

Aging in Place and Universal Design: Making Your Home Accessible, No Matter Your Age or Ability



Acknowledgements

Plough Foundation would like to thank the following individuals and organizations for their contributions to this book:

Mairi Albertson

City of Memphis Housing and Community Development

Debra Bartelli

School of Public Health, University of Memphis

Kathryn Coulter

Aging Commission of the Mid-South

Brandon Gaitor

Memphis Health, Educational and Housing Facility Board

Mid-America Regional Council

Kansas City, Missouri

Katie Midgley

Plough Foundation

Leslie Shankman-Cohn

Jill Hertz Interior Design

Shara D. Taylor

Tennessee Housing Development Agency

Emily Trenholm

Community Development Council of Greater Memphis

Jim Vazquez

Department of Housing, Shelby County Government

Mike Villanueva

Memphis Light Gas & Water

Mary Wilder

Community Volunteer

This guidebook is made available through the Partners for Livable Communities City Leaders Institute on Aging in Place sponsored by The MetLife Foundation, with local funding through the Plough Foundation. To download an electronic copy of this guidebook, please visit www.plough.org.



Contents

4 Introduction

5 Aging in Place

6 Home Design and Modification

8 Universal Design & Visitability

9 Home Safety Check

9 General Adaptations

10 Exterior Adaptations

11-15 Interior Adaptations

16 Priorities and Costs

17 Local Contacts

19 Conclusion



Introduction

If you haven't heard about the coming "age wave," you will soon. In 2007 the World Health Organization predicted that by 2040 the population of people over age 65 would top 20 percent, and people under age 18 would represent almost 23 percent of the population.¹ Basically, the oldest and the youngest among us will make up nearly half the total population.



By **2040**
the population
of **people over**
age 65
would top
20% of the
population¹

Because Tennessee is home to a significant distribution of baby boomers, our state is encountering a corresponding wave of change and adjustment. Tennessee residents age 60 and above are projected to amount to a substantial proportion of the state population in the next decade, reaching 22.6% by the year 2020 (Tennessee Commission on Aging and Disability, 2009). The AdvantAge survey of Shelby County older adults, commissioned by the Plough Foundation in Spring of 2012, provides an even closer look at local, aging residents, reporting that 23 percent of Memphis residents 65 and over need accommodations for easier access into or within their home (ramp, elevator, etc.), and 48 percent of

Shelby County residents 65 and over require bathroom safety modifications related to mobility (grab bars, handrails, etc.).² There is an incontestable demand for attention to and resources for Shelby County's aging population.

Healthy aging is the result of healthy living. More than the absence or management of disease or conditions, healthy aging is about the qualitative experience of life as one ages, including personal health and wellness, safety and security, dignity, purpose, relationships, a sense of community, and the ability to live as independently as possible and to age in place in one's home and community.³ Where we live is a central component of well-being and quality of life. The residential environment is the setting in which many of our basic physical, social, and psychological needs are met.

This publication provides useful information to help you navigate the coming changes in health care and lifestyles with special emphasis on:

- **Aging in Place**
- **Home design and maintenance to support all ages and abilities**

In addition, the publication touches on such issues as financing, hiring, and engaging qualified professionals with specific reference to resources available locally. These changes are just a few that will help make our communities vibrant and sustainable.

¹ Making Your Community Work for All Ages: A Toolkit for Cities. 2013. http://www.kc4aic.org/siteresources/data/files/2013kccfaa_toolkitforweb.pdf

² Plough Foundation. (2012). Report to the Community on Older Adults in Shelby County: Results from the 2012 AdvantAge Initiative Survey. Memphis, TN: Plough Foundation.

³ The Tennessee Governor's Task Force on Aging, 2014. <http://news.tn.gov/sites/default/files/Aging-Task-Force-Final.pdf>

A Closer Look at Aging in Place

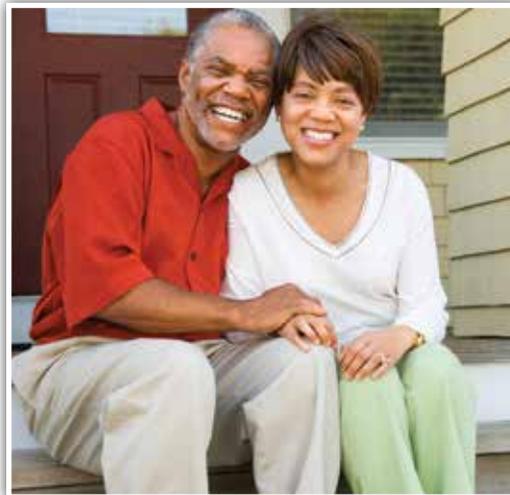
What is Aging in Place? Aging in Place describes older adults living independently in their existing homes or communities for as long as they possibly can, preserving connections to the past, feelings of independence and self-esteem, and supporting a positive self-image for the elderly.

