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Can I Age in Place?

Older Americans overwhelmingly prefer to age in place. According to our [recent survey](#) of the 55+ population, nearly two-thirds of older homeowners want to remain in their current home. And 44 percent of older renters want to do the same.

However many residences make aging in place a challenge. Stairs and other obstacles can trip up an older person, narrow halls and doorways bar access to a wheelchair, lack of grab bars in baths and showers invite spills. Older Americans acknowledge many homes will require retrofitting to accommodate the physical limitations that accompany increasing age. For example, two-thirds of our survey participants report their homes are not accessible for someone with arthritis, limited mobility, or in a wheelchair. Further, many of these same respondents express confusion and concern about their ability to pay for these renovations.

This article summarizes what we know today—and what we don't know—about the need and the potential for retrofitting.

Retrofitting for aging in place

Aging typically brings with it some physical limitations that affect a person's ability to perform simple tasks and to navigate common obstacles found in the home. Decreasing hand strength may make it challenging not only to open jars, but also to turn traditional doorknobs or to open drawers with ordinary hardware. Dimming eyesight may make traditional lighting inadequate for older eyes. Problems with walking and with balance may make it difficult to climb stairs and to step over thresholds.

Many of these types of challenges can be overcome by retrofitting,¹ that is, by altering the physical features of the home to accommodate the limitations associated with aging. While the list of potential retrofits is long, the Joint Center for Housing Studies (JCHS) [highlighted](#) five essentials:

- **No-step entries.** No need to climb steps to enter the main floor of the house.
- **Single-floor living.** A bedroom and full bathroom on the main floor of the house.

¹ For simplicity, in this article “retrofitting” means home modifications to accommodate aging in place, rather than retrofitting for other purposes.



- **Extra-wide hallways and doors.** Wheelchairs require doors and halls with widths of at least 36 inches. Standard doorways are only 28 to 32 inches wide.
- **Accessible electrical controls.** Controls that can be reached from a wheelchair.
- **Lever-style handles on doors and faucets.** To overcome the difficulty of turning traditional doorknobs and faucet handles.

These and other features designed to support aging in place are similar to features added to homes for people with disabilities—ramps, wide doorways, removal of obstacles to accommodate wheelchairs, grab bars in bathroom areas to provide balance and to assist in rising from a seated position, etc.

An alternative approach to accommodating the needs of older adults is universal design, an approach to designing buildings, products, and environments that are inherently accessible to older people, children, people without disabilities, and people with disabilities—in other words, everyone. A common example of universal design is “curb cuts,” or sidewalk ramps, used by all but essential for people in wheelchairs. Universal design is most easily applied in new construction, but some elements of universal design can be introduced by retrofitting. For instance, many public buildings have added ramps to provide mobility-impaired individuals a way around stairs. In new construction, such ramps can be integrated aesthetically in the design of the building. In some older buildings, it may be difficult to avoid an ugly retrofit.

How many homes are ready for aging in place?

According to the Joint Center for Housing Studies (JCHS), there are more seniors in need of retrofitting than there are homes that include the essential features for aging in place. The JCHS [estimates](#) only one percent of the current housing stock—a little over one million units—offers all five of the accessible features listed above, and fewer than four percent of single-family houses offer the [three most-critical features](#) (single-floor living, extra-wide hallways and doors, and no-step entrances). Exhibit 1 displays some JCHS estimates of the availability of these essential features by geographic region.²

Universal Design Features

- At least one step-free entrance into the home
- A bedroom, full bath, and kitchen on the main level
- Wide doorways and hallways
- Lever door and faucet handles
- D-shaped cabinet and drawer handles
- Multi-height kitchen countertops that can be used while standing or seated
- Kitchen and bathroom cabinets and shelves that are easy to reach
- A bathtub or shower with a non-slip bottom or floor preferably with zero entry
- Blocking in the bathroom walls so grab bars can be added as needed
- Well-lit hallways and stairways
- Secure handrails on both sides of stairways
- Easy-open windows

Source: AARP HomeFit Guide

² According to the JCHS, large multifamily buildings are most likely to provide accessibility features, perhaps accounting for some of the increase in rentership among older Americans in their late 70s and 80s. Small multifamily structures (less than five units) and mobile homes are the least-accessible types of dwellings.



