

Universal Design in New Residential Construction

Creating an affordable,
inclusive future for the
City of Toronto

Presentation to the
Affordable Housing Committee

June 20, 2016

by OWN and ADPA

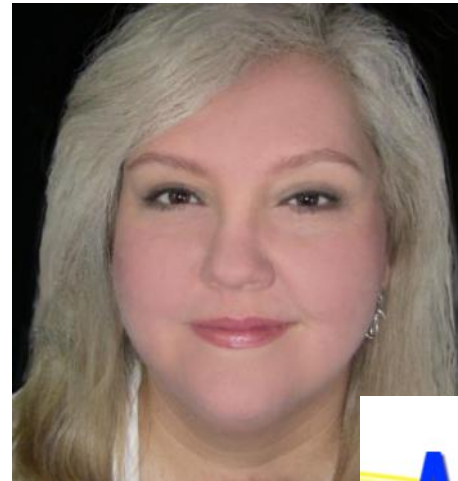


Association of *Design*
Professionals for *Accessibility*

Universal Design in New Residential Construction

1. Who am I?

- a) **Thea Kurdi,**
Architectural
Accessibility and
Universal Design
Specialist
- b) Chair of ADPA
- c) Member of OWN
Housing Committee



ADPA

Association of *Design*
Professionals for *Accessibility*

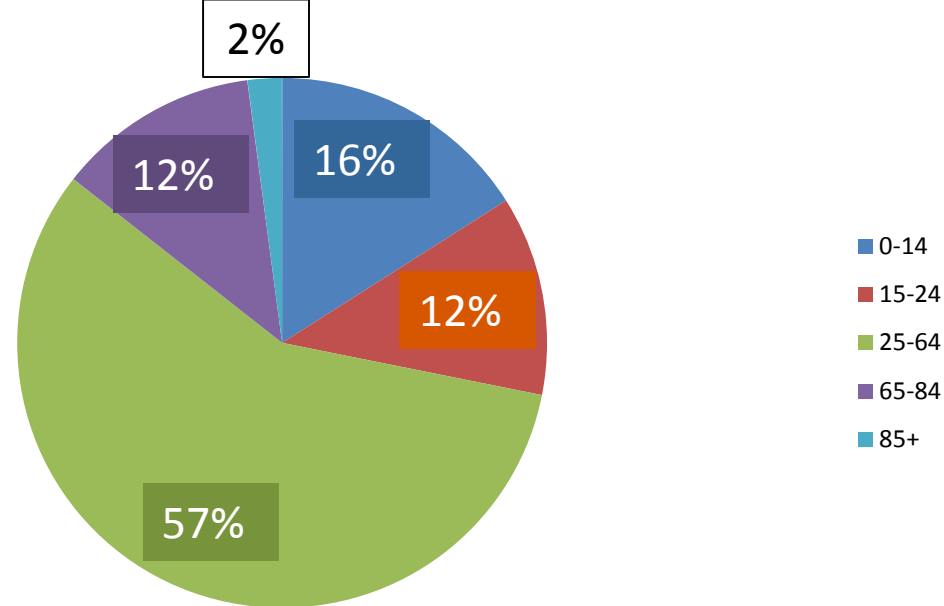
Understanding the Demographics

1. **Ontario:** Approx. **1.85** million people report having a disability, representing 15.5% of the population. 70% of disabilities are 'invisible'
2. **Toronto:** Apply 15.5% to Toronto's population
2.79 million people = 432,450 people with disabilities
3. By **2017**, for the first time, Ontarians aged 65 + will account for a larger share of the population than children aged 0-14