Aging in Place has the advantage of being in a familiar place with an existing awareness of neighbors and the community. There is a wide range of home care services that can help maintain your independence within the comfort of your own home, from in-home help to day care.

Staying at home may be a good option if:

- You have a close network of nearby family, friends and neighbors.
- Transportation is easily accessible, including alternate transportation to driving.
- Your neighborhood is safe.
- Your home can be modified to reflect your changing needs.
- Home and yard maintenance is not overwhelming.
- Your physical and medical needs do not require a high level of care.⁵

Modifications made to an existing home may especially benefit men and women who live alone, and those who have a slightly disabling condition, allowing them to remain independent for a longer period of time. Being unable to leave your home frequently and socialize with others can lead to loneliness and depression. So, even if you select to age in place today, it's important to have a plan for the future when your needs may change and staying at home may no longer be the best option. Those considering a continuing care retirement facility (independent living, assisted living or nursing home) should contact the Aging Commission of the Mid-South at 901-222-4100 to receive a copy of its Senior Information Handbook.



94% of Shelby County seniors want to stay in their home as long as possible ⁴

57% of seniors who responded to the AdvantAGE survey have lived in their communities for 50 years or more ⁴

89% of Shelby County seniors reported that if they have a problem, there is always someone to help them in the neighborhood ⁴

⁴ Plough Foundation. (2012). Report to the Community on Older Adults in Shelby County: Results from the 2012 AdvantAge Initiative Survey. Memphis, TN: Plough Foundation.

⁵ Making Your Community Work for All Ages: A toolkit for cities, 2013. KC Communities for All Ages. <http://www.kc4aic.org>

Home Design and Modification

How a home is designed can make all the difference in how well it can accommodate the needs of all residents and visitors. “Universal design” is an innovative form of problem solving used to make buildings easy to use for all populations. The principle calls for design that adapts to people, not the other way around - increasing comfort, safety, and ease of use.

Therefore, consider the needs of special populations (children, wheelchair users, vision impaired) when designing a home and consider specifying home features that are usable and accessible to all. Universal Design addresses most of these issues no matter what stage of life you happen to be in. However, they can be applied to an existing home with little effort and a small expense.

Your home will be welcoming to visitors of all ages and abilities, as well as accommodate your changing needs. Whether you build a new home or remodel, incorporating universal design features may allow you to remain in your home as your abilities change. Most of us will experience temporary or permanent physical problems that create difficulties with living independently. You may not need universal design features right now, but by incorporating universal design concepts when planning a construction project, it will be easier and less costly to plan ahead for future needs, rather than waiting until the last minute, especially if you plan to make changes to your home anyway.

Universal design refers to features “that are usable by most people, regardless of their level of ability or disability [and] can be considered universally usable,” according to the Center for Universal Design at North Carolina State University (NCSU). Many accessible and adaptable features are universally usable. The terms universal design, accessible design and adaptable design are frequently used interchangeably; however, it is important to understand the difference in these three concepts.

*Adapting
to your
Lifestyle*



1. ACCESSIBLE DESIGN

Accessible design means a dwelling meets requirements for accessible housing, with features such as wide doorways, sufficient space to maneuver a wheelchair, lever or “D” shaped hardware, grab bars in bathrooms, knee spaces under counters, seats at bathing fixtures, various types of audible signals, controls or accessible routes through the house. These features are permanently fixed and visually apparent. Mandatory requirements for accessible housing vary widely and are found in state, local and model building codes and agency regulations, including U.S. Department of Housing and Urban Development programs and the Fair Housing Amendments Act.⁶

2. ADAPTABLE DESIGN

Adaptable design has accessible features, but allows the builder or owner to omit or conceal certain items until needed. Adaptable features are either adjustable or capable of being easily added or accessed to a larger user group. According to the Center for Universal Design at NCSU, many non-disabled people prefer adaptable design over accessible units due to the appearance of clinical-looking grab bars and knee spaces in bathrooms and kitchens that sacrifice base cabinet storage space.

3. UNIVERSAL DESIGN

Universal design allows for flexible, adaptable, user-efficient space to accommodate everyone’s needs or requirements. Zero-step entries with a gentle slope accommodate busy parents with strollers and allow you to welcome visitors of any ability. By incorporating universal design, living spaces will accommodate residents over a lifetime.

⁶ State of Tennessee Department of Commerce and Insurance, 2012. <http://www.tn.gov/fire/documents/2010adastandaccessdesign.pdf>

Universal Design

Universal design features can be incorporated into new construction projects for an additional construction cost of one to three percent. Research indicates the cost of retrofitting the home after construction can run as high as 10 to 15 percent. A home that employs universal design standards meets the needs of almost everyone, regardless of physical ability. There are numerous universal design elements and features that provide maximum convenience and livability.

