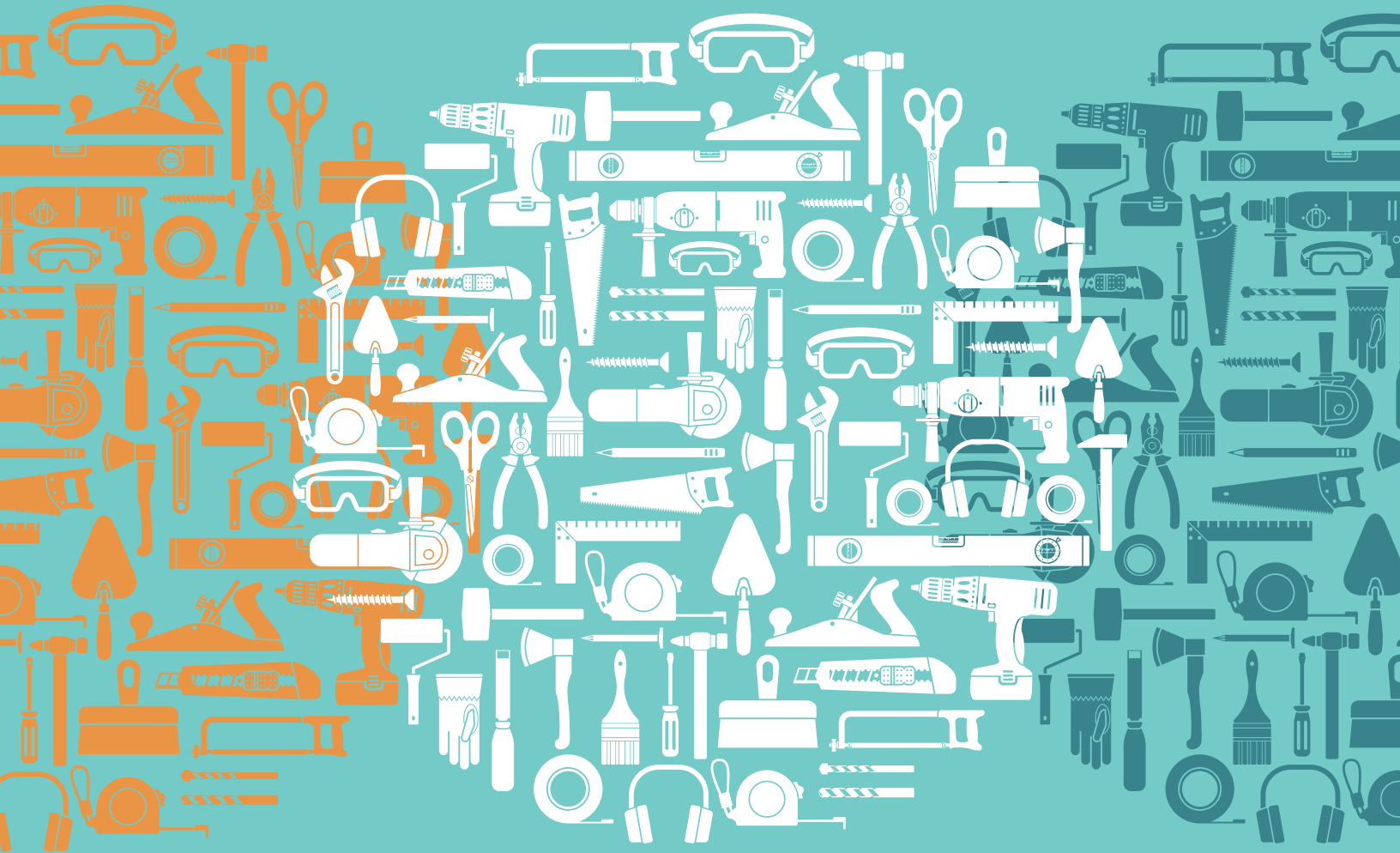


IMPROVING AMERICA'S HOUSING 2017

# DEMOGRAPHIC CHANGE AND THE REMODELING OUTLOOK



JOINT CENTER FOR HOUSING STUDIES OF HARVARD UNIVERSITY



## Joint Center for Housing Studies of Harvard University

HARVARD GRADUATE SCHOOL OF DESIGN | HARVARD KENNEDY SCHOOL

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# 1

## INTRODUCTION AND SUMMARY



Rising house prices and incomes, an aging housing stock, and a pickup in household growth are all contributing to today's strong home improvement market. Demand is robust in coastal metros with especially high house values and household incomes. Demographic trends should continue to buoy the market over the next decade, with the rising tide of older homeowners accounting for more than three-quarters of projected growth. Although the huge millennial generation is set to shape future spending trends, younger households have been slow to break into homeownership and the remodeling market.

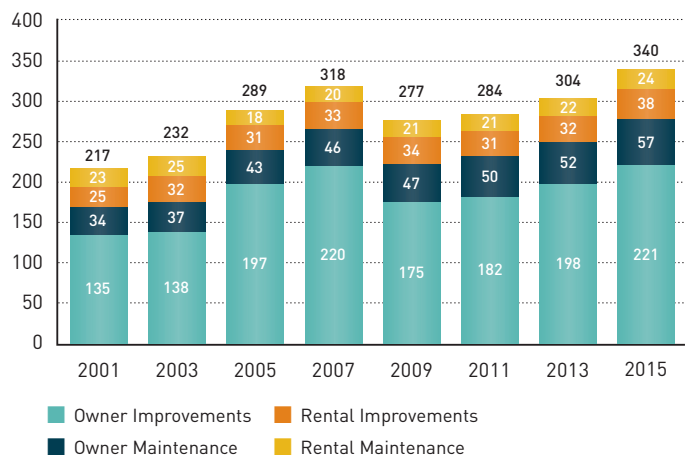
### ACROSS-THE-BOARD SPENDING GAINS

Spending on improvements, maintenance, and repairs—including outlays by both homeowners and rental property owners—reached a record high in nominal terms of \$340 billion in 2015, according to the latest estimates from the Joint Center for Housing Studies (**Figure 1**). This is an increase of 12 percent from the 2013 level and 7 percent from the recent market peak before adjusting for inflation. Market spending continued to climb in 2016, up an estimated 6 percent to \$361 billion. With national house prices back to pre-recession levels and both household incomes and existing home sales on the rise, further growth is anticipated for 2017.

Figure 1

### With All Segments Growing, the Home Remodeling Market Has Surpassed Its Previous Peak

Billions of Dollars



Sources: JCHS analysis of US Department of Housing and Urban Development (HUD), American Housing Surveys; US Department of Commerce, Retail Sales of Building Materials and Survey of Expenditures for Residential Improvement and Repairs (C-50); and JCHS Research Notes, October 2010 and April 2016.

The recent cycles in spending on the owner-occupied and rental stocks differ in timing and magnitude. Homeowner improvement spending fell sharply between 2007 and 2009 as house prices across the country went into a steep dive. The national recovery has been slow, reflecting the uneven rebound in house prices across metro areas and the overall decline in the homeownership rate. Rental improvement spending, in contrast, has surged since 2011 in response to soaring demand for rental housing.

Within the homeowner improvement market, the shares of spending in the two major project categories (discretionary and replacement) have also shifted since the downturn. Discretionary projects (including kitchen and bath remodels, room additions, and outside attachments) accounted for more than 40 percent of outlays in 2007 but a third of spending in 2015. Over this same period, the share of spending on replacement projects (including exterior and interior replacements and systems and equipment upgrades) increased from just over 40 percent to more than half.

As the home improvement recovery continues, investment in discretionary projects is expected to drive overall market growth, with high-spending households contributing a disproportionate share of outlays. Indeed, over the past 20 years, the top 5 percent of spenders on average accounted for at least a third—and up to half—of annual spending. Thus, while the share of owners that report spending on home improvements is fairly stable over time, average per owner outlays vary considerably (Figure 2).

The recent strength of discretionary projects has pushed up the home improvement and repair share of total residential construction spending at a time when the homebuilding recovery is still in progress. During the latter half of the 1990s and extending into the first half of the 2000s, the home improvement and repair share hovered around 40 percent of total residential investment, before rising to a peak of 70 percent during the housing downturn. The improvement share is now edging back toward half, where it is likely to stabilize.

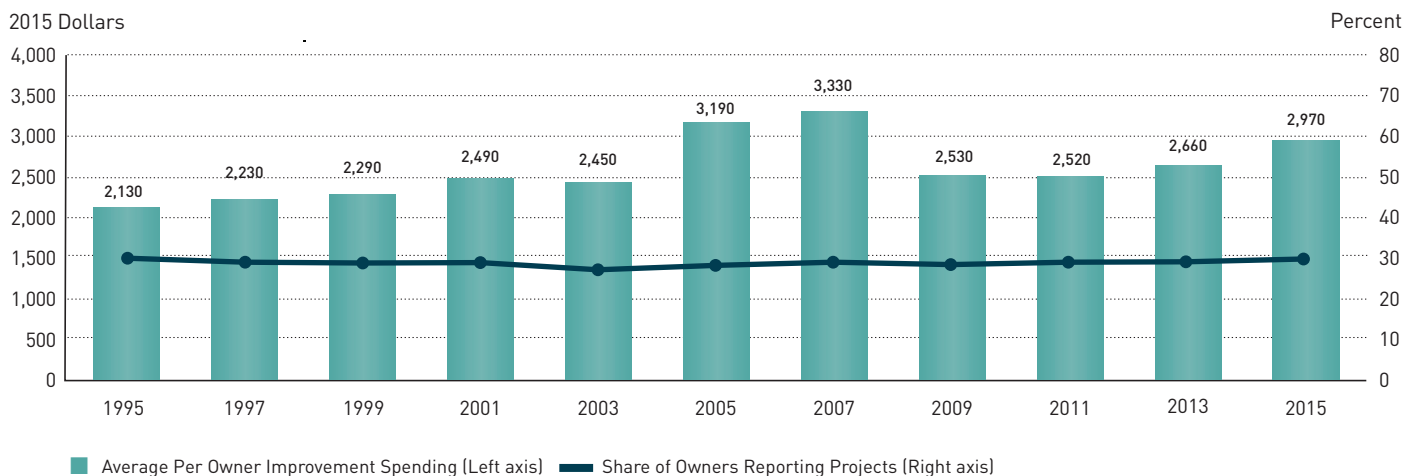
### GEOGRAPHIC CONCENTRATION OF HIGH-SPENDING HOMEOWNERS

Even with widespread growth in the overall market, homeowner improvement expenditures are concentrated in metro areas with high house values and household incomes (Figure 3). The 25 major metros tracked by the 2015 American Housing Survey accounted for almost \$100 billion in owner home improvement spending, or about 45 percent of the national total. Per owner spending of \$3,400 in these metros was also about 15 percent above the 2015 national average.

The 25 major metros generally have elevated home values, driven in part by high homeowner incomes. The median home value of almost \$270,000 in these areas is more than a third higher than the national median, while the median owner income of \$83,000 is more than 15 percent higher. Owners in these markets not only have an incentive to make improvements to their homes to protect their larger investments, but they also benefit from higher home equity (generated by stronger house price appreciation) to fund those investments.

Figure 2

### Owner Spending Levels—Not the Share Doing Projects—Drive Market Growth



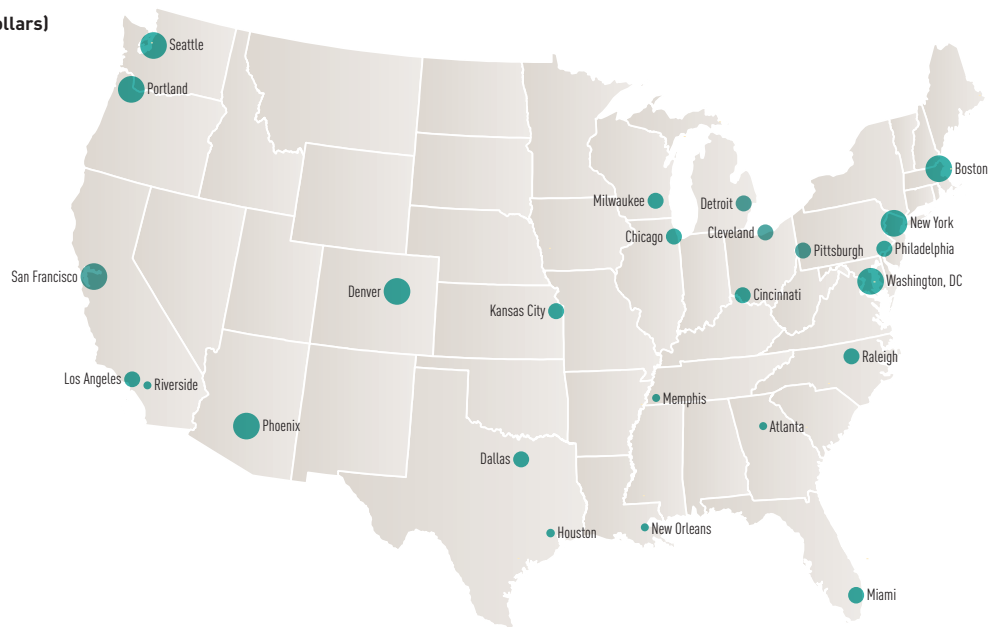
Source: JCHS tabulations of HUD, American Housing Surveys.

Figure 3

## Homeowners in Western and Northeastern Metros Generally Spend Most on Improvements

### Average Per Owner Spending in 2015 (Dollars)

- Less than 2,800 (Down to 2,110)
- 2,800–3,499
- 3,500 or More (Up to 5,340)



Note: Per owner spending for the 25 metros averaged \$3,400 in 2015.  
Source: Table A-8.

However, continued growth in home improvement spending in top markets may be challenged by the lack of affordable options for potential homebuyers. Nationally, the median house price is three times higher than the median household income. But in the top ten metros for per owner spending, house prices run five times incomes on average. And in San Francisco and Los Angeles, the price-to-income ratio is about nine.

These price trends may delay or prevent many younger households from buying homes, thus excluding them from the improvement market. Homeownership rates for households under age 35 are already depressed in a growing number of expensive markets. And younger households that are able to buy in these metros invest proportionately less in their homes than younger owners in more affordable markets.

### HOMEBUYING CHALLENGES FOR MILLENNIALS

Younger households face a variety of challenges when it comes to homeownership. As of 2015, adults under age 35 made up 19 percent of households nationally but less than 10 percent of homeowners. Indeed, the homeownership rate for the under-35 age group fell from 43 percent in 2005 to a historic low of 31 percent in 2015—double the national percentage-point decline reported in the American Housing Survey.

The sharp downturn in the economy during the Great Recession and the ensuing weak recovery are in part to blame, with many younger households affected by slow job growth and weak income gains. Many of these households are also burdened with high levels of student debt. Moreover, tight credit markets and a general retreat from lending to the residential sector have also made it more difficult for even qualified households to buy homes.

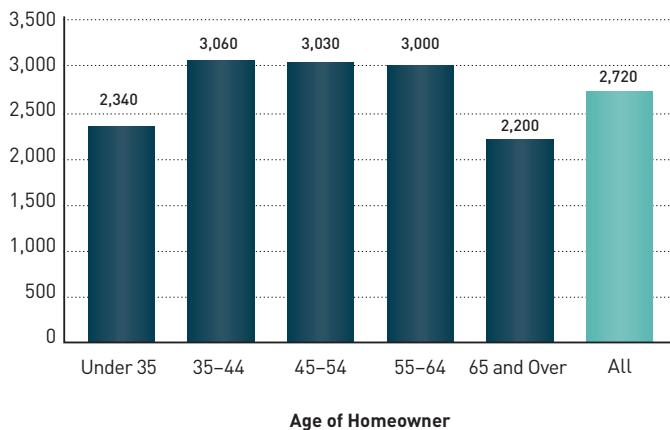
The challenging economy and changing social trends have led to delays in marriage and childbearing, the stages in life when households often buy homes. Concerns have arisen that, independent of economic and demographic factors, many younger households may not necessarily prefer to own. The claim is that many millennials want to live in urban locations closer to employment, commercial, and social centers; prefer the flexibility of renting; and are unwilling to take on the financial risks of ownership in the wake of the housing market collapse.

The evidence suggests, however, that homeownership decisions by younger households have much more to do with affordability than location and lifestyle preferences. Homeownership rates for the under-35 age group are in fact generally higher in metro areas where house prices are relatively low, such as

Figure 4

## Outlays for Home Renovations Increase Sharply After Owners Reach Their Mid-30s

Average Annual Per Owner Improvement Spending, 2011–2015 (2015 dollars)



Source: JCHS tabulations of HUD, American Housing Surveys.

