

EX17.25

Universal Design in New Residential Construction

Creating an
affordable, inclusive future for the
City of Toronto

Presentation to the
Disability, Access & Inclusion Committee

June 29, 2016

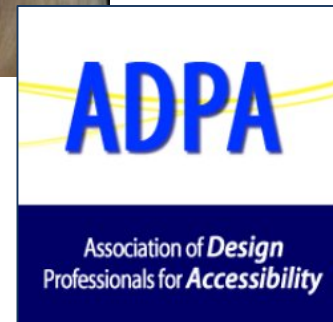
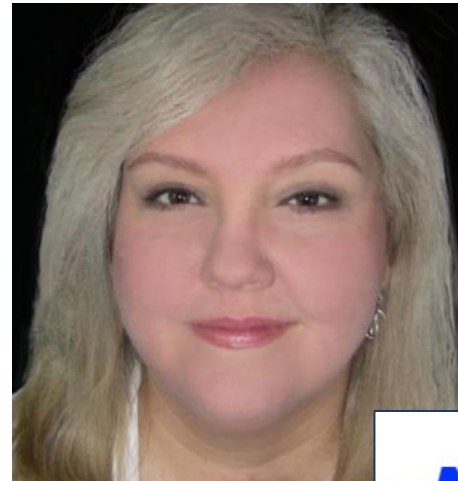
by OWN and ADPA