Universally designed homes can easily be adapted to include barrier-free features such as roll-under vanities, open work countertops, raised dishwashers, structurally reinforced areas for future grab bars, and specific fixtures and equipment, such as wall-mounted water closets and a stove with front controls.⁷

When designing new construction, or when adapting existing spaces, consider incorporating some of the following ideas into your project:

- Flexible floor plans to meet changing household needs.
- Single-level homes or multi-level homes that have a bedroom and bathroom on the main living level for optimal usability over the lifetime of the residence.
- Open floor plans with 36" wide interior doorways, traffic pattern areas that are at least 32" wide, at least 42" wide halls, and turning radius of 60" for wheelchair movement.
- Place light switches 38" above the floor (with rocker or touch switches), electrical outlets 18" above the floor, and thermostat controls 44" above the floor. (The range of universal access is between 15 and 48 a.f.f.)
- Use level walkways, entrances without steps, and wide doorways.
- Keep front door thresholds to less than one-half inch in vertical rise.
- Create a 24" space on the latch side of the front door to allow for maneuverability into and out of the home.
- Create a shelf for packages inside and outside the front door.
- Use casement and power casement windows with cranks to allow residents to open windows without using bodily force.⁸

Visitability

Assessing your home for livability and visitability provide a few features that ensure anyone can use and visit your home. Assessing your home for livability and visitability and making necessary changes can make it possible for you to function independently for as long as possible. Livability and visitability differ from full accessibility and universal design, because the goal is to provide a few key features that ensure anyone can use your home in the short term and simplify adapting the home in the long-term. Livability and visitability are concepts that contribute to older adults aging in place and staying connected to their communities over time. A visitable home may have a second story that is not accessible, but the intent is that the first floor of the residence provides basic access to everyone.

Core visitability features include:

- At least one entry without steps.
- A bedroom (or room that could serve as a bedroom) and at least a half bath on the first floor.
- Doorways with 32-inch clear space and wider hallways

Additional visitability features:

- Provide home security systems that are easy to program and operate.
- Install phones in every room, including bathrooms and garages, in case of emergency.
- Use paddle handles on doors and faucets in place of knobs.
- Install assistive devices such as handrails as they may be especially important for elderly that live alone.
- Design sinks and cabinets to enable operation by those with mobility impairments.
- Provide enough space to allow another person to assist an elderly person as they complete daily activities. Make sure that hallways and doors are wide enough for possible future use of walkers.
- Remove a few doors if the area is congested, such as hallways with several doors that aren't necessary for privacy.⁹

⁷ "The MetLife Report on Aging in Place 2.0: Rethinking Solutions to the Home Care Challenge." 2010. The MetLife Mature Market Institute. <https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-aging-place-study.pdf>

⁸ and ⁹ Shankman-Cohn, Leslie. 2005. "Aging in Style!"

Home Safety Check

Conducting a home-safety check is an additional way to evaluate the suitability of your home for visitors and yourself as you age. Of course, once you find unsafe conditions, it is important to take actions to correct them. Keep in mind that one size doesn't fit all. We cook, bathe, socialize, play, and live differently. This checklist is not intended to address how to customize a home, room, or feature for a particular person's disability or functional limitation; however, an in-home assessment identifies modifications needed within a home that will help improve access and safety for its inhabitants. A checklist of adaptations is listed below, with references for in-home assessments and service listed under the heading Local Contacts and Resources.

GENERAL Adaptations

The magic numbers – Your home should meet these minimum dimensions for the easiest accessibility.¹¹

36 inches	Width of an accessible route or hallway
32 inches	Width of the interior opening for all doors
30x48 inches	Space needed for a standard wheelchair
60x60 inches	Maneuvering room needed for a standard wheelchair
28-34 inches	Finished tabletop or countertop heights
27-29 inches	Knee clearance measured from floor to desk
1:12	Maximum slope of ramps (1 inch of rise per 12 inches of length)
1:48 (2% slope)	Maximum slope of parking spaces, access aisles, etc.

Among lower income elders who say they need home modifications:

- **76%** need minor or cosmetic repairs, such as painting or floor refinishing
- **64%** need major structural repairs, such as a new roof or new plumbing¹⁰

- Use off-set hinges when doors are small to permit the door to swing out and away from the jamb.
- Ensure there are smooth and nearly level transitions between flooring materials to avoid tripping.
- Use pocket doors, bi-fold doors and accordion doors to give better access to spaces.
- Install double doors to provide easier access while also increasing sight lines between rooms.
- Use lever style handles, everywhere it's practical, in place of knobs that can often make it difficult to open doors and drawers.
- Choose handles that contrast well with their backgrounds to make them easier to find in unlit spaces.
- Use ready-made handle hardware that will fit over the recessed door hardware, as sliding glass doors can be heavy to operate.
- Avoid thumb latch hardware and locking dead bolts that require significant effort and pressure to operate.

