



**And Here I'll  
Stay...**

*A Guide to Selecting  
Retirement Housing*

**And Here I'll Stay...**



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## HOW TO LOOK FOR ADAPTABLE HOUSING

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This booklet is a first step to becoming more knowledgeable *before* selecting retirement housing. A good supply of truly adaptable housing will be more likely if consumer demand is more knowledgeable. The difficulty is that people won't recognize or accurately assess their long term needs until disaster strikes. Then they are forced to move again because their housing won't adjust to a changed physical need. More widespread attention to adaptable design is needed to improve life quality and health care service delivery in addition to the daily practical & convenient features.



Adaptable seniors' co-op in Squamish, BC

Try to realistically understand your own needs and values around housing. Traditional values about good locations must be examined. Good for what? Families with kids are likely to make different choices than people investing mainly for a financial gain. Looking for retirement housing has its own considerations.

Changing physical abilities call for a fresh look at the qualities you now consider a "good neighbourhood". Attitudes and views of distance, privacy and security change along with our physical abilities. Physical isolation can become a serious social barrier as mobility diminishes whether as the result of a steep driveway, too many stairs, loss of driving ability or just being too far from the bus stop.

Answering the following questions honestly could help you evaluate housing possibilities.

- How often are you willing to move?
- Can you get help to move quickly in cases where a change in health means you can't stay in your current home?
- How can you get around in your community if your physical abilities decline and/or you are not able to drive?
- What services do you want to reach using a scooter or walking from your home? Groceries, shopping, banking, postal services, are basic for everyone. Getting to the library, church or temple, Legion or other activities can be critical for healthy & enjoyable living.

It is a good idea to “wheelchair test” each home before you make a decision. Borrow a wheelchair even if you don't use one right now. This simple trial will give you more critical and valuable information than any expert or using this guide. Your less mobile friends will be able to visit you at the very least. You will be able to use a walker in any house that accepts wheelchairs but not necessarily vice versa.

Encourage real estate agents, builders and family members to try out housing in a wheelchair. This is one of the very best ways to get the TAB (Temporarily Able Bodied) population to understand the importance of accessibility.

We hope this booklet will get people thinking. Many of the features needed are more a matter of know how than expense. The explosion of retiring "baby boomers" will need to change the way retirement housing is designed for their parents and themselves. Thus far the ideas promoted by health care providers to support “aging in place” (in your own home) rather than “institutions for the aged”, do not seem to be effecting much change in the design of retirement housing. Informed and knowledgeable home buyers and tenants and local governments who demand accessible and appropriately located housing can bring about the needed change.

# WHAT TO LOOK FOR IN ADAPTABLE HOUSING

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## 1 OUTSIDE & PUBLIC SPACES

1.1 All outside public **walkways** should be 5' wide. There should be a flat "landing pad" at least 5' in diameter at corners where the walk changes direction. Angled curves, sometimes called cross slopes, make falls likely for people using canes, walkers or wheelchairs.

1.2 **Ramps** should have a maximum of 5% (1 in 20) slope with flat landings top and bottom and at intermediate levels. Corners must be flat to prevent tipping. Slopes of more than one direction or angle will cause walkers or wheeled things to tip over. Ramps must have non-skid surfaces.

1.3 **Handrails** on ramps and all stairs must be provided. An additional lower handrail should be provided on ramps should be within easy reach of a person in a wheelchair.

1.4 **Garbage containers** should be close to units, protected from the weather, and of a size and type to allow easy use by short people or people with limited mobility.

1.5 Make sure **speed bumps** have a 3' wide level surface at sides for wheelchair access.

1.6 **All shared and public spaces**, inside and outside (with the exception of mechanical and electrical rooms) should be totally accessible and **usable by persons in wheelchairs**.

1.7 **Garages** can't be connected directly to the inside of your home without having a step or ramp. The garage floor must be lower than the house floor to prevent fumes from getting into the house. Garages can be connected through a flat "breeze way". Carports can be more helpful since the area can be flat

between it and the home.

