IMPROVING AMERICA'S HOUSING

2023

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IMPROVING AMERICA'S HOUSING 2023

Executive Summary

The COVID-19 pandemic focused households' attention on their living environments as never before and sparked enormous investment in home improvements and maintenance.

The widespread adoption of working from home, spectacular growth in home equity and saving rates, and the continued aging of the housing stock lifted the home remodeling market to an unprecedented height of nearly $500 billion in 2021. Growth in market spending involved households at all income levels and projects of all sizes, but with disproportionate surges in home improvement among middle-income homeowners doing moderately priced projects, many of which involved their own labor. And in 2022, even as many households returned to pre-pandemic routines, the focus on home investments endured with spending growing an estimated 15 percent to $567 billion.

Yet, after several years of double-digit gains, the pandemic boom in home improvement and repair is expected to slow in 2023 from its breakneck pace. The residential remodeling market faces many headwinds that may worsen over the near term, including high inflation, rising interest rates, slowing house price appreciation, and declining home sales. With uncertainty in the housing and labor markets, homeowners may scale back or defer high-cost discretionary projects, such as major kitchen and bath remodels and room additions. And remodeling firms continue to be challenged by disruptions in the building material supply chain and a skilled labor shortage.

Despite these concerns, many factors point to a promising outlook for the home remodeling market in the long term. The aging housing stock is in growing need of core replacements, such as roofing, windows, and HVAC systems, as well as increased spending for routine maintenance. Rising numbers of older homeowners will need to modify homes for improved accessibility and safety, and members of the huge millennial generation will move through prime ages for first-time homebuying and consequent remodeling. The recent Infrastructure Investment and Jobs Act and Inflation Reduction Act provide incentives and assistance to households seeking to retrofit homes for energy efficiency or resilience to the effects of climate change. Combined with the ongoing transformation of home uses and activities brought on by the pandemic, these factors are expected to support longer-term gains in home improvement and repair spending.

While many homes require critical improvements and repairs, those most in need of updates are often occupied by households least able to afford the expense. Deteriorating housing systems and equipment threaten the health and safety of older, lower-income homeowners, while the burden of high improvement and repair costs jeopardizes the current stock of affordable housing. Disparities in home equity by race and ethnicity suggest widening gaps in housing adequacy, accessibility for aging in place, home energy performance, disaster recovery, and improvement and maintenance cost burdens. Greater public funding for home retrofits and repairs will be vital for addressing unmet needs and long-standing inequities.

Persistent Pandemic Impacts

PANDEMIC CONDITIONS SPUR SPENDING

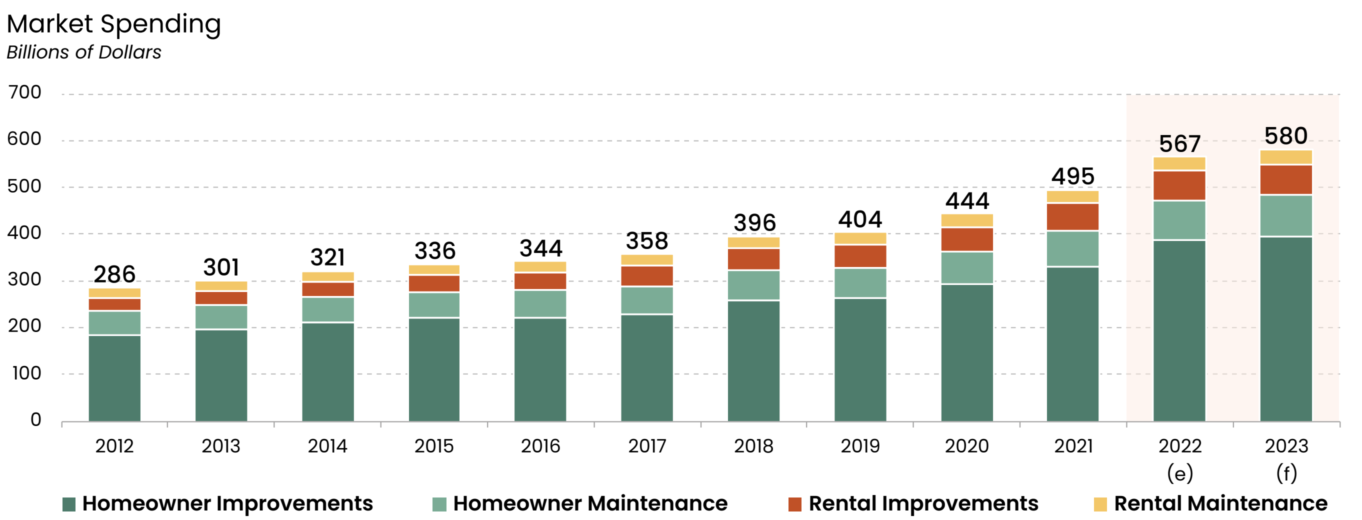
With the COVID-19 pandemic came dramatic changes in household routines and use of living spaces that ultimately encouraged massive investment in home improvements and repairs. Between 2019 and 2021, annual spending on improvements and repairs to owner-occupied and rental properties grew fully 23 percent to $495 billion—an annual pace of growth more than double the market's historical average of 4.4 percent **(Figure 1)**. In real terms, spending in 2021 surpassed peak levels of the previous, mid-2000s boom. As a whole, spending for improvement and repair of owner-occupied homes increased from $328 billion in 2019 to $406 billion in 2021, while expenditures on the rental stock grew from $76 billion to $89 billion. Annual homeowner and rental property owner expenditures for improvements alone, including remodels, additions, replacements, and other activities that increase the value of the housing stock, rose 25 percent, twice as fast as maintenance and repair expenditures that help to preserve the current quality of homes.

