing aids, and communication devices, and the Supports for Daily Living program, which provides financial assistance and support services for individuals with disabilities who require support with daily living activities, such as bathing, dressing, and meal preparation. There is also a provincial Disability Tax Credit.

Bill C-22, a bill now into its 1st phase of designing the regulations for a Canada Disability Benefit after receiving royal assent in June 2023 (a narrower form of universal basic income targeted to those between the ages of 18 and 64). The benefit is premised on recognition that disability support payments were barely enough to cover rent even when housing was affordable and accessible, leaving little for food, clothes, accessibility aids, transportation or any “non-essential” items such as recreational activities.

A larger conversation for Basic Income is underway for Canadians with and without disabilities who are falling through the cracks due to eligibility. Nationally, a set of principles⁴⁵⁸ is advanced through the Basic Income Network while other groups are advocating for a [universal dividend](#). A pilot basic income project involving 635 people in Prince Edward Island is underway that includes people who also receive social assistance and AccessAbility supports, as long as they meet certain criteria.

Quebec has also recently introduced a basic income for those with “severely limited capacity for employment”, for those with debilitating chronic illness or mental health diagnoses.⁴⁵⁹ The \$1.5 billion Quebec program permits significantly greater scope for own-source employment to supplement without being clawed back. The Canada Pension Plan (CPP) also has a disability benefit for those under 65 and a top-up for those over 65 but also experiencing “a mental or physical disability that regularly stops [one] from doing any type of substantially gainful work.”⁴⁶⁰

The City of Calgary offers a variety of policies, programs, and services to support people with disabilities, including accessible transportation (including specialized bus services and accessible taxis), leisure and recreation programs., Employment support and training (including job search assistance, on-the-job training, and job placement services are offered through the government of Alberta.), a variety of community inclusion and support services, including support for home modifications and accessibility-enhancing equipment and assistive technology. The City also attempts to ensure that public buildings and facilities are accessible to people with disabilities however there are great efforts to standardize the guidelines as the regulations at the federal level are created (See Barrier- Free Alberta).

ENDNOTES

- 1 As examples, these content creators have shared their experience of such intersections of identity: Alina-Gene Lee. TikTok @alina.gene, Instagram @alinagene; Maya & Spencer | Deaf & Queer. Instagram @TheArielSeries, Website [TheArielSeries.com](https://www.thearielseries.com); Chella Man. Instagram @ChellaMan; Imani Barbarin. TikTok: @crutches_and_spice, Website/blog: [crutchesandspice.com](https://www.crutchesandspice.com); Jordan. TikTok: @ADHDWhileBlack, Instagram: @theADHDWhileBlack.
- 2 Disabled Women Network of Canada. Fact sheet on Women and Violence (website, accessed Nov. 13, 2023). <https://www.dawncanada.net/issues/women-with-disabilities-and-violence/>
- 3 James Stauch. (2021). Aging and Thriving in the 21st Century: A Scan and Systems Analysis, Institute for Community Prosperity. This Scan was also commissioned by ATCO. https://www.mtroyal.ca/nonprofit/InstituteforCommunityProsperity/_pdfs/Aging-and-Thriving-in-the-21st-Century3.pdf
- 4 ESG-focused practices include responsible stewardship of the environment, fostering the well-being and socio-economic advancement of the company's employees and the communities in which the company operates, and doing so in a way that is transparent, ethical, and accountable.
- 5 “Nothing about us without us”, which has been used as a self-determination slogan for hundreds of years in the context of Eastern European political discourse, was first popularized in North America by disability activist James Charlton, also the eponymous title of his 1998 book. The United Nations and countless disability organizations movements have since used the phrase, as well as by many other equity-deserving groups. James I. Charlton. (1998). Nothing About Us Without Us. University of California Press.
- 6 Many people living with a disability do not identify as being part of a disability community per se.
- 7 Maya & Spencer | Deaf & Queer. (2022, July 28). d/Deaf? What's the difference?. [Instagram Video]. https://www.instagram.com/reel/CgJy58_lTXJ/?igshid=MzRlODBiNWFiZA%3D%3D
- 8 United Nations Convention on the Rights of Persons with Disabilities (UN CRPD). (2022). Convention on the Rights of Persons with Disabilities and Optional Protocol. <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html#Fulltext>. Page 4 [English PDF version].
- 9 Stuart Morris, Gail Fawcett, Laurent Brisebois, and Jeffrey Hughes. (2018). A Demographic, Employment and Income Profile of Canadians with Disabilities Aged 15 Years and Over, 2017. Ottawa: Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/89-654-x/89-654-x2018002-eng.htm>
- 10 Employment and Social Development Canada (2022). Canada's Disability and Inclusion Plan. <https://www.canada.ca/en/employment-social-development/programs/disability-inclusion-action-plan/action-plan-2022.html>
- 11 Kalpana Mohanty. (2022, December 17). Changing the Conversation on Chronic Illness. Globe and Mail. <https://www.theglobeandmail.com/opinion/article-whos-afraid-of-chronic-illness-our-soc>. Accessed through Mount Royal University (MRU) Library database.

