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This issue I would like to provide you with a quick guide so when you are looking to improve your existing living environment or if you are planning to purchase a home in the future that you can use to show you the issues that will allow you to comfortably age in place. There are a few areas of the home where you should pay attention to so you may avoid costly additional repairs for accessibility or doing the wrong repairs to meet your needs.

Exterior

- Low-maintenance exterior (vinyl, brick)
- Low-maintenance shrubs and plants
- Deck, patio or balcony surfaces are no more than ½ inch below interior floor level if made of wood

Exterior should have walkways that are wide enough for a wheel chair or walker so you can access places in your yard such as the flower beds or garden areas. Raised bed gardens allow you the ultimate access whether you are using a walker, wheelchair or cane.

Overall Floor Plan

- Main living on a single story, including full bath
- No steps between rooms/areas on the same level
- 5-foot by 5-foot clear/turn space in living area, kitchen, a bedroom and a bathroom

The first floor plan should have taken into effect the “Visitability Standard” where anyone no matter if they are able bodied or wheelchair bound can access the first floor of your home. Including the bathroom. However a 5 foot by 5 foot clear turn in the bathroom rarely is built into the homes. Most have a clear space that a chair user can navigate but not 5 by 5.

Hallways

- Minimum of 48 inches wide
- Well lit

Chair rail and wide base molding can keep the walls from being scratched by the chairs

Entry

- Accessible path of travel to the home
- At least one no-step entry with a cover
- Sensor light at exterior no-step entry focusing on the front-door lock
- There needs to be 32 inches of clear width, which requires a 36-inch door
- Non-slip flooring in foyer
- Entry door sidelight or high/low peep hole viewer; sidelight should provide both privacy and safety.
- Doorbell in accessible location
- Shelf to place packages on when opening door

No step entries are key so you do not have to build a ramp for entry. Ramps require maintenance yearly and are costly when designed into the landscape.

Thresholds

- Flush preferable
- Exterior maximum of ½ inch beveled
- Interior maximum of ¼ inch

Even at ½ inch for an exterior threshold it should have a transition plate so the drop off is an easy slope and not a quick drop that could throw the chair bound person forward.

Interior Doors

- There needs to be 32 inches of clear width, which requires a 36-inch door
- Levered door hardware

Pocket doors are a good way to access rooms and closets as they are slid out of the way and create a clear entry into any room without protruding into the space of either room.

Windows

- Plenty of windows for natural light

- Lowered windows or taller windows with lower sill height
- Low maintenance exterior and interior finishes
- Easy to operate hardware

Windows should be single hung and the window sill should be between 24 and 36 inches from the floor so a person in a chair can raise, lower and look outside from a seated position. Double hung windows have a tendency to drop the top window down and this is a real issue for a chair bound person to raise the upper window to securely lock and close.

Garage or Carport

- Covered carports and boarding spaces
- Wider than average carports to accommodate lifts on vans
- Door heights may need to be 9 feet to accommodate some raised roof vans
- 5-foot minimum access aisle between accessible van and car in garage
- If code requires floor to be several inches below entrance to house for fume protection a ramp to the doorway may be needed
- Handrail if steps

Garage floors are usually lower than the entry door so a transition is necessary in most homes.

Faucets

- Lever handles or pedal-controlled
- Thermostatic or anti-scald controls
- Pressure balanced faucets

Single handle or wing handle pressure balancing type faucet is desired.

Kitchen and Laundry

Counters

- Wall support and provision for adjustable and/or varied height counters and removable base cabinets
- Upper wall cabinetry - 3 inches lower than conventional height
- Accented stripes on edge of countertops to provide visual orientation to the workspace
- Counter space for dish landing adjacent to or opposite all appliances
- Base cabinet with large pull out drawers

- Pull-down shelving
- Glass-front cabinet doors
- Open shelving for easy access to frequently used items

Drawer front base cabinets with 2 large drawers are preferred to swing door with pull out shelves as the door front is usually in the way for the chair bound person or for one that uses a walker.

Appliances

- Easy to read controls
- Washing machine and dryer raised 12 to 15 inches above floor
- Front loading laundry machines
- Microwave oven at counter height or in wall
- Side-by-side refrigerator/freezer
- Side-swing or wall oven
- Raised dishwasher with pushbutton controls
- Electric cook top with level burners for safety in transferring between the burners, front controls and downdraft feature to pull heat away from user; light to indicate when surface is hot

Controls that are in the front so the user does not have to reach over the burners to turn on or off the appliance.