¹⁰ Plough Foundation. (2012). Report to the Community on Older Adults in Shelby County: Results from the 2012 AdvantAge Initiative Survey. Memphis, TN: Plough Foundation.

¹¹ Sandler, Leonard. 2010. Universal Design and Green Home Survey Checklist. <http://www.uiowa.edu/~clinic/images/UoflowaUDGreenHomeChecklistEnglishAugust2010.pdf>

EXTERIOR Adaptations

- Install easy-to-see, reflective house numbers that can be seen from the street.
- Use a ramp when there are changes to the landscape elevation, providing an approach that includes a wide, level pathway not steeper than 1:12 and made of firm material.
- Allow for zero-clearance entry into the house.
- If it is necessary to use steps, use a handrail to provide support.
- Avoid the use of mats at the door, unless they are anchored in some manner.
- Increase lighting along pathways with lighted entry and parking areas.
 - Install floodlights with motion sensors.
 - Install photoelectric “eyes” in light fixtures so lighting will turn on automatically at dusk.
- Consider durably constructed parking made of low maintenance paving material.
- Install parking that does not include a curb between the driveway and walkway.
- Utilize durable, easy-care building materials and finishes.
- Install lever door handles, which are easier to use than knobs on all doors.
- Install security peepholes at a height right for you on exterior doors.
 - Consider electronic options for seeing who’s at the door.
 - Install two peep holes, one about 30” below the other to permit the owner to see who might be standing - or sitting – at the door.
- Install an illuminated door bell and a door knocker to alert the occupants of guests or delivery people.
- Install a beveled, no-step, no-trip threshold. Consider a contrasting color, so it will be easily visible.



INTERIOR Adaptations

BATHS

Falls in showers and bathtubs are the third leading cause of accidental deaths at home for people age 50 and older.¹³ Just adding a few grab bars in the bathrooms located near toilets, baths, and in showers, alleviates some of those worries. Slip-resistant floor coverings in bath and shower basins mean added safety.

To ensure accessibility for all users no matter their ability, take the following into consideration:

- For individuals with limited eyesight, mount a glowing room light switch on the outside of the entrance door. Place light switches and controls at a height that children or a person in a wheelchair can reach.
- Use C-shaped handles as opposed to small knobs on storage drawers for easier opening. Use shallow, open shelving rather than deep, enclosed cabinets.
- Towel bars and robe hooks should be within arm's reach of the bathtub or shower.
- When building or remodeling, include reinforcing blocking in bathroom walls to accommodate possible future installation of grab bars.
- Install grab bars in bathtubs and showers and at the toilet at heights specific to your needs.
- Design bathrooms with at least a 5x5 foot clear floor space for maneuvering at the sink, toilet, and tub.
- To provide comfort and ease of use for individuals of varying heights, the height of the counter can be positioned between 25.5" and 42" above the floor.
- Consider installing a wall-mounted or pedestal sink with lever-handle faucets for easy access by those in wheelchairs.
- If you sit while using the sink, insulate the pipes underneath the sink so your legs don't touch any pipes that might be carrying hot water.
- Install roll-in showers with 5-foot radii for wheelchair turning and a slight slope in the floor to allow water to flow toward the drain.
- Avoid shower doors, use curtains or no doors instead.
- Fit showers with pressure-balancing valves to prevent large temperature variations. Because of the added level of safety pressure-balancing valves provide, they are now required in most new home construction.¹⁴
- Set the water heater to 120 degrees.
- Install bathtub and shower controls that are located off center toward the room, making them easier to reach and operate from outside the tub or shower.
- Install either a standard bathtub with fold-up seat, tub with transfer seat, or whirlpool tub for accessible bathing.
- Install a hand-held showerhead in the shower and/or tub.
- Install a wall-hung lavatory to allow for wheelchair access.
- Use non-skid mats or non-slip strips on bathtub and shower floors.
- Install a toilet seat riser or a comfort-height toilet.
- Construct bathroom sink cabinets with removable cabinet doors to allow wheelchair accessibility.
- Allow 30-60 inches of space around fixtures.

Among lower income elders who say they need home modifications, **60% need bathroom modifications, such as grab bars, elevated toilets, or non-slip floors**¹²



¹² Plough Foundation. (2012). Report to the Community on Older Adults in Shelby County: Results from the 2012 AdvantAge Initiative Survey. Memphis, TN: Plough Foundation.