Note: Sources in the Globe and Mail may appear under different titles and dates depending on the way content is accessed. For example, the above title from the academic collection also appears as “Opinion: Who's afraid of chronic illness? Our society – but it doesn't have to be,” published December 16th on the public website, which may also differ from the printed version. Alternative titles have been included where known.
- 12 Morris, Fawcett, Brisebois, and Hughes, A Demographic, Employment and Income Profile, 2018.
- 13 Cara Liebowitz. (2015, March 20). I am Disabled: On Identity-First Versus People-First Language. The Body is Not An Apology. <https://thebodyisnotanapology.com/magazine/i-am-disabled-on-identity-first-versus-people-first-language/#:~:text=There%20are%20some%20communities%20that,date%20back%20to%20the%201970s>
- 14 For example, Lydia Brown notes a preference for Autistic or Autistic Person within the Autistic community, but Brown also shared a range of examples from people who prefer person-first, identity-first, or use both interchangeably. Lydia Brown. (2011, August 4). The Significance of Semantics: Person-First Language: Why It Matters. Autistic Hoya [blog]. <https://www>

autistischoya.com/2011/08/significance-of-semantic-person-first.html

- 15 As an example, SignHealth uses “Deaf with a capital D to refer to people who have been deaf all their lives, or since before they started to learn to talk.” SignHealth. (n.d.). What is the difference between deaf and Deaf? <https://signhealth.org.uk/resources/learn-about-deafness/deaf-or-deaf/#:~:text=We%20use%20Deaf%20with%20a,language%20as%20their%20first%20language>.
- To learn more about this distinction, see Solomon, Andrew. (2012). *Far from the tree: Parents, children, and the search for identity*. Scribner, as cited in Dunn, Dana S., & Andrews, Erin E. (2015). *Person-first and identity-first language: Developing psychologists' cultural competence using disability language*. *American Psychologist*, 70(3), 255–264. <https://doi.org/10.1037/a0038636>
- 16 Meghan Kelley as quoted in Rebecca Blissett. (2023, February 12). The Power of Inclusive Language. *Abilities Magazine*. <https://www.abilities.ca/abilities-magazine/the-power-of-inclusive-language/>
- 17 According to the Federal Disability Reference Guide: “Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations.” Human Resources and Skills Development Canada. (2022). Federal Disability Reference Guide. Government of Canada. <https://www.canada.ca/en/employment-social-development/programs/disability/arc/reference-guide.html#h2.3-h3.1>
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- 20 Corinna M. Bauer, Gabriella V. Hirsch, Lauren Zajac, Bang-Bon Koo, Olivier Collignon, and Lotfi B. Merabet. (2017). Multimodal MR-imaging reveals large-scale structural and functional connectivity changes in profound early blindness. *PLOS ONE* 12(3): e0173064. <https://doi.org/10.1371/journal.pone.0173064>
- 21 Autism Canada. (2021). Diagnostic Criteria - DSM-5. <https://autismcanada.org/autism-explained/diagnosis/diagnostic-criteria-dsm-5/>
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- 23 Accessible Canada Act. S.C. 2019, c. 10. <https://laws-lois.justice.gc.ca/eng/acts/a-0.6/page-1.html>
- 24 Association to Advance Collegiate Schools of Business. (AACSB). (2022, July 5). The Competitive Advantage of Disability Inclusion. *Insights* [blog]. <https://www.aacsb.edu/insights/articles/2022/07/the-competitive-advantage-of-disability-inclusion>
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- 26 Sophie Harrison. (2023, January 28). Long COVID Has Never Been Taken Seriously. Here’s Where It Left Us. *The Tyee*. https://thetyee.ca/Analysis/2023/01/26/Long-COVID-Never-Been-Taken-Seriously/?utm_source=weekly&utm_medium=email&utm_campaign=300123&utm_source=The+Tyee&utm_campaign=41130f9f6a-EMAIL_CAMPAIGN_2023_01_30_04_48&utm_medium=email&utm_term=0_979b7d233e-41130f9f6a-%5BLIST_EMAIL_ID%5D
- 27 Michelle R. Nario-Redmond, Alexia A. Kemerling, and Arielle Silverman. (2019). Hostile, Benevolent, and Ambivalent Ableism: Contemporary Manifestations. *Journal of Social Issues*, 75: 726-756. <https://doi.org/10.1111/josi.12337>
- 28 Brian A. Nosek et al. (2007). Pervasiveness and Correlates of Implicit Attitudes and Stereotypes. *European Review of Social Psychology*, 18(1), as quoted by American Bar Association (ABA) Commission on Disability Rights. (n.d.). *Implicit Bias Guide: Implicit Biases & People with Disabilities*. https://www.americanbar.org/groups/diversity/disabilityrights/resources/implicit_bias/
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 4. Actively involve users of assistive technology and their families.
 5. Increase public awareness and combat stigma.
 6. Invest in data and evidence-based policy.
 7. Invest in research, innovation and an enabling ecosystem.
 8. Develop and invest in enabling environments.
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