



# UNIVERSAL DESIGN as Social Sustainability

1

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Universal design is for everyone. Informed by the preferences of as many people as possible, rather than retroactively adapting spaces for those who face barriers to access, universal design is an optimized, conceptual approach to development. But for universal design to flourish and spread, it needs to be recognized not just as optional, but rather as essential and even desirable. Shedding light on the catalysts for success, and exploring examples of how accessible design compliments environmental sustainability and social sustainability, we can demonstrate to governing bodies, the general public and architects and designers the benefits meeting the accessibility needs of everyone.

BY SUSAN RUPTASH

Parallels can be drawn between the mainstream success of the environmental sustainability movement—once considered an outlier campaign that was a hindrance to development—and the increasing awareness in universal design and its principles. Environmental sustainability was once considered too costly, or too time consuming to be implemented into everyday design practices. Yet once championed by figureheads such as Al Gore with his

documentary 'An Inconvenient Truth' and his subsequent speaking tour, the core principles of sustainability became obvious elements to embed into everyday design standards. Such a singular catalyst to increase the presence of accessibility and frame universal design as a movement has not yet occurred. However, there is an urgent need for a global focus on universal design on the horizon, as a result of baby boomers and the aging population.

A significant portion of the population is going to need to begin to navigate their homes, places of work and entertainment, and essentially entire cities in a brand new way. Most buildings have not been outfitted in accessible ways complementary to this shift. Also, reliance on accessible public transportation will continue to increase. While some of these concerns are being addressed at present, the full weight of change has yet to be felt by municipalities, and if accommodations are delayed until the strain is more acute, most solutions will have to be stop gap measures rather than ones that are thoughtfully planned for the long-term.

The aging population will also greatly affect the rental market in urban areas. As boomers consider downsizing their homes and transitioning to rental units, the real-estate landscape will need to evolve to meet such a demand with accessible options.



If the cost of living in Canadian cities continues to rise, whole generations will migrate to the fringes in order to find affordable accommodation, as is happening with the millennial workforce, and there will be no one at hand to care for the aging population.

Establishing national accessibility legislation would rapidly improve the situation. Honourable Carla Qualtrough, Minister of Sport and Persons with Disabilities, recently concluded a comprehensive consultation process that will inform such a baseline. At the provincial level, a tangible shift is already in sight. Ontario recently introduced accessibility legislation aimed at making the province entirely accessible by 2025. This legislation is wide-reaching in scope, encompassing changes to traditional built environments, while also setting clear standards for customer service for persons with disabilities, employment considerations, transportation, and information and communications. Such broad legislation has raised awareness and interest in universal design, and offered new opportunities for education and cultivation.

Another strategy to help shape universal design into a viable movement is grassroots organization. Such campaigns leverage passion, and push for measures to take place before the legislation, hopefully, catches up. Leaders in the grassroots universal design movement are oftentimes frustrated with waiting for a solution and decide to combine their inherent expertise through lived experience with advocacy and dedication to their cause.

Organizations like the Rick Hansen Foundation work tirelessly to champion for accessible design. Awareness programs through schools, ambassadors, awards to acknowledge accessible design in Canadian cities and municipalities, grants, training, and giving back to the community through funding research campaigns all contribute to elevating the visibility of universal design in practice.



3

Individuals, too, can make all the difference in identifying what's missing from the conversation on universal design and lend to building the groundwork of awareness. Luke Anderson and Maayan Ziv are two successful examples of champions within the field of accessibility advocacy.

Anderson founded the StopGap foundation, an organization focused on bringing barrier-free access to the built environment in a simple way. It's likely you've used his invention without even realizing it. After an accident made Anderson reliant on a wheelchair, he realized the barriers at street level were neglected by legislation, possibly because they are so easily overlooked. In response, he invented a simple wooden ramp, convinced community hardware stores to donate the required materials, and volunteers to construct the ramps to fit the entry of each local business with a single-stepped storefront. The award-winning solution eases access from the street into stores - both erasing barriers and raising awareness. It's an idea that has not only spread across the city, but across the country and the world.

After a week into her Masters at Ryerson University, Ziv found she was unable to join her classmates on simple urban excursions because there was no common resource that could inform her as to which venues, restaurants, cafes or shops could accommodate her wheelchair, and to what degree. Her response was to create a directory website, now turned into an app, called AccessNow, that crowdsources the accessibility information about everyday places across Canadian cities. For this initiative, she was awarded the Startup Canada Resilient Entrepreneur award, given to Canadians who are "shaking up the startup scene".