Exhibit 1

Share of units with accessibility features (percentage)

Region	No-step entry	Single-floor living	Extra-wide hallways and doors	Accessible electrical controls	Lever-style handles on doors and faucets
Northeast	31	57	7	37	7
Midwest	32	73	8	49	9
South	49	84	8	42	7
West	50	81	8	49	12
Total	42	76	8	44	8

Source: Joint Center for Housing Studies

Not all homes are good candidates for retrofitting. For instance, the center hall colonials popular in the East and some parts of the Midwest pose challenges, with much of the home often accessible only by narrow and/or twisty stairs. The JCHS estimates single-floor living is possible in only 57 percent of the homes in the Northeast and 73 percent of the homes in the Midwest. The single-story ranch homes popular in the West and Southwest can be easier to adapt; over 80 percent can accommodate single-floor living. The average age of the housing stock in the West and South also is lower than the average age of the stock in the Northeast, and newer homes can be easier to retrofit.³

How great is the potential demand for retrofitting?

The 55+ population—the potential customers for retrofitting—comprises a little over a quarter of the U.S. population, about 90 million people. And this population is projected to continue growing. Exhibit 2 displays projections of the numbers of older Americans through 2050 when the Census Bureau projects there will be 136 million 55+ Americans. Of the current 55+ population, 69 million are homeowners, and almost two-thirds, or 43 million of these homeowners, prefer to age in place rather than to move in with family or to a seniors community.⁴

³ 52 percent of homes in the Northeast were built before 1960 compared to 24 percent in the West and 20 percent in the South. Source: American Housing Survey 2013

⁴ 8 million 55+ renters—44 percent of the total—prefer to age in place in their current rental and 18 percent of these indicate their residences will require some retrofitting.



Most of the under-65 Baby Boomer homeowners are still working, commuting, and living in the houses in which they raised their families. The over-70 segment typically are retired empty nesters, perhaps beginning to confront some initial physical challenges and maybe tiring of maintaining a house that now may be larger than they need.

Who wants to age in place?

Our survey of the 55+ population indicates almost two-thirds of homeowners—43 million people—wish to age in place. Our survey data allows us to dig a little deeper and estimate how many of these homeowners are likely to undertake retrofitting.

- To begin with, 35 percent of those who wish to age in place indicate that their homes already are accessible for those with special needs and disabilities. In addition, those with accessible homes are 57 percent more likely to want to age in place.
- Desire to age in place increases with age. Respondents who are 75+ years old are twice as likely to want to age in place as respondents who are 55-to-64. This pattern suggests that our two-thirds estimate may understate the number of older American who ultimately will wish to age in place. Younger Boomers may develop a desire to age in place as they get older. The 55-to-64 population may already have a retirement location in mind—for example, leaving the Northeast for a warmer climate—and may wish to age in place after they make that final move. Accordingly, retired respondents are 24 percent more likely to want to age in place than those who are still working.
- Lower-income households are more likely to want to age in place. However, these households may find the cost of retrofitting challenging.
- The relationship between marital status and desire to age in place is a bit surprising. Widowed and never-married individuals are the most likely to want to age in place, even though the challenges of aging in place are higher for those who live alone. Widowed respondents may want to stay near friends and family members who form their support network. Never-married individuals may simply be more self-reliant.

Exhibit 2

Census population projections (millions)

	2015	2020	2030	2040	2050
55 to 64	41	43	40	42	48
65 to 74	28	33	39	37	39
75 and over	20	23	35	46	49
Total	89	99	114	124	136

Source: U. S. Census Bureau



Who needs retrofitting?