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



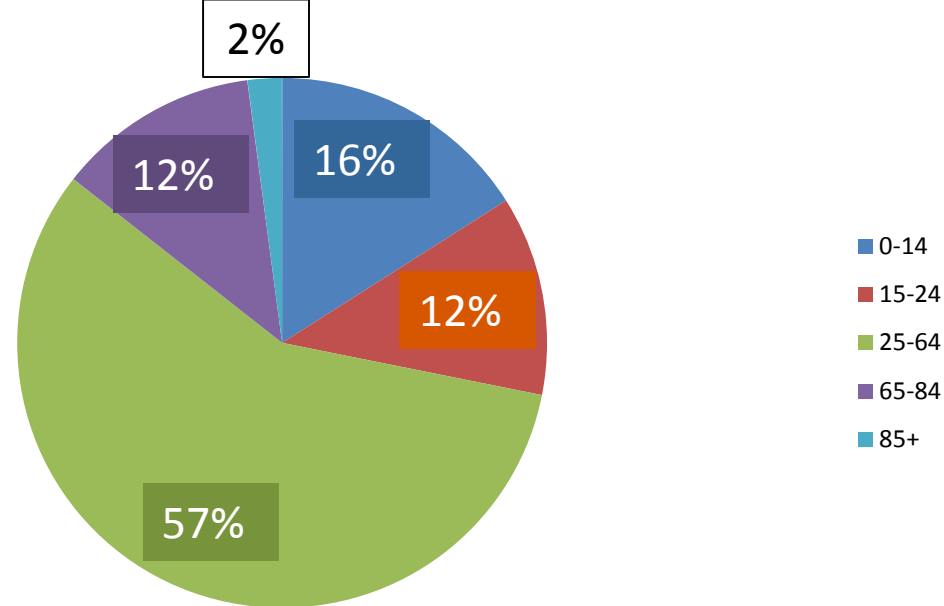
Understanding the Demographics

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

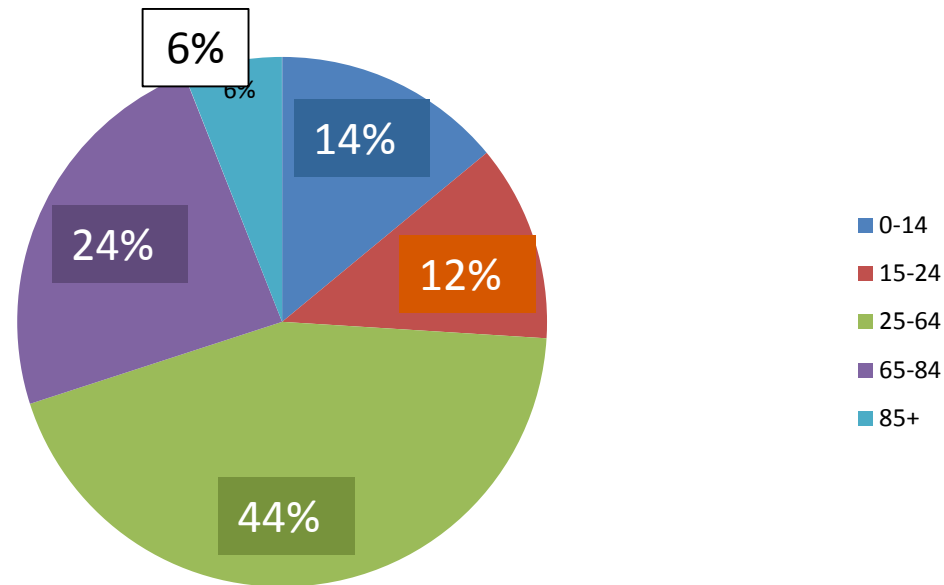
2011 - City of Toronto Population



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

Action: Support Code Change Request 964:

<https://www.dropbox.com/s/btuyd00f19zlic6/CCR%20964%20Visitability%20Package.pdf>

Change is Afoot



PARLIAMENT *of* CANADA

Home

Parliamentary Business

Senators and Members

About Parliament

First Session, Forty-second Parliament,
64-65 Elizabeth II, 2015-2016

Première session, quarante-deuxième législature,
64-65 Elizabeth II, 2015-2016

HOUSE OF COMMONS OF CANADA

CHAMBRE DES COMMUNES DU
CANADA

BILL C-265

PROJET DE LOI C-
265

An Act to ensure secure, adequate,
accessible and affordable housing for
Canadians

Loi visant à assurer aux Canadiens un
logement sûr, adéquat, accessible et
abordable

FIRST READING, MAY 3, 2016

PREMIÈRE LECTURE LE 3 MAI 2016

Image shows text from BILL C-265

Action: Support Bill C-265

<http://www.parl.gc.ca/HousePublications/Publication.aspx?Language=E&Mode=1&DocId=836227674>

Change is Afoot



- **Canada**
Minister of Persons with Disabilities
Carla Qualtrough
Source: The Respectability Report
<http://therespectabilityreport.org/wp-content/uploads/2015/11/carla-qualtrough-minister-of-sport-and-persons-with-disabilities.jpg>

- **Ontario**
Minister of Accessibility
Tracy MacCharles
Source: Toronto Star
<https://www.thestar.com/content/dam/thestar/news/gta/2016/06/23/ontario-missing-mark-on-accessibility-standards-activist-says/tracy-maccharles.jpg.size.custom.crop.1086x688.jpg>

