

**Joint Center for Housing Studies
Harvard University**

**Aging in Place:
Implications for Remodeling**

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Abstract: The dramatic aging of the U.S. population in coming decades is expected to have important implications for the home remodeling industry. Of the over 25 million households age 65 and over today, the Joint Center estimates that 44 percent have some need for home accessibility features due to disability or difficulty using components of the home, such as kitchen or bathroom facilities, without assistance. And yet, the current housing stock is not especially equipped to meet the accessibility needs of an aging nation, as not even a third of homes have what could be considered basic accessibility features: a no-step entry and bedroom and full bathroom on the entry level. While some aging households will look to move into homes that are better suited to their needs, many others will choose to remain in their current homes and communities and “age in place,” finding out of preference or necessity that they will need to remodel their homes to fit their changing needs. Indeed, older homeowners already account for nearly half of total home improvement spending today, compared to their historical share of 30 percent. And although 45 percent of older homeowners plan to undertake improvement projects with the intent of making their homes easier to live in as they age, surprisingly few owners are focused on home accessibility as part of aging in place comfortably and safely. As the number and share of older households rise sharply over the coming decade, construction of new housing with basic accessibility features is projected to fall considerably short of increased demand in the Northeast and Midwest regions of the country. Fully 40 percent of the net gain in households age 65 and older with accessibility needs in these regions is projected to have unmet demand, suggesting the need for significant retrofit spending on existing homes to narrow this supply-demand gap.

Introduction

The oldest members of the baby-boom generation—defined here as the population born during a twenty year period from 1945 to 1964—are reaching retirement age this decade, ushering in a major change in the age distribution of U.S. households.¹ Baby boomers far outnumber members of the preceding generation and will therefore add dramatically to the older population over the coming decades. According to projections by the Joint Center for Housing Studies, the number of householders age 65 and over is set to increase by 9.0 million, or 35 percent, from 2010 to 2020, and by 19.3 million, or 75 percent, by 2030 (McCue 2014).²

Certainly, due to its size and shifting preferences relative to prior generations, the massive baby-boom generation has already dominated and influenced housing markets for many years, and it is expected to shape housing and home improvement market trends for some time to come. Myers and Gearin (2001) wrote:

The aging of the baby boomers is remaking the residential landscape of America. During the 1970s, their passage into their early twenties spawned inner-city revitalization and gentrification. Their passage into the family formation and settlement years of their thirties and forties fueled dramatic single-family home construction and suburban growth. Now, millions of these households are moving into their late middle age and early retirement years, creating the potential for a new turning point.

Indeed, a recent Joint Center report (2014) on housing our aging population concluded that the nation is not prepared to meet the housing needs of this group, and that the supply of housing that is affordable, physically accessible, located near amenities and transportation, and coordinated with support services is inadequate.

¹ Although the number of births in the U.S. did not begin to rise substantially until 1946, analyses presented in this paper use a 1945 start date for the baby boom cohort for the simplicity of creating a full twenty year cohort. For a detailed description of and historical context for the post-World War II baby boom, see Colby and Ortman (2014).

² Calculations are based on the middle-series projections and use household counts from the U.S. Census Bureau's 2010 Census.

While some aging households will look to move into homes that are better suited to their needs, many others will choose to remain in their current homes and communities and “age in place,” finding out of preference or necessity that they will need to remodel their homes to fit their changing needs.³ Still other older households will find neither option available to them and will simply age in unsafe and inaccessible housing. Of the over 25 million householders age 65 and over in the U.S., the Joint Center estimates that 44 percent have some need for home accessibility features due to disability or difficulty using components of the home, such as kitchen or bathroom facilities, without assistance.⁴ As the number of older households increases significantly in the coming decades, it is anticipated that demand for homes with accessibility features will also grow substantially.

Already the aging of baby boomers into their retirement years is making a mark on home improvement spending. Traditionally, middle-age homeowners (age 35-54) have been the dominant spenders in the remodeling market, according to Joint Center analysis of the Department of Housing and Urban Development’s American Housing Survey (AHS) (2015).⁵ Yet, in recent years this pattern has been shifting so that homeowners age 55 and over account for nearly half of total home improvement spending today compared to their historical share of 30 percent. Of course, the movement of the larger baby-boom generation into this age range has increased the share of spending by these older owners, but more fundamentally, this growth reflects a significant increase in inflation-adjusted spending levels. Changing trends in longevity, mobility, wealth, homeownership rates, and labor force participation are no doubt influencing spending levels and patterns of older homeowners.

Previous research by the Joint Center’s Remodeling Futures Program looked at home turnover by seniors and found that older sellers have generally lived in their home for many years and

³ For a more comprehensive definition and description of the major issues involved with the process of aging in place, see Molinsky (2014).

⁴ This estimate is based on tabulations of the 2011 American Housing Survey. Households with some need for home accessibility features are broadly defined as any household with a member who has one or more of the disabilities or difficulties listed in parts 1 and 2 of Appendix A.

⁵ See Table W-4 in the report Web Tables for share of total improvement spending, 1995-2013, by age of household head:

http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs_improving_americas_housing_2015_web_tables.xlsx.

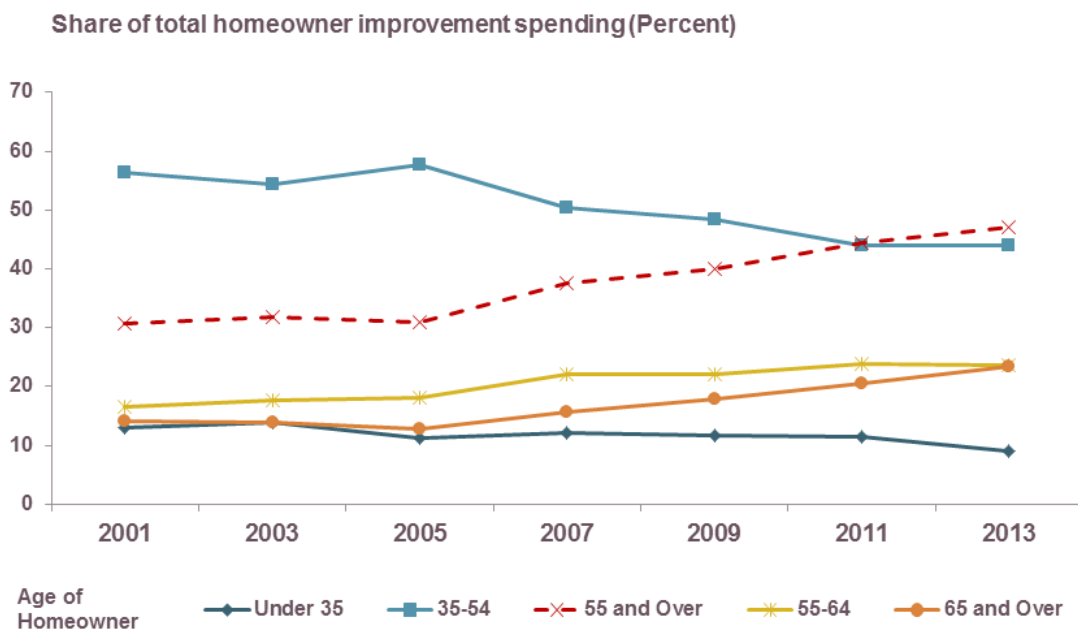
tend to sell relatively older housing stock to much younger buyers, and that this turnover generates significant levels of home improvement spending after the sale (Masnick, Will and Baker 2011). The research presented here analyzes the remodeling activity by older owners in homes that have not yet turned over and considers the current and projected demand for and supply of homes with accessibility features, which are critical for allowing older households to age in place safely and comfortably. Ultimately, this research attempts to shed light on the implications of an aging society for the home improvement market and, in particular, for demand for home accessibility retrofits today and moving forward.

Section II of the paper examines the home improvement spending behavior of older households using data from the AHS, and describes how and why this spending has changed in recent years. Section III explores attitudinal survey data from the Demand Institute on aging in place and home accessibility modifications, finding that although the majority of older owners report wanting to age in place, few are focused specifically on accessibility. Section IV of the paper provides an analysis of the current demand for and supply of homes with accessibility features made possible by detailed data collected from a rotating topical module in the 2011 AHS. This section describes the current need for homes with accessibility features across key social, economic and locational characteristics of the population with disabilities or impairment, and also includes a discussion of the typical costs of home accessibility modifications. Section V projects the future demand-supply gap of homes with accessible features given the enormous growth in the older population expected in coming decades. These projections— based on Joint Center household projections and assumptions from the AHS—suggest the need for significant retrofit spending on existing homes to narrow this gap.

Home Improvement Activity of Older Homeowners

Older homeowners are a large and growing share of the home improvement market. Historically, homeowners age 35-55 have dominated home improvement spending since these are the years when household income is typically growing and family composition may be changing, but in recent years this pattern has shifted. Between 2000 and 2005, during the run-up of the last housing boom, homeowners age 55 and over consistently accounted for about 30 percent of total home improvement spending (**Figure 1**). Their share rose sharply beginning in 2007, and by 2013 older homeowners accounted for over 47 percent of spending or nearly \$90 billion that year, surpassing for the first time the share and level of spending by middle-age homeowners.