Understanding the Demographics

Toronto 2011

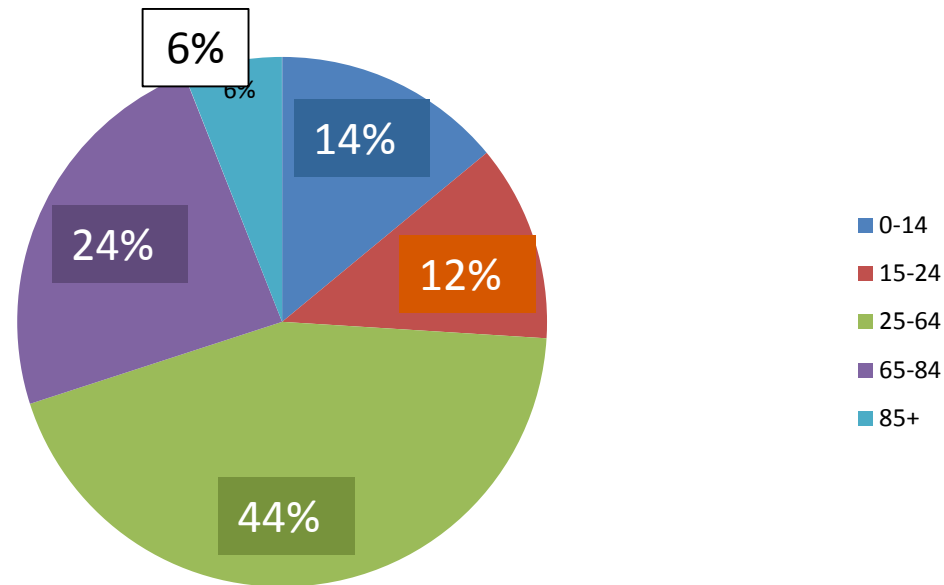
2011 - City of Toronto Population



Understanding the Demographics

Toronto 2030

2030 - City of Toronto Population



Understanding the Law

1982 – 2 laws passed

1. Canadian Charter of Rights and Freedoms
2. Ontario Human Rights Code amendments

Both laws ban discrimination because of disability

Exception:

National Building Code excludes housing (3.8.1.1)

Understanding the Law

Canadian Charter of Rights and Freedoms

15. (1) Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.

(2) Subsection (1) does not preclude any law, program or activity that has as its object the amelioration of conditions of disadvantaged individuals or groups including those that are disadvantaged because of race, national or ethnic origin, colour, religion, sex, age or mental or physical disability. (84)

Our National Building Code seems to condone disability discrimination in housing.

3.8.1.1. Application
(See Appendix A.)

1) The requirements of this Section apply to all buildings except

a) detached houses, semi-detached houses, houses with a secondary suite,

duplexes, triplexes, townhouses, row houses and boarding houses (see A-1.4.1.2.(1), Secondary Suite, in Appendix A of Division A),

b) buildings of Group F, Division 1 major occupancy, and

c) buildings that are not intended to be occupied on a daily or full-time basis,

including automatic telephone exchanges, pumphouses and substations.

3-148 Division B National Building Code of Canada 2010 Volume 2

Image shows text from Charter of Rights on left and National Building Code on right

Age in Place

AGE
— IN —
PLACE



OR



MAKE
— A —
MOVE?

Image shows a couple and a photo of women with the question Age in Place or Make a Move?

Image sources:

<http://www.weselltoronto.com/Blog?Tag=senior%20living>

http://www.aiphc.com/sites/default/files/styles/medium/public/field/image/Age%20In%20Place%20Home%20Care_51.jpg?itok=ewjHDEca

Changing Abilities Over a Lifetime



Image shows the silhouettes of a woman at the different ages over her life span. Includes changing size and ability from a crawling infant to being in a wheelchair with an attendant

The Principles of

Universal Design

1 Equitable Use
The design is useful and marketable to people with diverse abilities.

Remember that not all members of a community are able to use a wheelchair.

The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

3 Simple and Intuitive Use
Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or education level.

Public buildings should include emergency exits with large signs to guide people with disabilities.

5 Tolerance for Error
The design minimizes hazards and the adverse consequences of accidental or unintended actions.

If a user presses a button, it will give response to the user to activate the button before the button begins vibrating, so that the user can stop before the button is pushed.

2 Flexibility in Use
The design accommodates a wide range of individual preferences and abilities.

Large handles on tools like scissors will allow hand and wrist stability. However, the user may prefer a smaller handle.

4 Perceptible Information
The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Large buttons on walls show important information. Important signs are visible to all users.

6 Low Physical Effort
The design can be used efficiently and comfortably and with a minimum of fatigue.

Buttons should be large enough to grip, and the handle should be easy to grip.

7 Size and Space for Approach and Use
Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Turnstiles should be designed to accommodate users with disabilities.