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

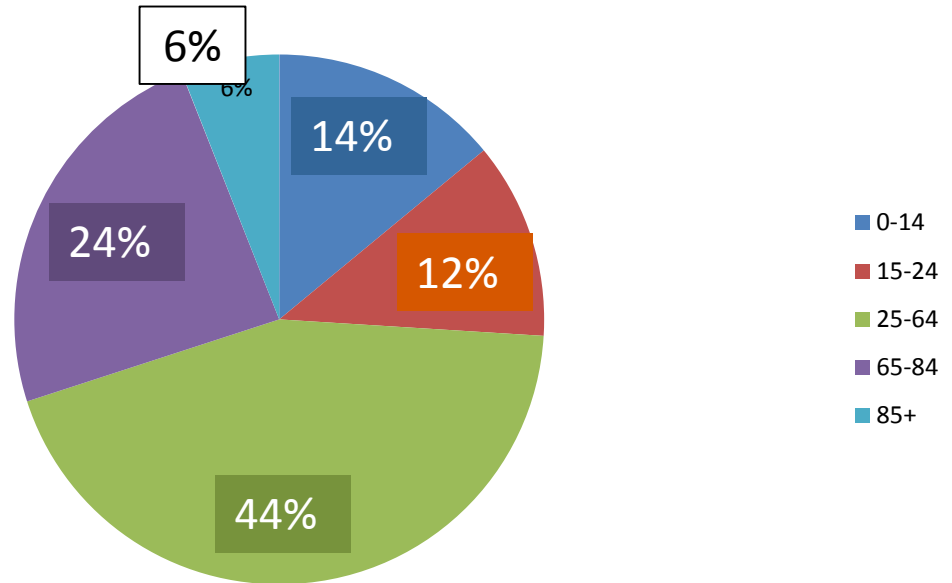


Image shows the silhouettes of a woman at the different ages over her life span. Includes changing size and ability from a crawling infant to being in a wheelchair with an attendant

The Waiting Trap

- Can't afford to wait
- Today: Accessible housing crisis
- Future: Only going to get worse
- **If policy changed today?**
Take 3 years to see in the marketplace

2030 - City of Toronto Population



The Principles of

Universal Design

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.

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

Provision that will remain convenient for all users is essential to equitable use.

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 signage should be clear, consistent, and easy to understand. It should be designed to provide the same information to all users.

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

If a user makes a mistake, it will not cause the user to lose the data or the system. The design should be forgiving of errors and allow for recovery.

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

Large handles are better than small handles. The design should be flexible enough to accommodate a wide range of hand sizes.

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 wall phone help users who are deaf or hard of hearing. The user is not on the line.

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

Devices should be designed to be used with a minimum of effort. The design should be comfortable and easy to use.

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.

Small space is better than large space. The design should be flexible enough to accommodate a wide range of body sizes.

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



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 countertop 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					✓

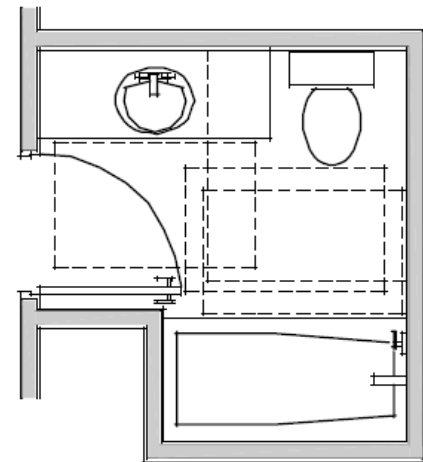
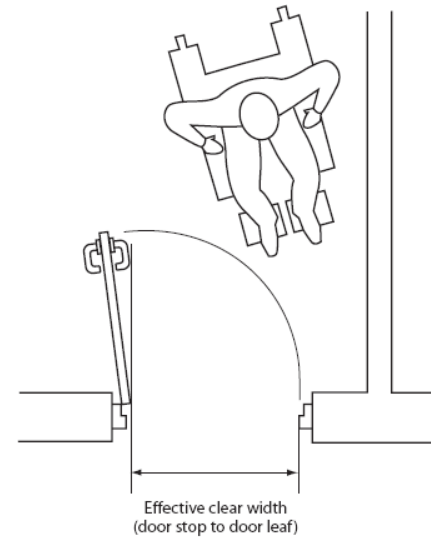
VisitAble Housing Canada: Accessibility Continuum Chart shows the different elements for accessibility in housing

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

Visit-able and Adaptable Housing

Only 5 of the many elements:

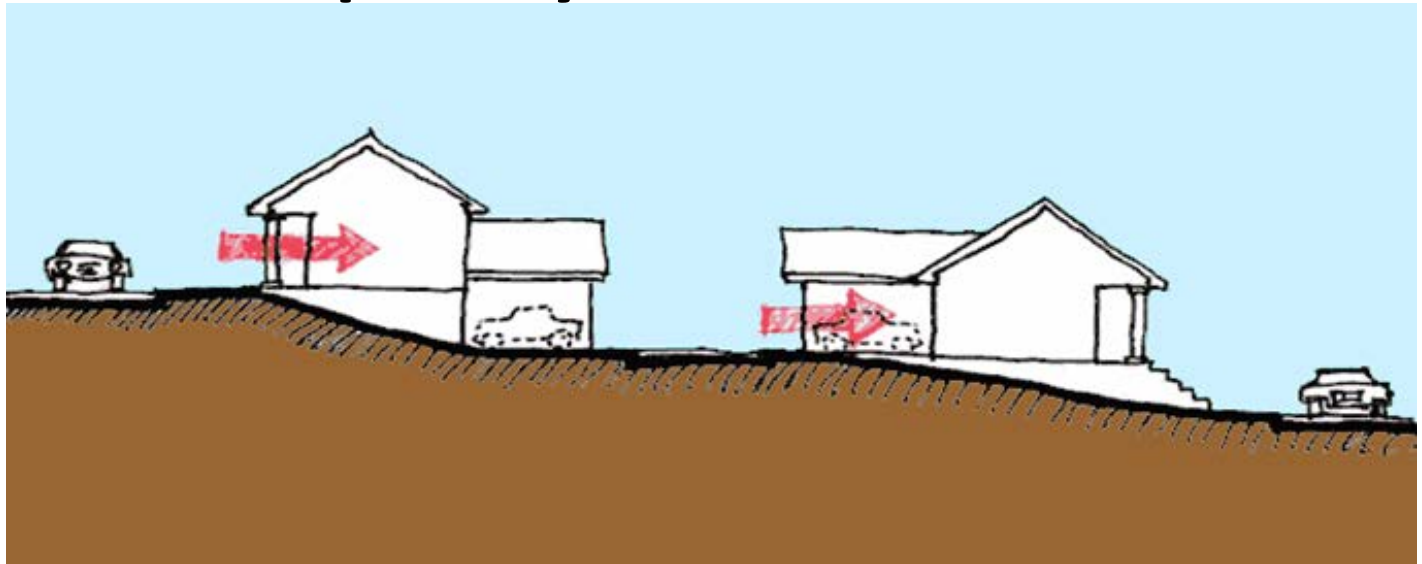
1. An accessible path to the residence from the sidewalk and parking
2. A zero step entry
3. All doors on the main floor and to bedrooms to be 40" wide
4. 4' wide hallways, and
5. Entry level washroom sized to residential accessibility standards.



OHBA

“Visitable” Features

2. Zero Step Entry

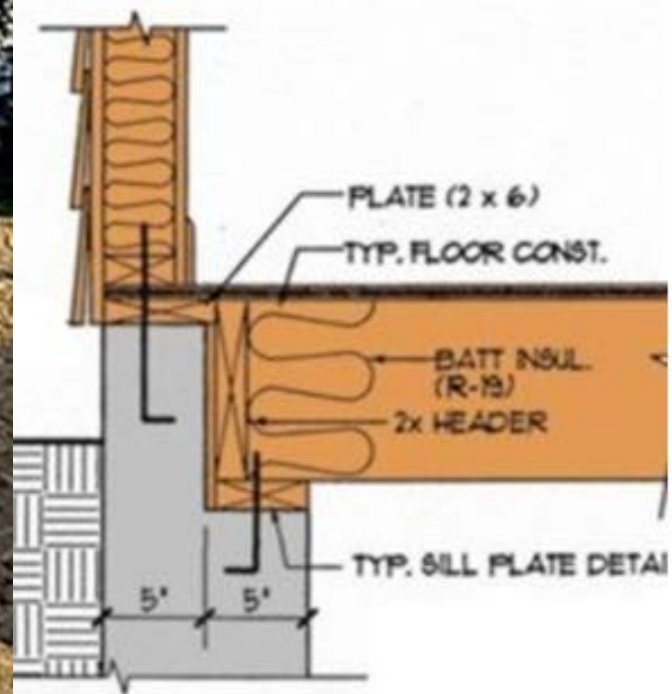


Easier Than You Think

Zero Step Entry

Typical Cost of Lowered Floor/Notched Foundation Method above the cost of regular flooring system:

\$250



- Source:
www.concretechange.org

Easier Than You Think

Zero Step Entry



Bridgewater Neighbourhood, Winnipeg, MB

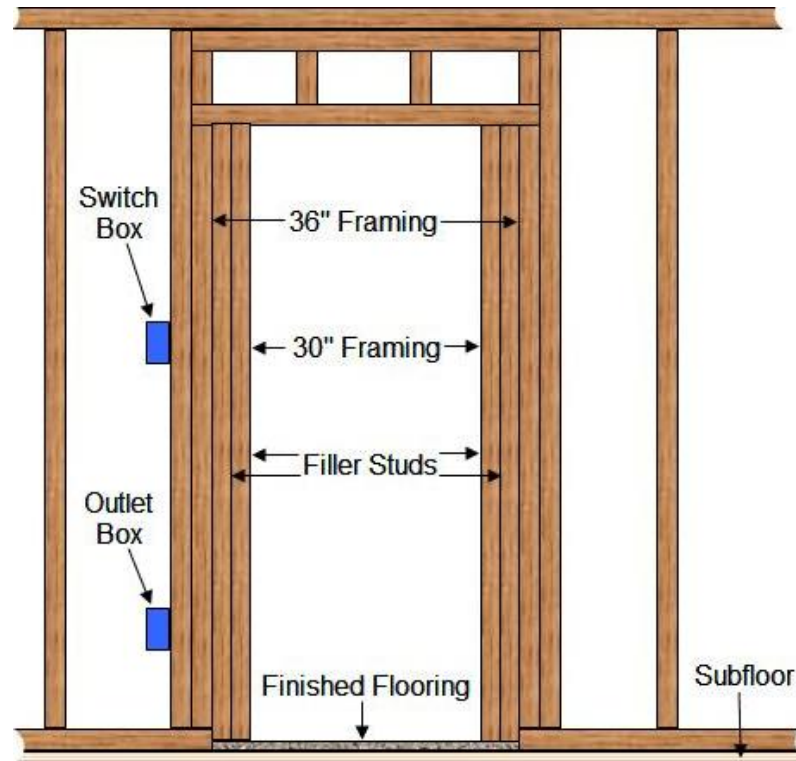
Easier Than You Think

Zero Step Entry



Easier Than You Think

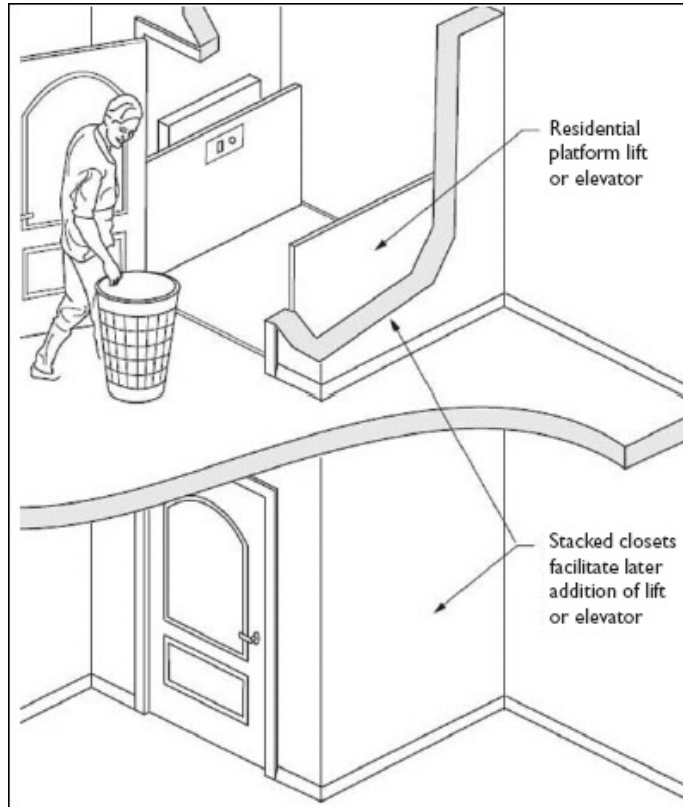
Wider Doors



- Image shows wood framing of a door that allows for widening later
Source: renovation-headquarters.com