Figure 1: Older Homeowners Now Account for Close to Half of Improvement Spending



Notes: Tabulations of 2013 data use JCHS-adjusted weights. For more information about the re-weighting methodology, see www.jchs.harvard.edu/research/improving-americas-housing.
Source: JCHS tabulations of US Department of Housing and Urban Development (HUD), 2001–2013 American Housing Surveys.

The obvious reason for such a dramatic shift in the share of home improvement spending by older owners is the movement of the large baby-boom generation into these age ranges. The number of homeowners age 55 and over grew almost 32 percent between 2001 and 2013, vastly outstripping the 4.5 percent growth in all homeowners over the same period. Yet, total inflation-adjusted home improvement expenditures by owners age 55 and over increased more than twice as much, by 69 percent during the same period. The spending increase of \$37 billion by older homeowners during this period can be disaggregated to measure the impact of the growth in the number of older owners compared to the increase in their average per-owner spending. Indeed, only 46 percent of the increase in total remodeling expenditure by owners age 55 and older can be attributed to an increase in the number of such owners (increasing 9.3 million from 29.0 to 38.3 million), while 54 percent of growth is due to an increase in inflation-adjusted average per-owner spending (increasing \$500 from \$1,800 to \$2,300) from 2001 to 2013.

Many factors are contributing to this trend in increased remodeling activity by older homeowners. One factor is that people are remaining in the workforce later in life, whether by choice or necessity, with labor force participation rates of people age 55 and over on the rise since the late 1990s. According to the Bureau of Labor Statistics, the participation rate of people age 55-64 rose from 55.9 percent in 1990 to 64.1 percent in 2013, and the participation rate for those age 65 and over increased from under 12 percent to 18.6 percent. Working longer and later in life should add to older homeowners' wealth, which is an important source of income in retirement. While the challenging economic times of the Great Recession have taken a toll on all households, with median net worth (including home equity for owners) decreasing 28 percent from 2005 to 2010, older households were much more cushioned from the effects of the downturn.⁶ Compared to a nearly 55 percent drop in the net worth of households age 35-44, that of households age 55-64 declined 17 percent, and that of households age 65 and over fell only 4.2 percent during this time period. The greater wealth of

⁶ U.S. Census Bureau, Detailed Tables on Wealth and Asset Ownership:
<http://www.census.gov/people/wealth/data/dtables.html>.

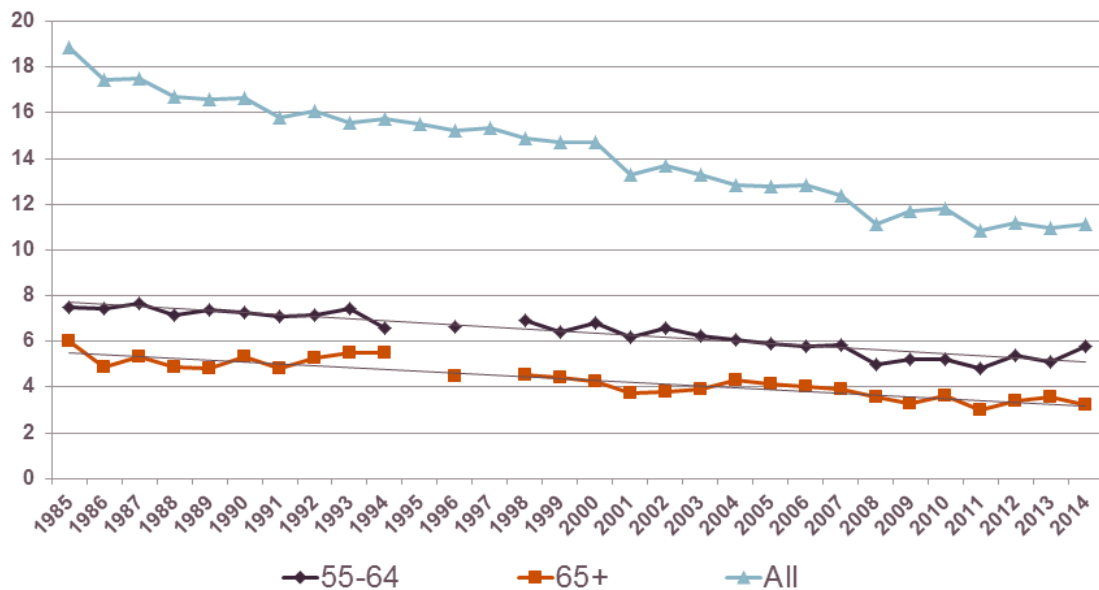
older homeowners puts them in a better position to spend relatively more on home improvements.

Other factors influencing the remodeling trends of older homeowners are high homeownership rates and declining mobility rates. From 2001 to 2013, households age 55 and over saw their high homeownership rate hold fairly steady at about 80 percent, while younger households under age 55 saw their homeownership rates decline by six percentage points.⁷ Older households also have had very low mobility rates historically, and these rates have continued to trend lower for many years, just as they have for the overall population (**Figure 2**). With mobility rates in the 3-6 percent range, older homeowners have increasing durations of residency in their homes. Certainly, the research on preferences of older people continues to show that the overwhelming majority want to age in place. A 2005 report from AARP's Public Policy Institute found that 84 percent of people age 50 and older said they want to remain in their own home for as long as possible. A more recent AARP survey of people age 45 and over found 86 percent agreed with that statement, and nearly three-quarters strongly agreed with the statement (Keenan 2010). For these respondents, staying in their homes means living independently, affordably and in their familiar communities and surroundings.

⁷ U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey.

Figure 2: Historical Decline in Mobility of Older Population Mirrors that of Overall Trend

Annual mobility rate (lived in different home 1 year ago) by age (Percent)

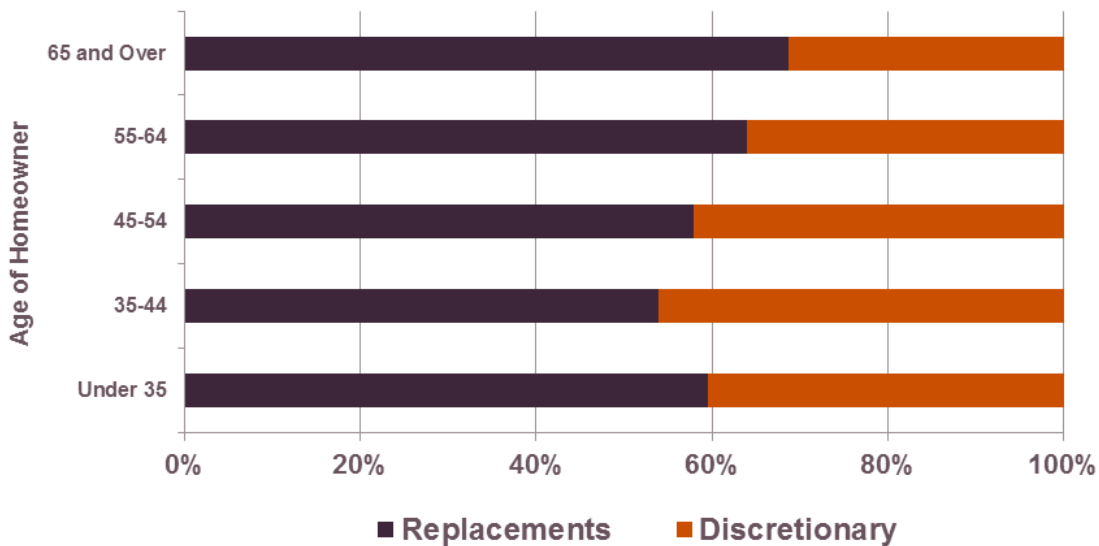


Source: JCHS tabulations of U.S. Census Bureau, Current Population Survey (CPS) published tables.

The increased presence of older homeowners in the remodeling market is meaningful for many reasons, including the changing composition of spending. The composition of home improvement spending by older homeowners is much more focused on replacement projects (such as roofing, siding, windows, exterior doors and major home systems and equipment) than that of younger homeowners, who spend relatively more on discretionary projects such as kitchen and bath remodels and room additions. Homeowners age 55-64 are devoting almost two-thirds of their improvement spending to replacement projects and owners 65 and over are devoting about 70 percent, compared to less than 60 percent for younger owners (**Figure 3**).