1.8 Garages or entry gates should have **remote door openers**.

## *2 PUBLIC ENTRIES*

2.1 The **main entry door** for houses & apartments should have 34" minimum clear width, with a 24" wide clear space beside the door handle so that a person can sit or stand beside the door when pulling it towards them to open it. Make sure there is at least a 5'x 5' clear flat area is inside and outside the door, level with threshold. The door should have a lever or paddle latch handle on the inside. The main entry ideally should have or be pre-wired to have a remote controlled electric door opener.



The Brambles Co-op accessible entry

2.2 The **Intercom** should be the push button type. The intercom should include tactile identification for blind persons. You should be able to reach all buttons and speak into the intercom from a chair.

## *3 LOBBIES*

3.1 The **hall in front of the elevator** should be at least 6' wide.

3.2 **Mailboxes** should be reachable from a wheelchair, not higher than 42" above the floor.

3.3 **Lobby and hallway carpet** should be high density low pile or Berber type

glued to the floor. Ask about the pile weight and density. The weight of wheel chairs, scooters, walkers, canes can cause damage, especially in frequently used areas if carpet is stretched over soft underpads. Hard flooring is easier to take care of but bounces sounds in public areas.

#### 4 HALLWAYS

4.1 Hallways should be at least 5' wide, and at least 6' wide in front of suite doors.



High contrast suite number & door frame with light and shelf aids vision impaired persons.

4.2 **Fire Doors** in halls should be held open by magnetic releases which allow the doors to swing shut when the fire protection systems turn on. There must be a clear area 5'x 5' on both sides of the doors. These doors should also be equipped with light weight delayed action door closers.

4.3 1" x 8" **baseboards** protect walls keeping the building more attractive over time.

4.4 At least one side of the corridor could have a **handrail**.

4.5 **Carpets** should have same qualities as in the lobby area.

#### 5 ELEVATOR

5.1 The elevator must allow easy use by a person in a wheelchair. The cab should not open from the centre. There should be a **sensor** to prevent the door closing while someone is entering.

5.2 It is helpful if the elevator allows use of an emergency stretcher; one inside

wall must have a **width of 7'6"** to allow this use.

## 1 DOORS

1.1 All doors (entry and inside passages) must be at least **32" wide**.

### ***INSIDE LIVING AREAS***

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1.2 All **swing doors** should have a 2' clear wall area beside the door handle so that a person can sit or stand beside the door when pulling it towards them to open it.

1.3 **Sliding glass doors** to balconies or patios should be at least 6' wide. 8' is preferred. They must roll freely with little force. They must have a pin lock which can be easily unlocked and locked by foot or stick. The frame should be recessed into the foundation or wall to give level entry.

1.4 **Closet doors** should be at least 5' wide. Open the door to see if they get in the way of furniture or moving space. If folding doors are used, they should have surface mounted D-handle pulls.

1.5 All **thresholds** must be flat and level. A 2 inch bump is not level, it is a barrier.

1.6 All doors should have **lever type handles**. Door closers, where used, should be delayed action with a pressure not exceeding 22.5N (5 lb.) applied at the handle. Both of these items can relatively easily be changed in most homes.

1.7 Solid entry doors should have two **viewers** installed, one at standard height

and one at 42" from floor.

## 2 HALLWAYS

2.1 Inside halls must be at least **42" wide**.

2.2 **Corner guards** can be glued to corners to prevent damage to drywall from inevitable wheelchair bumps. They come in many colours or transparent and some can be painted.

## 3 WINDOWS

3.1 All **opening windows** must open from a seated position. Windows should allow **locking** when partially open for secured ventilation.

3.2 You should be able to open, close & adjust **window coverings** from a chair. Louver control rods and cords for blinds should be on same side of window.