¹³ Carter, Susan, Elizabeth Campbell, Rob Swanson-Fisher, Selina Redman, William Gillespie. 1997. "Environmental hazards in the Homes of Older People." Age and Ageing, 26: 195-202.

¹⁴ Shankman-Cohn, Leslie. 2005. "Aging in Style!"

INTERIOR Adaptations

KITCHEN

- Always try to design L- or U- shaped kitchens, and allow adequate floor and counter space for increased mobility.
- Use variable kitchen counter heights (30-36" in height) that can be adjusted manually or mechanically.
- Create removable cabinet fronts for the sink and cook top to allow knee-space for wheelchair users.
- Provide a minimum of 36" of counter space for mixing between the refrigerator and the sink to provide ample food preparation space.
- Provide countertop on the handle-side of the refrigerator door for use as landing space.
- Use pullout or pull-down shelves and lazy susans to increase accessibility to storage.
- Use heat-resistant countertops, flat surfaces and low-glare finishes.
- Use rounded corner edges and add grips around the counter fronts to be used as support.
- Install a primary work surface that is adjustable, providing smooth countertops that allow for items to slide.
- Place task lighting under wall-mounted cabinets to reduce shadows and create safe working environments, especially for people with low vision. Under shelf lighting is particularly helpful in the kitchen.
- If there is only one adjustable counter, place it next to the latch side of the refrigerator or adapt a desk area to use as a lower counter space.¹⁵
- Keep a fire extinguisher in a location that is easy to reach in the event of an accident, as opposed to being under the sink.
- Increase task lighting at sink, stove and work areas, and use highest-wattage bulbs approved for all fixtures.
- Install a pressure-balanced, temperature-regulated faucet.
- Install a pullout faucet sprayer to fill pots without lifting them into the sink.
- Use non-skid or matte finish tile on floors.
- Add a peninsula to a cabinet with a lower counter height so dining accommodates all users.



Install a pullout faucet sprayer to fill pots without lifting them into the sink.

¹⁵ Shankman-Cohn, Leslie. 2005. "Aging in Style!"

INTERIOR Adaptations

APPLIANCES

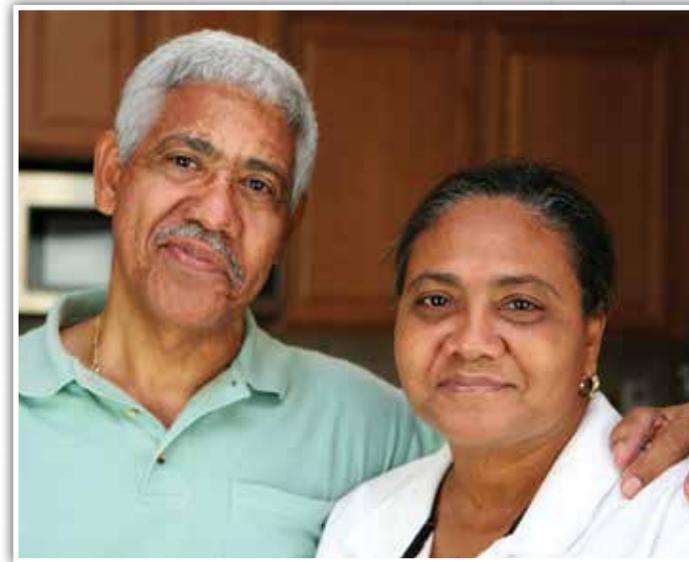
When specifying kitchen appliances, select those with ergonomic features. Test operation of appliances by using a closed fist. Also, sit in a chair and try to reach the sink. A person in a wheelchair must be able to put their hands flat comfortably in the bottom of the sink (6 ½" depth, max), stove, etc. You might even consider using mirrors at angles above the cook-top, allowing you to see into pots on the back burner.

Other considerations could include:

- Select appliances with push bars and touch controls over those with dials and pullout buttons. If levers are necessary, select horizontal rather than vertical controls. Specify appliances that have controls that are 1.5-3" in diameter and are placed at the front or side for easy use.
- Use visual, tactile, and audible controls and alarms. Controls need warning lights when ON. Graphics should be high contrast, large (5/16" letter height), and easy to read.
- Use labor-saving devices such as self-cleaning ovens and microwaves.
- Install automatic defrost, side-by-side, or top-mount refrigerators with at least 50% of the frozen food compartment, all of the fresh food compartment, and controls within 54" of the floor.
- Keep a minimum of 30" clear floor space in front of each appliance for easy access.
- Place the dishwasher close to the sink and elevate it to 6-18" above the floor to prevent bending when loading and unloading. Raised dishwashers are easier to load.
- Install a pull-out board next to the oven to place hot pans.
- Place microwave ovens 24-28" above the floor. It is not recommended to place the microwave over the stove. Put a pull-out shelf under the microwave.
- Locate the washer and dryer near sleeping spaces for quick and easy access.¹⁶