Figure 3: Older Homeowners Spend a Greater Share on Replacement Projects

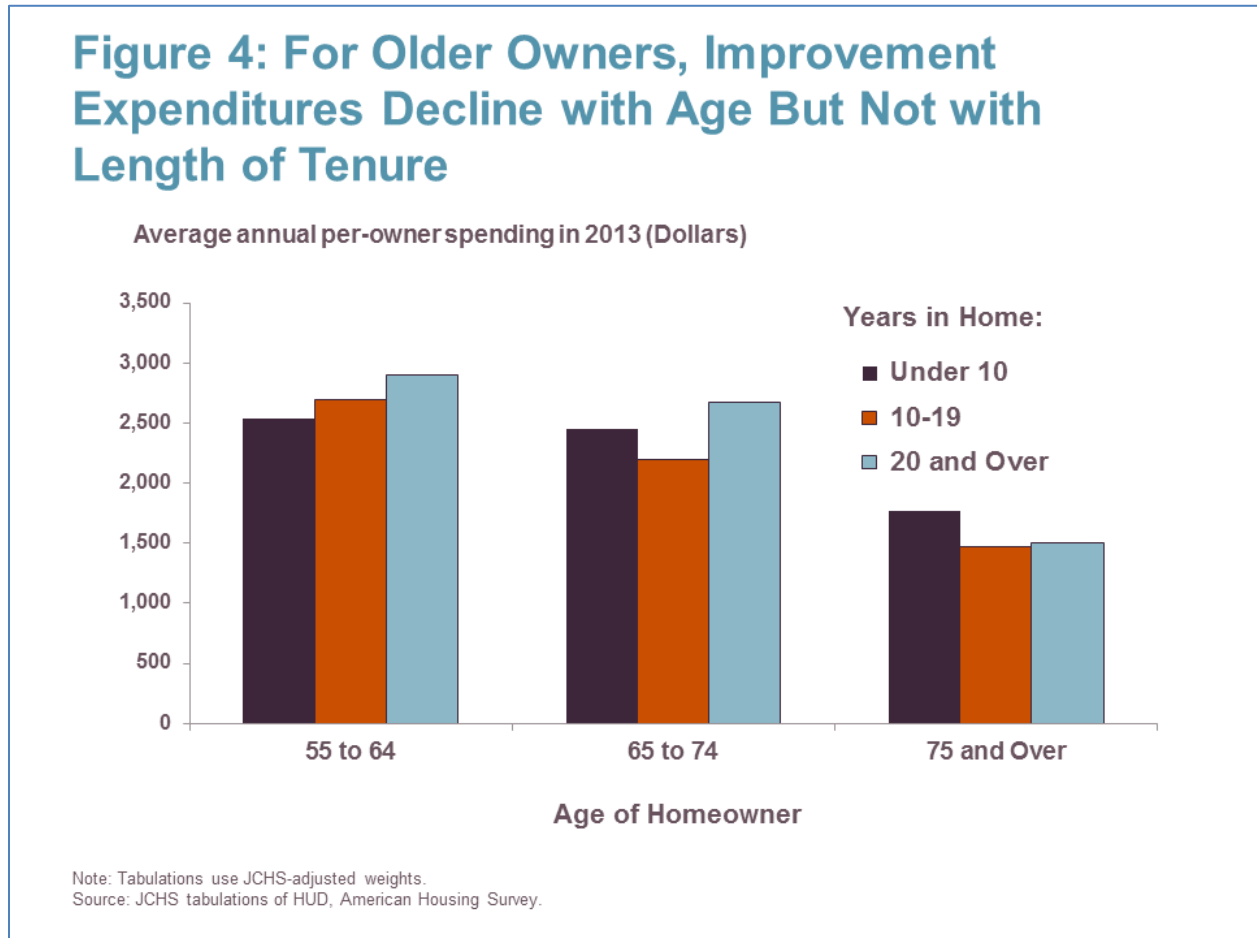
Share of homeowner improvement spending by type of project, 2013



Notes: Discretionary projects are defined here as kitchen and bath remodels, room additions, and attached decks, porches, garages and carports. Replacement projects are defined here as home systems (HVAC, electrical and plumbing), major equipment and appliances, flooring, paneling, ceiling, roofing, siding, windows, doors, and insulation.
 Source: JCHS tabulations of HUD, American Housing Survey.

Renovation and remodeling activity allows owners to age in place by reconfiguring their homes to fit their needs. Some of this remodeling activity will likely take place before retirement as owners are preparing to age in place. Pre-retirement years, when children are grown and have moved out but parents are still working and have the disposable income and built-up equity in their homes available for financing, are typically a good time to undertake what might be major remodeling projects. Indeed, a critical finding regarding the home improvement spending of older owners is that while remodeling expenditures do begin to decline with advancing age, they do not decline with length of time in the home. Homeowners age 55-74 who have lived in their current homes for twenty years or more actually spend more on average than same-aged owners who have lived in their homes less than ten years (**Figure 4**). A possible reason for this increased spending by longer tenured owners is that they more often need to retrofit their homes in preparation for aging in place, whereas older homeowners who have more recently

moved into their current homes might have purchased already more accessible homes with aging in place in mind.



With nearly 36 million homeowners age 65 and over projected by 2030, compared to just 22 million today, the baby-boom generation is expected to continue to be a major presence in the home improvement market. Baby boomers have had and will continue to have both motivation and financial resources to spend on home improvements, and as baby boomers age in place, they will surely influence ongoing trends in the home improvement market for many years to come. Certainly the past trends suggest that these older owners will remain fairly active in remodeling moving forward.

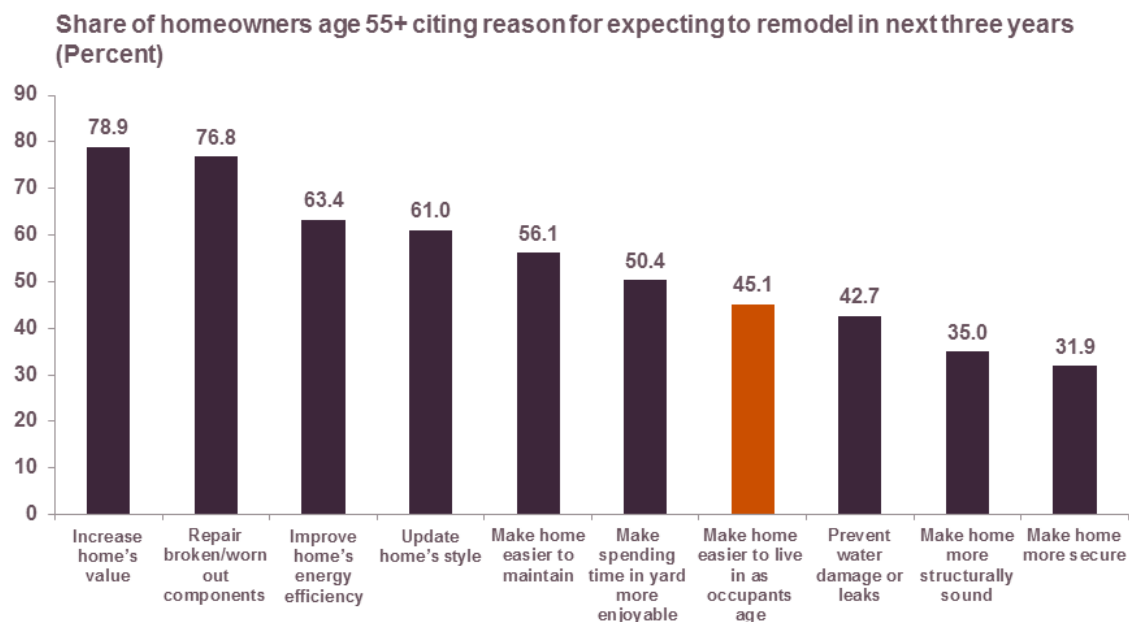
Attitudes Toward Aging in Place and Home Accessibility Needs

While the American Housing Survey is a rich source of data on home improvement activity and costs, it does not include many questions about the motives for performing remodeling projects.⁸ Consequently, it is not possible to use the AHS to calculate how much home improvement spending or what types of projects are done specifically for aging in place or accessibility reasons. However, a recent consumer housing survey by the Demand Institute (a non-advocacy, non-profit think tank jointly operated by The Conference Board and Nielsen) provides information on major motivations for upcoming remodeling projects, as well as homeowner attitudes toward aging in place and accessibility needs. This extensive survey, fielded in 2013, asked households about their attitudes on housing, household finances, major household purchases, community and commuting, future moving intentions, housing and neighborhood needs, and home improvement plans and motivations.

Joint Center analysis of the Demand Institute's housing survey shows that 45 percent of homeowners age 55 and over indicate that making their home easier to live in as they or others in the household age is a minor or major reason for planned remodeling projects in the next three years (**Figure 5**). Fifty-six percent of older owners expect to remodel in order to make their home easier to maintain. Yet even more common motivations for future remodeling by older homeowners include increasing the home's value (79 percent), repairing broken or worn out components (77 percent), improving the home's energy efficiency (63 percent) and updating the home's style (61 percent).

⁸ Beginning with the 2011 survey, homeowners were asked whether any remodeling jobs reported were done for energy efficiency purposes, but the survey did not record which projects were done specifically for this purpose.

Figure 5: Close to Half of Older Owners Report Upcoming Remodels Will be to Facilitate Aging in Place



Note: Minor and major reasons provided by homeowners age 55+ who are somewhat or very likely to do a renovation costing \$2,000 or more in the next three years.

Source: JCHS tabulations of the Demand Institute's 2013 consumer housing survey data.