Exhibit 3 divides the 55+ population by age category and displays for each segment estimates of the prevalence of specific physical limitations. The need for retrofitting rises with age as physical limitations impact the ability to perform day-to-day functions. Over half of all 55+ Americans are impacted by at least one functional limitation with three quarters of 75+ Americans similarly affected.

Exhibit 3

Prevalence of functional limitations among 55+ Americans (percentage)

Limitation	55 to 64	65 to 74	75 and over	Total
Stand 2 hours	16	22	43	24
Stoop	16	20	32	21
Walk 1/4 mile	13	17	38	20
Push	13	15	31	17
Climb 10 steps	9	12	27	14
Carry 10 lbs	7	9	22	11
Shop	7	9	21	11
Social activities	7	9	18	10
Sit 2 hours	7	6	6	6
Reach over head	4	5	9	5
Grasp	3	4	7	4
Relax at home	1	1	3	1
Any limitation	48	57	75	57

Source: Centers for Disease Control



Homeowners and renters face different challenges for aging in place. Homeowners on average have higher income as seen in Exhibit 4, income that can be used to pay for retrofitting. Renters are more mobile—instead of retrofitting their current rental (or convincing their landlord to do it for them), they can simply move to a better-equipped apartment nearby. Many newer multifamily buildings have more accessibility features than the typical older, single-family home. Another important difference between homeowners and renters is marital status (Exhibit 5). The presence of a partner can help to compensate for some functional deficits. Two-thirds of 55+ homeowners are married, but only a third of renters are.

Exhibit 4

Income distribution of 55+ owners and renters (percentage)

Income	Owners	Renters
Less than \$50k	39	77
\$50k to \$100k	33	16
Over \$100k	28	6

Source Freddie Mac 55+ Survey

Exhibit 5

Marital status of 55+ owners and renters (percentage)

Marital status	Owners	Renters
Married	66	34
Widowed	14	20
Divorced	13	27
Separated	1	5
Never married	6	14

Source: U. S. Census Bureau



Exhibit 6 displays a rough estimate of the current and future annual demand for retrofitting, measured by the number of homeowner households likely to undertake at least some type of retrofitting. This retrofitting may be as modest as installing grab bars or as extensive as installing all five of the accessibility features highlighted by the JCHS.⁵

These demand projections suggest the stock of aging-in-place-ready properties may increase significantly. For instance, if just 10 percent of these households install all five of the essential accessibility features identified by the JCHS, the number of units in the U.S. with all five features will double in under 10 years.

What does it cost to retrofit a home for aging in place?

The cost of retrofitting a home can vary a lot, depending on the types of retrofitting that are needed. Exhibit 7 displays the range of prices for some common retrofit features.⁶ Homeowners may be able to contain costs by installing some items themselves. For instance, replacing round knob drawer pulls with D-ring drawer handles is a relatively straightforward task, requiring only a drill and a screwdriver.⁷ Of course, if the homeowner waits until the D-ring handles are an absolute necessity, they may no longer have the hand strength to install the handles, although a younger family member may be able to step in.

Exhibit 6

Retrofitting demand projections (millions of homeowner households)

	2015	2020	2030	2040	2050
55 to 64	0.6	0.7	0.6	0.7	0.8
65 to 74	0.5	0.6	0.7	0.6	0.7
75 and over	0.4	0.5	0.7	0.9	1.0
Total	1.5	1.7	2.0	2.2	2.4

Source: U. S. Census Bureau, Freddie Mac 55+ Survey

5 These estimates are calculated by, first, converting the number of 55+ persons projected in Exhibit 1 to the number of 55+ households assuming a constant household size by age group: 55 to 64: 1.7, 65 to 74: 1.5, and 75+: 1.4. We then restrict to owner households (76 percent) based the 2015 American Community Survey (ACS) published by the Census Bureau. Based on our 55+ survey, 62 percent of that group desires to age in place. And among the survey respondents desiring to age in place, only 5.6 percent indicate they plan to retrofit within the next year.