LIVING ROOM, DINING ROOM AND BEDROOM

- Use double-sided tape to secure all rugs. Remove all scatter and throw rugs.
- Install smoke and carbon monoxide alarms on every floor.
- Make sure alarms can be heard in all bedrooms.
- Place a cordless phone next to the bed or preferred chair to improve accessibility.
- Install a closet light and adjustable rods and shelves.
- Replace traditional toggle switches with easy-to-use rocker-panel switches.
- Install touch-control lamps or devices that can automatically turn lights on and off.
- Keep the space next to the bed open with at least 36" of space between the mattress and a wall or other piece of furniture, so that there is access via wheelchair.



¹⁶ Shankman-Cohn, Leslie. 2005. "Aging in Style!"

INTERIOR Adaptations

FURNITURE

Select furniture that is sturdy, easy to move and to get in and out of, and doesn't have any sharp edges. Specify comfortable chairs that support correct posture for living areas. Ensure that chairs have firm back support at the right angle. Chairs with arms allow users to rise easily, but for maximum stability, should not extend more than one inch beyond the face of the seat of the chair. Most importantly, reduce the amount of furniture to make it easier to get around.

- Specify tables with folding leaves or adjustable heights to maximize flexibility.
- Use round or octangular tables for a more social environment.
- Consider using a lazy susan to prevent reaching across large tables.
- Specify tables that are low or anti-glare.
- Avoid pedestal tables that are easily tipped.
- Consider specifying electronically controlled reclining chairs.
- Ensure that furniture fabrics are flame retardant, durable, and easily cleanable.¹⁷
- Consider specifying furniture with removable cushions and no ridges or tufts for greater comfort and easy cleaning.
- Seats should be comfortable but firm and generally about 17" in height from the floor.
- Consider adding an armless chair to permit someone in a wheelchair to slide out and over on the seat of the chair without having to work around an arm.
- Allow open space around furniture so that someone in a wheelchair can move into the conversation grouping and not feel left out.
- Remember that ottomans on wheels can roll out and away unexpectedly.

FLOORING

Falling is one of the biggest worries for the aging population. Adding to the likelihood of this problem are poor choices in floor coverings. Heavy pile carpets, soft padding, and lots of small area rugs are potential hazards to those who use walkers or wheelchairs. It's best to use short pile rugs with commercial grade pads, hardwood, tile, cork, or linoleum, and keep the area rugs to a minimum, making sure that they don't slip or bunch.

Other things to consider when designing floors and stairs are:

- Keep stairs consistent in tread and rise, providing landings for stopping on straight staircases, and avoid spiral stairways.
- Do not use open risers in stairs.
- Specify non-slip carpet or vinyl surfaces in the home. Ensure that carpet pile does not exceed 1/15 inch with a maximum pad height of 3/16 inch. Specify 3-ply carpet with a yarn weight greater than 10 ounces or a 2-ply carpet with a yarn weight greater than 15 ounces.
- If there is a ramp, use the least possible slope, but in no case can a ramp have a slope greater than 1:12 (1 inch rise for every 12 inch run).¹⁸
- Specify flooring that has a texture to its surface to increase traction and to help reduce the possibility of a slip.
- Consider how the materials are to be maintained and choose those that resist stains and dirt by their very nature.
- Carpet tiles like those used in commercial spaces can help keep a space looking fresh and can be easily replaced should something happen that would spoil their appearance.
- Consider refinishing or replacing worn stair treads. Make sure no nail heads are sticking out.
- On exterior steps, make sure there are no loose bricks or pavers and that wooden or concrete steps are in good condition.
- Add non-slip adhesive strips to uncarpeted stair treads.
- Install handrails on both sides of stairs at a convenient height. Tighten any loose handrails.

^{17 and 18} Shankman-Cohn, Leslie. 2005. "Aging in Style!"

EYESIGHT AND LIGHTING

The quality and quantity of lighting is especially important, as inadequate lighting is commonly linked with falls in the home. Simply increasing the wattage of the bulbs around the house will help with illumination immeasurably. Consider adding floor lamps to increase ambient lighting or illuminate areas where table lamps are not feasible. Avoid high-heat lighting that could easily tip over and start a fire. Also, ensure that work areas, such as stove tops, are well-lit and that the lighting doesn't cast shadows. Think about installing automatic sensors that turn lights on in baths, stairwells, etc. Remote controls on lighting and ceiling fans are a great idea.¹⁹

- Ensure that closets have lights to illuminate dark spaces.
- Lots of lighting fixtures and windows give the home more light.
- Light-colored wall coverings add brightness to the room.
- Contrasts between surfaces aid visual acuity.