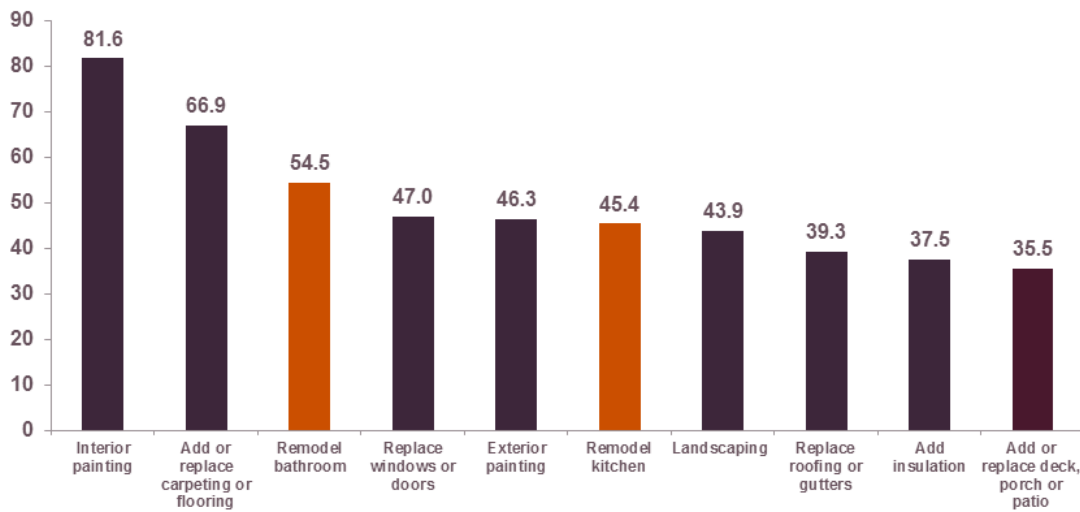
Older homeowners motivated to make their homes more amenable to aging in place report bathroom and kitchen remodels among the top projects that they are somewhat or very likely to undertake in the next three years (**Figure 6**). These areas of the home—in addition to no-step entries, single-floor living (bedroom and full bathroom located on the entry floor), and extra-wide hallways and doors—are typically the focus of accessibility modifications.

Of the older owners reporting ease of aging-in-place as a major motivation for upcoming remodeling projects, fully 78 percent expect to increase their improvement spending in the next three years relative to the prior three years. Over 10 percent of these owners expect to increase their three-year remodeling spending by at least 50 percent. Applying similar shares for all older owners (regardless of motivation for upcoming remodeling) to the improvement spending estimated from the 2011 and 2013 American Housing Surveys would result in an

increase in improvement spending of nearly \$17 billion annually through 2016 by homeowners age 55 and over.⁹

Figure 6: Large Shares of Older Owners with Aging in Place Motivations Are Likely to Upgrade Bathrooms and Kitchens

Share of aging-in-place-motivated homeowners age 55+ reporting somewhat or very likely to do in next three years (Percent)

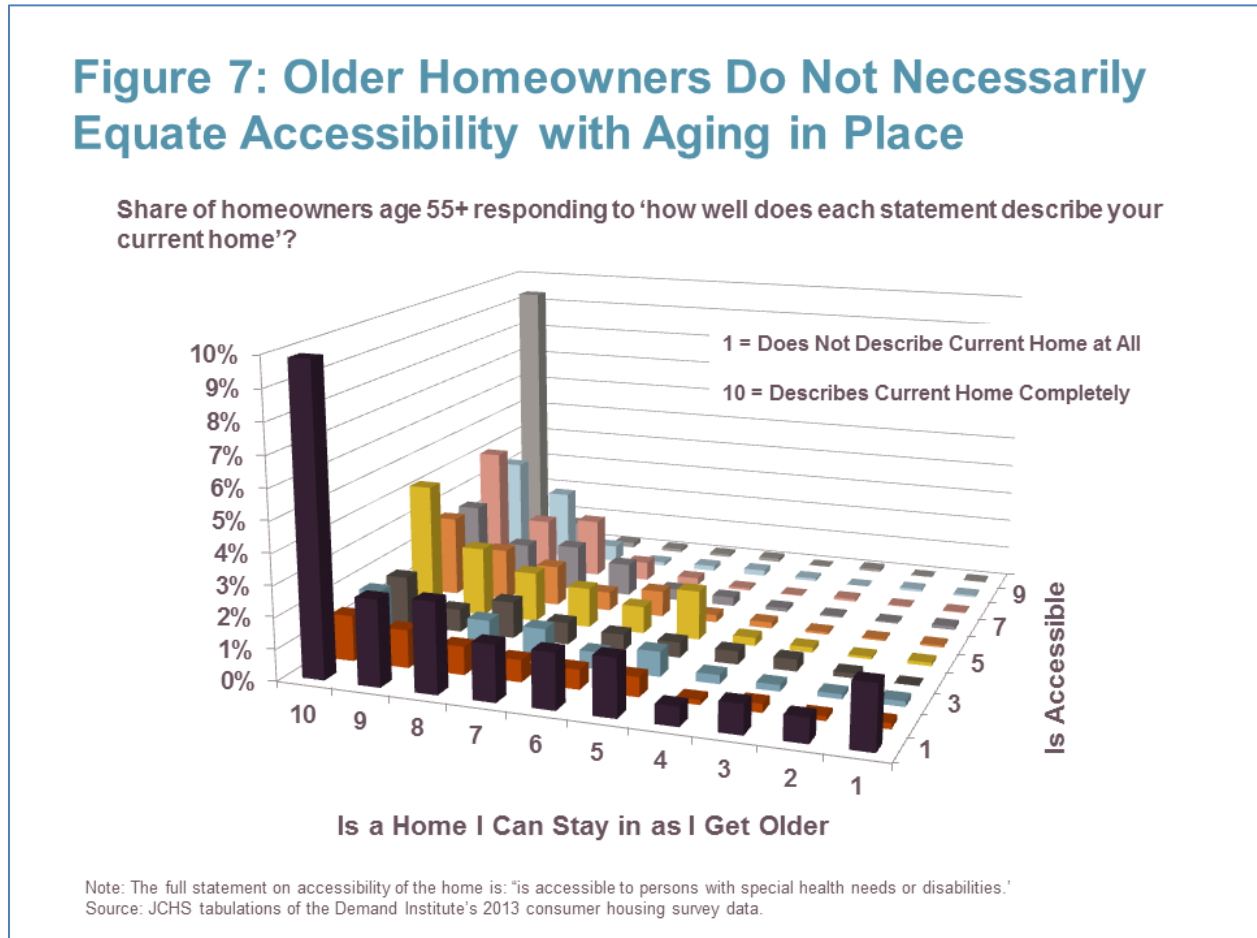


Note: Aging-in-place motivated homeowners reported 'making the home easier to live in as occupants age' as a minor or major reason for expecting to remodel their homes in the next three years.
Source: JCHS tabulations of the Demand Institute's 2013 consumer housing survey data.

Unfortunately, it seems older homeowners are largely not focused on accessibility needs as part of aging in place. Although the vast majority of homeowners age 55 and over report that being able to stay in their home as they age is very important—88 percent ranked this statement as 8 or higher on a scale of 1 to 10 (where 10 is extremely important)—only 36 percent of older owners placed the same level of importance on having a home that is accessible to persons with special health needs or disabilities. In describing the characteristics of their current homes, about a quarter of older owners believed their homes were both highly

⁹ This estimate of increased spending is conservative because it assumes no increase in the number of older homeowners and at most an increase in spending of 50 percent although the category is an expected increase in spending of at least 50 percent *or more*.

accessible and appropriate for aging in place (Figure 7).¹⁰ Surprisingly, though, an almost equal share of owners reported that their current homes are appropriate for aging in place but are *not* currently accessible.¹¹



A recent Demand Institute report on baby boomers (defined as age 50-69 in 2013) determined that boomers are “not necessarily looking for ‘senior’ products and solutions” for their housing even though certain aging-related concepts such as single-floor living and making the home easier to maintain are appealing and desirable to the majority of baby boomers (Burbank and

¹⁰ On a scale of 1 to 10 where 10 means the statement describes their current home completely, 24.2 percent of homeowners age 55 and over selected 8, 9 or 10 in response to ‘is accessible for people with special health needs or disabilities’ and ‘is a home I can stay in as I get older.’

¹¹ On a scale of 1 to 10 where 1 means the statement does not describe their home at all and 10 means the statement describes their current home completely, 23.5 percent of homeowners age 55 and over selected 8, 9 or 10 in response to ‘is a home I can stay in as I get older,’ and selected 1, 2 or 3 in response to ‘is accessible for people with special health needs or disabilities.’

Keely 2014). This finding suggests that homeowners may be sensitive to the language used to describe aging in place, with terms like “senior,” “disability,” and “accessibility” not necessarily resonating with older homeowners. Surely as the number and share of older households increase significantly in the coming decades, the demand for homes with accessibility features for safely aging in place will also grow substantially. However, given the attitudes of today’s older homeowners, the remodeling industry will need to bridge a substantial gap between owners’ wanting to age in place and their being able to do so safely with appropriate accessibility features.

Current Demand for and Supply of Home Accessibility Features

Accessibility Needs of an Aging Population

Since 2009, the American Housing Survey has included questions on the disabilities or serious physical, mental and emotional impairments of household members. The 2011 AHS further included a rotating topical module on whether household members had difficulties using components of the home unassisted, as well as on the presence and use of specific features of the home that make it more accessible to persons with disabilities or impairments such as no-step entries, wheelchair accessible rooms, grab bars in baths, and in-unit ramps or elevators.¹² Together these data allow for a rough analysis of the current demand for and supply of homes with accessibility features, which will help in understanding how well the housing stock is currently set up for older owners aging in place. The main research questions addressed include the current demand for homes with accessibility features across key social, economic and locational characteristics of the population with needs; the available stock of homes that can accommodate a population with accessibility needs; and the magnitude of the gap between the supply of accessible homes and the demand for homes with such features.