For Anderson and Ziv, these solutions came from their need for universal design and their frustration at the lack of accessibility. Both of their inventions, in their visibility and simplicity, demonstrate that applying the practicalities of universal design need not be complicated and can offer improved quality of life for the majority of people. Through grassroots advocacy, a movement's goals can be addressed quickly and organically.

Another way in which universal design lends to social sustainability, and is felt by the majority of population, is in the way it aligns with environmental sustainability practices. As awareness of accessible design grows, universal design can be implemented in the earliest planning stages to grow the number of buildings and features that support universal design principles. Retrofitting buildings and the features within them later is not only economically costly, but also wasteful in materials and output emissions. With regards to physical architecture, it is simply not sustainable to build to minimum standards. All architects and designers should be most concerned with "future proofing" their designs. Considering the wants, needs, and in some cases the climate factors fifty years down the road is the sustainable and responsible way in which all design must move forward because environmental sustainability, at its simplest, has become social sustainability. Universal design and social sustainability factor heavily into one another because fundamentally, universal design strives to make the built environment available to everyone. Why design a building a percentage of the population cannot use? These were the driving factors behind two projects undertaken by my studio, Quadrangle.



4

In Toronto's east end, we renovated a commercial building at Broadview and Queen Streets, converting it from a storage facility to a rental office building. Previously, the entranceway had steps up and down, without any elevator, and therefore it was not only inaccessible, it lacked street presence and visibility. Our solution focused on the lobby, creating universal solution that not only welcomes those with vision loss and all levels of mobility - but also gives the building a distinctive brand and identity. Vibrant, high-contrast pathways offer visual clarity, and bold, orange feature ramps ease entry for bicycles, strollers and mobility devices. Additionally, we created colourful, custom-designed wayfinding graphics that are evident throughout the building's hallways and shared areas - also providing clear navigation and branding. These features are advantageous to the tenants which include a physiotherapy centre, a school and a tech office and the project has won numerous local and international recognition, including awards from the Association of Registered Interior Designers of Ontario (ARIDO) and the International Association for Universal Design (IAUD), proving that accessible design can be approached as design first and perhaps most importantly, can re-engage a city.

With our own office and studio, we transformed a 1990s call centre into a creative hub. A bright, spacious and contemporary feeling space, the office highlights our central values of creativity, collaboration sustainability and accessibility. The first of several creative tenants including Deluxe and Twitter, our studio demonstrates how well-designed spaces can be the catalyst for the revitalization of an entire building.

We conducted charrettes and challenged ourselves to maximize universal design principles to guide the process from the outset. The result is an open-concept plan that seamlessly embodies universal design without sacrificing design quality or creativity. The design focuses on comfort, simplicity, ease of effort and space. There is democracy of light throughout: all meeting rooms have glazed walls with custom-designed and branded vision strips. Shared workspaces encourage collaborative work, with a variety of table heights and configurations, as well as access to technology. A simple and intuitive circulation route enables legible, clear wayfinding, and high contrast and textured carpeting demarcates the path from adjacent spaces. Pathways and boardrooms are of adequate width to comfortably accommodate persons using a wide range of mobility devices or service animals, and signage includes both tactile and braille information. The Quadrangle studio has also been the recipient of multiple, design oriented awards including two ARIDO awards and one IAUD Award in Housing and Architecture.

Perhaps the easiest and most important way we can prompt a change in attitude towards accessibility stems from the language we use to talk about it. For example, describing someone as having "special needs". Special needs are regular needs: the need to go to work, to see friends, to get around. There isn't a hierarchy of ability—we all use the same door. As attitudes change, language will follow and help to move the mentality surrounding universal design away from "us vs. them". As Canadians we understand the value of social inclusivity, and universal design speaks to this at its heart.

Paying attention to universal design principles is both environmentally and socially sustainable. Environmentally, in that it not only considers issues around sensitivities and wellness, but also in that universal design reduces the need for expensive and wasteful interventions in the future to correct intentional and unintentional barriers. Socially, in that it speaks to an inclusive and accepting philosophy that views all human conditions on a natural continuum rather than a binary abled/disabled spectrum, and that spaces and places designed to universal design principles are better for everyone.

