Aging in Place - Housing Design and Adaptability

Jamie Shipley  C.E.T.
Aging population

By 2038
- 4.8 million more people aged 65+
- 24% of Canadian population are seniors

Source: CMHC, adapted from Statistics Canada, Medium Population Growth Scenario
In 2011, approximately 33% of seniors (65+) had some form of disability.
Preferred approach – staying in home

<table>
<thead>
<tr>
<th>Age Group</th>
<th>wishing to age-in-place*</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 - 54</td>
<td>75%</td>
</tr>
<tr>
<td>55 – 64</td>
<td>83%</td>
</tr>
<tr>
<td>65 – 74</td>
<td>92%</td>
</tr>
<tr>
<td>75+</td>
<td>95%</td>
</tr>
</tbody>
</table>

Source: American Association of Retired Persons

* Respondents indicating “strongly or somewhat agree” that they wish to remain in their home as long as possible
Older Canadian – Opting to Age in Place

Accessible Homes

Adaptable Homes
SENIORS’ FALLS IN CANADA

FALLS are the LEADING CAUSE OF INJURY among older Canadians

20-30% of seniors experience 1+ falls each year.

FALLS CAUSE:

- 85% of seniors’ injury-related hospitalizations
- 95% of all hip fractures
- $2 Billion a year in direct healthcare costs

- Over 1/3 of seniors are admitted to LONG-TERM CARE following hospitalization for a fall
- The average Canadian senior stays in hospital 10 DAYS longer for falls than for any other cause

Falls can result in chronic pain, reduced mobility, loss of independence and even death

- 50% of all falls causing hospitalization HAPPEN AT HOME

CANADA MORTGAGE AND HOUSING CORPORATION
Universal Design

“The intent of Universal Design is to simplify life for everyone”
"Universal design benefits people of all ages and abilities."

Ronald L. Mace, Design Pioneer and Visionary of Universal Design
Equitable Use / Tolerance for Error
Preventing Falls on Stairs

WHY DO PEOPLE FALL?

Professionals who study why people fall on or from stairs have identified these main contributing factors:

- Environmental factors including poor design, construction, and maintenance of stairs.
- Maintenance or dysfunctional handrails.
- Poor lighting or other features such as poor tread surfaces.
- Health factors including reduced vision, weakness, dizziness, loss of balance or an inactive lifestyle.
- Behavioral factors including lack of concentration, combining something while using stairs.

WHERE CAN PEOPLE FALL?

People can fall anywhere in the house where there are stairs, including entry stairs, stairs leading to another floor, the back door, or stairs leading to another room. Falls resulting in serious injuries can occur even with a single step.
Preventing Falls on Stairs

- **Tread**: 279 mm (11 in.)
- **Nosing**
- **Rise**: 178 mm (7 in.)
- **Run**
All users can reach and manipulate objects and navigate spaces comfortably.
Bathroom Layout – Adaptable Space

Figure 2: A small accessible bathroom.

Diagram by: Ron Wickman Architect

Figure 3: A FlexHousing™ approach complete with a 1,500mm (59 in.) turning circle and plywood backing on all bathroom walls.

Photo by: Ron Wickman
Curbless shower
Grab Bars Can Be Stylish!
Flexibility in Use

Design accommodates a wide range of individual preferences and abilities.
Flexible in use
Low Physical Effort
Automatic shut-offs for heating elements or taps; temperature-limiting controls for taps and showerheads
Visitable Homes

1. No Step Entry
2. Clear Passageway
3. Accessible Bathroom
Level Entranceways – invisible convenience
ABOUT YOUR HOUSE

Universal Design

UNIVERSAL DESIGN

Universal design is a concept designed to accommodate the functional needs of everyone, regardless of age or ability. It is an approach to design that ensures that everyone can use a building or space easily.

WHEN SHOULD YOU CONSIDER USING A RAMP?

Ramps can be used to overcome changes in level, either on the inside or outside of a home, as an alternative to using stairs.

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Accessible Housing by Design Series

- House Designs and Floor Plans
- Living Spaces
- Kitchens
- Bathrooms
- Appliances
- Exterior Spaces

- Ramps
- Lifts and Residential Elevators
- Residential Hoists and Ceiling Lifts
- Fire Safety for you and your Home
- Home Automation
The Cost of Including Accessibility
Including Accessibility Features in New Homes

The Results:

- 57% of accessibility features added no extra cost, or cost less than $100
- 75% of the features cost less than $500
- Several features cost less than non-accessible features
- Only 25% of the features cost more than $500
CMHC Resources - Video
Person – Centred Approach
Lighting

Google images
Floors

- Avoid shiny floors
- Avoid changes in colour, tone or patterns
- Remove threshold strips and doormats

Photo from flex house
Kitchens
Additional Advice or Strategies

- Wandering
  - Inside the home
  - Outside the home
  - Beyond the home

- Includes links to other sources of information
Assessment of Adaptable Affordable Housing Design Needs and Solutions – Literature Review

CMHC Project Manager: Thomas Green
Consultant: Paula Bowley and Anne Sinclair
Key Findings – Need and Demand Mismatches

Need for more MURBs

- A study released in 2015 includes statistics that confirm there has been a change from growing out (suburbs) to growing up (urban mid and high-rise).
  - In Montreal, for example, MURBs accounted for 75% of residential construction compared to 16% for ground related homes.
Adaptable Housing

Building designs that allow changes to unit size and mix:

- layouts where two adjacent units can be combined

Plan of apartment with lock-off suite
Source: Drawing based on apartments at SFU UniverCity
For more information, visit us at cmhc.ca/accessiblereandadaptablehomes