During the pandemic, many homeowners used their increased time at home to catch up on long overdue improvement and repair projects. In 2021, more than two-thirds of remodeling market spending went to improvements of owner-occupied homes, with an additional 15 percent to routine repair projects. Indeed, annual spending for homeowner maintenance and repairs grew at a well-above-average pace from 2019 to 2021, up 16 percent to $75 billion. Average per-owner maintenance spending increased 11 percent over this period to $920, while the number of homeowners with maintenance spending grew by more than 4 percent to over 62 million.

As work, school, exercise, and entertainment took place at home as never before, homeowners also invested in improvement projects to better accommodate these activities. Low interest rates, increased savings, and considerable home equity gains further encouraged remodeling activity. In 2021, aggregate homeowner improvement spending reached $331 billion, up 26 percent from 2019. Most of this growth was due to a substantial increase in average per-owner expenditure from $3,300 to $4,000. But the increase

Figure 1

After a Pandemic-Induced Surge, the Remodeling Market Is Expected to Expand at a Slower Rate in 2023



Notes: Estimated (e) and forecasted (f) values are modeled using the 2022:Q4 Leading Indicator of Remodeling Activity (LIRA). See Table A-2 for detailed historical values.

Source: JCHS analysis of US Department of Housing and Urban Development (HUD), American Housing Surveys; US Department of Commerce, Retail Sales of Building Materials; US Census Bureau, Surveys of Residential Alterations and Repairs (C-50); US Bureau of Economic Analysis, Detailed Fixed Asset Tables; US Bureau of Labor Statistics, Consumer Price Index: Rent of Primary Residence; and LIRA.

in per-owner spending was also accompanied by an unprecedented rise in the number of owners doing home improvements. In 2021, 24.5 million homeowners undertook one or more home improvement projects—2.3 million more than in 2019. The number of homeowners doing one or more do-it-yourself (DIY) projects soared 17.1 percent, while owners doing professionally installed projects also grew sharply at 10.7 percent. This record growth boosted the share of homeowners doing improvements to 29.7 percent, the highest share in more than two decades and a full percentage point greater than in 2007 during the prior market boom.

With this incredible rise in activity, both aggregate and per-owner improvement spending surpassed previous market highs during the mid-2000s housing boom in real values. After adjusting for inflation, per-owner spending in 2021 stood 5 percent above the 2007 peak while aggregate improvement spending was up 15 percent.

SURGE IN SAVINGS AND HOME EQUITY FUELS IMPROVEMENTS

Cash from savings is the most common source of home improvement funding—and record-high savings during the pandemic contributed to phenomenal growth in home improvement activity. In light of changing household activities and federal income injections, the personal saving rate, or share of disposable income people save, nearly doubled from an average of 8.8 percent in 2019 to 16.8 percent in 2020 and remained elevated in 2021 at an average of 11.8 percent. While per-owner spending on home improvements averaged $4,000 in 2021, owners spent less than $1,500 on half of all individual projects and used cash from savings to pay for almost 4 in 5 projects. The remaining minority were funded using credit cards (6 percent), home equity (5 percent), homeowner insurance settlements (4 percent), contractor-arranged financing (2 percent), and other sources like personal loans and family gifts (6 percent).