Birmingham, Detroit, Minneapolis, St. Louis, and Salt Lake City. Indeed, a Joint Center analysis found a more than 5 percentage point difference in the homeownership rates of younger households in metros where house prices were 20 percent below the national median and those where prices were 20 percent above the national median. This perhaps explains the higher homeownership rates for younger households in small towns and rural areas than in metro areas.

If the relatively low homeownership rate of the under-35 age group in fact reflects fundamental economic and demographic factors, their improvement spending may increase as they move into middle age and if job and wage growth pick up. In general, remodeling expenditures rise sharply among owners age 35 and over, thanks to higher incomes and growing families. Spending remains at this elevated level until homeowners approach their retirement years (Figure 4).

Given their late start toward homeownership, however, the ability of the millennial generation to catch up with the pace of home improvement spending among previous generations is uncertain. If households now under age 35 do not experience similar economic progress and demographic changes as the gen-Xers and baby boomers at the same stage of life, the typical jump in home improvement spending may well occur later and not continue long enough to make up for earlier deficits.

## DEMOGRAPHIC DRIVERS IN THE DECADE AHEAD

Homeowner improvement spending should post healthy 2.0 percent average annual growth over the coming decade, with inflation-adjusted expenditures increasing from just over \$220 billion in 2015 to almost \$270 billion in 2025, according to Joint Center projections (Figure 5). Almost half of these gains are expected to result from an increase in average per owner spending as incomes and home values rise.

Growth in the number of homeowners will account for the other half of spending gains. Although members of the millennial generation have so far been slow to live on their own, the number of younger households should rise as the economy continues to improve. At the same time, older adults are increasingly able to remain in their homes as they age. As a result, the Joint Center projects a solid 13.6 million net increase in the number of households over the coming decade.

As younger households move into homeownership, they will supplement the already thriving improvement market. Gen-Xers are now in their prime remodeling years, and while some are still recovering from home equity losses after the housing crash, many in this generation will undertake discretionary projects deferred during the downturn. Meanwhile, the baby-boom generation has led home improvement spending for the past 20 years, and their influence shows no signs of waning. Their increased longevity and desire to live independently into old age will boost demand for remodeling projects that improve the accessibility of their homes.

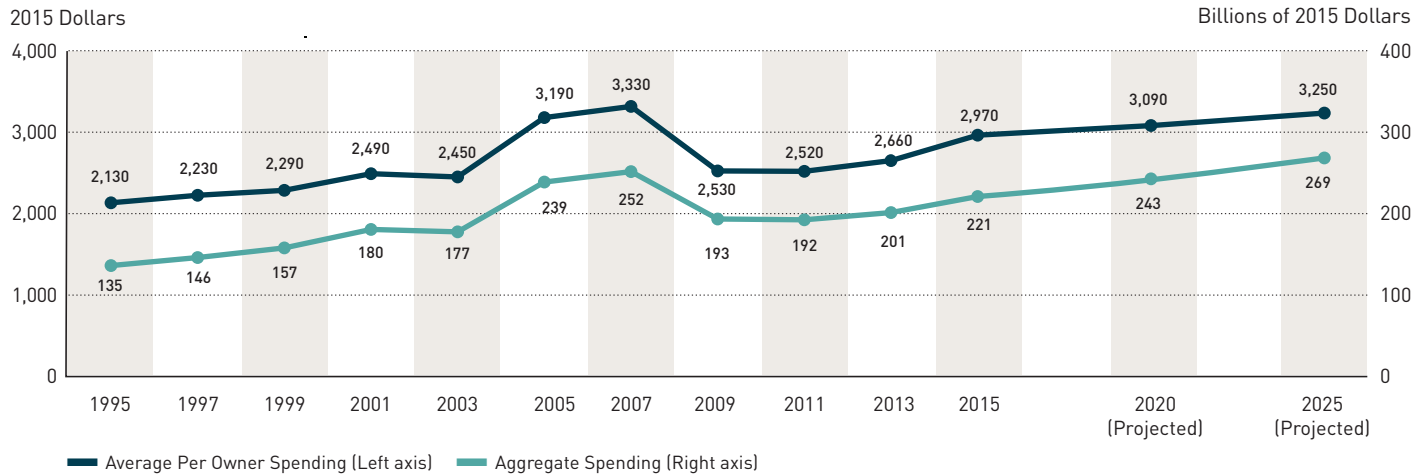
At the same time, however, a large number of older households will be unable to live on their own for health or financial reasons. As they move in with family, into nursing facilities or otherwise cease being a household, they will provide an important source of housing for tomorrow's owners. Joint Center projections suggest that such dissolutions of older households will free up more than 12 million housing units on net in 2015–2025. Many of these homes are well-suited for younger families in that they are typically older and more affordable. And given that older households generally live in their homes for some time and spend little on improvements in their later years, younger buyers of these homes will likely want to invest in significant upgrades.

## THE REMODELING INDUSTRY OUTLOOK

While currently on solid footing, the home improvement industry faces a mix of challenges and opportunities. At the top of the challenge list is housing affordability. House prices nationally, at least on a nominal basis, have recovered nearly all of the ground

Figure 5

## Homeowner Improvement Spending Is Poised for Solid Growth Over the Coming Decade



Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

lost during the downturn, and long-term interest rates have started to tick up. Rising prices not only make homeownership more difficult for younger adults, but also leave those who are able to buy with fewer resources to make improvements. And while high rents may provide an incentive to buy homes, they also make it difficult to save for a downpayment.

At the same time, however, affordability considerations are likely to make older and outdated homes attractive to younger buyers, thus generating opportunities for improvement projects. And as a new generation of owners enters the remodel-

ing market, several niches are likely to see significant growth. Energy-efficient products and systems, as well as alternative energy sources such as solar and geothermal, are likely to continue to gain popularity. Demand is also growing for sustainable home improvements, including projects that make use of renewable and recycled building products, improve water conservation, and address indoor health concerns. Home automation—encompassing everything from entertainment systems to home energy management, lighting, appliance control, and security—is emerging as an especially strong growth market, particularly among younger households.

# 2

## CHANGING HOUSEHOLD DEMOGRAPHICS



Demographic forces will work to moderate the pace of growth in homeowner improvement spending over the next decade. In particular, the fastest-growing groups will be older and minority homeowners, as well as single persons and couples without dependent children.

Although all of these types of households traditionally spend considerably less on average than families with children, their rising numbers will help to offset some of that drag. In addition, a continued uptick in jobs, household incomes, and home values could also help to bolster growth of the remodeling market in the years ahead.

### A MODEST SLOWDOWN IN GROWTH

The Joint Center's demographically based remodeling projections indicate that real spending on improvements to owner-occupied homes should grow at a 2.0 percent average annual rate between 2015 and 2025, somewhat slower than the 2.5 percent pace between 1995 and 2015 (**Figure 6**). This largely reflects a substantial slowdown in average per owner spending growth, which will more than offset moderately faster growth in the number of homeowners over the next decade.

Growth in the number of homeowners is projected to pick up from an average of 0.8 percent per year in 1995–2015 to 1.1 percent in 2015–2025, while increases in per owner spending should ease from 1.7 percent to only 0.9 percent. The homeowner improvement portion of the remodeling market will thus grow more slowly in the coming decade, expanding from \$221 billion in 2015 to about \$270 billion in 2025 after adjusting for inflation.

### OLDER HOMEOWNERS IN THE LEAD

Homeowners age 55 and over already generate a little more than half of all home improvement expenditures in the nation. After 2005, the share of spending by these older homeowners increased sharply from 31 percent to about 52 percent by 2015, thanks to strong growth in both the share of owners in this age group and real per owner spending levels. Inflation-adjusted spending by older owners surged by 54 percent over the decade—an increase of nearly \$40 billion—while spending by owners under age 55 shrank by more than 35 percent. In fact, real per owner spending by 55–64 year olds has been generally on par with that by 35–54 year olds since 2007.

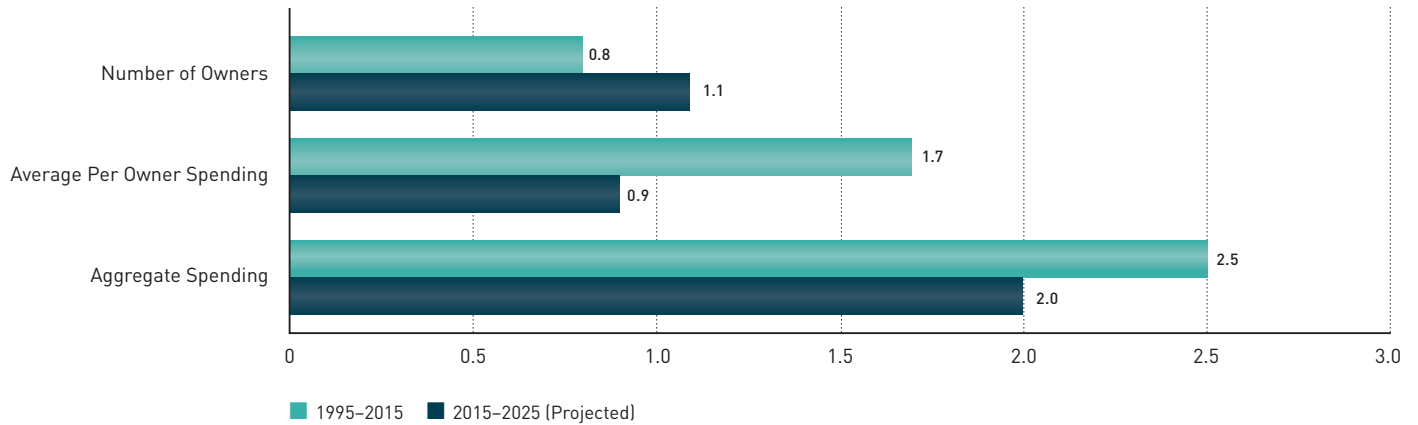
Not only are older homeowners growing in number and share, but they are also remaining in their homes later in life than members of previous generations. As households age, the



Figure 6

## The Home Improvement Market Is Expected to Increase at a More Moderate Pace This Decade As Growth in Per Household Spending Slows

Real Compound Annual Growth Rate (Percent)



Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

incidence of disabilities increases dramatically. While less than a quarter of owners age 55–64 reported a household member with disabilities in 2015, the share jumps to nearly a third among owners age 65–74 and to more than half among those age 75 and over.

Most of the nation’s existing housing stock lacks the universal design features that make it possible for aging households to remain living in their homes safely and comfortably. As a result, many older homeowners may need to invest in home modifications that improve accessibility. Already in 2014–2015, 2.1 million homeowners age 55 and over reported undertaking one or more projects of this type, or almost one in ten older owners who remodeled their homes during this period.

Over the coming decade, the aging baby boomers and gen-Xers will play an even larger role in the remodeling market. Average per owner improvement spending is projected to increase by more than 10 percent among homeowners age 55 and over, while the number of homeowners in this age group soars at twice that rate. As a result, older households will make up an even larger share of the remodeling market, with their share of spending rising from less than 52 percent in 2015 to more than 56 percent in 2025 (Figure 7). Meanwhile, improvement spending by owners age 65 and over is projected to account for nearly a third of the 2025 total, or more than double their share in 1995–2005.

### THE GROWING MINORITY MARKET

Homeowners are increasingly diverse. Minorities account for more than 27 percent of owners under age 35, but less than 20 percent of those age 55 and over. As millennials age, the trend toward greater racial and ethnic diversity among homeowners will continue.

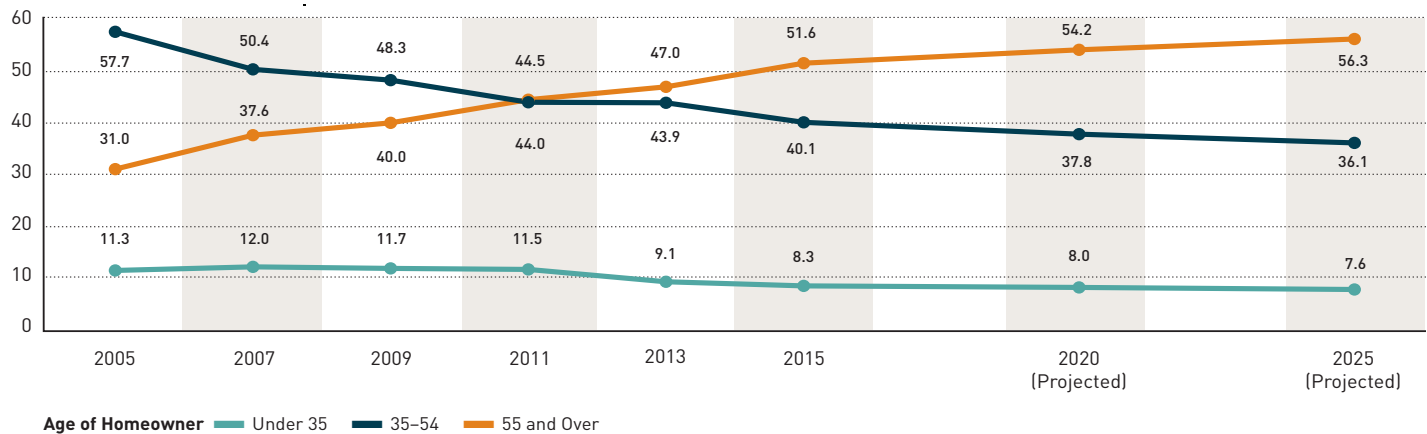
Between 1995 and 2015, the minority share of improvement spending rose from 12 percent to 19 percent. As a group, however, minority homeowners consistently underspend on improvements relative to their share of homeowners largely because of their lower average incomes, wealth, and home values. Joint Center projections suggest that this pattern will continue. Although the number of minority homeowners is expected to grow nearly five times as fast as the number of white owners over the decade, per owner spending by minorities is expected to increase at a below-average pace. Despite making up over 28 percent of homeowners, minority households will thus contribute only 22 percent of remodeling spending by 2025.

Even so, thanks to strong growth in the number of homeowners, aggregate spending by minorities is projected to increase by 40 percent in real terms from \$43 billion in 2015 to about \$60 billion in 2025. This is more than twice the projected rate of spending growth among white owners. Hispanic owners are expected to drive more than half of the increase in total minority expenditures and more than 18 percent of overall market

Figure 7

## Homeowners Age 55 and Over Will Continue to Expand Their Already Dominant Market Share

Share of Improvement Spending (Percent)

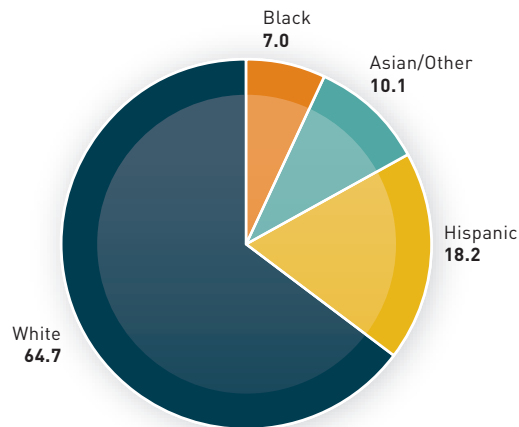


Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

Figure 8

## Hispanic Homeowners Will Drive Growth in Minority Improvement Spending

Share of Growth in Aggregate Spending, 2015-2025 (Percent)



Notes: Whites, blacks, and Asian/others are non-Hispanic. Hispanics may be of any race. Asian/other includes multiracial owners.  
Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

gains (Figure 8). Improvement spending by Hispanic homeowners will rise in real terms from \$16 billion in 2015 to \$25 billion in 2025, lifting their share of total remodeling outlays from 7.1 percent to 9.1 percent. While about 40 percent of this growth will reflect higher per owner spending, the majority is due to the large projected increase in the number of Hispanic homeowners from 7.1 million to 9.5 million.

Asian and multiracial homeowners are also contributing to the growth of the minority remodeling market. Although average spending levels for black and Hispanic homeowners rose less than 10 percent from 2013 to 2015, expenditures by Asian and multiracial homeowners were up almost 29 percent from \$2,490 to \$3,210. These homeowners are much more likely to be concentrated in metros with relatively high incomes and high home values. Indeed, the Asian share of homeowners exceeded 10 percent in nine of the nation's largest 35 metro areas in 2015, with shares reaching 20 percent or more in Los Angeles, San Francisco and San Jose.

Moreover, Asian and multiracial households are the only minority group whose share of improvement spending is proportional to their share of homeowners. In 2015, Asian and multiracial owners accounted for 5.8 percent of all homeowners, but 6.3 percent of overall improvement spending. These homeowners are expected to have a growing presence in remodeling markets, increasing their spending from less than \$14 billion in 2015 to almost \$19 billion in 2025.