¹⁹ Shankman-Cohn, Leslie. 2005. "Aging in Style!"

CONSIDERATIONS

One's living environment should be a reflection of personal taste for style, while also being functional. As living space is adapted to better serve the elderly, the following thoughtful considerations are important to keep in mind:

- Be cognizant of certain choices for design that may make the spaces appear too institutional. Grab bars, for instance, can often resemble a hospital. There are well designed choices, though, that will keep the aesthetic level high.
- Keep personal mementos such as favorite pictures displayed, but avoid cluttering spaces that make it challenging to keep clean and neat.
- Light, bright colors will help to improve visibility, but color will also add to the personal aspect when favorite colors are incorporated into furnishings.
- Use window coverings that will make it easy to bring the

natural light into the rooms. Windows with sill heights of no more than 30" above the floor allow one to feel connected to the natural environment.

Light, bright colors will help improve visibility

Costs and Priorities

The cost of housing is the largest expenditure in the typical 65+ household budget. Almost half of the poorest 65+ households spend 50 percent or more on housing. Although most 65+ individuals live in adequate housing, the conditions of the property may not be appropriate for older adults. Many physical hazards exist in their homes, including poor lighting and tripping hazards. Knowing one-third of all older adults fall each year and half of these falls occur in the home, homes must be modified to safely allow for aging-in-place.²⁰

Deciding the priority and scope of home modifications for any particular residence is dependent on individual circumstance, as well as home design and condition. Following is a rudimentary priority scale for determining which needs to address first.

First Priority: Falls prevention - Cost: \$1,000 or less

- Removing throw rugs especially in the bathroom
- Installing grab bars and grips in the bathroom
- Assuring sturdy handrails on both sides at steps
- Good lighting and switching especially at stairs, halls and entries
- Securing or removing carpets at stairs
- Soft path lighting for nighttime mobility

Second Priority: Entryway, easy movement, and use of home features - Cost: \$4,500–\$30,000

- Removing, if possible, or reducing the number and/or height of and possibly increasing the horizontal depth of steps for easy side stepping with both hands on one rail
- A clear, no-step path to the bedroom and bathroom
- Rearrangement or repositioning of furniture, entertainment systems and spaces

Third Priority: More substantial remodeling and equipment -

Cost: \$8,000–\$75,000

- No-step shower or bath lift mechanism, a seated sink, and assistance space at the toilet
- Seated/multi-level food preparation areas
- Sun and rain protected outdoor areas
- Backup power sources for power outages

Each residence, though sometimes built from the same plans as another, is different because of site differences, resident-inspired changes, and deterioration over time. The cost for creating a no-step entry, for example, varies substantially from one end of a row house community to the other because of the number of steps from property entry to the door.

Low-cost interventions have clear payback in terms of fewer hospitalizations and medical costs in a very short timeframe. More substantial but basic design and structural modifications average \$9,000–\$12,000 per one-story residence. Using \$10,000 as a sample cost for basic structural modifications compared to assisted living costs at \$3,000+/month, a simple equation shows that avoiding those costs for a little more than three months will pay for home modifications. If we include customary expenses for continuing bills such as utilities, taxes, maintenance, etc., of \$850/month, food at \$250/month, three hours of daily assistance twice weekly at \$19/hour or \$456/month, and three days per week in adult day services at \$804/month, it will take about 14 months to break even on the modifications. By the end of 24 months there is a net savings near \$10,000. But if one hospitalization with health care consequences is avoided, the savings appear much earlier.²¹

²⁰ The Tennessee Governor's Task Force on Aging, 2014. <http://news.tn.gov/sites/default/files/Aging-Task-Force-Final.pdf>

²¹ The MetLife Report on Aging in Place 2.0: Rethinking Solutions to the Home Care Challenge." 2010. The MetLife Mature Market Institute. <https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-aging-in-place-study.pdf>

Who to Hire

People are often concerned about who they should hire to complete a project that is specific to their changing needs. The National Association of Home Builders (NAHB) in conjunction with the American Association of Retired Persons (AARP) developed a certificate program known as CAPS to address this need. The Certified Aging in Place Specialist (CAPS) program teaches the techniques needed to design aesthetically pleasing, functional environments. When you hire a CAPS specialist, you are making an investment in someone with the knowledge necessary to help you remain in the home you love through all of life's stages. To find a CAPS professional near you, visit the directory of local professionals online at <http://goo.gl/ySwwpX> or call the West Tennessee Homebuilders Association at 901-756-4500.