Miscellaneous

- 30-inch by 48-inch clear space at appliances or 60-inch diameter clear space for turns
- Multi-level work areas to accommodate cooks of different heights
- Open under-counter seated work areas
- Placement of task lighting in appropriate work areas
- Loop handles for easy grip and pull
- Pull-out spray faucet; levered handles
- In multi-story homes, laundry chute or laundry facilities in master bedroom

Bathroom

- Wall support and provision for adjustable and/or varied height counters and removable base cabinets
- Contrasting color edge border at countertops
- At least one wheelchair maneuverable bath on main level with 60-inch turning radius or acceptable T-turn space and 36-inch by 36-inch or 30-inch by 48-inch clear space

- Bracing in walls around tub, shower, shower seat and toilet for installation of grab bars to support 250 - 300 pounds
- If stand-up shower is used in main bath, it is curbless and minimum of 36 inches wide
- Bathtub - lower for easier access
- Fold down seat in the shower
- Adjustable/ handheld showerheads, 6-foot hose
- Tub/Shower controls offset from center
- Shower stall with built-in antibacterial protection
- Light in shower stall
- Toilet 2 ½ inches higher than standard toilet (17 to 19 inches) or height-adjustable
- Design of the toilet paper holder allows rolls to be changed with one hand
- Wall-hung sink with knee space and panel to protect user from pipes
- Slip-resistant flooring in bathroom and shower

Bathrooms are the hardest space to remodel for access. In some homes the best bet is to convert a spare bedroom to the master bath and include the laundry area within this room. Especially if the laundry is in the basement or an inaccessible part of the home.

Stairways, Lifts and Elevators

- Adequate hand rails on both sides of stairway, 1 ¼-inch diameter
- Increased visibility of stairs through contrast strip on top and bottom stairs, color contrast between treads and risers on stairs and use of lighting
- Multi-story homes may provide either pre-framed shaft (ie. stacked closets) for future elevator, or stairway width must be minimum of 4 feet to allow space for lift
- Residential elevator or lift

While not the norm for most homes we are seeing a change to builders typical design with the stacked closets for future elevator use.

Ramps

- Slope no greater than 1 inch rise for each 12 inches in length, adequate handrails
- 5-foot landing provided at entrance
- 2-inch curbs for safety

Landings larger than 5 by 5 are becoming typical as the builders realize some customers prefer a landing that Emergency Medical Services can use a gurney to remove someone from the home.

Storage

- Adjustable closet rods and shelves
- Lighting in closets
- Easy open doors that do not obstruct access

Electrical, Lighting, Safety and Security

- Light switches by each entrance to halls and rooms
- Light receptacles with at least 2 bulbs in vital places (exits, bathroom)
- Light switches, thermostats and other environmental controls placed in accessible locations no higher than 48 inches from floor
- Electrical outlets 24 inches on center from floor; may need to be closer than 12 feet apart
- Clear access space of 30 inches by 48 inches in front of switches and controls
- Rocker or touch light switches
- Audible and visual strobe light system to indicate when the doorbell, telephone or smoke or CO₂ detectors have been activated
- High-tech security/intercom system that can be monitored, with the heating, air conditioning and lighting, from any TV in the house
- Easy-to-see and read thermostats
- Pre-programmed thermostats
- Flashing porch light or 911 switch
- Direct wired to police, fire, and EMS (as option)
- Home wired for security
- Home wired for computers

Keeping the electrical switches lower than 48 inches and receptacles no lower than 24 inches from the floor with clear space around them makes it convenient for all users.

- Smooth, non-glare, slip-resistant surfaces, interior and exterior
- If carpeted, use low (less than ½ inch high pile) density, with firm pad
- Color/texture contrast to indicate change in surface levels

Heating, Ventilation and Air Conditioning

- HVAC should be designed so filters are easily accessible
- Energy efficient units
- Windows that can be opened for cross ventilation, fresh air

Thermostat height no higher than 48 inches above the floor.

Energy Efficient Features

- In-line framing with 2 by 6 studs spaced 24-inch on center
- Air-barrier installation and sealing of duct work with mastic
- Reduced-size air conditioning units with gas furnaces
- Mechanical fresh air ventilation, installation of air returns in all bedrooms and use of carbon monoxide detectors
- Installation of energy efficient windows with Low-E glass

Reduced Maintenance/Convenience Features

- Easy to clean surfaces
- Central vacuum
- Built-in pet feeding system
- Built-in recycling system
- Video phones
- Intercom system

Other Ideas

- Separate apartment for rental income or future caregiver
- Flex room that can used as a nursery or playroom when the children are young and as a home office later; if combined with a full bath, room could also be used for an aging parent/aging in place

All or some of the above listed ideas can help you to Age in Place comfortably in the home you choose. Using this list as a remodel guide can be helpful when you have needs that your current mobility requires a change to your homes interior or exterior.

Sources:

1. Universal Design/Build. produced by the National Association of Home Builders NAHB Education
2. Design Build Solutions for Aging and Accessibility. produced by the National Association of Home Builders NAHB Education
3. Toolbase.org website
4. Senior citizens guide website