Easier Than You Think

Stacked Closets -> Residential Elevators



- **Image on left: Stacked Closets**
Source: https://www.cmhc-schl.gc.ca/en/co/acho/acho_008.cfm
- **Image on Right: Residential elevator**
Source: canadacustomelevator.com

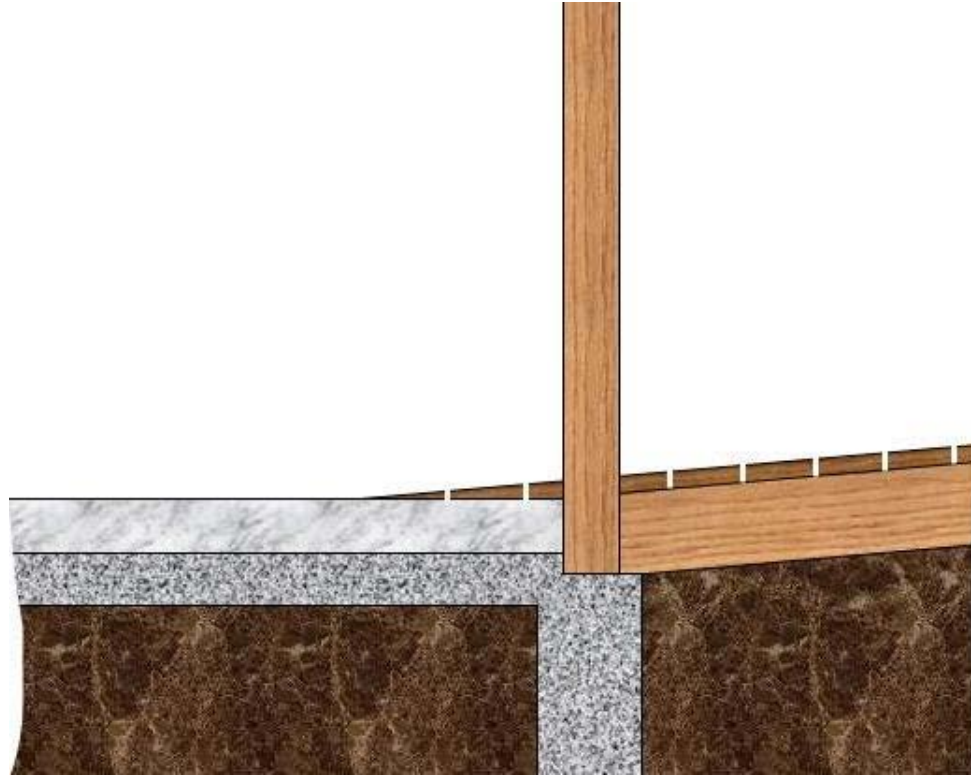
Easier Than You Think Laundry



- \
- Source:
bsu.edu/wellcomehome/friendly_house.html

Easier Than You Think

No Lip Exterior Wooden Ramp



- Source: Figure 12
www.renovation-headquarters.com/wheelchair-ramp-construction-3.html

Easier Than You Think Gardens

- correctly sized raised planters
- good space between planters
- allows for knee space beneath planters
- solid surface walkway around the planters
- Source:
renovation-headquarters.com



Happening Everywhere

4. Calculating the benefits

These are wide-ranging and include:

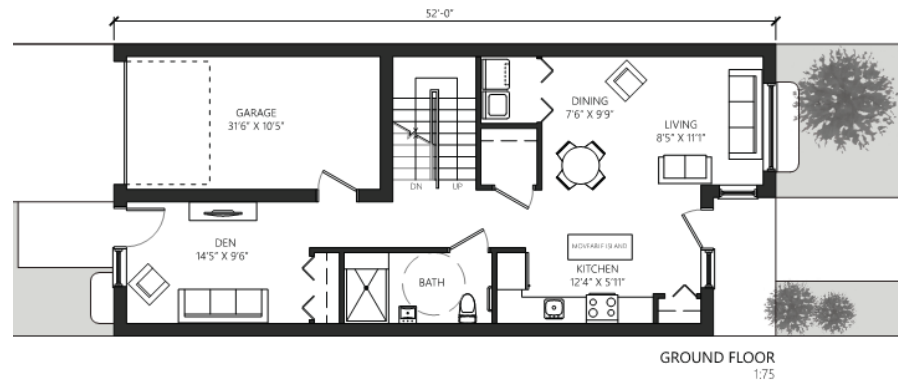
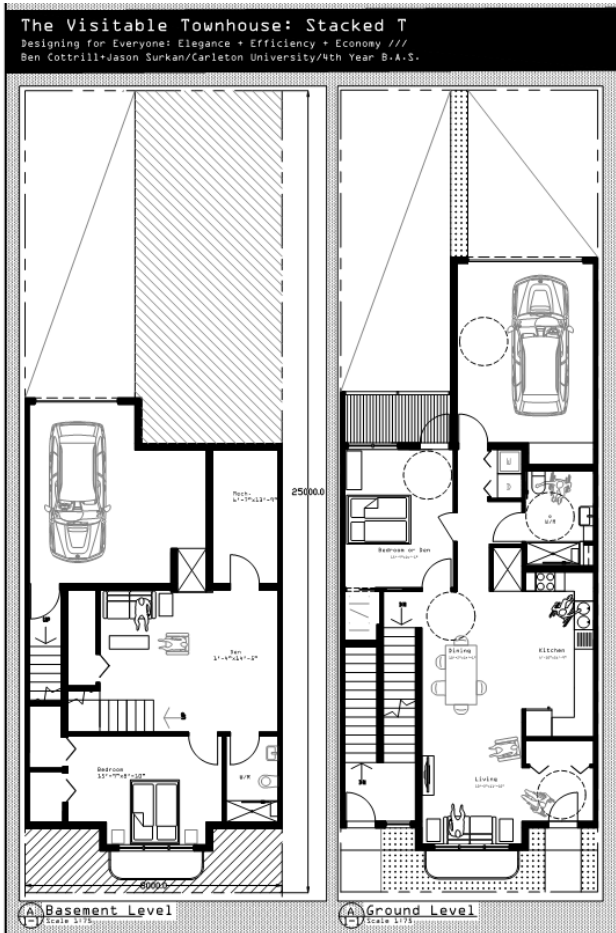
- the avoidable cost of residential care
- avoidable additional levels of social care
- negative impacts on independent living, employment and social life all of which have human, social and economic significance
- falls and other accidents and the health and care costs triggered
- mental health impacts and impacts on general health
- avoidable hospital admissions
- increased stays in hospital due to lack of accessible housing to return to.

Just one night in hospital costs the NHS around £273⁹ whilst one week's residential care averages £550¹⁰. These costs outstrip the cost of building a home to an accessible standard by a massive scale: each week that residential care can be avoided (an option that is often forced upon disabled and/or older people) would more than cover the government's estimated additional build cost¹¹.

The cost-benefit case for all new housing to be built to Lifetime Homes standard or equivalent plus a proportion as wheelchair accessible is compelling. Awareness of this case is a large part of why accessible housing has been required by policy in London for more than a decade and why accessible standards have been adopted in a growing number of other areas.

- Image shows “**Calculating the benefits**”
Source: <http://www.habinteg.org.uk/7pointsaboutthenew>

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, Ottawa - 42 single-occupancy units
LEED for Homes Platinum

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...?