6 Price ranges reflect good quality, consumer grade materials. As with all things remodeling, it is possible to spend much, much more. Installation costs are based on labor charges of \$75/hour and a typical number of units installed. For example, the estimated \$75 installation charge for installing D-ring drawer handles includes a trip charge and the installation of 30 handles.

7 The addition of a ruler, pencil, and inexpensive bubble level will produce a better outcome.



Exhibit 7

Estimated cost of accessibility modifications (unit price, \$)

Small modifications	Unit price		Installation	Larger modifications	Unit price		Installation
	Low	High			Low	High	
Lever door handles	15	30	75	Bathroom remodel	5,600	13,000	N/A
Bathroom faucet	30	200	90	Widen doors (exterior)	600	1,200	1,000
Kitchen faucet	90	300	150	Widen doors (interior)	100	300	500
Pull-out cabinets	60	270	750	Wheelchair ramp (linear foot)	100	250	N/A
D-ring drawer handles	1.5	10	75				
Grab bars	20	100	150				

Note: Modification costs vary significantly depending on the conditions of the home and the individual needs of the occupant
 Source: Home Advisor, Home Depot

The extent of retrofitting required for aging in place depends both on the type and condition of the home and on the specific physical limitations of the homeowner. Some hypothetical examples can illustrate the range of potential expense.

Exhibit 8 on the following page displays cost estimates for a home that requires minimal retrofitting. In this example, the house is a three-bedroom, two-bathroom house with both a bedroom and a full bathroom on the first floor.⁸ The homeowners currently are healthy and want to extend the amount of time they will be able to remain in their home. However they anticipate moving to a senior facility if their health deteriorates significantly or if they require wheelchairs. They are willing and able to install D-ring drawer handles and lever-style door handles themselves, but they will hire a handyman to install grab bars. Assuming their materials costs are midway between the low and high estimates in Exhibit 7, the estimated cost of these changes is less than \$1,000.

⁸ This house is ideal for aging in place. Retrofitting a more challenging house may be more expensive or simply infeasible. The examples in this section are illustrative only and intended to highlight how sensitive retrofitting costs are to the scope of retrofitting.

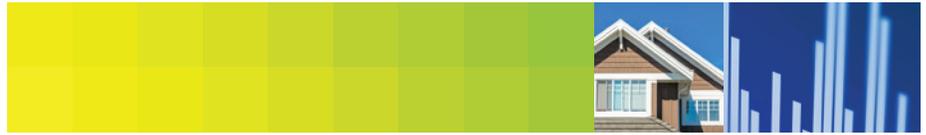


Exhibit 8

Example of minimal retrofitting

Item	Unit cost (\$)	Number of units	Materials cost (\$)	Installation (\$)	Total Cost (\$)
D-ring drawer handles	5.75	30	172.50	0.00	172.50
Lever door handles	22.50	10	225.00	0.00	225.00
Grab bars	60.00	4	240.00	150.00	390.00
Total	–	–	637.50	150.00	787.50

Note: Modification costs vary significantly depending on the condition of the home and the individual needs of the occupant.

Source: Home Advisor, Home Depot

Exhibit 9 displays cost estimates for moderate retrofitting of the same house. In this example, we assume the homeowners no longer are willing or able to do any of the installation themselves. In addition, they need to change the kitchen faucets and remodel the master bathroom.⁹ The cost of this moderate retrofitting is 13 times higher than the cost of the minimal retrofitting example in Exhibit 8. The cost of remodeling the master bathroom accounts for the substantial increase in expense.

Exhibit 9

Example of moderate retrofitting

Item	Unit cost (\$)	Number of units	Materials cost (\$)	Installation (\$)	Total Cost (\$)
D-ring drawer handles	5.75	30	172.50	75.00	172.50
Lever door handles	22.50	10	225.00	75.00	300.00
Kitchen faucets	195.00	1	195.00	150.00	345.00
Bathroom remodel	–	–	–	–	9,300.00
Total	–	–	592.50	300.00	10,192.50

Note: Modification costs vary significantly depending on the condition of the home and the individual needs of the occupant.