Image shows the 7 principals of Universal Design

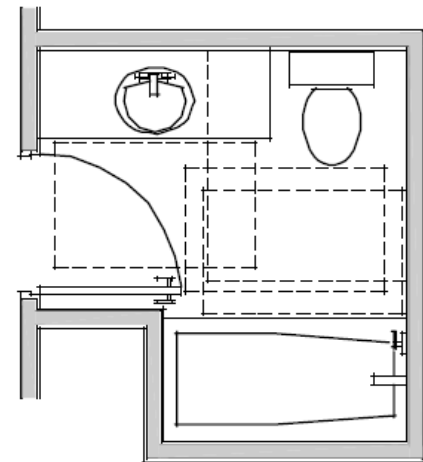
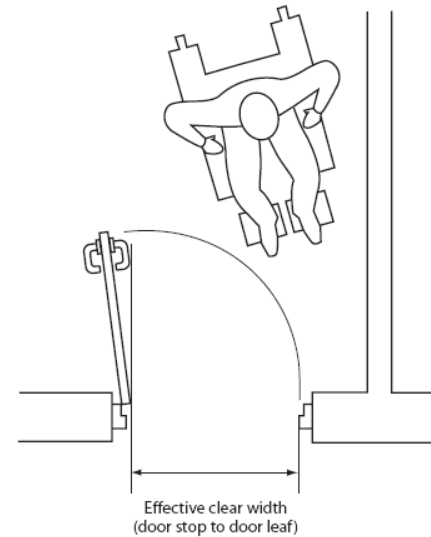
Image source:

https://udhpcss.files.wordpress.com/2011/11/principles_ud.png?__hstc=246535899.1289f84a362c41b80e5e8776d3502129.1435233910711.1437640065400.1437644375494.54&__hssc=246535899.3.1437644375494&__hsfp=3799412980

Visit-able and Adaptable Housing

Only 5 of the many elements:

1. An accessible path to the residence from the sidewalk and parking
2. A zero step entry
3. All doors on the main floor and to bedrooms to be 40" wide
4. 4' wide hallways, and
5. Entry level washroom sized to residential accessibility standards.



Visit-able and Adaptable Housing



Accessibility Continuum Chart

Minimum Features	VisitAble Design	Enhanced Visitability	Adaptable Housing	Accessible Housing	Universal Design
No-step entrance with accessible path to entrance	✓	✓	✓	✓	✓
Minimum doorway width 36" (915mm) with lever handles on all doors and minimum hallway width 43 1/4" (1100mm)	✓	✓	✓	✓	✓
Accessible half bathroom with reinforced walls & support features, lever faucets, manoeuvre space to access the sink and toilet, room for transfer space around the toilet	✓	✓	✓	✓	✓
Overnight space	✓	✓	✓	✓	✓
Non-slip floor washrooms		✓	✓	✓	✓
Audio visual alarms		✓	✓	✓	✓
Kitchen to allow wheelchair manoeuvring in front of all appliances		✓	✓	✓	✓
Lever faucets in kitchen		✓	✓	✓	✓
Rockers or touch sensitive switches and controls		✓	✓	✓	✓
Raised electrical receptacles		✓	✓	✓	✓
Lower controls: light switches, thermostats, intercom, door bells, security alarms		✓	✓	✓	✓
Adjustable heights of closet rods		✓	✓	✓	✓
Adequate lighting at entrance area		✓	✓	✓	✓
Adequate latch space for proper approach		✓	✓	✓	✓
At least one accessible bedroom			✓	✓	✓
Direct access from house into garage			✓	✓	✓
Large parking space can be converted to garage			✓	✓	✓
Stacked closet convertible to elevator shaft			✓	✓	✓
Manoeuvring space in all areas of the dwelling unit including bathrooms, laundry area, kitchen, bedrooms			✓	✓	✓
Curbless shower with door replaceable by curtain			✓	✓	✓
Seats in showers and next to tub			✓	✓	✓
All areas of dwelling unit are accessible through use of residential elevator or stair lift			✓	✓	✓
Adjustable counter heights			✓	✓	✓
Off set controls for bathtub and shower			✓	✓	✓
Adjustable closet			✓	✓	✓
Strobe lights on smoke detectors				✓	✓
Audible signals				✓	✓
Lower counter-top segments				✓	✓
Seats next to bathroom fixtures				✓	✓
Off-centre bathtub controls				✓	✓
Usability balanced with aesthetics					✓
Meets the needs of a broad range of persons without adaptation or specialized design					✓
Increased safety, convenience, and comfort for all					✓

Image shows VisitAble Housing Canada's chart of the different elements for accessibility in housing