### CHILDLESS HOUSEHOLDS GAINING MARKET SHARE

Families with dependent children (including married, single-parent, and unmarried partners) traditionally outspend all other household types by a considerable margin. In 2015, per owner improvement spending for families with minor children averaged \$3,500, or 9 percent more than the average outlay for married couples without dependent children and fully 60 percent more than the average outlay for homeowners who live alone.

Even though households with dependent children still posted the highest average per owner spending, their share of total spending continued its steady decline, dropping from over 40 percent in 1995–2005 to less than 30 percent in 2015. Meanwhile, married homeowners without minor children increased their market share by over 7 percentage points in 2005–2015, from 35 percent to almost 43 percent.

Joint Center projections indicate that both the number of married owners without dependent children and their per owner spending will grow faster than average over the coming decade with the aging of the baby boomers (Figure 9). The combined impact will increase aggregate improvement spending by these homeowners 2.6 percent per year on average from 2015 to 2025, compared with 2.0 percent growth overall. As their numbers rise and their average expenditures grow, couples without young children at home will further increase their share of the total improvement market to about 46 percent in 2025.

### YOUNGER HOUSEHOLDS POISED FOR MARKET EXPANSION

Aggregate improvement spending by homeowners under age 35 was flat in 2013–2015 at \$18 billion, holding at about 40 percent below the previous peak for this age group. The market share of younger homeowners also notched down to a 20-year low of 8.3 percent in 2015. At the same time, though, their per owner expenditures increased a strong 27 percent in real terms, from \$2,060 in 2013 to \$2,600 in 2015.

This jump in per owner spending is partly due to the changes in the number and characteristics of young homeowners today. Before the housing crisis and Great Recession, homeowners under age 35 accounted for about 14 percent of all owners. But the number of younger homeowners fell from 10.6 million in 2005 to less than 7.0 million in 2015, steadily reducing their share of all homeowners to 9 percent. In 2013–2015 alone, the number of younger homeowners dropped almost 22 percent while the total number of homeowners declined less than 2 percent.

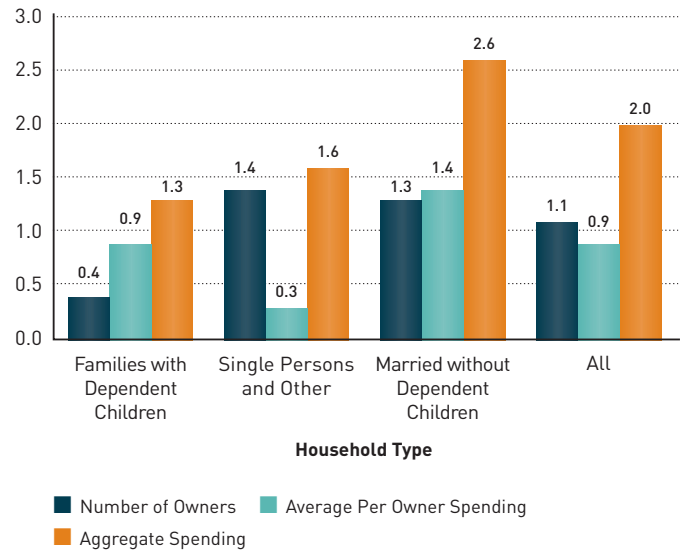
Given the affordability challenges they face in many parts of the country, younger households able to enter into—and sustain—homeownership today are therefore more likely to be higher-income households than at any other time in the past 20 years. In 2015, fully 46 percent of homeowners under age 35 had real household incomes of at least \$80,000, the largest share on record since 1995 and an increase of 7.5 percentage points in just the previous four years.

The Joint Center’s latest demographic projections suggest that younger households could make some headway in the home remodeling market in the next 10 years. In 2015, households

Figure 9

### Among Household Types, Married Owners Without Minor Children Will Lead Remodeling Growth

Real Compound Annual Growth Rate, 2015–2025 (Percent)

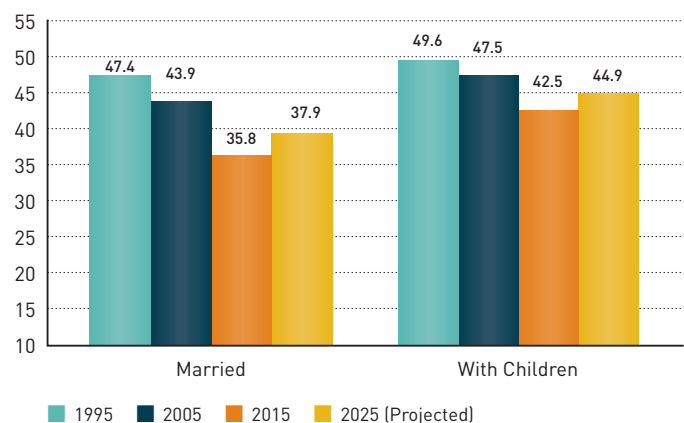


Notes: Families with dependent children include married, partnered, and single-parent homeowners with children under age 18. Married without dependent children includes only married-couple households without children under age 18. Single persons and other include persons living alone and all other types of households.  
Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

Figure 10

### The Changing Demographics of Younger Households Favor Future Growth in the Remodeling Market

Share of Households Headed by 15–34 Year Olds (Percent)



Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections.

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under age 35 were much less likely to be married, have children, or be homeowners than they were in 1995 or 2005. By 2025, however, the Joint Center expects household formations among 15–34 year olds to increase slightly and that more households in this age group will be married and/or have children.

Indeed, the share of younger householders who are married and/or have children is expected to increase 2.1–2.4 percentage points between 2015 and 2025 (**Figure 10**). In turn, higher shares of married couples and households with young children should translate into higher homeownership rates among the under-35 age group, and thus into increased remodeling activity. Of course, ongoing affordability concerns, student loan debt, and other challenges may keep homeownership rates among this age group more depressed than their changing demographics would suggest.

Assuming no meaningful change in their homeownership rate, both the number of owners under age 35 and their average real improvement spending are expected to increase only modestly over the coming decade, with overall spending by this group rising to about \$20 billion in 2025. Even with this growth, however, their remodeling expenditures will still be almost a third lower than the pre-recession peak for their age group. Younger owners will therefore represent a yet smaller segment of the remodeling market, with their share of improvement spending falling from 8.3 percent in 2015 to 7.6 percent in 2025.

## THE OUTLOOK

The residential remodeling market should continue to see healthy growth in the coming years even as trends in key household characteristics—including age, race/ethnicity, and household composition—become less favorable for home improvement spending. According to Joint Center projections, the three major demographic groups of homeowners that will lead growth in improvement spending over the next decade are older (age 55 and over) households, minority (particularly Hispanic) households, and married couples without dependent children at home.

On average, the numbers of older and minority homeowners are expected to grow at annual rates of 1.9 percent and 2.6 percent per year, respectively, through 2025—well above the national rate of 1.1 percent. The real per owner spending levels of both groups will grow more or less in line with the 0.9 percent rate for all owners. At the same time, the number of married couples without dependent children is projected to increase 1.3 percent per year on average, while their per owner improvement expenditures rise 1.4 percent. And as members of the millennial generation start to move into their peak spending years over the coming decade, their decisions to form households, get married, start families, and buy homes will increasingly set the pace of the remodeling market expansion.

# 3

## INDUSTRY STRUCTURE AND LABOR TRENDS



Traditionally comprising many small businesses, the residential remodeling industry became even more fragmented during the sharpest downturn on record. Indeed, the severity of the recession put many contractors out of business and reduced some of the consolidation gains achieved by larger-scale firms during the boom years. Now more than eight years after the financial crisis and Great Recession, the industry is nearing full recovery in terms of both employment levels and overall spending on home improvements and repairs.

### CONTINUED INDUSTRY FRAGMENTATION

During the housing and home improvement boom years of 2002–2007, the total number of residential remodelers—defined as businesses with more than half of their annual receipts from remodeling and repair activity, and including both self-employed contractors and payroll firms—swelled by nearly a quarter from 530,000 to over 650,000 (**Figure 11**). This comprehensive measure includes general contractors (full-service, design/build, handyman repair, and insurance restoration) and those in specialty trades (such as roofing, siding, windows, plumbing/HVAC, electrical, and painting).

Moreover, the number of remodeling establishments continued to grow during the subsequent downturn in 2007–2012, increasing almost another 10 percent to 716,000. Self-employed contractors accounted for nearly all (over 88 percent) of this growth, driven largely by the movement of former payroll employees to self-employment and by the conversion of smaller payroll companies to non-employer status. Smaller-scale homebuilders that refocused on the remodeling market during the worst years of the housing slump were another source of growth.

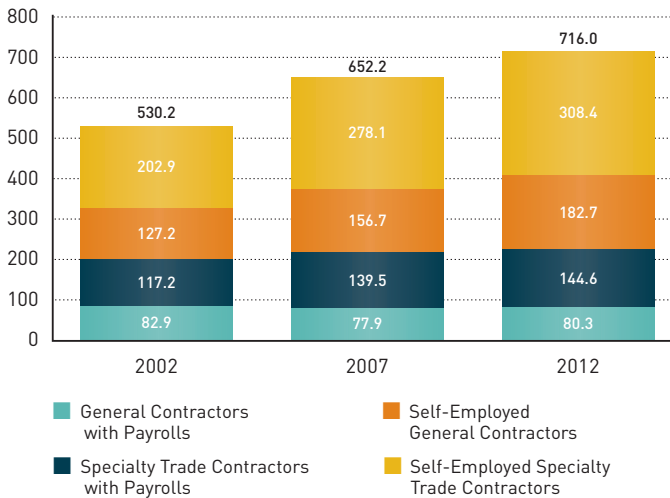
Self-employed contractors have always made up the majority of remodeling businesses, with their share rising from about 62 percent in 2002 to 69 percent in 2012. The vast majority—almost three out of four—were small operations with receipts under \$100,000 in 2012. But even contracting firms with payrolls are primarily smaller-scale operations, with almost a quarter generating revenues under \$100,000 in 2012 and another 30 percent with revenues between \$100,000 and \$249,999.

Meanwhile, the share of payroll remodeling establishments with \$1 million or more in annual revenue declined somewhat during the downturn from 14.8 percent in 2007 to 13.0 percent in 2012 (**Figure 12**). Still, large-scale remodelers were respon-

Figure 11

## The Number of Remodeling Businesses Continued to Expand During the Downturn

Residential Remodeling Establishments (Thousands)



Notes: Data include establishments with more than 50% of receipts from remodeling activity (including maintenance and repair) and self-employed remodeling contractors with annual revenues of at least \$25,000.  
Source: JCHS estimates based on unpublished tabulations of US Census Bureau, Economic Censuses of Construction and Nonemployer Statistics.

sible for significantly higher shares of employment, material purchases, and industry receipts in 2012 than in 2002. In addition, there is evidence of increasing concentration of industry receipts among the very largest general contracting firms, with the top 50 remodelers' share rising from 5.2 percent in 2002 to 7.9 percent in 2007 and to 8.5 percent in 2012.

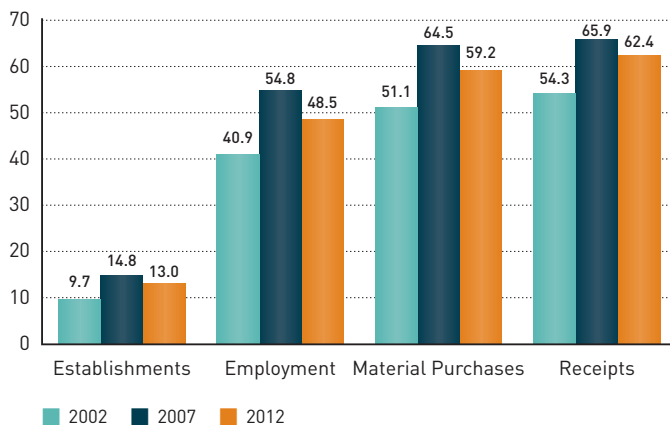
Remodeling companies that are able to overcome the many obstacles to scale economies realize considerable benefits. Joint Center research indicates that in addition to the typical advantages thought to accrue as companies increase in size (including lower costs of materials, marketing, capital, and overhead), larger-scale remodeling firms also see stronger growth in revenues. Indeed, while average remodeling receipts for both smaller-scale (annual revenue under \$250,000) and mid-size (annual revenue from \$250,000 to \$999,999) payroll firms declined somewhat between 2002 and 2012, the average revenue of larger-scale establishments with \$1 million or more in annual revenue was up 4.5 percent.

Larger-scale remodelers also have substantially higher revenues per employee, which suggests greater labor productivity. In 2012, average remodeling receipts per payroll employee at large firms were 50 percent higher than those of mid-size remodelers and more than 140 percent higher than those of smaller-scale firms. Comparing average construction receipts net of costs for materials, payroll, and subcontracted work (the residual being profit and overhead costs) and assuming that their fixed overhead costs account for a comparable share of revenues, larger-scale remodeling companies likely generated significantly higher profits per employee as well.

Figure 12

## The Largest Remodelers Lost Some of the Ground Gained During the Boom

Industry Shares of Remodelers with Annual Revenues of \$1 Million or More (Percent)



Notes: Data include payroll establishments with more than 50% of receipts from remodeling activity (including maintenance and repair). Annual revenue is not inflation-adjusted.  
Source: JCHS estimates based on unpublished tabulations of US Census Bureau, Economic Censuses of Construction.

### BUSINESS SURVIVORSHIP TRENDS

The number of general remodeling businesses with payrolls climbed steadily from 80,000 in 2012 to an estimated 87,000 in 2016—an increase of over 9 percent. However, the annual net change in the number of firms masks considerable churn in the remodeling industry. High rates of business openings and closing are also evident in the broader residential construction sector (Figure 13). Between 2003 and 2013, the annual net change in the number of homebuilding and remodeling businesses with payrolls ranged from -13.3 percent in 2008–2009 to 6.1 percent in 2003–2004. On average, however, 18.4 percent of payroll firms were newly opened each year while another 18.9 percent closed. The high rate of residential building business startups and dissolutions is largely the result of low barriers to entry and challenges to achieving scale economies.

Business exit rates in the residential remodeling industry are high. For example, during a period of relatively healthy consumer spending on home improvements in 2003–2004, 12.9

percent of general remodelers with payrolls ceased operations, compared with 10.2 percent of all payroll businesses in the United States. Relatively high “failures” clearly contributed to growing industry fragmentation during the downturn in 2007–2012, with smaller remodelers much more likely to exit, fail, or move to self-employment. Among the smallest firms with payrolls in 2007 (under \$100,000 in receipts), more than 70 percent were no longer operating as payroll businesses five years later. Overall, fully half of all remodelers with payrolls either closed their businesses or moved to self-employment during this period.

In contrast, larger firms were much more likely to stay in business (Figure 14). More than 68 percent of general remodelers with receipts of at least \$1 million in 2007 were still in operation five years later, compared with less than 38 percent of remodelers with revenues under \$250,000. The larger size of surviving firms provided critical cushioning, given that almost half were able to remain in business even as their receipts dropped by 25 percent or more. Another 16 percent of surviving remodelers experienced smaller declines in revenue in 2007–2012, but declines nonetheless. The rest of the firms that remained in business over this period—about 40 percent—were able to restructure or otherwise take advantage of reduced competition to increase their revenues during the worst industry downturn on record.

### CHANGING WORKFORCE SIZE AND CHARACTERISTICS

After a 23 percent drop between 2007 and 2010, the number of payroll employees at general remodeling contractors has risen steadily and is once again nearing peak levels. By 2016, payroll employment at remodeling firms had returned to an estimated 307,000, a gain of almost 31 percent since the 2010 trough.