Source: Home Advisor, Home Depot

⁹ The cost of installing the grab bars is assumed to be incorporated in the cost of remodeling the master bathroom.



Finally, Exhibit 10 displays the cost of major retrofitting. Now the homeowner intends to age in place even longer, even after being confined to a wheelchair. As a result, the bathroom remodel is more extensive, light switches and outlets are relocated so they are reachable from a wheelchair (which entails drywall patching and repainting), the first-floor doors are widened to admit a wheelchair, and wheelchair ramps are added to the front and back of the house. The cost of this example is 3 times higher than the moderate retrofitting in Exhibit 9 and over 40 times higher than the minimal retrofitting in Exhibit 8.

Exhibit 10

Example of major retrofitting

Item	Unit cost (\$)	Number of units	Materials cost (\$)	Installation (\$)	Total Cost (\$)
D-ring drawer handles	5.75	30	172.50	75.00	247.50
Lever door handles	22.50	10	225.00	75.00	300.00
Kitchen faucets	195.00	1	195.00	150.00	345.00
Pull-out cabinets	165.00	15	2,475.00	750.00	3,225.00
Bathroom remodel	–	–	–	–	11,000.00
Accessible electrical controls	20.00	40	800.00	3,000.00	3,800.00
Widen doors (exterior)	900.00	2	1,800.00	2,000.00	3,800.00
Widen doors (interior)	200.00	8	1,600.00	4,000.00	5,600.00
Wheelchair ramps	–	–	–	–	3,500.00
Total	–	–	7,267.50	10,050.00	31,817.50

Note: Modification costs vary significantly depending on the condition of the home and the individual needs of the occupant.

Source: Home Advisor, Home Depot

These examples are meant as illustrations only. Each house is unique and each homeowner’s limitations, intentions, and budget are different as well. The point is to highlight the wide variation in the potential expense of retrofitting, and the cost of real-world retrofitting projects could fall significantly outside the range of the examples above. If the homeowner is in good health, lives in a house where single-floor living does not require major remodeling, and does not intend to age in



place in the last few years of life—when physical limitations may be most severe—the cost may be very modest. Alternatively, if the homeowner has significant health challenges, the existing house is ill-suited to aging in place, and the homeowner wishes to remain in the house until the end of their life, the cost may be prohibitive, especially for lower-income households.

The economic impact of retrofitting

The growth in the 55+ population combined with the strong desire to age in place should provide a boost to the building material and construction sectors. But how big a boost? That is difficult to say with any precision.

Exhibit 11 displays a forecast of the annual expenditure on retrofitting in the future. This forecast is calculated by applying an estimated retrofitting expense of \$2,700 per 55+ household to the retrofitting demand displayed in Exhibit 6. Using data from the 2013 American Housing Survey, the typical renovation expense for a 55+ household doing a retrofit is about \$2,700 per year, assuming the average expenditure on retrofitting projects is the same as average expenditure on similar improvements.¹⁰ The 2015 estimate of \$4 billion in retrofitting expenditure accounts for around 5 percent of expenditure on all repairs and additions by 55+ households.

Exhibit 11

Retrofitting expenditure projections (\$ billion)

	2015	2020	2030	2040	2050
Total	4.1	4.6	5.4	5.9	6.5

Source: American Housing Survey

¹⁰ Improvements included: added bathroom onto home; added bedroom onto home; added/replaced electrical wiring, fuse boxes, or breaker switches; added/replaced doors or windows in home; added/replaced plumbing fixtures in home; other major improvements; remodeled bathroom; remodeled kitchen; added/replaced driveways or walkways.



Many factors could throw these estimates off.