A somewhat broad definition was chosen in identifying households with at least some need for accessibility features in the home: households with need include those in which a member has one or more disabilities or a serious difficulty using components of the home without assistance. Under this definition, approximately 26 million U.S. households have some need for home accessibility features. While some functional difficulties could be considered much more indicative of accessibility need than others, 11.5 million households, or 44 percent of those defined as having need, included household members with both a disability and one or more impairments using features of the home unassisted (**Figure 8**). Supposing that all of the households under this definition have at least some need for accessibility features in their home, the share of all households with accessibility needs is nearly 1 in 4, but this share increases dramatically with age. While only nine percent of households under age 35 have

¹² See Appendix A for a complete list of the disability and accessibility information collected in the 2011 AHS. The accessibility module does not indicate whether the home was built with accessibility features or, if not, when and at what cost accessibility modifications were made to the home.

home accessibility needs, a third of households age 65-74 have need, as do fully half of households age 75-84 and nearly seven out of ten of the oldest households age 85 and over (Figure 9).

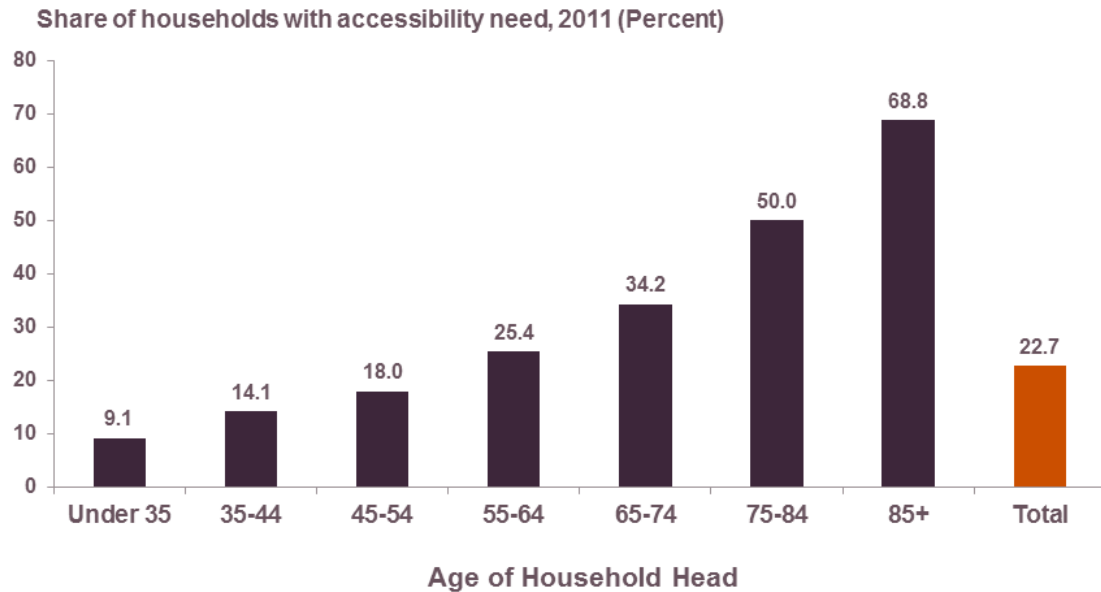
Figure 8: Nearly a Quarter of All Households Include Members with Disabilities or Difficulties Using the Home

Number and share of households with disabilities or other impairment, 2011

Household has a disabled member	Household has a member with problems using components of the home unassisted					
	YES		NO		TOTAL	
	(000s)	(%)	(000s)	(%)	(000s)	(%)
YES	11,500	10.0	9,900	8.6	21,500	18.7
NO	4,700	4.1	88,900	77.3	93,500	81.3
TOTAL	16,200	14.1	98,800	85.9	115,000	100.0

Notes: Disabilities include serious impairments with hearing, seeing, memory, walking, self-care (dressing or bathing), and running errands. Problems using components of the home without assistance include: climbing stairs, stooping or kneeling, reaching above head or grasping small objects, reaching or opening kitchen cabinets, using stove or kitchen counters, and getting to and using bathroom features.
Source: JCHS tabulations of HUD, American Housing Survey.

Figure 9: Share of Households with Accessibility Need Rises Substantially with Age



Note: Households with accessibility need are defined as those with a disabled member or members with serious difficulties using components of the home without assistance. See Figure 4 notes for more detail.
Source: JCHS tabulations of HUD, American Housing Survey.

Overall there is little difference between the share of owner- and renter-occupied households with disabilities and mobility impairments, at 22.4 and 23.4 percent respectively, yet a vast difference appears between the two groups when considering the age of the householder. Whereas only 18.5 percent of owner households with heads between the ages of 45 and 64 include members with disabilities or impairments, almost 30 percent of same-aged renter households do. Similarly, 41.4 percent of owner households age 65 and over include a disabled member, compared to 54.4 percent of same-aged renter households. The reason for such large discrepancies among owners and renters is undoubtedly partly due to the connection between disability status and income. A 2009 working paper published by the National Bureau of Economic Research (NBER) found that the long-term economic consequences of disability are immense: ten years after onset, a person with a chronic and severe disability experiences on

average a 68 percent decline in earnings and a 22 percent decline in food and housing consumption (Meyer and Mok 2009).

Compared to owner households without disabilities or impairments, those with accessibility needs tend not only to be older but also to have lower incomes and to live in older homes, even after controlling for age. For example, 42 percent of owners age 65 and over with disabilities fall into the bottom quartile of household income, compared to 33 percent of same-age owners without disabilities. Similarly, 46 percent of older homeowners without disabilities live in homes built before 1970, compared to 53 percent of those with disabilities. Owner households with accessibility needs also have relatively lower home values, but surprisingly spend about the same on home improvements. Again controlling for age by considering only owner households age 65 and over, 19 percent of older homeowners without disabilities own low-value homes (bottom quintile), compared to 27 percent of older owners with disabilities. In 2011, homeowners without accessibility needs spent an average of \$2,400 on home improvements, while owners with accessibility needs spent somewhat less on average at \$2,200.

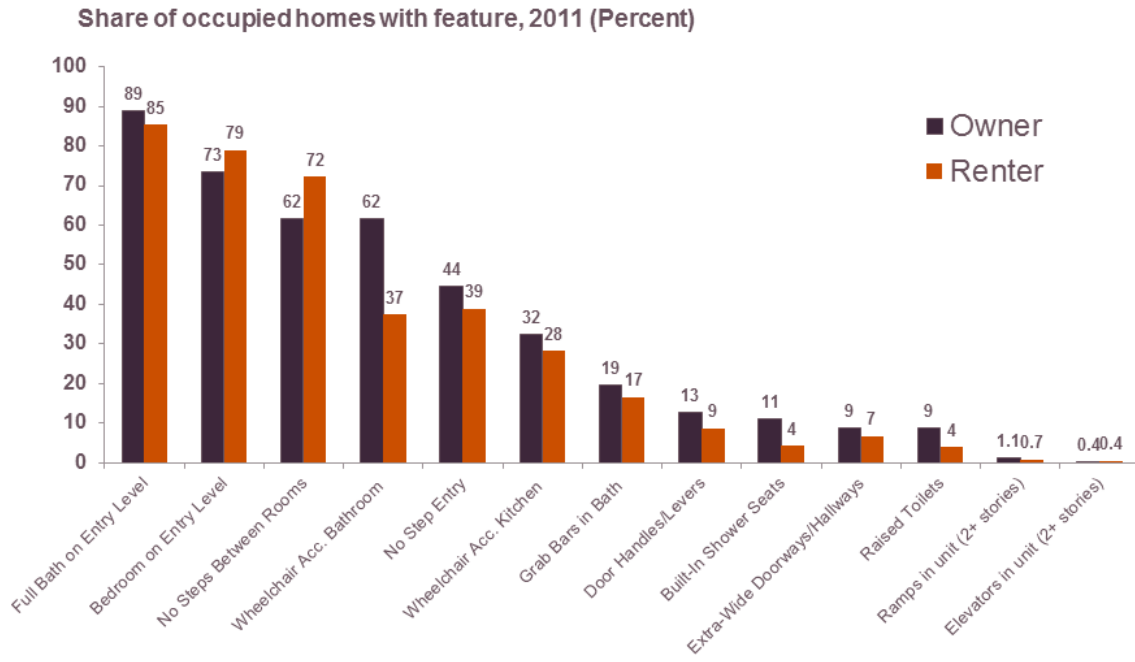
Contrary to popular belief, older households are not more heavily concentrated in any one region of the country, and neither are households with accessibility needs. According to the 2013 American Community Survey, traditional retirement states in the Sunbelt such as Florida, New Mexico and Arizona rank in the top ten for largest share of households age 65 and over, but so do many northern states including Delaware, Maine, Montana, and Pennsylvania. Of course many baby boomers will choose to move in their later years to smaller homes or retirement communities or to be closer to children and their families, but given the current distribution of older households and the continued strong preference of older households for aging in place (either in the same home or same community), the majority of baby boomers are not expected to flock to the Sunbelt (South and West) regions of the country over the next couple decades. Households in need of accessibility features as they age will either seek to move to accommodations that fit their needs, remodel their homes with accessibility

modifications, or simply remain in unsatisfactory housing if moving or retrofitting are not feasible financially or otherwise.

