CSA B651 – A Standard that helps ensure our built environments are accessible and inclusive





For people with disabilities, simple things like going to a restaurant or shopping at their local hardware store can come with many challenges. Fortunately, there has been considerable progress in making our buildings safer and more accessible for people with disabilities.

We still have a ways to go, but things like automatic doors, ramps, area allowances to accommodate wheeled mobility devices, and universal washrooms are now part of the normal fabric of our society.

But those changes took a long time to come.

For years prior to the arrival of the CSA Group B651 Standard in 1990 there had been calls for change and frustration at the lack of action. Sabitha Rajan, a senior analyst with the Centre of Expertise at the Canadian Transportation Agency, has regular contact with people with disabilities and knows their struggles for transportation accessibility.

The requirements outlined in the first edition of the CSA B651 were dramatic and timely. In hindsight they are also basic and rudimentary. But the fact they were there at all was a significant step forward. The Americans with



Disabilities Act (ADA) arrived the same year and is also considered a foundational document.

Both were designed to help ensure that accessibility requirements are integrated into public and private spaces from the beginning.

Five editions of the standard have been produced and it's constantly in a state of review. With each edition, the Standard has gone further to help improve the health, independence, and quality of life not just for people living with disabilities but for us all.

Applying the Standard in federal buildings

In its first edition, CSA B651 was successful in achieving its aims of:

- giving builders and developers guidance on incorporating accessibility requirements into built environment projects;
- improving the overall safety of public and private spaces for users with disabilities; and
- creating awareness of the accessibility needs of people with different disabilities.

Murray Gallant, a young architecture grad, was hired by the federal government in 1991 to oversee the renovation of 56 federal buildings in Ottawa-Hull to be accessible to the CSA Standard. The project stretched over three years and cost $25 million.

In 1991, the Treasury Board identified the key areas in which federal facilities had to be accessible:

- installing ramps at the main entrances, widening required doors, and removing revolving doors
- expanding the size of the stalls in washrooms
- renovating stairs and contrasting nosings, adding handrail extensions for people who are blind

Efforts to harmonize the standard with the National Building Code have worked out well. Members from both organizations jointly sit on accessibility committees and keep each other abreast of changes. This process has ensured that both the Code and the Standard stay current.

Designing for communication disabilities

Although they embraced the arrival of the Standard, almost from the get-go, those close to it saw that it didn't go far enough. Some of those shortcomings emerged with anthropometric data that revealed people in wheeled mobility devices need more floor space and turning around area than had been outlined in the Standard.

They also discovered that the Standard didn't go far enough in serving the spatial requirements of people living with communication disabilities (deaf, hard of hearing.

© 2022 Canadian Standards Association. All Rights Reserved.

"One metre is wide enough for emergency egress in a public corridor, but is not wide enough for deaf or blind persons walking and carrying on a conversation," says Murray. Corridors need to be wider so they can see the signing, facial expressions, or lip read as they're walking.

With blind persons as well, whether they have a service animal or a sighted guide, they need more width.

Those revelations would find a sympathetic partner in Christopher Sutton, CEO of the Wavefront Centre for Communication Accessibility in Vancouver.

Wavefront Centre: A model of how to build for accessibility

Christopher Sutton applauds the many positive changes introduced by the CSA B651 Standard. He says they bring much needed consistency to the way we design and build for access. He lives it every day at the Wavefront Centre for Communication Accessibility.

Wavefront Centre was formed from two root organizations – the Vancouver Adult Deaf Association (VADA) and the Vancouver League for the Hard of Hearing (VLHH) – that came together in the 1950s to help all people with hearing issues. The organization was rebranded as the Wavefront Centre in 2018 and today is the largest provider of direct services for people who are Deaf, DeafBlind, and Hard of Hearing in Western Canada.

In 2019, Wavefront Centre moved from its aging convent location to a new building in the heart of downtown Vancouver. It stands out as a model of how to build for beauty, good living and accessibility.

The architecture and design of Wavefront Centre is designed to support the people it serves and that goes way beyond ramps and universal bathrooms. Acoustic baffles reduce reverberation and absorb sound, so the atrium at the entrance is open, airy and unbelievably quiet. Because visual communication is so essential for people who are Deaf or Hard of Hearing, the corridors have rounded corners and are wide enough so they can walk comfortably beside someone and read their lips or see them signing.

Wavefront Centre has also made optimal use of technology in its meeting rooms. They're equipped with special assistive listening devices and a loop system that brings the sound directly to people's hearing devices.

Although Wavefront Centre took dramatic steps to improve the physical, visual and acoustic environment, some of those areas are addressed in CSA B651. In one section, the standard notes that, "Accessible environments should be designed for sound control both to provide auditory cues where needed, and to minimize distracting or disorienting sounds such as echoes."