- First, we could be overestimating—or underestimating, or perhaps just mistiming—the need for retrofitting. Older Americans may remain healthier in the future—and, thus, require less retrofitting—than suggested by the current snapshot of the JCHS. All of us can cite examples of households in their 80s and 90s living successfully in homes that, according to the analysis above, are unsuitable for older Americans. Then again, better current health may simply be extending life spans and putting off the day of retrofitting reckoning.
- Second, our 55+ survey respondents may not be the best judges of their commitment to aging in place. The increasing desire to age in place among survey respondents suggests younger Boomers may be underestimating how they will feel about aging in place in the future. Alternatively, older Americans may prefer to age in place but be willing to abandon that plan once they discover how difficult retrofitting can be. This phenomenon may be more common in parts of the country where existing single-family houses tend to be ill-suited to retrofitting.
- Third, retrofitting may be too expensive for many of those who wish to age in place. Our survey indicates that lower-income households are more likely to prefer to age in place than higher-income households.
- Finally, a larger share of new homes may adopt universal design principles which will eliminate the need for some, but not all, retrofitting. The Census Bureau reports that just over a million new homes were completed in 2016. According to Exhibit 6, about 1.5 million older households today need some retrofitting, and that number rises to 2.0 million per year by 2030. Even if universal design is adopted universally, a significant amount of retrofitting will still be required.

Both the housing industry and organizations focusing on older Americans have begun to take account of the upcoming demand for retrofitting. The Livable Communities team of AARP Education and Outreach has published the [HomeFit Guide](#) that provides information and detailed worksheets to aid older homeowners who want to age in place. The National Association of Home Builders, in collaboration with AARP, developed and administers the Certified Aging in Place Specialist (CAPS) designation. To achieve the CAPS designation, individuals take training and testing that prepares them to understand the needs of the older population and to be knowledgeable about aging in place solutions. CAPS designees often are remodelers, but designers, occupational therapists, architects and others frequently achieve this designation as well. Organizations like the Better Living Design Institute work to publicize the principles of universal design to both the public and the building industry.



Retrofitting is not enough

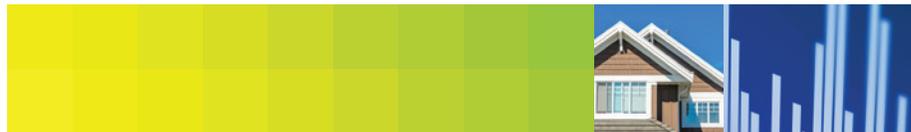
"Old age is not for sissies" – Bette Davis

Aging in place requires more than grab bars, no-step entries, and lever-style door handles. House cleaning and home maintenance may become more difficult over time. And the physical limitations of aging also pose challenges outside the home. Transportation—to church, to the grocery store, to the doctor, to the mall, to a friend's house—can be difficult. Older Americans with reduced night vision may have to plan their errands and activities around daylight hours. Many older people stop driving altogether, a thorny problem in suburbs where auto transportation is unavoidable.

Some of these hurdles can be surmounted with sufficient income. House cleaners and lawn care companies can be hired. Handymen can handle routine home maintenance. The teenager next door may be willing to shovel snow. Taxis or other public transportation may be available.

Money cannot overcome [cognitive deterioration](#). As time passes, older Americans may need assistance dealing with their finances and understanding the advice they are receiving from their doctors, dentists and other service providers. Compounding this challenge, many older Americans suffer from isolation. Their families have dispersed, and their friends have passed away or moved to assisted living. They rely on the television or radio for companionship.

Atul Gawande [reviewed the challenges](#) of aging in place (and aging in general) from the perspective of a medical professional. The geriatric specialists he consulted focus as much or more on the day-to-day capabilities and needs of their aging patients as on specific medical maladies—high blood pressure, diabetes, arthritis, heart problems, etc. They pay attention to their patients' abilities to handle the daily tasks of dressing, bathing, and eating. They try to make sure that family members or friends stay in touch and come for visits and meals if possible. Addressing these needs turns out to be just as important—perhaps more important—than retrofitting in maintaining a high quality of life for older Americans.



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