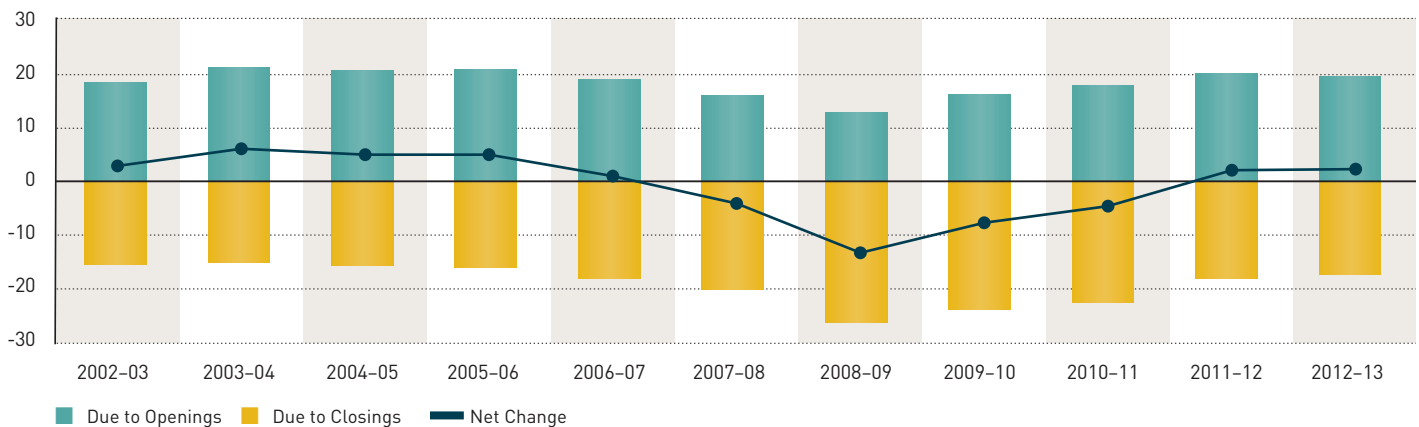
Hourly wages for nonsupervisory employees have also been rising, with growth in year-over-year wages accelerating since the third quarter of 2015. Indeed, average wage growth picked up from 2.2 percent in 2015 to 5.2 percent in 2016, driven by shortages of skilled labor. Not surprisingly, analysis of survey data from *Qualified Remodeler* publication’s Top 500 Remodelers found that the share of large firms that consider finding and hiring qualified employees their biggest business challenge increased from 29.5 percent in 2015 to 33.6 percent in 2016.

Around the time of the home improvement market peak in 2007, the number of people with onsite management or trade occupations in the construction industry—including both payroll and self-employed workers, as well as those who were unemployed but looking for work—was over 9.0 million. Five years later, after the Great Recession, that number had dropped by 1.8 million, reducing the size of the construction labor force by 20 percent.

Figure 13

### In Any Given Year, About One in Five Residential Construction Businesses Opens And Another One in Five Closes

Change in Number of Residential Building Establishments with Payrolls (Percent)



Source: US Census Bureau, Business Information Tracking Series.

Some of these lost workers likely took early retirement from more physically demanding trades such as framing or roofing. As for immigrants, who have long made up a disproportionate share of the construction workforce, some returned to their home countries after the crash. Many other workers looked to retrain or go back to school with the goal of switching occupations and industries. Indeed, a 2015 Census Bureau analysis estimates that this was the fate of about a third of construction payroll employees displaced by the housing bust. At last count in 2015, the construction trades workforce still held at the 2012 level of 7.2 million, but their unemployment rate was down sharply from 14.2 percent to 7.9 percent.

Meanwhile, the demographic characteristics of the construction management and trades workforce changed markedly. During the downturn, younger, less experienced workers were let go first, and if construction firms were hiring at all, they tended to take on older, more experienced workers. As a result, the share of workers age 55 and over rose from 11.1 percent in 2007 to 15.8 percent in 2012. At the same time, the number of workers under age 35 declined by nearly 1.3 million, and their share of the workforce shrank from about 41 percent to 33 percent. By 2015, the share of older workers ticked up to 16.8 percent—fully one in six workers—but the number and share of younger workers were unchanged from the 2012

trough. These trends, combined with the long-term decline in federally registered apprenticeship programs (from about 33,000 in 2001 to 21,000 in 2015), have contributed to the aging of the construction workforce.

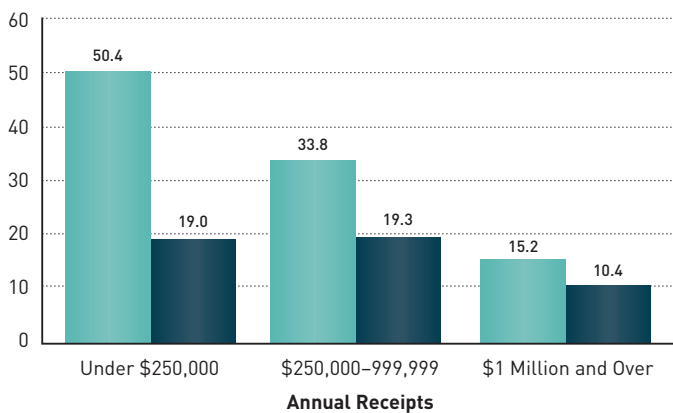
As the industry shed a disproportionate share of younger, less experienced workers, the characteristics of construction workers under age 35 changed (**Figure 15**). Reflecting broader demographic shifts, the minority share of younger workers increased from 39 percent in 2002 to 47 percent in 2015. At the same time, however, the share of younger workers that were immigrants remained unchanged after 2012 at 29 percent. Overall, younger workers in the construction industry today are better educated, with the share holding a high school diploma or GED increasing from 65 percent to 74 percent between 2002 and 2015.

Although women still make up just a fraction of the construction management and trades labor force (less than 3 percent in 2015, compared with 47 percent of the national workforce), their share of younger workers edged up slightly from 2.2 percent to 2.8 percent after the recession. Employers in the construction and remodeling industries will need to make concerted efforts to attract younger employees and workers from traditionally underrepresented segments, including women, to ensure that they have an adequate supply of labor.

Figure 14

### Large Residential Remodelers Were Much More Likely to Weather the Downturn

Payroll Establishments (Thousands)



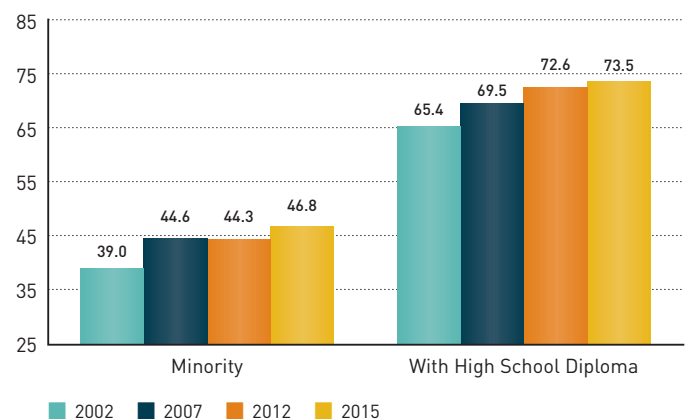
■ Establishments in 2007  
 ■ Establishments from 2007 Still Operating in 2012

Source: US Census Bureau, Business Information Tracking Series.

Figure 15

### Younger Workers in the Construction Labor Force Today Are More Diverse and Better Educated

Share of 16-34 Year Olds in the Workforce (Percent)



■ 2002 ■ 2007 ■ 2012 ■ 2015

Notes: Data include workers housed in nongroup quarters that are either employed or unemployed but available for and seeking work. The construction labor force includes workers with construction management and trades occupations in the industry.

Source: JCHS tabulations of US Census Bureau, American Community Surveys 1-Year Estimates.



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## THE OUTLOOK

The home remodeling industry became more fragmented during the course of the last business cycle with strong growth in the number of firms, particularly of self-employed remodelers. Still, larger-scale firms continue to account for significant shares of industry activity as measured by revenues, material purchases, and employment. This concentration of activity provides a considerable competitive advantage, including the ability to weather difficult market conditions and large declines in revenues.

Remodeling firms may never reach the same level of consolidation as related industries such as homebuilding, but the growth of mid-size companies into larger-scale firms and the concentration of industry activity among the largest firms are likely to continue. Clearly, remodeling companies that are organized, differentiated, and focused on brand-building will pursue opportunities to capture market share and expand their

businesses. The potential benefits of consolidation include improved operating efficiencies, stronger negotiating positions with suppliers, and increased revenues and profits to help buffer against market downturns.

Employment at general remodeling firms is once again nearing peak levels, but the construction management and trades workforce is significantly smaller than during the housing boom. This suggests that labor shortages will remain a serious issue for the industry. Key demographic characteristics of the construction labor force, such as age, race, and education or training, have also changed. Going forward, the construction industry must give new priority to workforce training in order to rebuild the ranks of younger workers who were either shut out during the protracted downturn or require more skills to compensate for the on-the-job experience they otherwise would have received.

# 4

## METRO REMODELING MARKETS



With nominal house prices in almost half of the nation's major metropolitan areas back to previous peaks, home improvement spending was up sharply in several high-demand markets in 2015. Upgrades to apartment properties have also given improvement spending a lift, driven by robust rental demand across the country. As the housing recovery continues, remodeling expenditures in several slower-growth markets are expected to increase as the baby boomers modify their current homes to age in place and the millennials buy older, more affordable homes in need of updates.

### HOMEOWNER SPENDING TRENDS

Owners living in metro areas spend more on improvements to their homes on average than owners in non-metro areas. But even among the 25 major metro areas included in the 2015 American Housing Survey, remodeling activity varies widely. New York, San Francisco, Denver, Boston, and Washington, DC were the nation's five top-ranked remodeling markets, with improvement spending averaging almost \$4,900 per homeowner (**Figure 16**). In contrast, average per owner spending in the five bottom-ranked major metros was just half that amount, or about \$2,500.

The large variation in metro spending levels relates to home values and household incomes, both of which are tied to local economic and housing market trends. Median home values are an indicator not only of housing demand but also of the incomes and purchasing power of area residents. As a result, improvement expenditures per homeowner in the five markets with the highest home values averaged more than 60 percent above those in the five markets with the lowest home values.

Metro area incomes are also a large factor, given that higher-income homeowners are likely to spend considerably more on discretionary improvement projects. Indeed, discretionary projects—including kitchen and bath remodels, room additions, and outside attachments such as decks and garages—made up 39 percent of expenditures in the top five metros ranked by income but just 33 percent nationally in 2015. Spending on large projects costing over \$50,000 explains much of this difference. These projects accounted for nearly half of all expenditures in the five highest-income metros on average, compared with just over 30 percent nationwide.

But housing affordability is a growing concern in several of today's hot home improvement markets. House price-to-income ratios in the five top-spending metros are significantly higher—and homeownership rates for younger households significantly lower—than in the five lowest-spending metros. An emerging question is to what extent the millennial generation will be able to break into homeownership, and thus into the residential remodeling market, in these pricy areas.

### THE ROLE OF HOUSE PRICES AND HOME SALES

Given that house price trends shape improvement spending, many of the strongest remodeling markets in 2015 were metros where home values had fully recovered from the downturn. For example, prices in Boston, Dallas, Denver, San Francisco, and Portland were among the first to rebound after the crash. As a result, homeowner improvement spending in most of these areas substantially exceeded the 25-metro average in 2015 (Figure 17). Meanwhile, house prices in Chicago, Detroit, Miami, Phoenix, and Riverside had only partially recovered from their sharp drop. With their large losses in housing wealth, owners in these areas spent nearly 15 percent less on improvements than the average across all 25 major metros.

Several other metros with sluggish house price appreciation in recent years also posted more modest levels of home improvement spending in 2015. In particular, the Cincinnati, Cleveland, Memphis, Milwaukee, and Kansas City markets were held back in large part by weaker than average job growth, leaving homeowner outlays more than 15 percent below the major metro average.

Recently, however, existing single-family home sales in several slower-growing remodeling markets have been remarkably strong. Higher turnover of the existing housing stock could signal a jump in improvement spending over the next year. As of the third quarter of 2016, the annual pace of existing home sales was more than three times the national rate in Atlanta, Boston, Cleveland, Charlotte, Hartford, Kansas City,

Figure 16

### Markets with the Highest Improvement Spending Also Report the Highest Home Values and Homeowner Incomes

Characteristics of Markets Ranked by Per Owner Outlays, 2015

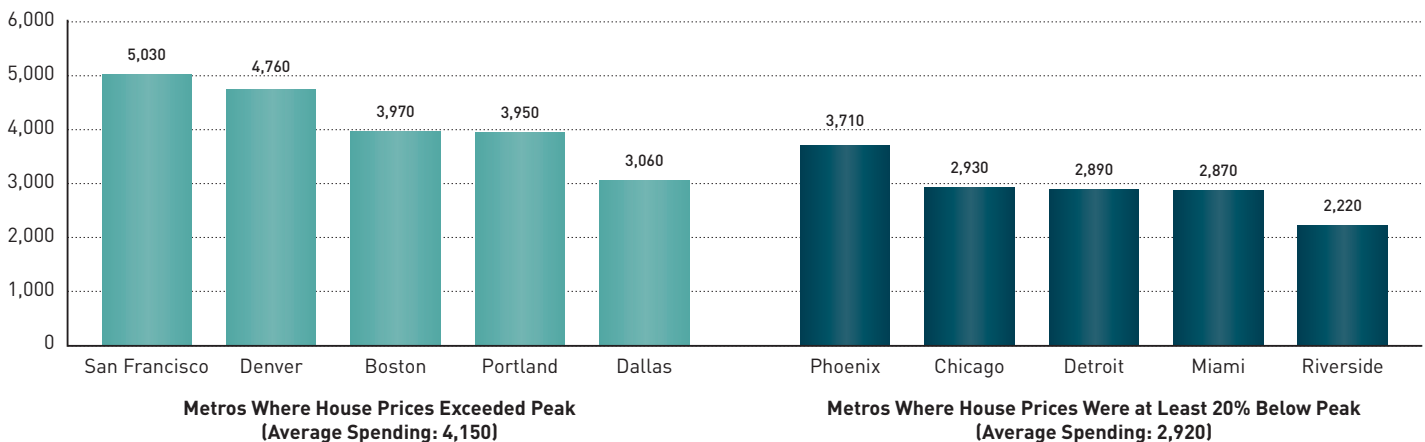
	Top 5 Metros	Bottom 5 Metros	25-Metro Average
Average Per Owner Improvement Spending (\$)	4,870	2,450	3,400
Share of Spending on Discretionary Improvements (%)	38	29	34
Median Home Value (\$)	448,000	196,000	268,000
Median Homeowner Income (\$)	106,000	72,000	83,000

Source: Table A-8.

Figure 17

### Owners in Many Metros Where House Prices Have Fully Recovered Spent Significantly More on Home Improvements

Average Per Owner Spending, 2015 (Dollars)



Note: House prices are not inflation-adjusted. Data include the 25 metros covered in the 2015 AHS.  
Sources: JCHS tabulations of HUD, American Housing Survey; Zillow Home Value Index for All Homes.

Milwaukee, Minneapolis, Providence, and Richmond. Several of these locations offer older, more affordable housing that could enable millennials and older households alike to move into homeownership. As this occurs, improvement spending in these markets should begin to strengthen.

In contrast, improvement expenditures in certain high-cost markets may soon reach a cyclical peak. For example, annual home sales in Los Angeles, San Francisco, and San Jose were down through the third quarter of 2016. Declining existing home sales were also reported in Chicago, Denver, Houston, Las Vegas, and Miami. As house prices eventually stabilize, the growth in home improvement spending in these areas may also moderate.

### SHIFTING DEMOGRAPHIC DEMAND

The participation of younger households in the remodeling market will depend on their access to homeownership. While traditionally lower than that of older households, the homeownership rate of households under the age of 35 fell to a 20-year low of 31 percent, according to the 2015 American Housing Survey. In large part, this rate reflects younger adults' lower average incomes and wealth, as well as lifestyle preferences. But it also relates to the affordability of metros where

many young adults live and work. Major coastal metros such as Los Angeles, New York, and San Francisco are among the nation's least affordable housing markets, with home prices exceeding incomes by a factor of at least five. In these areas, just a fifth of households under age 35 owned homes in 2015 (Figure 18).

Younger households are, however, finding homebuying opportunities in more affordable metro areas of the country. In fact, the homeownership rates for households under age 35 in the ten major metros with the lowest house price-to-income ratios averaged more than 4 percentage points higher than the national rate in 2015. And greater housing affordability enables these owners to invest relatively more in remodeling. For instance, the share of improvement spending by younger homeowners in more affordable markets such as Cincinnati, Detroit, and Kansas City was more than twice that in high-cost markets like San Francisco and Los Angeles.