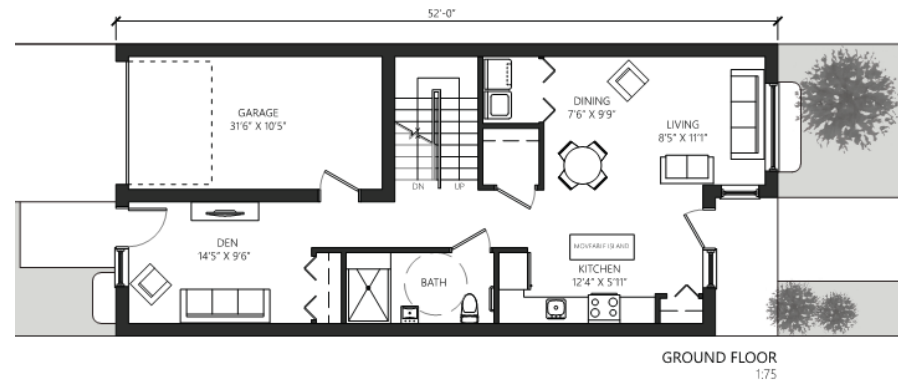
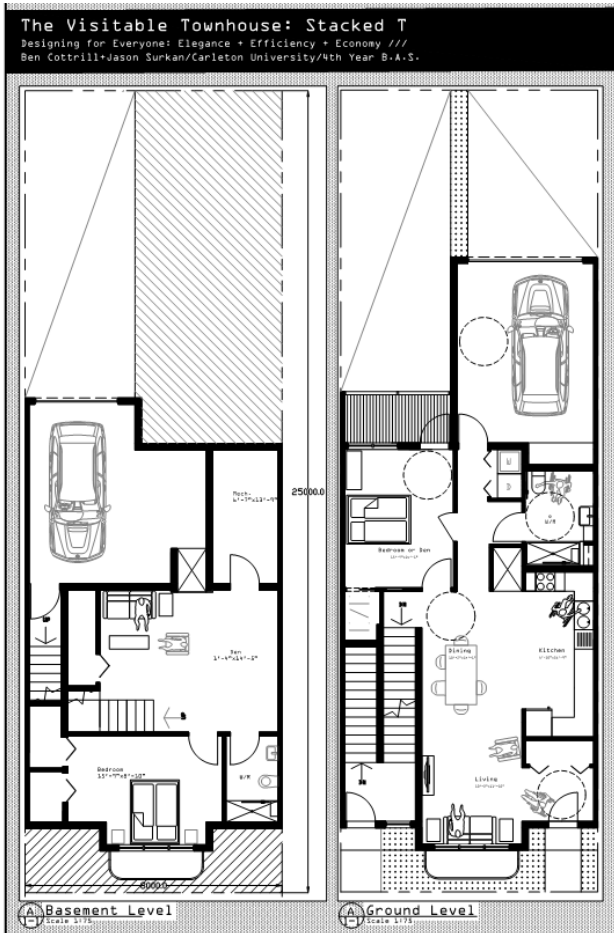
Image source: <http://visitablehousingcanada.com/wp-content/uploads/2016/03/Winnipeg-TF-Accessibility-Continuum-Chart.pdf>

Happening Everywhere



Bridgewater Neighbourhood in Winnipeg

Happening Everywhere



SARAH MCINTOSH
CARLETON UNIVERSITY
4TH YEAR

Sample universal design residential projects from Canadian students

Happening Everywhere

ADAPTABLE HOUSING- MANDATORY AND VOLUNTARY

In November 2003, Saanich Council passed an amendment to the Zoning Bylaw that requires most newly-constructed apartment buildings and seniors' congregate care facilities be built to include Basic Adaptable Housing standards. Building permits issued for **apartment buildings** with an elevator and common corridor must comply with the new regulations.

Those applying for rezoning, subdivision and development permit applications are also encouraged to incorporate features from the voluntary design guidelines for apartment buildings, townhouses, and single-family homes.



Image shows Adaptable Housing in Saanich, BC

Image source: <http://www.sabmagazine.com/blog/2015/10/01/the-salus-clementine-project/>

Happening Everywhere



Image shows Salus Clementine project

Image source: <http://www.sabmagazine.com/blog/2015/10/01/the-salus-clementine-project/>

Happening Everywhere



Multifaith Housing Initiative (MHI)

OCISO Non-Profit Housing Corporation



Image shows Ottawa developments with 100% visitable units

Image source: Roger P. Gervais, Age in Place Specialist, Ottawa

What if...?