## 4 BALCONIES

4.1 Balconies should be at least 6'0" deep space to allow movement and some furnishing. Make sure the floor **slopes to the drain**.

Level patio or balcony door threshold allows easy furniture location. Window opens at chair level.

4.2 The balcony door **threshold must be flat** and sheltered by a cover from the weather. Just a little step is a significant barrier to wheels and is a tripping hazard.

4.2 **Rails** should not block view for a seated person.

## 5 FLOORING

5.1 **Carpeting** should be a dense low-pile, BF nylon type minimum 28 oz., approved by manufacturer for direct glue down.

5.2 A high density rubber **underpad** or felt can be used successfully where needed for comfort or sound dampening

5.3 **Hard surface flooring** (lino, wood, tile) may be easier to clean but has certain limitations. It is hard so people and things break easier on it. Using area carpets can be a hazard for tripping. It reflects sound and makes neighbourly noise louder, especially in wood frame apartments.

## 6 STORAGE

6.1 **Closet organizers** can be installed to greatly improve useful storage. Install supports for shelf at 57" and rod at 42" in other coat/clothes closets in wheelchair accessible units. Shelf & rod heights must be adjustable.

6.2 Storage areas will be more useful if shelves are installed but a **turning radius of 5'** is maintained. Sheltered, secured storage for extra equipment such as wheelchairs, battery chargers, etc. should be available.

6.3 Make sure there is enough storage and that shelves allow safe moving of items stored on them. Moving into a smaller home is difficult and usually means getting rid of some belongings. Store surplus belongings in a commercial storage facility until you are sure you can live without them rather than cramming them into small rooms or closets where they can be barriers to mobility.

## 7 FIRE ALARMS

Alarm Pull Boxes should be installed 42" off the floor.

## 8 ELECTRICAL/LIGHTING/HEATING

8.1 All thermostats should be mounted 38" off the floor. **Programmable thermostats** save money and are more convenient. Take time to learn how to operate them.

8.2 The main **electrical panel** should be installed 33" off the floor, with clear path of travel for wheelchair access to panel. Make sure breaker switches are clearly labeled. A flashlight mounted on the wall near the panel can be handy as long as batteries are kept fresh.

8.3 All wall **switches** should be mounted 38" off floor.

8.4 **Rocker switches** can be provided throughout. They are easier to operate than flip switches. It is easier for visually impaired people to locate coloured switches that contrast with the wall colour.

8.5 **Control switches for range hood** fan and light can be mounted at face of base cabinets.

8.6 All **outlets** (except kitchen & bathroom) should be mounted 18" above the floor.

8.7 **Switched outlets** in a bedroom should be located beside the door, with outlet mounted at most likely bed position.

8.8 **Kitchen Outlets** can be installed at face of base cabinets just under counter top, in addition to normal outlets over counters on back walls. Mount wall outlets horizontally at 42" from floor to allow easier reach to both plugs.

8.9 **Bathroom Outlets** 110V. with ground fault interrupter. Older buildings may need re-wiring to provide this.

8.10 A **heating unit** or heated floor is needed in bathroom, kitchens and entries. Radiant hot water heat in slab is preferred type of heat for many people with physical limitations. A heat lamp alone in the bathroom is not enough for people with poor circulation.

## 9 BEDROOMS

Master Bedroom - At least one bedroom should be large enough to allow for a double bed accessed from both sides with appropriate furniture in place and a minimum **turning radius of 5'** on side of the bed closest to the closet.

9.1 Make sure there are **cable and telephone outlets** in the master bedroom, with telephone jack by bed, cable on opposite wall.

9.2 **Drawings** should show proposed layout, including bed location, turning radii, other furniture placement, and clearance dimensions.

9.3 A separate **intercom** (not connected to the phone line) should have a second call answer box near the head of the bed in the master bedroom as well as near the front door. A phone company serviced entry security system is more convenient as any phone, including cordless can be used to answer callers at the building entry.