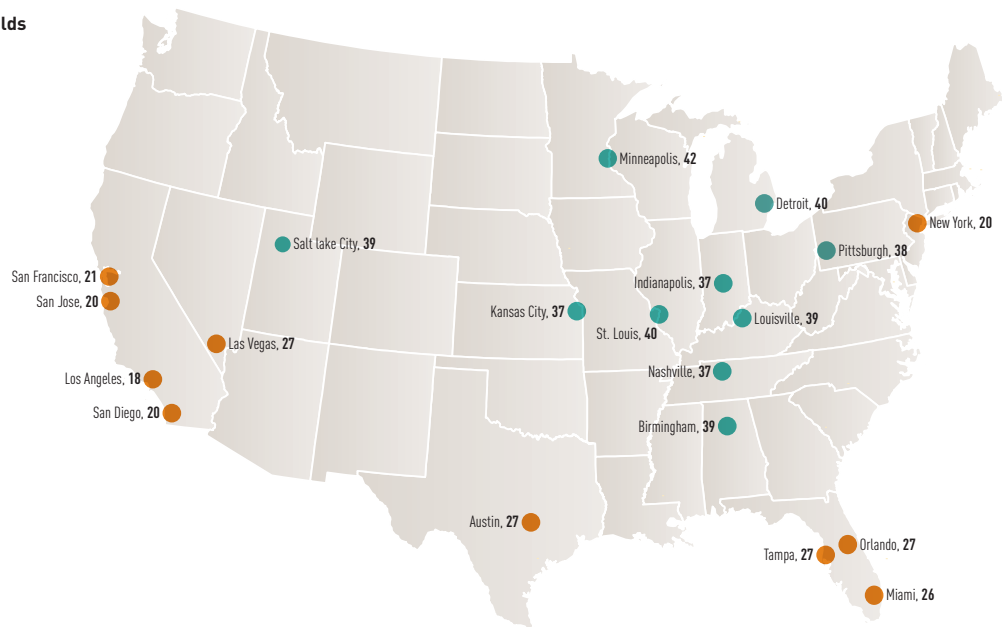
The nation's stock of lower-priced homes also provides an opportunity for young adults to become homeowners. Among households that bought their current homes between 2012 and 2015, owners under age 35 reported home values that were more than 20 percent below the home values of recent buyers

Figure 18

## Younger Households Are Largely Shut Out of Homeownership in Expensive Markets

### Homeownership Rate Among Households Under Age 35 in 2015 (Percent)

- Ten Metros with Lowest Rates
- Ten Metros with Highest Rates

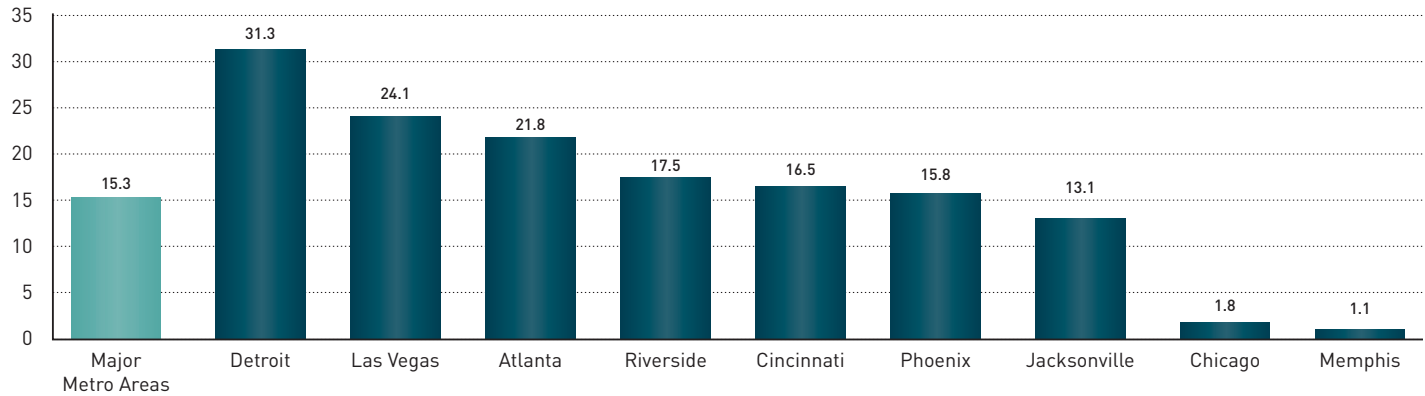


Note: Data include the 50 largest metro areas ranked by population in 2015.  
 Source: JCHS tabulations of US Census Bureau, 2015 American Community Survey 1-Year Estimates.

Figure 19

## Rental Property Owners Invested Heavily in Existing Units in Many Markets Where Multifamily Construction Lagged

Average Annual Real Growth in Per Unit Capital Expenditures, 2010–2015 (Percent)



Notes: Data include garden-style rental apartment properties with 50 or more units and stabilized operations. Growth in capital expenditures is calculated as the simple average of annual rates of change in inflation-adjusted spending in metros with a minimum of 2,000 apartment units and 10 properties sampled.

Source: JCHS tabulations of National Apartment Association, Surveys of Operating Income and Expenses in Rental Apartment Communities; and US Census Bureau, New Residential Construction.

over age 35. In addition, many of the homes bought by younger households were more than 50 years old, with fully a quarter built before 1960.

Younger households are clearly ready to renovate their older homes. Among owners of homes built before 1960, households under age 35 spent 20 percent more on home improvements in 2015 than homeowners age 35 and over. As a result, metros with high concentrations of older homes, as well as strong growth in younger households, are well positioned for growth in improvement spending. Metro areas where the absolute number of homeowners under age 35 increased most in 2014–2015 are scattered across the country and include many relatively affordable metros such as Austin, Charlotte, Detroit, Nashville, and Orlando.

Nevertheless, locations with large concentrations of older adults will also be growth markets for remodelers. While just over half of all owners nationally are age 55 and over, the share of older residents is significantly higher in major Florida markets (for example, Miami and Tampa) and certain Rustbelt metros (such as Buffalo, Cleveland, and Pittsburgh). In addition, older adults make up large shares of recent movers in several Western metros (Las Vegas, Phoenix, and Riverside), where more than a third of owners that moved into their current homes since 2012 were age 55 and over in 2015.

On a per owner basis, households approaching retirement outspent all other age groups in 2015. Metro areas where owners

age 55–64 spent at least a quarter more on home improvements include Atlanta, Cincinnati, Dallas, Houston, Memphis, Raleigh, and San Francisco. Although improvement spending typically declines after households reach retirement age, homeowners age 65 and over in Boston, Cleveland, Houston, Pittsburgh, and Seattle spent at least as much as households under age 65—signaling a keen interest in modifying their current homes as they age.

Many studies have shown that most older adults prefer to remain in their current homes as they age. With the ranks of older adults swelling over the next 20 years, demand for universal-design retrofits for improved accessibility will likely surge. The need for home modifications will be especially intense in the Northeast and Midwest regions, where much of the housing stock is older and does not meet basic accessibility standards.

### INVESTMENTS IN RENTAL PROPERTIES

Ten million net new renter households were added nationally from 2005 to 2015, according to the American Housing Survey. In response to soaring rental demand, property owners have invested in significant upgrades to their units. Survey data from the National Apartment Association indicate that real per unit capital expenditures for apartment complexes were up 12 percent annually on average from 2010 to 2015.

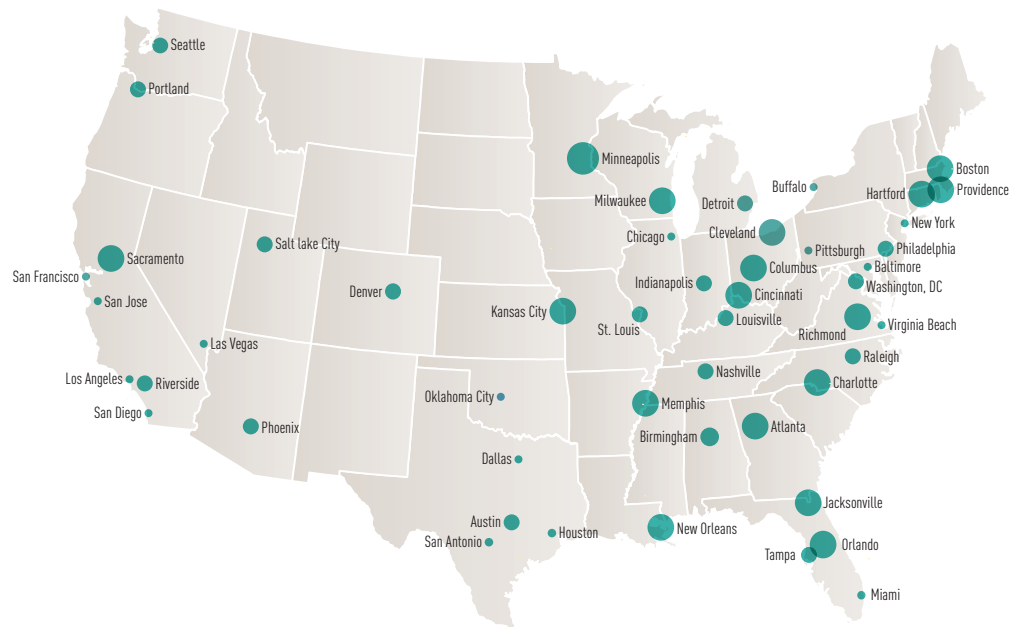
Growth in rental improvement spending has been remarkably strong in several large markets where multifamily construction

Figure 20

## Many Remodeling Markets in the East and Midwest Are Projected to Post Double-Digit Growth This Year

### Projected Annual Change in Real Improvement Spending, 2017 (Percent)

- Under 3.1
- 3.1-9.9
- 10.0 and Over



Notes: Data include the largest 50 metro areas ranked by population in 2015. Spending projections are calculated as the average of annual rates of change in sales of existing single-family homes (as of 2016:3) and starts of privately owned single-family homes (as of 2016:4). The average projected annual change in real improvement spending for the 50 metros is 6.8%.  
Source: JCHS tabulations of US Census Bureau, American Community Survey; and Moody's Analytics estimates.

is unable to supply affordable rental units. Indeed, many major markets where the recent pace of multifamily construction was well below the annual average over the previous two decades posted substantial increases in capital improvement spending (Figure 19). Renovations have thus helped developers and owners meet sharply rising demand for a wide range of rentals.

Property owners typically upgrade their apartments in order to command higher rents. One indicator of the current market opportunity is that annual rent increases for middle-market units (Class B) were outpacing those for lower-quality units (Class C) by more than 2.0 percentage points in the third quarter of 2016, according to MPF Research data. By this measure, investors and owners of Class C units in markets where Class B rents are rising relatively more quickly—such as Los Angeles, Orlando, Portland, Sacramento, Seattle, and Tampa—have a substantial incentive to upgrade their properties to meet growing demand.

### NEAR-TERM SPENDING PROSPECTS

Two indicators of housing demand—single-family starts and growth in existing home sales—suggest that home improve-

ment activity should continue to pick up in the majority of the top 50 markets in 2017 (Figure 20). Several fast-growing, Southern metros make the list, including Atlanta, Charlotte, Jacksonville, and Orlando, where homebuilding activity has revived and household growth has been strong recently. Conditions in several other affordable markets of the Midwest—such as Cincinnati, Cleveland, Columbus, Kansas City, Milwaukee, and Minneapolis—also favor increased improvement spending.

Strong home sales in major New England markets (Boston, Hartford, and Providence) should also support strong gains in improvement expenditures. In contrast, growth in remodeling expenditures in other major East Coast markets (New York City and Washington, DC) is expected to dip well below the 6.8 percent average pace in the nation's 50 largest markets.

On the West Coast, Sacramento is expected to see a pickup in expenditures, but the leading indicators for Las Vegas, Los Angeles, San Diego, San Francisco, and San Jose all point to a possible leveling off in spending as several of these markets approach cyclical peaks. Metros with oil-based economies, such as Dallas, Houston and Oklahoma City, are also expected to see slower growth or declines in remodeling activity in 2017.

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## THE OUTLOOK

The outlook for metro markets reflects the diversity of local housing and economic conditions. In general, metros that have the highest home values, and those where prices have reached or surpassed their previous peaks, should continue to post above-average levels of per owner improvement spending in the near term. In other markets where prices are still on the path to full recovery, homeowner spending is expected to increase in step with price gains. At the same time, though, home improvement outlays in metros at or near their cyclical peaks are expected to slow or decline this year.

In metros across the nation, older owners will drive most of the growth in improvement spending over the coming decade, fueling demand for home renovations to meet their changing accessibility needs. But millennial households hold the potential for longer-term impacts. The high cost of housing in coastal markets will encourage many younger households to look for more affordable homes to buy, including older homes requiring renovations. And with continued steady growth in demand, rentals will remain an important segment for the remodeling industry, particularly in high-cost areas where upgrading older buildings would help meet strong demand for middle-market apartments.

# 5

## OPPORTUNITIES FOR GROWTH



Despite a variety of challenging conditions, the home improvement industry can look for numerous growth opportunities over the next decade. Strong demand for rental housing has opened up that segment to a new wave of capital investment. At the same time, the shortage of affordable housing in much of the country makes the large stock of older homes an attractive option for buyers willing to invest in upgrades. And specialty improvement products and services focused on energy efficiency, environmental sustainability, and home automation continue to gain appeal, particularly among the new generation of homeowners.

### RISING INVESTMENT IN RENTALS

With the addition of ten million new renters on net in 2005–2015, the national “rentership” rate shot up by about 6.0 percentage points over the decade, to over 37 percent. Low vacancy rates and rising rents helped to lift real multifamily property values in 2015 almost one-third above the previous market peak. And with renter mobility rates near historic lows, property owners had a steady income stream to support improvements to their units. As a result, investments in rental properties have been on the rise (**Figure 21**). Growth in per unit outlays climbed at an impressive 12 percent average annual rate from 2010 to 2015, suggesting that property owners are upgrading rather than simply maintaining their units in their current condition.

Even though multifamily property values are likely to stabilize in the coming years, healthy growth in rental improvement spending should continue. The rental stock is relatively old, with a median age of more than 40 years. And as a Joint Center analysis of HUD’s 2012 Rental Housing Finance Survey found, average improvement spending on units that are at least 50 years old is twice that on units under 10 years old. In addition, MPF Research data show that national occupancy rates for generally less desirable Class C units have begun to increase more rapidly than for Class A rentals, indicating that demand is growing broadly across the rental stock.

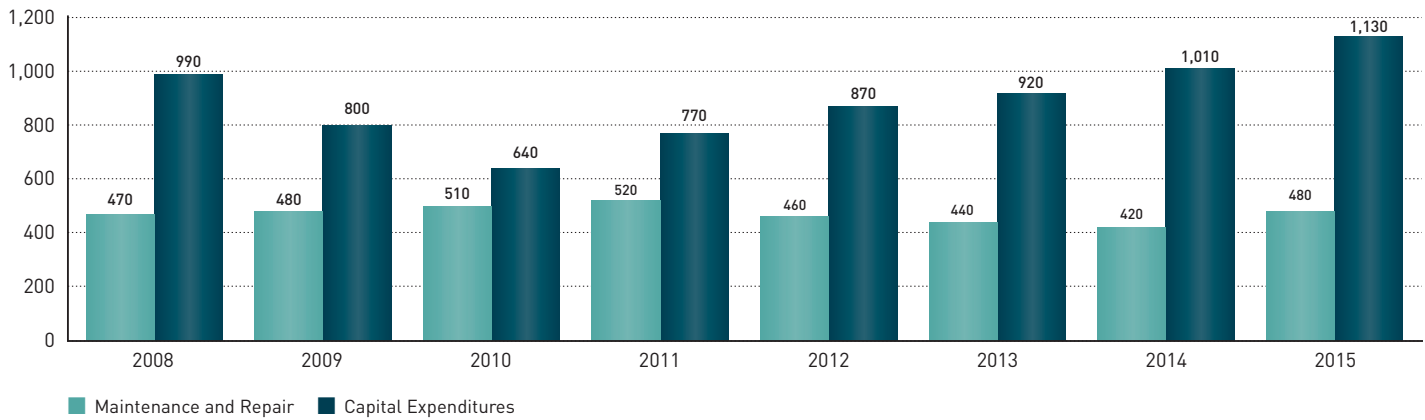
While a wide range of metros has posted significant increases in rental improvement spending in recent years, some of the largest gains have been in areas with large supplies of older, outdated units that can help meet demand for modernized yet relatively affordable rentals. In Denver, Detroit, and Minneapolis, for example—areas with older housing stocks but strong rental demand—improvement spending grew by 30 percent or more per year between 2010 and 2015. In a growing



Figure 21

## Apartment Owners Have Ramped Up Property Investments Since 2010

Average Per Unit Spending for Professionally Managed Rental Properties (2015 dollars)



Note: Data include garden-style rental apartment properties with 50 or more units and stabilized operations.

Source: National Apartment Association, Surveys of Operating Income and Expenses in Rental Apartment Communities.

number of metros, the cost of new construction is too high to build rental housing for moderate-income households. As a result, construction of new multifamily properties has been leveling off as owners of existing rental properties are investing more heavily in upgrades to meet rising middle-market demand.

### REINVESTING IN THE OWNER-OCCUPIED STOCK

While increasing more slowly than investment in rental units, improvement spending on the owner-occupied housing stock is also poised for further growth. Low levels of new construction in recent years have pushed up the median age of owner-occupied homes to nearly 40 years. In addition, homeowners spent significantly less on improvements after the housing market crash, generating substantial pent-up demand for repairs and renovations.