Accessibility Conditions of the Current Housing Stock

The U.S. housing stock is not currently well-suited for the aging in place of older households with accessibility needs. Of the various home accessibility features asked about in the 2011 American Housing Survey (see **Appendix A** for the complete list), entry-level bedrooms and full bathrooms, along with no steps between rooms and wheelchair-accessible bathrooms, are some of the most widespread: well over half of owner-occupied homes have such features (**Figure 10**). Not surprisingly, in-unit ramps and elevators are the least common accessibility features in homes: they are available in one percent or fewer of all multi-story homes. These estimates of homes with accessible features may be high, since without careful specification on the part of the survey interviewers, respondents could easily believe their home is more accessible than it actually is.

Figure 10: Entry Level Bed & Baths are Most Common Features; Ramps and Elevators Least

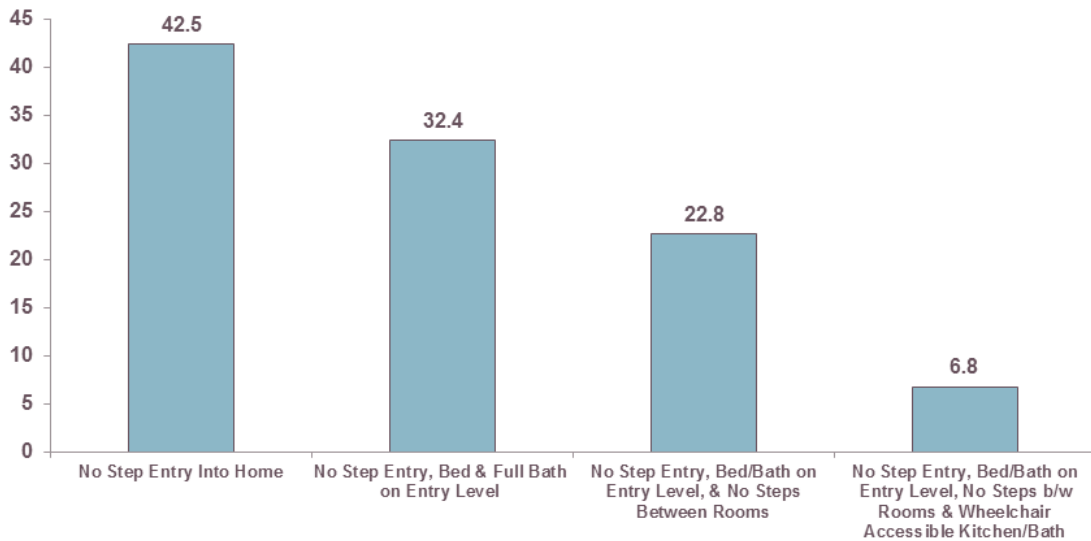


Note: Bed and bath on entry level includes single story homes.
 Source: JCHS tabulations of HUD, American Housing Survey.

Unfortunately, even with a generous definition of basic accessibility features, the majority of homes in the nation’s stock are not currently equipped to accommodate accessibility needs. As seen in **Figure 11**, less than 43 percent of the occupied housing stock has at least one no-step entry into the home, and only a third of homes have what could be considered the most “basic” of accessibility features: a no-step entry into the home and a bedroom and full bathroom on the entry level. Indeed, very few homes have many additional accessibility features beyond these basics. If no steps between rooms throughout the home and wheelchair-accessible kitchens and bathrooms are added to this list, the share of the housing stock with all of these accessibility features falls to less than 7 percent. In fact, 4.4 percent of the occupied housing stock today has none of the accessibility features asked about in the 2011 American Housing Survey.

Figure 11: A Third of Homes Have Basic Accessibility Features; Very Few Have Many More

Share of occupied homes with accessibility features, 2011 (Percent)



Note: Basic accessibility features are defined here as a no step entry and bedroom and full bathroom on the entry level of the home.
Source: JCHS tabulations of HUD, American Housing Survey.

Undoubtedly the current housing stock has plenty of aging-in-place retrofit opportunities, and one should expect to see the number of home accessibility modifications grow over the next couple decades as the baby boomers move into their retirement years. As with any home improvement project, costs for typical accessibility modifications vary considerably depending on the type of project, the existing home design and condition, and local markets for labor and material pricing. Some modifications are relatively inexpensive: projects such as adding grab bars and a raised toilet to the bathroom, adding hand railings to stairs, or widening a doorway each typically cost less than \$1,200. Other projects, however, typically cost several thousand or tens of thousands of dollars: ramps and stair lifts (\$2,500-\$12,000), in-home elevators (\$20,000-\$35,000), or comprehensive bathroom (\$40,000 or more) and kitchen remodeling (\$50,000 or more), which might include such features as open floor space, curbless showers, lever-style

faucets and door handles, and removable cabinets (MetLife Mature Market Institute 2010 and Freed 2015).

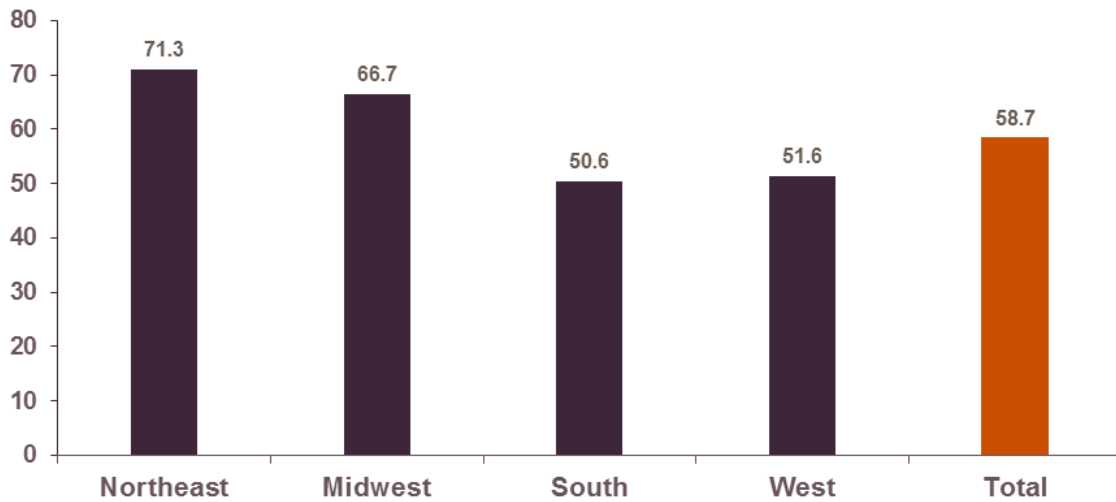
Another trend working against the suitability of the housing stock for aging in place is the continued aging of the stock itself. Both the owner- and renter-occupied housing stock has aged considerably in recent decades. In the mid-1980s, the median age of the occupied housing stock was about 24 years, and since then the age of the stock has climbed steadily so that by 2011 the median age of the owner-occupied stock reached 35 years and the median rental unit was nearly 40 years old. Given that the housing stock changes slowly over time (since annual additions and subtractions to the stock are a small share of the total existing stock), this trend is likely to continue for the foreseeable future. This is meaningful because older homes are much less likely to have even basic accessibility features. While over a third of the stock built in the 1950s or later have basic accessibility features (no-step entry and bedroom and full bathroom on entry level), only 18 percent of homes from the 1930s have such features, as do just 13 percent of homes built before 1920.

Although the entire housing stock is aging, older homes are disproportionately located in the Northeast and Midwest regions of the country. The differences in the age of stock between the Northeast and the South in particular are enormous: 64 percent of the housing stock in the Northeast was built before 1970, compared to just 32 percent in the South. And similarly, only 13 percent of the stock in the Northeast was built after 1990, compared to fully a third of the stock in the South. Older homes tend to be smaller on average and require relatively more discretionary spending to modernize or retrofit for accessibility. Basic accessibility features are also closely associated with the type of housing stock. The housing stock in the Northeast and Midwest is much more likely to be multi-story compared to homes in the South and West. Over 40 percent of homes in the South and West have no-step entries and a bedroom and full bathroom on the entry level, compared to only 23 percent in the Midwest and less than 18 percent in the Northeast. Indeed, the share of households age 65 and over with unmet need for

accessible homes is great, at nearly 60 percent across the U.S., but this share is much larger in the Northeast and Midwest than in the South and West (**Figure 12**).

Figure 12: Older Households with Unmet Need for Accessible Homes is Significant, Especially in Northeast and Midwest

Share of age 65+ households with accessibility needs living in inaccessible housing stock, 2011 (Percent)



Notes: Households with accessibility needs are defined as those with a disabled member or members with one or more functional difficulties, such as using kitchen or bathroom facilities unassisted. Inaccessible stock is defined as homes without a no step entry and bedroom and full bathroom on entry level.

Source: JCHS tabulations of HUD, American Housing Survey.

The Projected Demand-Supply Gap of Homes to Accommodate Older Households with Accessibility Needs

Looking forward to the coming decades, what might be expected in terms of housing demand and supply as it relates to aging households and their increasing accessibility needs? Assuming regional stock trends similar to those of the recent past and continued strong growth in older households, the already significant locational mismatch between the supply of and demand for more accessible homes will only become larger with time. Older households in the South and West already have and will continue to have relatively better options for aging in place or aging in their communities, because new construction in these regions will likely more than meet the demand for accessible housing. On the other hand, new construction in the Northeast and Midwest will likely be greatly insufficient relative to this demand. And with much more limited options for moving within their community (or even region) to a more accessible home, these households will need to rely more on retrofitting their current housing to meet their accessibility needs.