Adjustable lower cabinets, removable doors & shelves below sink & cooktop, installed for a standing cook.

## 10 KITCHENS

### 10.1 Appliances

10.1.1 Provide frost free **fridges**, side by side, or models with freezer at floor level. Install so that doors open 180°.

10.1.2 A 4 burner **cooktop** should be provided with controls along the side so that the user does not reach over hot burners or pots to change the heat. Removable cabinet doors and shelf are required below the cooktop to allow knee hole space.

10.1.3 A wall mounted self cleaning **oven** should be provided with side opening door. Door to open 180°. Install so that bottom rack is at counter level. Controls at side of face are preferable.

10.1.4 Provide a slide out shelf with a heat resistant surface in cabinet immediately under oven door to allow a safe place to hold hot dishes lifted down and out of the oven.

10.1.5 Provide a **garburator** with a switch installed in face of base cabinet.

10.1.6 Any **dishwasher** must be located at end of counter run or separate location so as to allow adjustment of counter height without relocating dishwasher or causing a 36" high "bump" in centre of counter work area after cabinet height is adjusted.

## 10.2 Cabinets

Generally the European **box style cabinets** are easier to adapt to changing needs. There are many local suppliers of custom components which can be rolled out for special use and then tucked away again. These cabinets are made in more standardized units that allow the additions or changes more easily. Special hinges can be interchanged easily as well. The following descriptions apply to this system.

10.2.1 Countertops are often installed at a “handicap” height of 33". **Counter height should be adjustable** to the individual. Base cabinets should be installed so that counter height may be adjusted easily from 28" - 38" by changing supporting legs or plinth bases or by mechanical or hydraulic means.

10.2.2 A **pantry** cupboard with roll out baskets is the most flexible kitchen storage unit.

10.2.3 A minimum **toe space** 6" deep by 9" high is needed for wheelchairs foot rests to slide under cabinets.. Use of bathroom vanity sized base cabinet boxes mounted on legs will meet this need.

10.2.4 **Upper wall cupboards** should be mounted no more than 15" above the counter. Check width of upper cupboard door when open to make sure it will not require the cook to move when opening & closing door (due to its width). All base and overhead corner cupboards should be equipped with lazy susans. Cupboard lazy-susans or turning baskets (minimum 2 baskets) are also needed in base cabinets at corners.

10.2.5 **Hinges** should be "self-closing" type. **Pulls** should be surface mounted so they are easy to use by persons with limited hand function. D-handle style is acceptable.

## 10.3 SINK & FAUCETS

10.3.1 **Sinks** can be shallow or regular depth according to need. Insulate the sink bottom to prevent burns, if someone will roll a chair under it. All exposed plumbing should be insulated in this case. The drain and water pipes should be located as close to the wall as possible. Removable cabinet doors and shelves should be provided below sink to allow knee hole space for wheelchair user or persons sitting at the sink on a stool.

10.3.2 A single lever **faucet** with spray hose should be provided in the kitchen. A water temperature control valve is useful to prevent scalding. A dishwasher with a temperature booster may then be needed to make sure sanitation is maintained.

## 10.4 KITCHEN DIMENSIONS

The smallest **dimension between counters** at any point is 5'. An L shaped or galley style layout is usually the most easily adaptable but a wide U shape can work.

## 11 BATHROOM

**These are the most important spaces usually not provided in regular housing.**

11.1 **Dimensions must allow a 5' turning radius** inside the bathroom. There must be at least 3' clear wall area beside the tub water faucet. There must also be a **3' clear wall space** on one side of the toilet to allow transferring from chair to toilet. This extra space can be furnished unless you need it for wheelchair access.

## 11.2 BATHTUB/WHEEL-IN SHOWER

11.2.1 **Design layout** should allow for conversion of tub area to wheel-in shower without renovation to the building structure. Provide positive slope to drain for both systems.