In particular need of upgrading are the owner-occupied homes converted to rentals during the recession. According to Joint Center estimates, the surge in distressed single-family properties, coupled with soaring rental demand, encouraged conversion of more than three million single-family homes to rentals between 2007 and 2011. While their homes were being rented, owners had little incentive to make discretionary improvements. Some of these units have already returned to the owner-occupied stock, and many others are likely to follow as the homebuyer market strengthens, leaving new owners to make up for years of underinvestment.

Older homes occupied by older adults are also likely to need significant upgrades. A majority of owners age 65 and over have lived in their current homes for at least 20 years (**Figure 22**). That share increases substantially with age, reaching fully two-thirds for owners age 80 and over. Retired owners often have limited incomes and are generally less likely to invest in home improvement projects than younger households.

At the same time, though, most older owners prefer to remain in their homes as they age. Some have in fact been able to achieve this goal thanks to accessibility improvements to their homes and/or the ability to afford in-home care. Indeed, the share of the population age 80 and over living in nursing homes or other group quarters declined by more than half from about 16 percent in 1990 to under 7 percent in 2015.

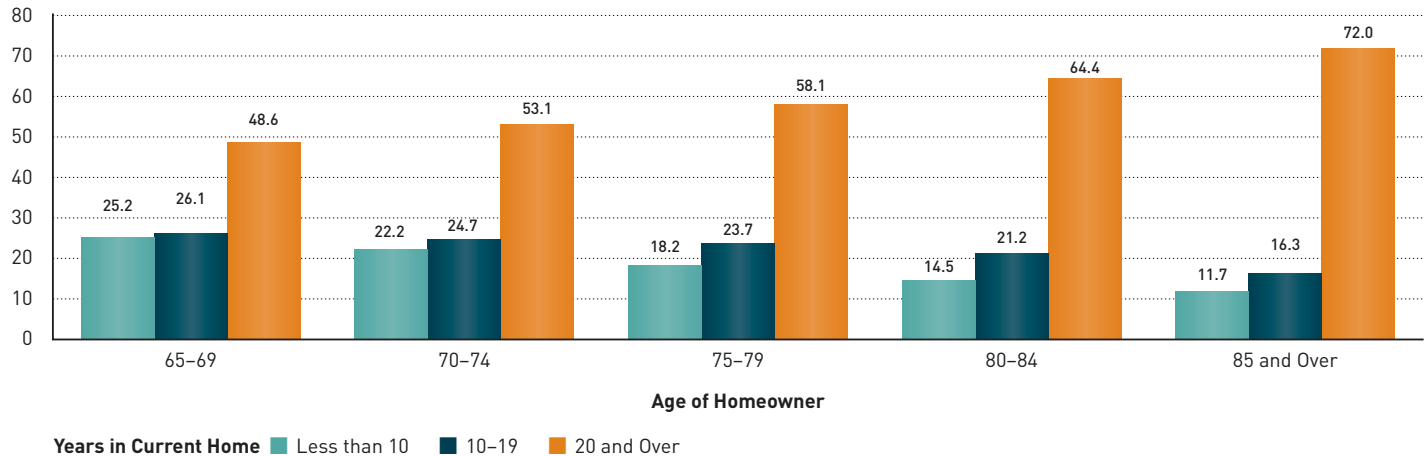
But as the first wave of baby boomers begins to reach the ages when home modifications become more necessary for independent living, there is tremendous unmet need for accessible housing. A large share of these households live in older homes in the Northeast and Midwest, where the housing stocks have few if any universal design features.

Some aging households will not choose, or be able, to continue to live on their own. As these owners move in with family, require institutional care, or otherwise leave their homes, millions of units in need of upgrading will go on the market. The Joint Center projects that with the aging of the population over the next decade, the number of homes made available by

Figure 22

## Most Owners Age 65 and Over Have Lived in Their Current Homes for at Least Two Decades

Share of Homeowners by Length of Tenure (Percent)

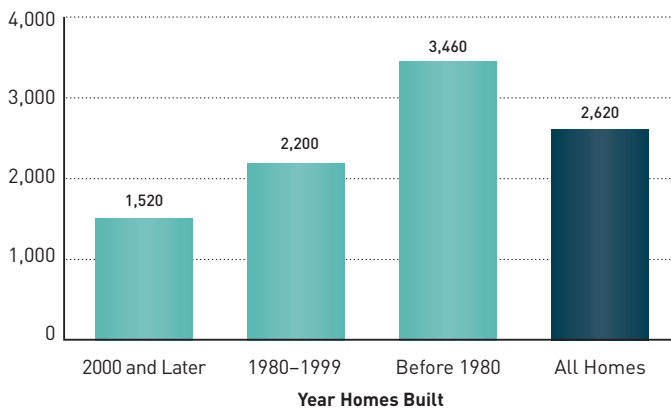


Source: JCHS tabulations of US Census Bureau, 2015 American Community Survey 1-Year Estimates.

Figure 23

## Younger Households Spend Substantially More on Improvements When They Own Older Homes

Average Spending for Owners Under Age 35 in 2015 (Dollars)



Source: JCHS tabulations of HUD, American Housing Survey.

ers of homes built before 1980 invested about a third more in renovations in 2015 than the average for all owners in their age group (**Figure 23**). In fact, improvement spending among these owners even exceeded the national average expenditure by more than 16 percent.

### SHIFTS IN THE SPENDING MAP

Early in the housing market recovery, many homeowners were hesitant to make discretionary improvements given the uncertain path of the economy. After the sharp drop in home values nationally, other owners simply lacked the equity that would enable them to finance major improvement projects. But as house prices recovered, the areas of the country with the strongest rebounds were also among those areas with the strongest growth in home improvement spending. This was particularly true of metros where house values returned to pre-recession levels.

However, many of these markets may be reaching a tipping point where rising house prices become a headwind to future growth in improvement spending. Along with higher mortgage interest rates and stagnant wage growth among many low- and moderate-income households, house price appreciation has rekindled concerns about affordability as a roadblock to homeownership. Although still relatively favorable by historical standards, homeownership affordability was at an eight-year low at the end of 2016, according to RealtyTrac. This signals that first-time buyers may face increasing difficulties in purchasing homes, which in turn implies that there will be fewer young owners to undertake home improvements.

household dissolutions will rise from 5.8 million between 2015 and 2020 to 6.4 million between 2020 and 2025.

The expanding stock of older, outdated homes will provide affordable housing options for younger buyers, who may then invest in significant upgrades. While owners under age 35 generally spend less on home improvements, their outlays depend on the age of their homes. For example, younger own-

The median house price nationally is 3.3 times median household income, but this ratio nearly triples in the country's least affordable areas. Not surprisingly, homebuying activity among younger households is much lower in expensive housing markets. Indeed, households under age 35 account for almost 10 percent of owners nationally, but less than 7 percent in both San Francisco and Los Angeles. Not only do young households make up a smaller share of owners in expensive markets, but the high house prices also leave those who do buy with fewer resources to invest in improvements.

In the major metros covered by the 2015 American Housing Survey, remodeling outlays by younger owners averaged just over 1.0 percent of the value of the home. In more affordable metros, their average expenditures exceeded this threshold, suggesting that many of these owners had sufficient resources to make improvements after covering their normal housing costs. Indeed, spending by younger homeowners as a share of home value was considerably higher than the metro average in five of the ten most affordable major metros, and about average in four others (Figure 24). In contrast, average improvement spending as a share of home value was lower in less affordable metros, and in many cases significantly lower

### SPECIALTY PRODUCTS AND SERVICES MAKING INROADS

The home improvement industry has traditionally focused on routine replacements of and upgrades to existing home products and systems. As technology and consumer preferences have become more sophisticated, however, a growing number of specialty products and services have been developed to enhance rather than simply replace certain home features.

Upgrades for improved energy efficiency, first sparked by the surge in home energy costs in the 1970s, are now a well-established specialty area. While home energy costs have moderated in recent years, efficiency improvements remain a popular investment. In fact, fully a third of owners reporting projects in 2014–2015 indicated that energy efficiency was a motivation for their expenditures.

Ongoing concerns about environmental issues have also boosted demand for sustainable home improvements, including projects that improve water conservation and that use products that are rapidly renewable or recycled/reclaimed. Spending on retrofits to older homes so that their owners can age in place has increased, along with spending for the addition of porches, decks, and other features that create outdoor living spaces. In addition, products and services to improve

Figure 24

## Younger Owners in More Affordable Housing Markets Invest Relatively More in Their Homes

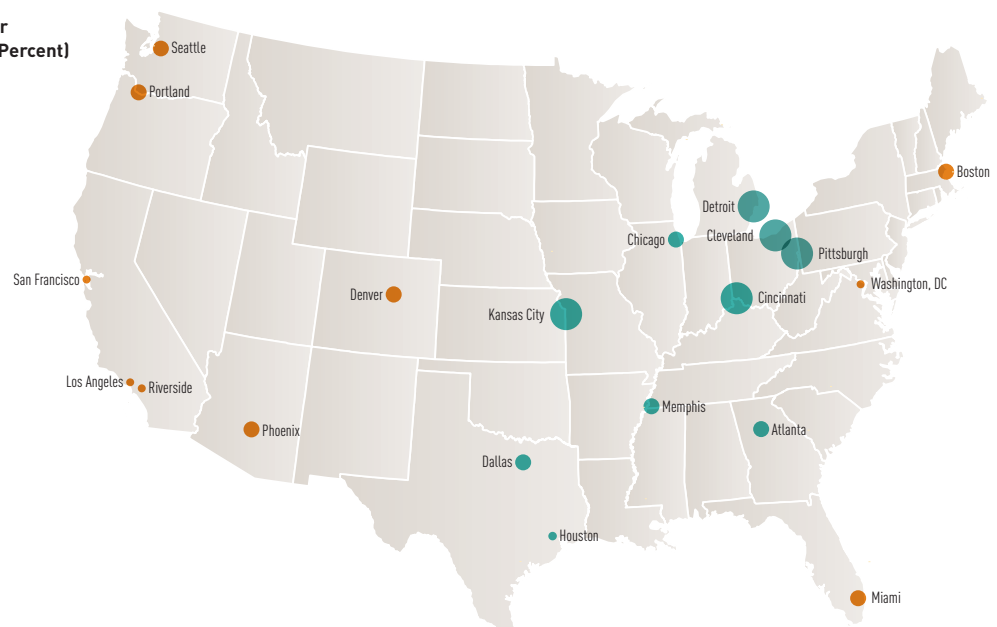
### Improvement Spending by Owners Under Age 35 as a Share of Home Value, 2015 (Percent)

#### Share in Most Affordable Metros

- Under 0.75
- 0.75–1.25
- Over 1.25

#### Share in Least Affordable Metros

- Under 0.75
- 0.75–1.25
- Over 1.25

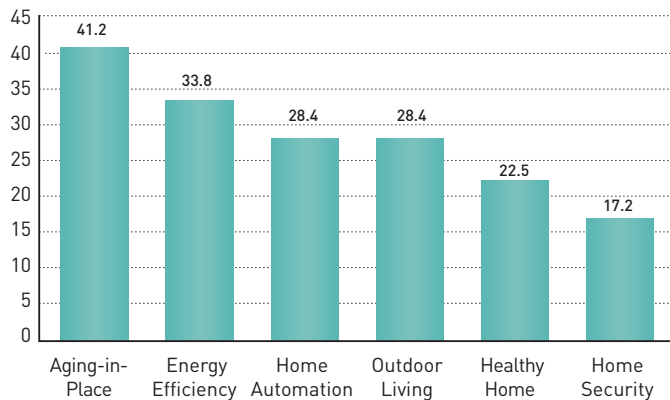


Notes: Most/least affordable metro areas are defined as the bottom/top ten metros ranked by the Zillow price-to-income ratio, for which home improvement spending estimates were available. Analysis excludes New York City. Source: JCHS tabulations of HUD, American Housing Survey; US Census Bureau, American Community Survey; and Zillow Price-to-Income Ratios.

Figure 25

## Home Automation Is Emerging as a Strong Growth Opportunity for Remodelers

Share of Contractors Reporting Recent Increases in Revenue from Specialty Segment (Percent)



Source: JCHS/The Farnsworth Group Survey of Remodeling Contractors, October 2016.

indoor air quality are also gaining popularity amid growing concerns about environmental health issues.

Meanwhile, many remodelers report that home automation has become one of the fastest-growing new specialty areas. A recent national survey of contractors found that more than a quarter of respondents reported a recent increase in revenues from these types of projects (**Figure 25**). While the housing industry has tried to make homes more connected for decades, home automation products are finally catching on with consumers. Wireless technology has made it easier for households to manage smart devices in their homes, and growing consumer interest coupled with increased competition has served to lower prices. Real estate brokers are now developing a definition to standardize the features to be found in a “smart home” so that buyers and sellers can easily identify properties that meet the criteria.

Younger owners are especially likely to include home automation projects in their improvement spending plans. Joint Center analysis of 2015 consumer survey data from the Demand Institute found that, among owners under age 35 that expected to undertake a major home improvement in the next three

years, more than 40 percent indicated that they were somewhat or very likely to include home automation products or features in their projects—well above the 30 percent share of all owners.

While younger households are the most likely to opt for home automation, older households could also benefit from this technology. The ability to monitor environmental conditions, appliances, security, vital signs, and medications can enable older adults to stay in their homes when they might otherwise require institutional care. In particular, voice-activated devices such as Amazon Echo and Google Home could help make independent living possible for many household members with disabilities, and thus seem likely to gain popularity among a broader base of homeowners.

### THE OUTLOOK

As the economic expansion continues, several established and emerging segments of the remodeling market will give a lift to overall improvement spending in the coming years. In particular, investment in upgrades to the existing rental stock should remain strong. Even with multifamily construction activity expected to stabilize, the ongoing strength of rental demand should continue to encourage property owners to upgrade older units to attract more middle-market renters.

Although gen-X owners are now in their prime remodeling years and keeping home improvement activity on the rise, the baby-boom generation will help drive much of the spending gains over the coming decade. Older owners that choose to remain in their current homes as they age likely will need to make significant modifications to ensure their safety and comfort. Those that leave their current homes will provide a growing supply of older housing to the market, expanding the affordable options for younger buyers.

In turn, as millennials continue to move into homeownership, they will likely update and customize the units to the needs of their growing families. The priorities for improvements among this new generation of homeowners are steadily shifting to include energy-efficient systems and environmentally sustainable products and materials. Given their facility with technology, younger households are also likely to embrace a full range of home automation products as they come on the market.