A rough approximation for projecting the regional demand-supply gap of accessible homes for the increased number of households age 65 and over between 2015 and 2025 involves calculating under reasonable assumptions how many of these additional older households will likely have accessibility needs (additional demand), and how many new homes built in the next decade will likely have at least “basic” accessibility features (additional supply). For the purposes of this approximation, accessibility need and basic accessibility of a home are defined as follows:

Accessibility Need: Households with some need for home accessibility features are defined in this analysis as those households with a member with one or more disabilities or problems using components of the home unassisted. This definition is generous in that some disabilities or functional difficulties could be considered much more indicative of accessibility need than others depending on their severity.

Accessible Home: A home with “basic” accessibility is defined in this analysis as having a no-step entry and a bedroom and full bathroom on the entry level. This definition is generous in that these criteria could be considered a bare minimum for accessibility standards. To be sure, having a bed and bath on the entry level does not mean either one is necessarily accessible or fully accessible, not to mention other areas of the home. A home with these basic accessibility features may or may not match the specific accessibility needs of households included in the accessibility need definition above.

Other inputs used in projecting a regional demand-supply gap of accessible homes for older households include the following estimates from the 2011 American Housing Survey, the Joint Center’s 2013 household projections, and the U.S. Census Bureau’s Privately Owned Housing Units Completed:

- Share of age 65+ households by region,
- Share of 65+ households with accessibility needs by region,
- Share of units built over the past decade (2000-2011) with “basic” accessibility features by region,
- Projected total increase in age 65+ households from 2015-2025,
- Projected total new housing demand,
- Share of units built by region over the past decade (2000-2009).

Calculated outputs include:

- Projected increase in the number of age 65+ households with accessibility needs by region from 2015-2025,
- Projected number of new housing units constructed with “basic” accessibility features by region from 2015-2025,
- Deficit or surplus of new homes with “basic” accessibility by region in 2025,
- Share of additional age 65+ households with unmet need for accessible homes by region in 2025.

Additional Demand Calculation: 2015-2025

According to the Joint Center for Housing Studies' 2013 middle-series household formation projections (which use the 2012 Census Bureau population projections with middle-series immigration assumptions), average net household growth from 2015-2025 could reach 1.24 million per year for a total net gain of over 12.4 million households over the decade (McCue 2014). Important to note is that almost all of this expected household growth will result from the growth of households in the 65 and over age categories as the massive baby boom generation moves into these ages and replaces a significantly smaller pre-boomer cohort. And since the gen X and millennial generations are fairly comparable in size to the baby boom cohort, significant net gains in household formations in the younger age categories are not expected over the next decade.

Net household growth is only one component of new housing demand, however. Total projected demand must also factor in estimates for vacant and second homes, where vacant units are needed to accommodate the natural movement of households, and replacement of net stock loss due to demolitions, disaster, etc. Estimates for vacant and second homes (also known as usual residence elsewhere or URE) and net stock loss were derived in a previous Joint Center household growth projections analysis at 170,000 and 350,000 units annually respectively (Belsky, Drew and McCue 2007).¹³ When these figures are added to the projected average annual net household growth of 1.24 million, the result is a projected total demand for new housing of 1.76 million units per year on average over the next decade.¹⁴

The 2013 Joint Center household growth projections estimate that fully 10.6 million of the projected 17.6 million increase in households from 2015-2025 will be age 65 and over. Applying the regional distribution of age 65+ households as it stood in 2011, as well as the share of these households with need for accessible homes, to the projected total increase in age 65+

¹³ Since these estimates were derived in 2007, one could expect that they are on the conservative side for the coming decade and thus total new housing demand could be pushed even higher than projected here.

¹⁴ This estimate is for total new housing demand, which, based on average new construction shares over the past two decades, has worked out to roughly 88 percent conventional new homebuilding and 12 percent mobile home placements. Assuming these proportions remain stable, about 1.5 million new single and multifamily units per year would be built for 2015-2025.

households provides an estimate of 4.7 million additional older households with some need for accessible homes by 2025 (**Figure 13**). This calculation simplistically assumes no mobility between regions over this time period that would significantly change the distribution of older households, and it assumes no increase in the share of households with accessibility needs relative to today.

Figure 13: Calculation of Projected Additional Demand for Homes to Accommodate Older Households with Accessibility Needs

	ADDITIONAL DEMAND: 2015-2025			
	A	B	C	D
	Share of 65+ Households: 2011 (%)	Share of 65+ Households with Accessibility Needs: 2011 (%)	Projected Increase in 65+ Households: 2015-2025 (000s)	Projected Increase in 65+ Households with Accessibility Needs: 2015-2025 (000s)
Region				
Northeast	19.9	42.1	2,100	900
Midwest	23.4	46.0	2,500	1,100
South	36.0	44.1	3,800	1,700
West	20.8	44.2	2,200	1,000
Total	100.0	44.2	10,600	4,700

C: Assumes no mobility between regions (i.e. same regional distribution as 2011 (A)).

D: Assumes same share of households with accessibility needs as in 2011 (B).

Note: Basic accessibility features are defined here as a no step entry and bedroom and full bathroom on the entry level of the home.

Sources: JCHS tabulations of 2011 AHS, JCHS 2013 Household Growth Projections (McCue 2014) and Belsky et al. 2007.

Additional Supply Calculation: 2015-2025

Providing that prices and expectations adjust so that new housing construction from 2015-2025 meets the projected increase in demand of 17 million units over the decade, it can be further assumed that this new housing construction will have the same regional distribution as that which occurred in the past decade according to the U.S. Census Bureau. Also assuming that the same share of newly built units by region will have basic accessibility features as those units

built in the previous decade, Column H in **Figure 14** below provides a regional projection for the number of total new housing units constructed between 2015 and 2025 that will likely have “basic” accessibility features (i.e., a no-step entry and bedroom and full bathroom on the entry level). Nationally, new construction is estimated to add 6.9 million homes with basic accessibility features.

Figure 14: Calculation of Projected Additional Supply for Homes to Accommodate Older Households with Accessibility Needs

	ADDITIONAL SUPPLY: 2015-2025			
	E	F	G	H
	Share of New Privately Owned Housing Units Completed, 2000-09 (%)	Estimated New Housing Construction to Equal Demand: 2015-2025 (000s)	Share of Units Built 2000-2011 with Basic Accessibility Features: 2011 (%)	Estimated New Housing Construction with Basic Accessibility Features: 2015-2025 (000s)
Region				
Northeast	9.3	1,600	23.1	400
Midwest	18.4	3,200	26.8	800
South	47.5	8,400	45.4	3,800
West	24.9	4,400	43.2	1,900
Total	100.0	17,600	39.3	6,900

F: Assumes same regional distribution of new housing construction as 2000-09 (E). Total demand for new housing units estimated using JCHS 2013 Household Growth Projections (McCue 2014) and Belsky et al. 2007.

H: Assumes same shares of recently built units (built 2000-11) with basic accessibility features by region as in 2011 (G).

Note: Basic accessibility features are defined here as a no step entry and bedroom and full bathroom on the entry level of the home.

Sources: JCHS tabulations of 2011 AHS, US Census Bureau, JCHS 2013 Household Growth Projections (McCue 2014), and Belsky et al. 2007.

Additional Supply-Demand Gap Calculation: 2025

Overall, between 2015 and 2025 the number of households age 65+ with home accessibility needs is estimated to increase by 4.7 million. The number of newly built homes over the decade with basic accessibility features is expected to increase by 6.9 million. At a national level, the supply of additional accessible homes is thus expected to surpass the demand from growth in older households with need. Yet, on a regional basis, only the South and West will find a surplus

of accessible homes in supply (**Figure 15**). In the Northeast and Midwest, new housing construction is projected to fall considerably short of increased demand by older households with accessibility needs: by 2025, the projected supply of 1.2 million new accessible homes in the Northeast and Midwest will fall short of the increase in demand of 2 million older households with accessibility needs by 800,000 units. This means that, in these regions, demand from fully 40 percent of the net increase in age 65+ households with some accessibility need will be unmet by new housing construction (even assuming that households with accessibility needs would be willing to move to these newly constructed units). The additional supply-demand gap is expected to be especially acute in the Northeast region, where nearly 60 percent of the net gain in age 65+ households with need will have unmet demand for accessible homes.