New tub ready for grab bar placement or conversion to shower. Tiles cover floor under tub, whole floor slopes to tub drain.

11.2.2 **Bathtub** must have non-slip bottom.

11.2.3 Bathtub or shower supply should be controlled by a single lever handle servicing either a **pressure equalizing valve** or an **automatic thermostatically controlled valve**. The water controls can be located on the long wall at the side of the tub to allow operation from a seated position. A **telephone shower head** with an on/off switch should be located on the short end wall of the tub with a minimum 6' long hose and adjustable or duplicate wall hooks to allow use from a standing or sitting position.

A wheel-in **shower must have a flat entry**. This is most easily done by waterproofing the entire bath floor and wall edges with an EPDM (rubber) coating. Install a level cement type base which can be gently sloped to the drain from all directions and tile the floor, baseboards and shower walls. **Provide a fabric curtain to maintain safety**. Glass tub or shower doors are barriers to helpers or rescuers. Only one expensive (about \$4,500) manufactured unit designed for wheel-in use can be obtained with great difficulty in this area at this time.

### 11.3 GRAB BARS:

11.3.1 Entire tub or shower surround and area behind toilet and to an area 2'0" from the front edge of the toilet should be clad from floor to ceiling with 3/4" exterior grade **fir ply behind the drywall and tiles**, to allow for secure mounting of grab bars in a variety of configurations. Grab bars must be attached to a solid, weight bearing structural support. Grab bar locations may be changed to match changing abilities.

11.3.2 Grab bars need should be installed to **match user needs**, often literally a matter of inches can prevent or help independent use. The user needs to sit on the toilet & in the tub or stand in the shower to determine the actual location of the grab bars.

11.4 Either a standard toilet with **bolt down tank lid or raised toilet** can be installed to meet individual needs. A portable raised seat may be useful in families since high toilets can contribute to bowel problems for those who don't require them. Some newer wheelchairs are built low and allow easy transfer to a regular toilet. The toilet should be located to **allow transfer from either side** if possible. Swing away wall and floor mounted grab bars provide better security for such a "throne". People commonly grab at tank lids for support, especially in emergencies. The tank lid needs to be the bolted down type or have a grab bar mounted just above it to prevent accidents.

## 11.5 VANITY/MEDICINE CABINET

11.5.1 The sink should have a **single lever faucet**. Avoid round single handled faucets which must be pulled or pushed up and down.

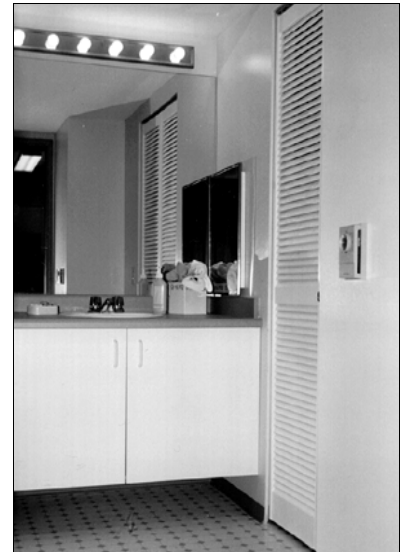
11.5.2 **Mirrors** should be installed so as should be usable both from a seated and a standing position. Big wall mirrors extending from the vanity top up to 6' from the floor are attractive and work well.

11.5.2 The **vanity** should have removable doors and shelf under the sink to allow chair access when needed.

11.5.3 **A lockable drawer** in the vanity or a lockable medicine cabinet should be installed at a height which can be reached from a chair. Medications should be secured.

## 11.6 BATHROOM DOORS

**A swing door should open out** to allow easy entry from outside the room in an emergency. People are at risk of falling in a bathroom. An outward opening door allows other helping people to enter. Wheelchairs or walkers can easily get stuck behind an inward swinging door and prevent help from getting in quickly. A **pocket door** should have a clear opening of **34" with a D pull** handle for use by persons with limited hand function.