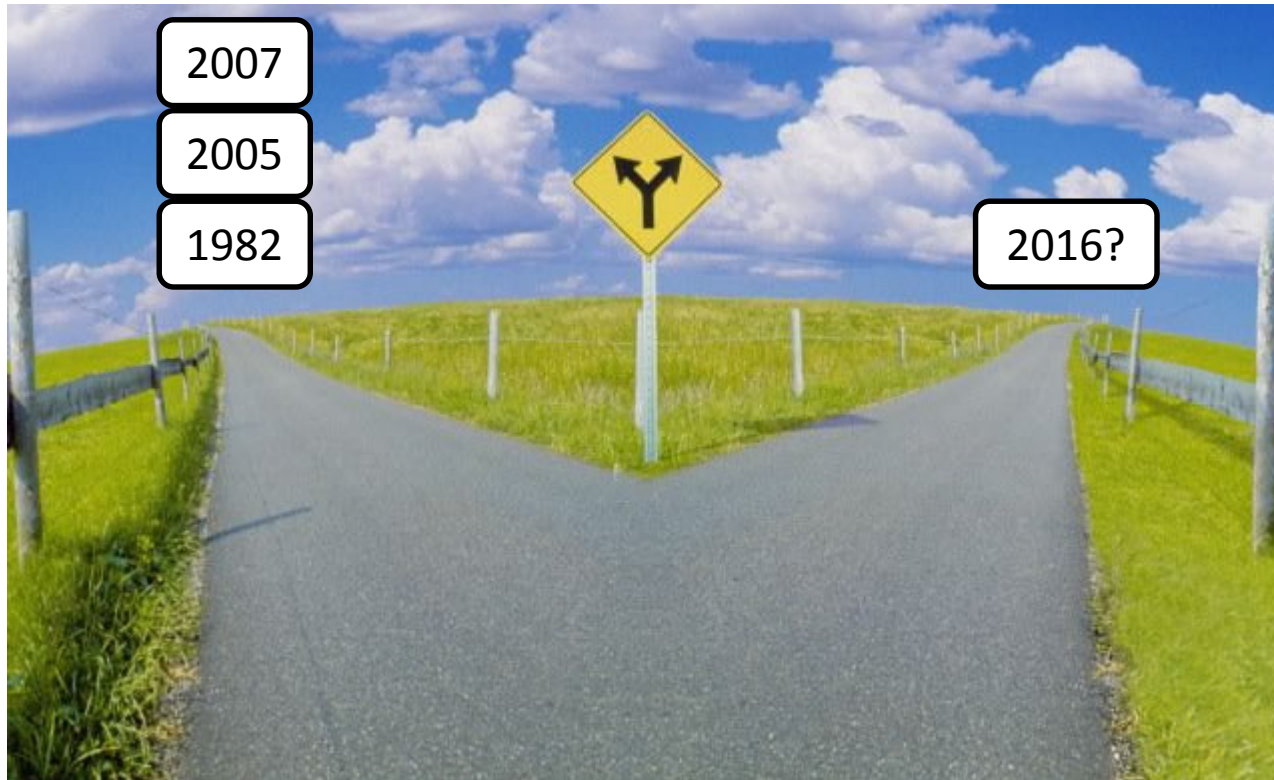


Image shows a decision point in the road with the dates 1982, 2005 and 2007 above the road on the left and the date 2016 with a question mark over the road on the right
Image source: <http://d.stockcharts.com/img/articles/2015/08/14401831385681449884081.jpg>

Visit-able and Adaptable Housing



Image shows Stevie Wonder at the 2016 Grammys.
Text reads, "We need to make every single thing accessible to every single person with a disability."

Image source: Huffington Post, February, 2016

Thank You



**KEEP
CALM**

and

**MAKE IT
ACCESSIBLE**

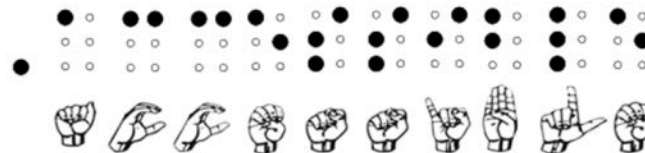


Image shows text, braille and ASL letters, “Keep calm and make it accessible”