# 6

## APPENDIX TABLES



**Table A-1** .....Homeowner Improvement Expenditures: 2015

**Table A-2** .....Professional and Do-It-Yourself Home Improvement Expenditures: 2015

**Table A-3** .....Improvement Expenditures by Homeowner Characteristics: 2015

**Table A-4** .....Professional and Do-It-Yourself Improvement Expenditures by Homeowner Characteristics: 2015

**Table A-5** .....Projected Improvement Expenditures by Homeowner Characteristics: 2015–2025

**Table A-6** .....Residential Construction and Remodeling Contractor Establishments with Payrolls: 2012

**Table A-7** .....Nonpayroll Residential Remodeling Contractors by Annual Receipts: 2012

**Table A-8** .....Metropolitan Trends and Projections for Home Improvement Spending: 2015–2017

Additional tables are available for download in Microsoft Excel format at [www.jchs.harvard.edu](http://www.jchs.harvard.edu), including:

**Table W-1** .....Homeowner Improvement Expenditures: 1995–2015

**Table W-2** .....Professional Home Improvement Expenditures: 1995–2015

**Table W-3** .....Do-It-Yourself Home Improvement Expenditures: 1995–2015

**Table W-4** .....Improvement Expenditures by Homeowner Characteristics: 1995–2015

**Table W-5** .....Professional Improvement Expenditures by Homeowner Characteristics: 1995–2015

**Table W-6** .....Do-It-Yourself Improvement Expenditures by Homeowner Characteristics: 1995–2015

**Table W-7** .....Homeowner Maintenance and Repair Expenditures: 1995–2015

Table A-1

## Homeowner Improvement Expenditures: 2015

	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)
<b>DISCRETIONARY</b>	<b>6,513</b>	<b>11,088</b>	<b>72,217</b>
<b>Kitchen Remodels</b>	<b>2,370</b>	<b>10,237</b>	<b>24,262</b>
Minor	1,357	3,104	4,214
Major	1,013	19,796	20,048
<b>Bath Remodels</b>	<b>3,274</b>	<b>5,879</b>	<b>19,252</b>
Minor	1,715	1,496	2,566
Major	1,560	10,699	16,686
<b>Room Additions</b>	<b>803</b>	<b>20,327</b>	<b>16,317</b>
Kitchen	99	22,455	2,220
Bath	151	11,830	1,791
Bedroom	258	21,977	5,670
Recreation	126	12,290	1,555
Other	430	11,808	5,081
<b>Outside Attachments</b>	<b>2,033</b>	<b>6,094</b>	<b>12,387</b>
Porch, deck, patio or terrace	1,807	5,355	9,678
Garage or carport	359	7,552	2,709
<b>REPLACEMENT</b>	<b>18,809</b>	<b>5,822</b>	<b>109,504</b>
<b>Exterior</b>	<b>7,904</b>	<b>6,232</b>	<b>49,254</b>
Roofing	4,022	6,745	27,126
Siding	1,137	5,641	6,413
Windows or doors	4,347	3,212	13,960
Chimney, stairs or other major improvements	739	2,373	1,755
<b>Interior</b>	<b>7,268</b>	<b>2,938</b>	<b>21,352</b>
Insulation	1,764	1,450	2,557
Carpeting, flooring, paneling, or ceiling tiles	6,024	2,723	16,405
Other major improvements	620	3,852	2,389
<b>Systems and Equipment</b>	<b>13,706</b>	<b>2,838</b>	<b>38,898</b>
Internal water pipes	1,769	1,526	2,701
Plumbing fixtures	4,559	1,088	4,961
Electrical wiring, fuse boxes or breaker switches	2,507	1,491	3,738
HVAC	3,950	5,239	20,691
Central air conditioning	2,556	4,485	11,465
Built-in heating equipment	2,597	3,553	9,226
Appliances/Major Equipment	8,319	818	6,808
Water heater	4,105	874	3,590
Built-in dishwasher or garbage disposal	3,813	549	2,095
Security system	1,853	607	1,124
<b>OTHER</b>	<b>7,679</b>	<b>5,132</b>	<b>39,411</b>
<b>Disaster Repairs</b>	<b>770</b>	<b>14,373</b>	<b>11,067</b>
<b>Improvements to Lot or Yard</b>	<b>7,143</b>	<b>3,968</b>	<b>28,344</b>
Septic tank	194	4,216	816
Driveways or walkways	2,049	2,687	5,507
Fencing or walls	2,183	2,166	4,728
Swimming pool, tennis court, or other recreational structure	402	11,286	4,537
Shed, detached garage, or other building	1,179	4,053	4,779
Landscaping or sprinkler system	3,046	2,041	6,216
Other major improvements	349	5,045	1,760
<b>Total</b>	<b>21,937</b>	<b>10,080</b>	<b>221,132</b>

Notes: Homeowner numbers do not add to total because respondents may report projects in more than one category. Major remodels are defined as professional home improvements of more than \$10,000 for kitchen projects and more than \$5,000 for bath projects, and DIY improvements of more than \$4,000 for kitchen projects and \$2,000 for bath projects.

Source: JCHS tabulations of HUD, American Housing Survey.

Table A-2

## Professional and Do-It-Yourself Home Improvement Expenditures: 2015

	Professional			Do-It-Yourself		
	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)
<b>DISCRETIONARY</b>	<b>3,615</b>	<b>15,243</b>	<b>55,108</b>	<b>3,222</b>	<b>5,311</b>	<b>17,109</b>
<b>Kitchen Remodels</b>	<b>1,297</b>	<b>13,610</b>	<b>17,654</b>	<b>1,073</b>	<b>6,158</b>	<b>6,608</b>
Minor	748	4,269	3,192	610	1,677	1,022
Major	549	26,321	14,463	463	12,057	5,585
<b>Bath Remodels</b>	<b>1,707</b>	<b>8,511</b>	<b>14,525</b>	<b>1,568</b>	<b>3,015</b>	<b>4,727</b>
Minor	833	2,187	1,821	882	844	744
Major	874	14,539	12,704	686	5,807	3,983
<b>Room Additions</b>	<b>411</b>	<b>32,640</b>	<b>13,414</b>	<b>417</b>	<b>6,968</b>	<b>2,903</b>
Kitchen	67	30,069	2,000	32	6,801	220
Bath	81	18,203	1,476	70	4,479	315
Bedroom	130	35,484	4,595	129	8,365	1,075
Recreation	62	20,785	1,286	65	4,152	268
Other	226	17,920	4,056	204	5,026	1,025
<b>Outside Attachments</b>	<b>1,125</b>	<b>8,456</b>	<b>9,516</b>	<b>937</b>	<b>3,064</b>	<b>2,871</b>
Porch, deck, patio or terrace	977	7,775	7,596	830	2,507	2,082
Garage or carport	202	9,521	1,920	157	5,025	789
<b>REPLACEMENT</b>	<b>14,152</b>	<b>6,485</b>	<b>91,776</b>	<b>8,344</b>	<b>2,125</b>	<b>17,728</b>
<b>Exterior</b>	<b>5,896</b>	<b>7,213</b>	<b>42,529</b>	<b>2,410</b>	<b>2,790</b>	<b>6,725</b>
Roofing	3,276	7,364	24,127	745	4,024	2,999
Siding	804	6,868	5,522	333	2,677	892
Windows or doors	2,792	4,074	11,373	1,555	1,663	2,586
Chimney, stairs or other major improvements	492	3,065	1,507	248	1,000	248
<b>Interior</b>	<b>4,494</b>	<b>3,729</b>	<b>16,760</b>	<b>3,013</b>	<b>1,524</b>	<b>4,592</b>
Insulation	931	2,081	1,938	833	744	620
Carpeting, flooring, paneling or ceiling tiles	3,615	3,541	12,799	2,409	1,497	3,607
Other major improvements	459	4,410	2,023	182	2,007	366
<b>Systems and Equipment</b>	<b>9,621</b>	<b>3,377</b>	<b>32,488</b>	<b>5,884</b>	<b>1,090</b>	<b>6,411</b>
Internal water pipes	1,040	2,089	2,174	729	723	527
Plumbing fixtures	2,160	1,636	3,533	2,399	595	1,427
Electrical system	1,624	1,936	3,145	883	672	594
HVAC	3,447	5,427	18,707	603	3,287	1,984
Appliances/Major equipment	5,368	918	4,929	3,341	562	1,879
<b>OTHER</b>	<b>4,472</b>	<b>6,950</b>	<b>31,077</b>	<b>3,853</b>	<b>2,163</b>	<b>8,334</b>
<b>Disaster Repairs</b>	<b>609</b>	<b>15,948</b>	<b>9,711</b>	<b>161</b>	<b>8,421</b>	<b>1,356</b>
<b>Improvements to Lot or Yard</b>	<b>3,981</b>	<b>5,367</b>	<b>21,366</b>	<b>3,736</b>	<b>1,868</b>	<b>6,978</b>
<b>Total</b>	<b>16,469</b>	<b>10,806</b>	<b>177,961</b>	<b>11,154</b>	<b>3,870</b>	<b>43,171</b>

Notes: Homeowner numbers do not add to total because respondents may report projects in more than one category. Major remodels are defined as professional home improvements of more than \$10,000 for kitchen projects and more than \$5,000 for bath projects, and DIY improvements of more than \$4,000 for kitchen projects and \$2,000 for bath projects. Job categories are aggregations of the detailed projects reported in the AHS (see Table A-1).

Source: JCHS tabulations of HUD, American Housing Survey.

## Improvement Expenditures by Homeowner Characteristics: 2015

	Number of Homeowners (000s)	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)
<b>Household Income</b>				
Under \$40,000	21,880	5,473	6,554	35,867
\$40,000–79,999	21,990	6,511	7,993	52,043
\$80,000–119,999	14,357	4,616	10,164	46,915
\$120,000 and Over	16,132	5,338	16,170	86,307
<b>Home Value</b>				
Under \$100,000	18,201	4,978	5,099	25,378
\$100,000–149,999	11,819	3,426	6,706	22,976
\$150,000–199,999	10,457	3,226	7,934	25,599
\$200,000–299,999	13,409	4,217	9,220	38,877
\$300,000–399,999	7,827	2,364	13,722	32,434
\$400,000 and Over	12,648	3,726	20,359	75,868
<b>Age of Householder</b>				
Under 35	6,986	2,100	8,702	18,278
35–44	11,743	3,613	10,294	37,187
45–54	15,968	4,880	10,553	51,493
55–64	17,674	5,316	11,207	59,575
65 and Over	21,988	6,028	9,058	54,600
<b>Generation</b>				
Millennial (Born 1985–2004)	3,476	1,021	8,107	8,279
Generation-X (Born 1965–1984)	24,517	7,474	10,232	76,478
Baby Boom (Born 1945–1964)	33,086	10,001	10,857	108,575
Pre-Baby Boom (Born before 1945)	13,281	3,440	8,081	27,800
<b>Race/Ethnicity</b>				
White	56,402	16,979	10,517	178,570
Black	6,497	1,811	7,117	12,888
Hispanic	7,114	2,036	7,721	15,722
Asian	3,100	739	14,677	10,840
Multirace	1,246	373	8,353	3,112
<b>Household Composition</b>				
Married without Children	29,250	8,902	10,623	94,564
Married with Children	15,314	5,064	11,497	58,217
Single Parent	3,339	984	7,717	7,597
Other Family	6,068	1,775	7,046	12,509
Single Person	17,188	4,256	8,806	37,476
Non-Family	3,200	956	11,267	10,769
<b>Spending Level</b>				
Under \$2,500	8,623	8,623	946	8,154
\$2,500–4,999	3,461	3,461	3,662	12,675
\$5,000–9,999	4,133	4,133	7,186	29,698
\$10,000–24,999	3,880	3,880	15,536	60,285
\$25,000–49,999	1,216	1,216	34,931	42,459
\$50,000 and Over	624	624	108,795	67,861
No projects	52,423			
<b>Total</b>	<b>74,360</b>	<b>21,937</b>	<b>10,080</b>	<b>221,132</b>

Notes: White, black, Asian, and multiracial householders are non-Hispanic. Hispanic householders may be of any race.

Source: JCHS tabulations of HUD, American Housing Survey.



Table A-4

## Professional and Do-It-Yourself Improvement Expenditures by Homeowner Characteristics: 2015

	Number of Homeowners (000s)	Professional			Do-It-Yourself		
		Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)	Homeowners Reporting Projects (000s)	Average Expenditure (\$)	Total Expenditures (Millions of \$)
<b>Household Income</b>							
Under \$40,000	21,880	4,039	7,006	28,299	2,525	2,997	7,568
\$40,000–79,999	21,990	4,716	8,524	40,198	3,506	3,378	11,845
\$80,000–119,999	14,357	3,363	11,094	37,313	2,512	3,823	9,602
\$120,000 and Over	16,132	4,351	16,584	72,151	2,611	5,421	14,156
<b>Home Value</b>							
Under \$100,000	18,201	3,304	5,263	17,388	2,850	2,803	7,990
\$100,000–149,999	11,819	2,520	7,007	17,653	1,793	2,969	5,323
\$150,000–199,999	10,457	2,347	8,092	18,997	1,802	3,664	6,602
\$200,000–299,999	13,409	3,262	9,509	31,019	2,106	3,730	7,858
\$300,000–399,999	7,827	1,905	14,102	26,858	1,129	4,938	5,576
\$400,000 and Over	12,648	3,132	21,090	66,045	1,474	6,666	9,822
<b>Age of Householder</b>							
Under 35	6,986	1,406	9,294	13,067	1,409	3,697	5,211
35–44	11,743	2,539	10,960	27,831	2,230	4,195	9,356
45–54	15,968	3,460	11,695	40,467	2,741	4,022	11,026
55–64	17,674	4,075	11,924	48,589	2,655	4,137	10,986
65 and Over	21,988	4,989	9,623	48,007	2,119	3,112	6,593
<b>Generation</b>							
Millennial (Born 1985–2004)	3,476	626	8,584	5,378	745	3,892	2,901
Generation-X (Born 1965–1984)	24,517	5,284	11,111	58,708	4,485	3,962	17,769
Baby Boom (Born 1945–1964)	33,086	7,689	11,612	89,286	4,794	4,024	19,289
Pre-Baby Boom (Born before 1945)	13,281	2,869	8,570	24,589	1,130	2,842	3,211
<b>Race/Ethnicity</b>							
White	56,402	12,712	11,418	145,143	8,685	3,849	33,427
Black	6,497	1,504	7,178	10,796	719	2,907	2,091
Hispanic	7,114	1,374	7,697	10,576	1,205	4,272	5,147
Asian	3,100	614	15,134	9,295	308	5,021	1,545
Multirace	1,246	265	8,116	2,151	238	4,043	961
<b>Household Composition</b>							
Married without Children	29,250	6,714	11,383	76,423	4,484	4,046	18,141
Married with Children	15,314	3,602	12,697	45,734	3,132	3,986	12,483
Single Parent	3,339	714	8,346	5,960	530	3,089	1,637
Other Family	6,068	1,326	7,298	9,676	846	3,349	2,832
Single Person	17,188	3,413	9,159	31,262	1,631	3,809	6,215
Non-Family	3,200	700	12,723	8,906	532	3,499	1,863
<b>Spending Level</b>							
Under \$2,500	8,623	4,883	953	4,651	4,858	721	3,503
\$2,500–4,999	3,461	2,733	3,242	8,858	1,652	2,311	3,817
\$5,000–9,999	4,133	3,604	6,294	22,687	1,919	3,653	7,011
\$10,000–24,999	3,880	3,507	13,600	47,692	1,883	6,688	12,593
\$25,000–49,999	1,216	1,150	30,604	35,210	555	13,050	7,249
\$50,000 and Over	624	592	99,371	58,863	287	31,324	8,998
No projects	52,423						
<b>Total</b>	<b>74,360</b>	<b>16,469</b>	<b>10,806</b>	<b>177,961</b>	<b>11,154</b>	<b>3,870</b>	<b>43,171</b>

Notes: White, black, Asian, and multiracial householders are non-Hispanic. Hispanic householders may be of any race.

Source: JCHS tabulations of HUD, American Housing Survey.