Removable vanity doors with plenty of toe space, lower thermostat & lockable medicine cabinet on wall.

The Province of British Columbia was one of the first areas in North America to add accessibility requirements to its Building Code. Section 3.7 of the B.C. Building Code (1984) applies to all public spaces within a new buildings. The Code doesn't apply to the insides of private homes. The formal Code requirements would make the inside of a home difficult to use by people with varying or changing needs such as those who stand but can't bend. The Code doesn't solve the highly individualized and diverse needs of people with changing abilities. This guide recognizes that most peoples' needs do change and hopes to encourage more flexible design for home interiors.

We welcome your suggestions for improving this guide. Please send your comments to the addresses at the back of the booklet.



Small people benefit from a public wheelchair access too!

## *SOME WAYS TO IMPROVE OUR FUTURE HOMES*

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- ENCOURAGE THE LOCAL HOUSING INDUSTRY TO DEVELOP "ADAPTABLE" HOUSING STOCK NOW.
- Local organizations could meet with builders to give tours or hold workshops about housing that does and doesn't work for people with mobility limits. Real estate agents could tour local condos in wheelchairs. Cautionary tales could be told by elders in local papers or cable TV. The many accessible church buildings or the senior centres could host gatherings of architects at which people with mobility limits demonstrate the use of accessible features.
- Municipal standards can be developed &/or various forms of "bonusing" allowed in BC to entice builders to provide the specific features needed to make housing adaptable whether it is non-profit or market financed. "Bonusing" is permission from a Municipal government to allow extra floor area in a building in exchange for a community benefit.
- Land use and zoning policies could be reviewed to make sure housing is integrated with commercial, office and community service land uses. Reducing dependence on cars benefits the planet as well as people who can't drive. Encourage pedestrian friendly commercial developments and/or provide smaller scale and accessible transit between neighbourhoods and malls.
- We all benefit from including human diversity in our communities by making our built environment barrier free!

## *Your notes:*

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Address:

Distance to services & transit:

Outside the building:

- Access
- Security
- Safety

Inside the building:

- Entry access & security
- Mail, garbage, parking
- Halls & elevators

Inside the suite:

- All door widths & opening direction
- Windows
- Electrical, lighting & heating
- Phone, cable & security outlets
- Kitchen
- Bathroom
- Storage & closets
- Room furnishing layout

*Access Building Association is a non-profit society.* Staff have organized and developed more than 40 affordable housing projects since 1982. Our innovative housing projects include the following “Firsts of Kind in Canada or BC”:

- 100% low income artists live/work studios, City bonus density, 1999 *CORE Artists Live/Work Co-op, Vancouver*
- 100% adaptable senior’s equity co-op: 1997 *Eagle Grove Seniors’ Housing Co-op, Squamish*
- Licensed family child care units in new townhouses: 1996 *Oaklands Housing Co-op, Burnaby*
- Purpose designed & built senior day care centre: 1994 *Crossreach Adult Day Centre, Vancouver*
- Single mature women’s co-op: 1989 *The Brambles Housing Co-op, Burnaby*
- 100% accessible non-profit housing co-op: 1984 *Access Housing Co-op, Vancouver*

Prize winning projects include:

- Gold Georgie Award – High Rise Development: 2000 *Arbutus Housing Co-op*
- Canadian Design Award: *Broadview Housing Co-op* 1985, *The Brambles Housing Co-op*, 1990
- City of Vancouver Accessibility Awards: *Access Housing Co-op* 1984, *Harbour Cove Housing Co-op* 1986

This booklet is based on a collection of architectural advice obtained over 20 years. Many of these innovations & solutions result from the work of BC architects Ted deGrey, Matti Saar, & Peter Smith. The booklet was compiled, written, photographed & designed by Lee Ann Johnson, Access project manager.

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