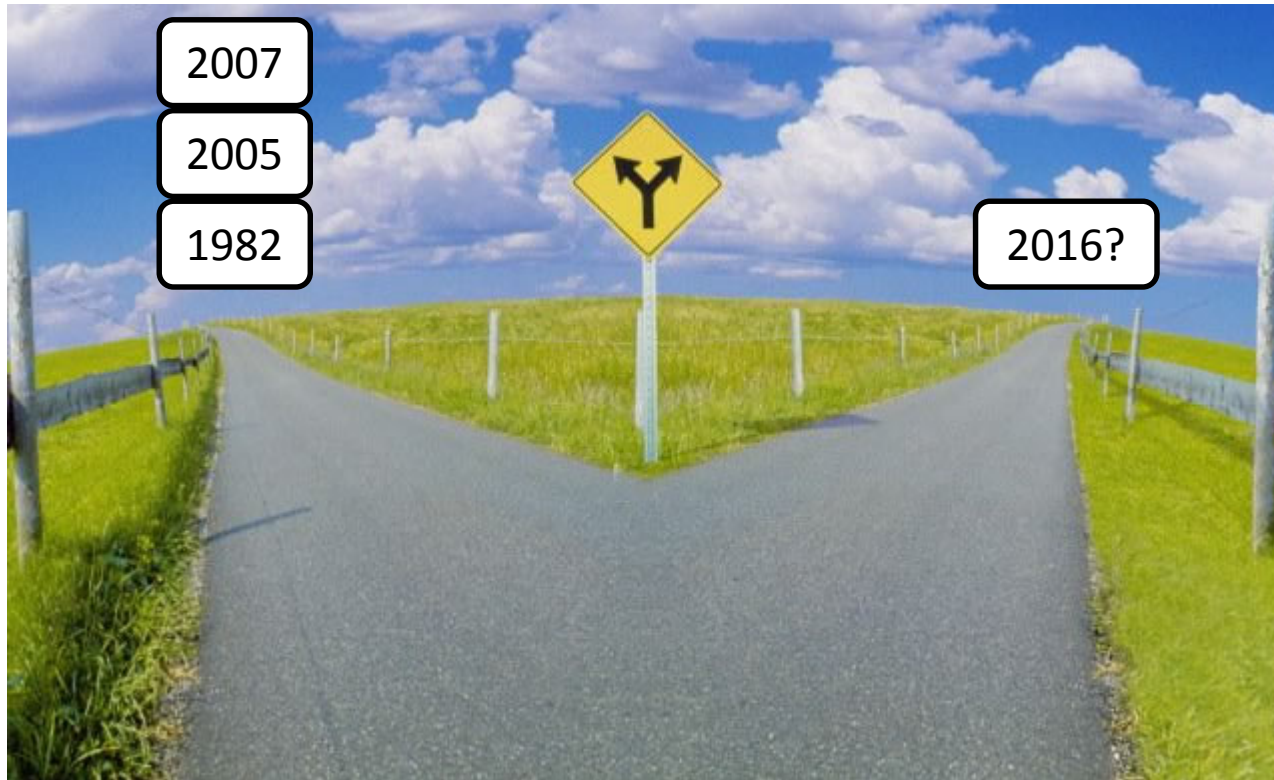


Image shows a decision point in the road with the dates 1982, 2005 and 2007 above the road on the left and the date 2016 with a question mark over the road on the right
Image source: <http://d.stockcharts.com/img/articles/2015/08/14401831385681449884081.jpg>

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**

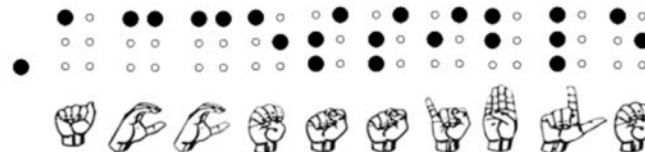


Image shows text, “Keep calm and make it accessible” braille and ASL letters spelling out “accessible”