Figure 15: Calculation of Estimated Supply-Demand Gap for Homes to Accommodate Older Households with Accessibility Needs: 2015-2025

	ADDITIONAL DEMAND				ADDITIONAL SUPPLY				GAP	
	A	B	C	D	E	F	G	H	I	J
Region	Share of 65+ Households: 2011 (%)	Share of 65+ Households with Accessibility Needs: 2011 (%)	Projected Increase in 65+ Households: 2015-2025 (000s)	Projected Increase in 65+ Households with Accessibility Needs: 2015-2025 (000s)	Share of New Privately Owned Housing Units Completed, 2000-09 (%)	Estimated New Housing Construction to Equal Demand: 2015-2025 (000s)	Share of Units Built 2000-2011 with Basic Accessibility Features: 2011 (%)	Estimated New Housing Construction with Basic Accessibility Features: 2015-2025 (000s)	Deficit or Surplus of Estimated New Housing Construction with Accessibility Features: 2025 (000s)	Projected Share of Additional 65+ Households with Unmet Needs: 2025 (%)
Northeast	19.9	42.1	2,100	900	9.3	1,600	23.1	400	-500	58.0
Midwest	23.4	46.0	2,500	1,100	18.4	3,200	26.8	800	-300	24.4
South	36.0	44.1	3,800	1,700	47.5	8,400	45.4	3,800	2,100	0.0
West	20.8	44.2	2,200	1,000	24.9	4,400	43.2	1,900	900	0.0
Total	100.0	44.2	10,600	4,700	100.0	17,600	39.3	6,900	2,200	

C: Assumes no mobility between regions (i.e. same regional distribution as 2011 (A)).
D: Assumes same share of households with accessibility needs as in 2011 (B).
F: Assumes same regional distribution of new housing construction as 2000-09 (E). Total demand for new housing units estimated using JCHS 2013 Household Growth Projections (McCue 2014) and Belsky et al. 2007.
H: Assumes same shares of recently built units (built 2000-11) with basic accessibility features by region as in 2011 (G).
Note: Basic accessibility features are defined here as a no step entry and bedroom and full bathroom on the entry level of the home.
Sources: JCHS tabulations of 2011 AHS, US Census Bureau, JCHS 2013 Household Growth Projections (McCue 2014), and Belsky et al. 2007.

In this analysis, the supply of new accessible housing is not expected to keep up with projected demand in the Northeast and Midwest, but housing with basic accessibility features will be more abundant in the South and West. This suggests that older households in the South and West will have relatively better options for aging in place or aging in their communities, because new construction in these regions will more than meet the increased demand for accessible housing. On the other hand, new construction in the Northeast and Midwest will be sorely insufficient for meeting the demands of aging households located there. And with much more limited options for moving within their community (or even region) to a more accessible home, these households will need to rely more on retrofits of their current housing to meet their needs for aging in place.

Conclusion

Throughout this decade and the next, the number and share of U.S. households age 65 and over will rise dramatically as the oldest members of the baby-boom generation reach retirement age. Invariably, with increasing age comes the growing presence of disability and difficulties using components of the home, such as kitchen or bathroom facilities, without assistance. Surely, some aging households will look to move into homes that are better suited to their changing needs, but the majority of older households continue to plan to age in place. Since much of the housing stock is currently ill-equipped with even basic accessibility features, older homeowners aging in place will need to retrofit their homes in order to age comfortably and safely.

Indeed, older homeowners have already been exerting significant influence on the home remodeling market due to changing trends in longevity, mobility, wealth, homeownership rates, and labor force participation. Since 2007, the share of total home improvement spending by owners age 55 and over has increased considerably, from less than a third to nearly a half. Reaching \$90 billion in 2013, remodeling spending by older homeowners was just 6 percent less than during the last market peak in 2007. Recent survey data of expected spending by

homeowners age 55 and over suggests that their total improvement expenditure could surge \$17 billion annually over the next three years.

In fact, a large share of older homeowners plan to undertake improvement projects in the coming years with the intent of making their homes easier to live in as they age. And yet, surprisingly, older homeowners do not necessarily view aging in place and home accessibility as going hand in hand. Although many aging owners report a desire to remain in their homes as they age and that they believe their current homes are appropriate for aging in place, significantly fewer owners place the same level of importance on having an accessible home or report that their current homes are accessible to persons with disabilities. Given the attitudes of today's older homeowners, the remodeling industry will need to bridge a substantial gap between owners' wanting to age in place and their actually being able to do so safely with appropriate accessibility features.

Not only are aging homeowners minimally focused on home accessibility concerns, but the current housing stock is also sorely lacking appropriate design features for making the home more accessible to persons with disabilities or physical limitations. Since the housing stock changes slowly over time, much of the stock will need to rely on retrofits to meet changing demand. Older households in the South and West regions of the country are already better accommodated for aging in place, with relatively more homes in these regions having basic accessibility features (i.e., no-step entries and a bedroom and full bathroom on the entry level). Older households living in the Northeast and Midwest regions, however, will more likely need to turn to renovation to meet their accessibility needs. Homes in these regions are less likely to have basic accessibility features, and new construction is also expected to be insufficient to meet the growing demand for accessible homes. In the coming decade, in the Northeast and Midwest, fully four in ten new households age 65 and over with accessibility needs will have demand unmet by new housing construction (even assuming that these households would be perfectly willing to move to these newly constructed units).

Although the research presented in this paper has addressed some important aspects of aging and remodeling, additional data and research are required to fully understand the implications of an aging population for the home improvement industry. Key questions currently unaddressed by available data include: the amount of new construction and remodeling activity being done specifically for improving home accessibility; the number and share of older households moving to accessible homes (both new construction and retrofitted existing homes), age-restricted communities, and assisted living centers; the impact of the presence of home accessibility features on household mobility; and the impact of typical accessibility features on the resale value of homes. Even in the absence of answers to these questions, the current research suggests substantial growth in demand for homes with accessibility features moving forward: this conclusion is supported by the dramatically rising number of older households aging in place, strong and growing home improvement spending by older owners, and the unsuitability of the current housing stock for safely and comfortably aging in place.

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Appendix A: Detailed List of Types of Disabilities and Home Accessibility Features Recorded in the 2011 American Housing Survey

1. *Disabilities and Serious Impairments*

Records whether any members of the household have any of the following:

- **seeing** disability: blind or serious difficulty seeing, even when wearing glasses
- **hearing** disability: deaf or serious difficulty hearing, even with hearing aid
- **walking** disability: serious difficulty walking or climbing stairs
- **memory** disability: serious difficulty concentrating, remembering or making decisions because of physical, mental or emotional condition
- **self-care** disability: serious difficulty dressing or bathing
- **go-outside-home** disability: difficulty doing errands alone due to a physical, mental, or emotional condition

2. *Ability to Use Components of a Home Unassisted*

Records whether any members of the household have problems doing any of the following without assistance (excluding infants):

- Reaching kitchen cabinets
- Opening kitchen cabinets
- Turning the stove on and off
- Using kitchen counters
- Getting to the bathroom
- Using the sink
- Turning the faucets on or off
- Getting into or out of the bathtub
- Getting into or out of the walk-in shower
- Stooping, kneeling, or bending
- Reaching overhead
- Using fingers to grasp small objects

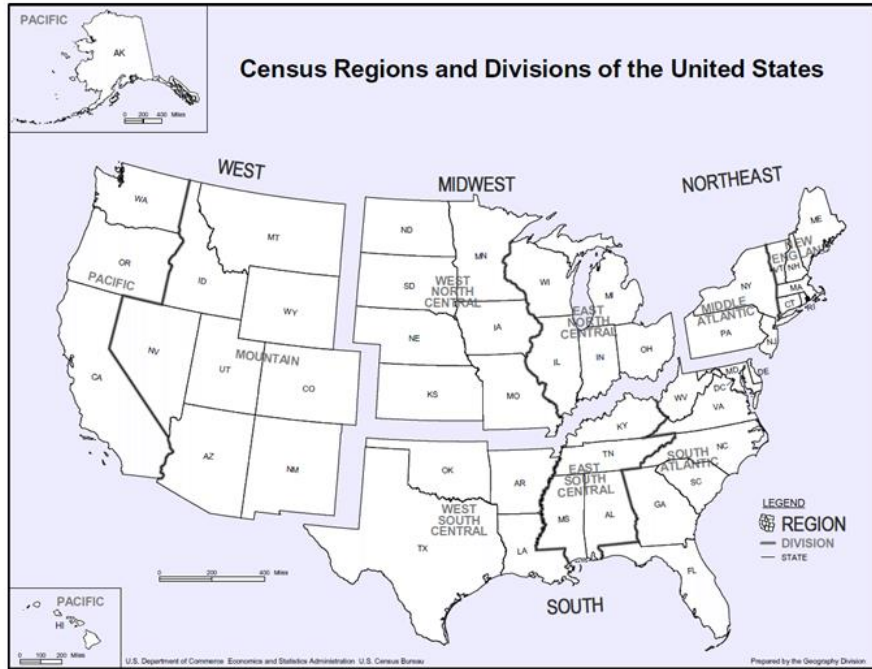
3. Types of Home Accessibility Features

Records whether the home has any of the following features and whether anyone in the household is currently using said feature on a regular basis because of a physical limitation:

- No Step Entry into Home
- Bedroom on Entry Level (if home is 2+ stories)
- Full Bath on Entry Level (if home is 2+ stories)
- Extra-Wide Doorways & Hallways
- No Steps Between Rooms
- In-unit Ramps (if home is 2+ stories)
- In-unit Elevators (if home is 2+ stories)
- Handrails/Grab Bars in:
 - Both Sides of In-unit Stairs (if home is 2+ stories)
 - Bath
 - Other Areas
- Built-In Shower Seats
- Raised Toilets
- Door Handles/Lever
- Sink Handles/Lever
- Kitchen Trays/Lazy Susans
- Wheelchair Accessible:
 - Electrical outlets
 - Switches
 - Climate controls
 - Kitchen cabinets
 - Countertops
 - Kitchen
 - Bathroom

Appendix B:

Census Regions of the United States



Source: US Census Bureau, <http://www.census.gov/geo/maps-data/maps/reference.html>.