25% of Shelby County seniors say they don't know where to go for information about services and programs²²



Local Contacts and Resources

There are several in-home mobility and modification services that are operating within Shelby County. These home repair and improvement programs include, but are not limited to:

- **Independent contractors and designers** will provide in-home mobility assessments using a nationally recognized tool known as the Comprehensive Assessment and Solution Process for Aging Residents (CASPAR). It is a universal assessment tool that enables practitioners to identify a client's aging-in-place needs and collect the types of information that can be used to specify needed modifications.
- **The Aging Commission of the Mid-South (ACMS)** currently uses a phone assessment to complete functional evaluations for consumers seeking in-home services, which serves as the first step in the eligibility determination process. Before program enrollment ACMS conducts an in-home visit that includes a more in-depth assessment that addresses environmental safety. This safety assessment is used to determine whether it is safe for the individual to be receiving in-home services, but does not specifically address issues of mobility and access. To contact a representative from this organization, call (901) 222-4100.
- **Memphis Center for Independent Living's (MCIL)** primary mission is to facilitate the full integration of persons with disabilities into all aspects of community life. MCIL provides information about home modifications such as building a ramp, installing grab bars and widening doors. To contact a representative from this organization, call (901) 726-6404.
- **The Shelby County Department of Housing Rehabilitation Program** assists low-and moderate-income residents with repairs on their homes. This assistance is available to Shelby County residents outside the City of Memphis. Eligibility guidelines are revised annually and are based on the U.S. Department of Housing and Urban Development's annual income guidelines. Assistance under this program takes the form of either forgivable grants or a combination of forgivable grants and low-interest loans. To contact a representative from this department, call (901) 222-7600.

²² Plough Foundation. (2012). Report to the Community on Older Adults in Shelby County: Results from the 2012 AdvantAge Initiative Survey. Memphis, TN: Plough Foundation.

Local Contacts and Resources, continued

- **Project CARE** is an energy efficiency and weatherization program sponsored by Memphis Light, Gas and Water and the Metropolitan Inter-Faith Association. Project CARE funds are awarded to qualified customers who are elderly and/or disabled, or undergoing critical medical care, to assist with minor energy efficiency repairs to their homes. MLGW oversees the execution of the work completed by approved contractors. Funding for this program is made possible through the MLGW Share the Pennies program, which encourages MLGW customers to round their utility bill to the next-highest dollar amount. To apply for Project CARE, call (901) 528-4188.
- **Habitat for Humanity of Greater Memphis** is dedicated to eliminating poverty housing by creating sustainable, affordable homeownership opportunities for families in need and providing critical home repairs to low-income homeowners. Through its new Aging in Place initiative, Habitat and its partners Service Over Self (S.O.S.) and Memphis, Light, Gas & Water (MLGW) will serve Memphis-area seniors via critical repairs, weatherization and modifications. To talk with a Memphis Habitat representative, call (901) 761-4771.

- **Service Over Self (SOS)** is a nonprofit home repair organization. SOS works with low-income homeowners in portions of the following neighborhoods: Binghampton (38112), Highland Heights (38122), and Orange Mound (38114) to make critical needs repairs to their homes. There is no financial cost to the homeowner for the repairs. The majority of the repairs are completed by volunteers. To contact a representative from this organization call (901) 681-9044.



Conclusion

Whether you remain in your own home, downsize, or move into an assisted facility, comfort and efficiency are the key. Most of the next generation expects to either have an elderly family member move in with them in the future, or at the very least, be responsible for their care on some level.

Successful design depends on a good fit between the person and the spaces where an individual's abilities are in balance with the environment. Providing quality environments at all levels of care will require that we all understand how people's needs change as they age and how to manipulate the physical space to address these issues, providing appropriate environments that correspond to the needs of users. It is equally as important to look beyond the immediate needs of one sector of the population and provide a smooth transition for living needs throughout one's physical abilities. We need to broaden our scope of thought; addressing issues that pertain to individuals, communities, and the environment alike.²³

Aging in Place has three goals. One is happier older citizens living in homes of their choice with control, dignity, and respect — essentially independence. The second is better, more economical use of available resources to make it less expensive for people to stay at home with services rather than move to residential care facilities if they do not desire to do so. The third goal is the creation of a coordinated, comprehensive, and collaborative relationship between businesses and service providers to support Aging in Place. This would also enhance the creation of business opportunities and jobs to provide the services older individuals need to remain in their homes.²⁴



²³ Shankman-Cohn, Leslie. 2005. "Aging in Style!"

²⁴ The MetLife Report on Aging in Place 2.0: Rethinking Solutions to the Home Care Challenge." 2010. The MetLife Mature Market Institute. <https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-aging-in-place-study.pdf>



The Health, Educational
and Housing Facility Board



JILL HERTZ INTERIOR DESIGN



Tennessee Housing
Development Agency

THE UNIVERSITY OF
MEMPHIS