Table A-5

## Projected Improvement Expenditures by Homeowner Characteristics: 2015

	2015			2020			2025		
	Number of Homeowners (000s)	Average Per Owner Spending (\$)	Total Expenditures (Millions of \$)	Number of Homeowners (000s)	Average Per Owner Spending (2015 \$)	Total Expenditures (Millions of 2015 \$)	Number of Homeowners (000s)	Average Per Owner Spending (2015 \$)	Total Expenditures (Millions of 2015 \$)
<b>White</b>	<b>56,402</b>	<b>3,166</b>	<b>178,580</b>	<b>58,161</b>	<b>3,326</b>	<b>193,438</b>	<b>59,561</b>	<b>3,517</b>	<b>209,505</b>
<b>Married without Children</b>	<b>23,557</b>	<b>3,432</b>	<b>80,843</b>	<b>24,747</b>	<b>3,690</b>	<b>91,312</b>	<b>25,344</b>	<b>3,964</b>	<b>100,459</b>
Age of Householder									
Under 35	981	2,494	2,447	979	3,447	3,373	941	3,639	3,425
35-44	1,257	3,078	3,869	1,305	3,483	4,544	1,402	3,651	5,120
45-54	4,123	3,465	14,284	3,643	3,722	13,561	3,422	3,888	13,305
55-64	7,805	4,074	31,799	7,942	4,341	34,474	7,306	4,711	34,415
65 and Over	9,392	3,029	28,444	10,879	3,250	35,360	12,273	3,601	44,193
<b>Families with Children</b>	<b>12,983</b>	<b>3,914</b>	<b>50,821</b>	<b>12,614</b>	<b>4,247</b>	<b>53,570</b>	<b>12,515</b>	<b>4,435</b>	<b>55,506</b>
Age of Householder									
Under 35	2,612	2,860	7,471	2,707	3,000	8,120	2,701	3,112	8,407
35-44	5,276	3,758	19,828	5,360	4,308	23,093	5,598	4,465	24,992
45-54	4,082	4,739	19,345	3,564	4,940	17,608	3,339	5,244	17,513
55-64	866	4,103	3,554	825	4,775	3,940	712	5,145	3,661
65 and Over	147	4,246	623	155	5,072	787	158	5,796	918
<b>Single Persons and Other</b>	<b>19,862</b>	<b>2,362</b>	<b>46,916</b>	<b>20,800</b>	<b>2,334</b>	<b>48,557</b>	<b>21,702</b>	<b>2,467</b>	<b>53,539</b>
Age of Householder									
Under 35	1,492	2,102	3,135	1,462	2,062	3,014	1,393	2,168	3,020
35-44	1,568	2,189	3,432	1,607	2,442	3,923	1,704	2,422	4,126
45-54	3,251	2,387	7,762	2,891	2,585	7,474	2,739	2,700	7,396
55-64	5,028	2,956	14,861	5,054	2,899	14,653	4,596	3,136	14,413
65 and Over	8,523	2,080	17,726	9,786	1,992	19,493	11,270	2,181	24,585
<b>Minority</b>	<b>17,958</b>	<b>2,370</b>	<b>42,552</b>	<b>20,536</b>	<b>2,438</b>	<b>50,058</b>	<b>23,231</b>	<b>2,562</b>	<b>59,507</b>
<b>Married without Children</b>	<b>5,694</b>	<b>2,410</b>	<b>13,721</b>	<b>6,737</b>	<b>2,678</b>	<b>18,040</b>	<b>7,786</b>	<b>2,854</b>	<b>22,220</b>
Age of Householder									
Under 35	267	1,610	430	287	1,870	536	299	1,956	584
35-44	530	2,530	1,340	578	2,970	1,717	644	3,196	2,058
45-54	1,283	2,269	2,910	1,403	2,260	3,171	1,555	2,304	3,582
55-64	1,921	2,831	5,438	2,273	3,253	7,393	2,503	3,554	8,896
65 and Over	1,693	2,128	3,602	2,196	2,378	5,222	2,785	2,549	7,099
<b>Families with Children</b>	<b>5,670</b>	<b>2,644</b>	<b>14,993</b>	<b>6,222</b>	<b>2,727</b>	<b>16,971</b>	<b>6,822</b>	<b>2,831</b>	<b>19,310</b>
Age of Householder									
Under 35	1,007	1,707	1,718	1,145	2,099	2,403	1,275	2,169	2,765
35-44	2,358	3,033	7,153	2,558	3,079	7,874	2,822	3,196	9,019
45-54	1,824	2,450	4,467	1,940	2,536	4,918	2,058	2,571	5,292
55-64	423	3,572	1,510	497	3,015	1,498	549	3,269	1,796
65 and Over	59	2,459	145	77	3,045	234	98	3,438	338
<b>Single Persons and Other</b>	<b>6,594</b>	<b>2,098</b>	<b>13,838</b>	<b>7,576</b>	<b>1,986</b>	<b>15,047</b>	<b>8,624</b>	<b>2,085</b>	<b>17,977</b>
Age of Householder									
Under 35	628	4,901	3,076	673	2,915	1,963	707	3,266	2,310
35-44	754	2,075	1,565	802	1,581	1,268	874	1,584	1,385
45-54	1,406	1,938	2,724	1,453	2,020	2,936	1,537	2,053	3,157
55-64	1,632	1,478	2,412	1,860	2,123	3,948	1,957	2,202	4,310
65 and Over	2,174	1,867	4,060	2,788	1,769	4,932	3,547	1,921	6,815
<b>All Homeowners</b>	<b>74,360</b>	<b>2,974</b>	<b>221,132</b>	<b>78,697</b>	<b>3,094</b>	<b>243,496</b>	<b>82,792</b>	<b>3,249</b>	<b>269,012</b>

Notes: Five- and ten-year remodeling projections were produced in two parts: (1) average per owner spending levels were extrapolated using a linear best fit (OLS) regression model of historical, inflation-adjusted estimates by detailed age, race/ethnicity and household composition categories from the 1995–2015 American Housing Surveys; and (2) number of homeowners were obtained by applying the 2015–2025 growth rates from the Joint Center's base scenario tenure projections to 2015 American Housing Survey benchmarks. Total spending on home improvements to the owner-occupied stock was thus calculated as the product of projected average per owner spending levels and projected number of homeowners by age, race/ethnicity and household composition categories.

White homeowners are non-Hispanic. Minority homeowners include all races/ethnicities except non-Hispanic whites. Families with dependent children include married, partnered, and single-parent homeowners with children under age 18. Married without dependent children includes only married-couple households without children under age 18. Single persons and other include persons living alone and all other types of households.

Sources: JCHS tabulations of HUD, American Housing Surveys; JCHS 2017 Remodeling Projections; Daniel McCue and Christopher Herbert, *Updated Household Projections, 2015–2035: Methodology and Results*, December 2016; Jonathan Spader and Christopher Herbert, *Waiting for Homeownership: Assessing the Future of Homeownership, 2015–2035*, December 2016.

Average Annual Growth Rate, 1995–2015 (Percent)			Average Annual Growth Rate, 2015–2025 (Percent)		
Number of Homeowners	Average Per Owner Spending	Total Expenditures	Number of Homeowners	Average Per Owner Spending	Total Expenditures
0.3	1.8	2.1	0.5	1.1	1.6
0.7	2.4	3.1	0.7	1.5	2.2
-2.5	1.5	-1.1	-0.4	3.9	3.4
-1.6	1.4	-0.1	1.1	1.7	2.8
-0.7	1.2	0.5	-1.8	1.2	-0.7
2.1	3.2	5.3	-0.7	1.5	0.8
1.3	2.9	4.3	2.7	1.7	4.5
-1.5	1.5	0.0	-0.4	1.3	0.9
-2.9	1.5	-1.5	0.3	0.8	1.2
-2.3	0.9	-1.4	0.6	1.7	2.3
0.3	1.9	2.1	-2.0	1.0	-1.0
3.2	1.8	5.0	-1.9	2.3	0.3
5.5	7.0	12.9	0.8	3.2	3.9
1.2	2.1	3.3	0.9	0.4	1.3
-0.6	1.7	1.1	-0.7	0.3	-0.4
-1.3	-0.1	-1.3	0.8	1.0	1.9
1.2	0.3	1.6	-1.7	1.2	-0.5
4.0	2.6	6.7	-0.9	0.6	-0.3
0.9	3.2	4.1	2.8	0.5	3.3
3.0	1.7	4.8	2.6	0.8	3.4
3.9	1.9	5.9	3.2	1.7	4.9
1.4	1.1	2.5	1.1	2.0	3.1
3.6	1.5	5.1	2.0	2.4	4.4
3.6	0.1	3.7	1.9	0.2	2.1
4.7	3.0	7.9	2.7	2.3	5.0
4.0	2.5	6.7	5.1	1.8	7.0
1.6	1.5	3.1	1.9	0.7	2.6
0.0	1.9	1.9	2.4	2.4	4.9
1.0	2.0	2.9	1.8	0.5	2.3
3.2	-0.5	2.6	1.2	0.5	1.7
5.3	3.5	9.0	2.6	-0.9	1.7
2.2	10.1	12.5	5.3	3.4	8.9
3.7	2.2	6.0	2.7	-0.1	2.7
3.5	8.3	12.1	1.2	-4.0	-2.8
3.0	1.9	4.9	1.5	-2.7	-1.2
3.7	0.8	4.5	0.9	0.6	1.5
4.5	0.3	4.9	1.8	4.1	6.0
3.6	2.2	5.8	5.0	0.3	5.3
0.8	1.7	2.5	1.1	0.9	2.0

## Residential Construction and Remodeling Contractor Establishments with Payrolls: 2012

	All Residential and Nonresidential Construction Establishments	Residential Construction Establishments		Residential Establishments with Remodeling Receipts			Residential Remodeling Establishments		
	Number (000s)	Number (000s)	Value of Receipts (Billions of \$)	Number (000s)	Value of Construction Receipts (Billions of \$)	Value of Remodeling Receipts (Billions of \$)	Number (000s)	Value of Construction Receipts (Billions of \$)	Value of Remodeling Receipts (Billions of \$)
<b>General Building Contractors</b>	<b>164.5</b>	<b>126.1</b>	<b>191.1</b>	<b>104.7</b>	<b>100.1</b>	<b>57.9</b>	<b>80.3</b>	<b>54.3</b>	<b>50.1</b>
<b>Special Trade Contractors</b>	<b>401.0</b>	<b>211.6</b>	<b>145.2</b>	<b>193.3</b>	<b>123.6</b>	<b>72.6</b>	<b>144.6</b>	<b>81.7</b>	<b>64.1</b>
Concrete, Structural Steel and Foundation	24.7	9.9	9.9	7.5	6.2	2.0	3.1	1.7	1.3
Framing	10.5	8.5	5.8	6.1	3.0	1.2	2.8	1.0	0.8
Masonry	16.6	10.4	5.3	8.9	4.2	1.9	4.5	1.7	1.3
Glass and Glazing	4.7	2.1	1.8	2.1	1.7	1.0	1.8	1.3	0.9
Roofing	16.6	12.0	12.1	11.6	11.5	8.6	10.6	9.8	8.2
Siding	7.1	6.4	3.8	6.0	3.5	2.3	4.4	2.5	2.0
Electrical	64.7	26.0	16.6	24.4	14.5	7.6	18.2	9.1	6.5
Plumbing, Heating, and Air-Conditioning	93.5	54.4	44.7	52.6	41.2	25.9	43.7	31.0	23.8
Drywall and Insulation	17.1	10.1	9.5	8.9	7.1	2.5	4.4	1.8	1.5
Painting and Wall Covering	29.7	21.4	7.1	19.9	6.5	4.6	17.1	5.3	4.3
Flooring and Tile	20.7	14.9	8.0	13.9	7.4	4.4	10.7	5.0	3.8
Finish Carpentry	34.5	25.3	12.9	23.2	11.6	8.4	19.7	9.5	7.9
Site Prep and Other	60.5	10.4	7.7	8.2	5.2	2.3	3.7	2.2	1.7
<b>All Contractors</b>	<b>565.4</b>	<b>337.7</b>	<b>336.3</b>	<b>298.0</b>	<b>223.7</b>	<b>130.6</b>	<b>224.9</b>	<b>136.0</b>	<b>114.2</b>

Notes: Residential remodeling establishments are defined as businesses earning more than 50% of receipts from remodeling or repairs. Data include only establishments that reported revenue.

Source: JCHS estimates based on unpublished tabulations of US Census Bureau, Economic Census of Construction.

## Nonpayroll Residential Remodeling Contractors by Annual Receipts: 2012

	\$25,000–49,999	\$50,000–99,999	\$100,000–199,999	\$200,000–299,999	\$300,000 and Over	Total
<b>General Building Contractors</b>	<b>70,809</b>	<b>49,722</b>	<b>32,708</b>	<b>12,423</b>	<b>17,069</b>	<b>182,732</b>
<b>Special Trade Contractors</b>	<b>142,687</b>	<b>90,565</b>	<b>51,371</b>	<b>12,976</b>	<b>10,844</b>	<b>308,443</b>
Concrete, Structural Steel and Foundation	643	928	658	128	133	2,490
Framing	5,413	2,088	1,037	310	332	9,180
Masonry	4,125	2,637	1,064	292	294	8,411
Glass and Glazing	1,981	1,205	1,243	261	280	4,970
Roofing	7,930	5,593	4,043	1,659	1,968	21,193
Siding	2,661	2,004	1,184	407	303	6,559
Electrical, Plumbing and HVAC	28,111	21,874	14,219	3,895	2,299	70,399
Drywall and Insulation	6,774	2,946	1,746	346	296	12,108
Painting and Wall Covering	27,433	16,919	7,061	1,515	1,266	54,195
Flooring	23,488	16,239	7,610	1,781	1,627	50,743
Finish Carpentry	21,752	13,134	6,623	1,565	1,280	44,353
Site Prep and Other	12,376	4,998	4,884	815	768	23,841
<b>All Contractors</b>	<b>213,496</b>	<b>140,288</b>	<b>84,078</b>	<b>25,399</b>	<b>27,913</b>	<b>491,175</b>

Notes: Residential remodeling establishments are defined as businesses earning more than 50% of receipts from remodeling or repairs. JCHS estimates of nonpayroll remodeling businesses assume that the distribution of nonpayroll businesses is comparable to that of payroll establishments by revenue size. After calculating the residential remodeling share of all construction payroll establishments, the shares were then applied to nonpayroll construction businesses within revenue categories. 640,000 firms with less than \$25,000 in gross receipts were eliminated thus yielding a conservative estimate of the number of businesses concentrating on residential remodeling.

Source: JCHS estimates based on unpublished tabulations of US Census Bureau, Economic Census of Construction and Nonemployer Statistics.

Table A-8

## Metropolitan Trends and Projections for Home Improvement Spending: 2015–2017

Metropolitan Area	2015								Annual Percent Change 2016		Real Annual Percent Change 2017 (Projected)
	Number of Homeowners (Millions)	Median Home Values (\$)	Median Homeowner Incomes (\$)	Average Per Owner Spending (\$)	Total Expenditures (Billions of \$)	Discretionary Share (%)	Replacement Share (%)	Other Share (%)	Existing Single-Family Home Sales	Single-Family Starts	Total Expenditures
Atlanta, GA	1.26	186,000	77,000	2,630	3.3	32	54	14	9.9	16.4	13.2
Boston, MA	1.13	393,000	104,000	3,970	4.5	35	50	15	19.9	13.2	16.5
Chicago, IL	2.19	224,000	83,000	2,930	6.4	28	59	13	-4.8	8.8	2.0
Cincinnati, OH	0.55	159,000	75,000	2,990	1.6	38	47	15	5.5	19.9	12.7
Cleveland, OH	0.55	143,000	68,000	2,960	1.6	32	48	20	15.7	10.2	13.0
Dallas-Fort Worth, TX	1.46	173,000	82,000	3,060	4.5	23	51	26	1.1	4.9	3.0
Denver, CO	0.67	314,000	89,000	4,760	3.2	31	48	21	-2.5	8.8	3.2
Detroit, MI	1.19	151,000	69,000	2,890	3.4	30	54	16	-0.3	14.5	7.1
Houston, TX	1.36	168,000	85,000	2,770	3.8	35	48	17	-6.8	-3.4	-5.1
Kansas City, MO	0.52	165,000	77,000	3,020	1.6	31	54	15	10.6	20.6	15.6
Los Angeles, CA	2.02	541,000	92,000	3,420	6.9	39	42	19	-2.0	7.0	2.5
Memphis, TN	0.29	140,000	66,000	2,110	0.6	23	59	18	8.7	17.7	13.2
Miami, FL	1.15	242,000	65,000	2,870	3.3	42	45	13	-2.7	-4.4	-3.6
Milwaukee, WI	0.38	199,000	78,000	3,080	1.2	32	56	11	25.2	24.7	25.0
New Orleans, LA	0.30	188,000	65,000	2,530	0.8	28	49	23	3.7	20.4	12.1
New York, NY	3.65	414,000	101,000	5,340	19.5	36	47	17	3.9	-2.8	0.6
Philadelphia, PA	1.50	241,000	83,000	3,420	5.1	33	54	13	8.3	7.0	7.6
Phoenix, AZ	1.02	219,000	71,000	3,710	3.8	33	48	19	3.4	9.9	6.6
Pittsburgh, PA	0.68	143,000	68,000	3,190	2.2	30	42	26	-0.4	1.2	0.4
Portland, OR	0.55	303,000	82,000	3,950	2.2	37	44	19	2.5	4.2	3.4
Raleigh, NC	0.30	225,000	84,000	3,430	1.0	38	47	15	1.3	10.1	5.7
Riverside, CA	0.79	299,000	71,000	2,220	1.8	28	50	22	-0.4	8.4	4.0
San Francisco, CA	0.90	718,000	117,000	5,030	4.5	42	36	21	-4.9	2.4	-1.3
Seattle, WA	0.85	362,000	96,000	3,520	3.0	39	45	16	5.0	7.8	6.4
Washington, DC	1.34	402,000	119,000	5,230	7.0	45	45	10	2.3	5.3	3.8
<b>25 Metro Average</b>	<b>1.06</b>	<b>268,000</b>	<b>83,000</b>	<b>3,400</b>	<b>3.9</b>	<b>34</b>	<b>49</b>	<b>17</b>	<b>4.1</b>	<b>9.3</b>	<b>6.7</b>
<b>United States</b>	<b>74.36</b>	<b>195,000</b>	<b>71,000</b>	<b>2,970</b>	<b>221.1</b>	<b>33</b>	<b>50</b>	<b>18</b>	<b>3.0</b>	<b>9.3</b>	<b>6.1</b>

Notes: Homeowner improvement spending estimates and number of owners are from the American Housing Survey. See Table A-1 for definitions of discretionary, replacement, and other projects. Home values and incomes are from the American Community Survey. Projected spending is the average of annual rates of change in sales of existing single-family homes (as of 2016:3) and starts of privately owned single-family homes (as of 2016:4). These inputs were obtained from Moody's Economy.com and estimated by Moody's Analytics based on data from the National Association of Realtors: Real Estate Outlook; CoreLogic, Inc.; and US Census Bureau, New Residential Construction.

Source: JCHS tabulations of HUD, 2015 American Housing Survey; US Census Bureau, 2015 American Community Survey; and Moody's Analytics estimates.

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