Universal design is simply good design. ◀

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AT 100 BROADVIEW AVENUE, THE GROUND FLOOR WAS OPENED UP INTO A DRAMATIC LOBBY WITH A SERIES OF STAIRS AND RAMPS, SEAMLESSLY INTEGRATING UNIVERSAL DESIGN. PHOTO: BRANDON BARRE [1]. A WALL DECAL AT QUADRANGLE'S STUDIO. PHOTO: TERRI FLINN [2]. MEETING ROOMS AT QUADRANGLE'S STUDIO ARE DESIGNED TO MEET UNIVERSAL NEEDS WITH FLEXIBLE FURNISHINGS AND GENEROUS ACCESSIBLE ROUTES THAT ENSURE SUITABLE TURNING SPACES AND CLEARANCES. PHOTO: NAOMI FINLAY [3]. THE LIBRARY AT QUADRANGLE'S STUDIO SUPPORTS SAMPLE SELECTION AND ASSEMBLY AS WELL AS MODEL MAKING. THE LOWER COUNTER AREA ACCOMMODATES A MOBILE LIGHT TABLE AND ENSURES ACCESSIBILITY. PHOTO: NAOMI FINLAY [4].



2

**UNIVERSAL DESIGN AS SOCIAL SUSTAINABILITY****Overview**

This article argues that, to reflect societal values of democracy and inclusivity, build-ings must be designed to be accessible to all. This in turn implies that universal design must be seen not as an optional add-on, but as an essential and integrated aspect of all aspects of the built environment.

The author proposes that strategies for 'mainstreaming' universal design may be seen as similar to those that have successfully changed our thinking about environmental sustainability over the last 20 years.

Case studies explore how accessible design complements environmental and social sustainability, and how such examples can demonstrate to governing bodies, the general public, and to architects and designers the benefits of meeting the accessibility needs of everyone.

**Learning Outcomes**

On completion of this learning unit, the reader will:

1. Understand and appreciate how universal design strategies can improve the accessibility and functionality of buildings for all members of the community.
2. Understand and appreciate how universal design strategies can enhance the wellbeing of building users by relieving stress and anxiety.
3. Understand and appreciate how early implementation of Universal Design strategies can improve the life cycle performance of buildings by reducing the need for retrofits and facilitating ageing in place.
4. Understand and appreciate how, by incorporating universal design strategies, green buildings can demonstrate to design professionals and the public, the synergies between environmental and social sustainability.

**Narrative about Learning Outcomes**

In response to the request, the learning outcomes were reviewed and the general language originally used was replaced with more specific language relating to the objectives of green building design. E.g. enabling all members of the community to access and use a building effectively improves the utilization and efficiency of a building, while reducing anxiety levels in those who would otherwise experience difficulties. Also, incorporating strategies for aging in place has a direct life cycle benefit, as it reduces or eliminates the need for future rehabilitation and adaptation.

**Questionnaire**

1. The most important drivers of universal design are:
  - A. Green building rating systems
  - B. Changes to the National Building Code
  - C. Growing recognition that accessibility is a social justice issue
  - D. Municipal bylaws
2. Incorporation of universal design strategies into buildings is currently hindered by:
  - A. The additional cost
  - B. Lack of information
  - C. Liability issues
  - D. Lack of awareness

3. Legislation introduced in Ontario proposes changes to the built environment that will make the province entirely accessible by:
  - A. 2020
  - B. 2025
  - C. 2030
  - D. 2035
4. The Ontario legislation considers Universal Design to include:
  - A. Buildings
  - B. Transportation
  - C. Employment standards
  - D. All of the above
5. Much of the momentum in the Universal Design movement comes from individuals and organizations who feel excluded by current approaches to building design
  - A. True
  - B. False
6. From an environmental perspective, implementing Universal Design strategies at the outset of a project, rather than retrofitting at a later date:
  - A. Is less costly
  - B. Uses less materials
  - C. Uses less energy
  - D. All of the above
7. Implementing Universal Design strategies is an important component in 'future-proofing' communities:
  - A. True
  - B. False
8. Universal Design strategies are necessarily intrusive and will detract from the appearance and appeal of a building:
  - A. True
  - B. False
9. Using the term 'special needs' in relation to Universal Design, will help increase awareness and advance the cause of accessibility:
  - A. True
  - B. False
10. It is advantageous and appropriate to think of the range of human abilities as:
  - A. A binary system of 'ability' and 'disability'
  - B. A disparate collection of unrelated conditions
  - C. A continuous spectrum upon which everyone has a place
  - D. None of the above