Christopher says attitudes are changing, but much more needs to be done in the area of communication accessibility. It is underway with recognition that the new edition of B651 will include accessibility communication for people who are deaf and hard of hearing as well as those who have cognitive issues.

Don't make cost a barrier

Cost might have once been a barrier to building for accessibility, but no more. Murray Gallant says he's never asked to track the cost of doing barrier-free renovations, mainly because building for accessibility in the Department of Defence is a requirement.

Christopher Sutton is used to excuses such as, "That's not possible. We can't do that. It costs too much." From his completely accessible and attractive office at Wavefront Centre, he crushes the naysayers. His message – don't make cost a barrier.

"We're a not-for-profit social enterprise with a limited capital budget," he said. "We built this $15 million facility and it's the most fully accessible facility in Canada, if not in North America or the world. We did it. Anyone can do it."

ATPDR addresses specific needs in the transportation sector

In some industries, incorporating the standard has been an arduous process. The field of transportation is unlike any other in that it doesn't fit any model of the built environment.

On June 25, 2020, the Accessible Transportation for Persons with Disabilities Regulations (ATPDR) came into effect. It provides a set of clear, consistent, specific

© 2022 Canadian Standards Association. All Rights Reserved.

and legally binding accessibility requirements for many transportation service providers. The ATPDR deals with everything related to accessible transportation – communication, services like wheelchair assistance, accessibility at the gate, reservation and ticketing support.

Although the ATPDR goes beyond the standard, it does require transportation service providers to meet the CSA B651 standard for many of the technical requirements.

For example,

- Rail operators must ensure that a path of travel on a train meets the requirements set out in the B651 in order to be considered accessible;
- Carriers are required to meet specifications in B651 for accessible washrooms including, but not limited to, features like door handles, sinks and faucets, soap dispensers, toilets and grab bars, and space for maneuvering mobility aids;
- A counter in a food service area or a lounge area on a ferry must meet the seating requirements of B651;
- All transportation service providers, including CATSA and CBSA, must meet B651 requirements for signage.

Taking physical barriers away improves safety

Although the transportation sector has some unique challenges when it comes to accessibility, both the CSA B651 Standard and ATPDR provide guidance in different and useful ways. "The Standard gives us the concrete targets which help to ensure consistency, predictability and safety for persons with disabilities," says Sabitha Rajan.

With its technical requirements the ATPDR is striving for an enduring goal – to increase the independence and dignity of people with disabilities when they're travelling within the national transportation system.

Sabitha and her team at the Canadian Transportation Agency also know that the other significant benefit of taking those physical barriers away is improved safety. "People using mobility aids and those with temporary mobility issues benefit in the form of easy accessibility and reduced probability of injury," says Sabitha.



Changing the way products are built

CSA B651 has also proven that inclusion does lead to innovation and better business decisions. Since its introduction, the Standard has compelled manufacturers to pay attention to how they design and build the products they're putting into the environment.

Murray Gallant says, "When we said buildings need to allow 1500 millimetre turning diameter for wheelchairs, that put the wheelchair manufacturers on notice. They knew their wheelchairs had to comply with that so the people using them can access facilities anywhere in America."

The manufacturers also have representatives on the CSA Group standards development committee, particularly those who manufacture washrooms and consider how sinks, toilet partitions, toilets, and grab bars are constantly transitioning.

"The Standard really has dual value," says Murray. "It gives developers the minimum they need to follow when creating the built environment and it gives manufacturers the railings to stay in between in terms of the products they build."

© 2022 Canadian Standards Association. All Rights Reserved.



Upping the ante

As far as accessibility has come, the people working on the next edition of the Standard are being challenged to go above and beyond. As chair of the CSA B651 Technical Sub-Committee (TSC), Murray is one of those 'Standard bearers.' "In Town Halls we've heard that minimum standards are not enough and we need to up the ante."

Thinking ahead and being responsive will help ensure the new builds are well-designed and accessible in ways that respond to all kinds of disabilities. Murray takes a forthright approach to foster consensus decisions. He says, "It's the right and essential thing to do for persons with disabilities in order for them to live an inclusive, respectful life."

Seeing things through the lens of inclusion

The existing Standard is good as a baseline, but we need to do more to make accessibility even more inclusive. That starts with consultation with the people living with disabilities.

It's been going on since the early days of the Standard and those perspectives are even more sought after now.

"We rely on the lived experience of people with disabilities but the problem is, everyone's lived experience is different," said Murray.

Champions like Murray, Sabitha and relative newcomer Christopher started on this path years ago and are no less – maybe more – driven in their passion to make our buildings and environment even more inclusive, thoughtful, and responsive to the people they serve. They'll keep working on enhancements to the Standard to make that happen.

As we move further along that path, Christopher Sutton is adamant that talking about accessibility and disability with separate lenses is the wrong mindset. "We need to view things through one lens – and that lens is inclusion."

© 2022 Canadian Standards Association. All Rights Reserved.
03/2022