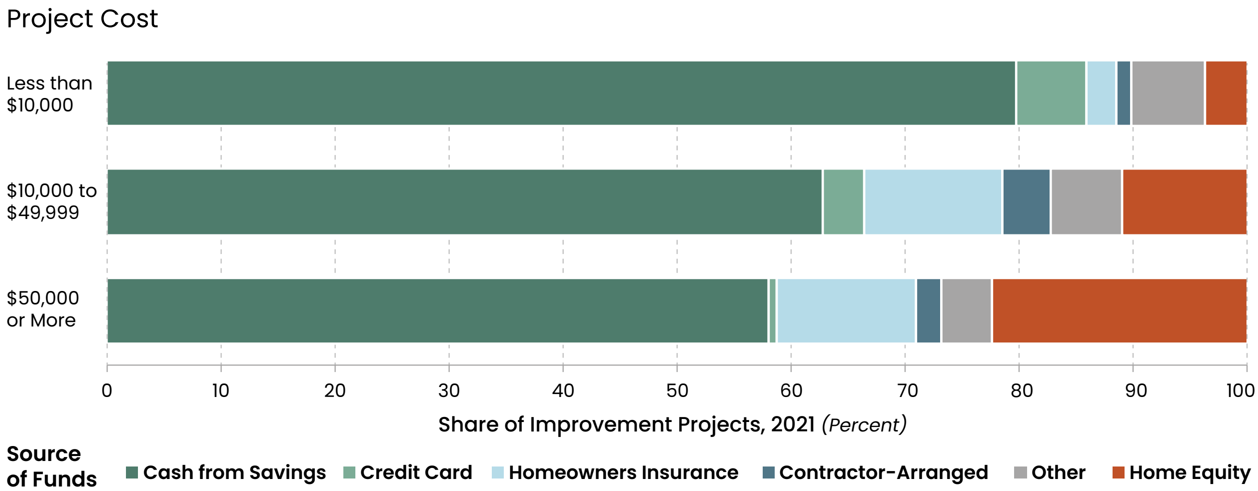
Along with saving rates, the pandemic also sparked a surge in home prices as housing demand soared in the face of historically low mortgage interest rates and households' sudden need for more space to participate in remote work and school. Even as interest rates rose, markets cooled, and house price appreciation softened in the second half of 2022, home prices remained about 40 percent above pre-pandemic levels nationwide. As a whole, this rapid home price appreciation was a tremendous boon for homeowners, allowing them to accumulate record levels of home equity. Indeed, Federal Reserve data show that aggregate home equity in the US grew fully 51 percent to $30 trillion from 2019 through the third quarter of 2022. By this account, homeowners gained an average of more than $100,000 in equity over this period.

For many homeowners, strong growth in home equity provided both the incentive and resources to undertake more and larger-scale home improvements. Although the overwhelming share of home improvement funding came directly from savings, homeowners were much more likely to tap home equity-based financing to pay for higher-cost projects **(Figure 2)**. The share of projects primarily funded with cash from mortgage refinancings, home equity loans, or home equity lines of credit increased from just 3.7 percent of improvements costing less than $10,000 to 11.0 percent for those costing $10,000 to $49,999 and 22.4 percent for those costing $50,000 or more. Between 2019 and 2021, the number of projects costing $50,000 or more in real terms grew 8 percent, while large-scale projects funded with home equity increased 20 percent.

Undoubtedly, home equity is an important source of wealth for most owners and a key source of funding for larger-scale home improvements. Yet, it is not evenly distributed across all homeowners. At last measure in 2019, the median home equity of white homeowners ($130,000) was nearly twice that of Black homeowners ($67,000) and 37 percent greater than that of Hispanic homeowners ($95,000). These wide racial and ethnic disparities are the result of centuries of discrimination in education, labor markets, and housing. Research suggests that Black homeowners have benefited less

Figure 2

A Large Portion of Higher-Cost Improvements Is Funded by Home Equity



Notes: Credit card category includes retail store charge cards. Home equity includes cash from refinancing, home equity loans, and home equity lines of credit. Other includes funding sources not reported.

Source: JCHS tabulations of HUD, 2021 American Housing Survey.

from rising home values than white homeowners, and that Black and Hispanic borrowers are also much less likely to refinance their mortgages to take advantage of lower rates or extract equity, compounding existing racial disparities in home equity and its use in financing remodeling projects.

REMODELING FOR WORK-FROM-HOME

The pandemic forced a radical transition to remote work for a large segment of the US labor force. For some households, it opened up the opportunity to move away from their places of work and purchase larger and relatively more affordable living space—decisions that typically result in increased remodeling activity. Remote-job households living in expensive metros were some of the most likely to move, with smaller metros, suburbs, and rural areas gaining households in 2021. Meanwhile, high-cost metros with large proportions of professional employees and remote jobs—such as New York and San Francisco—saw large net outflows.

Among homeowners who chose to move between 2019 and 2021, the most common reason was a desire for a larger or higher-quality home (51 percent), while 18 percent cited lower housing costs. Homeowners in the former group spent, on average, 40 percent more on home improvements in 2021 than non-movers or those forced to move, and movers in the latter group spent 30 percent more. Given recent buyers' increased spending, a continued flow of remote-work homeowners into lower-cost, suburban, and rural markets would likely support increased home improvement activity in these areas.

While many of the household disruptions wrought by the pandemic are fading, the use and modification of space in and around the home to accommodate remote work is expected to endure. The latest American Community Survey confirms an exceptional rise in the number of people primarily working from home during the pandemic, increasing from 9 million people (or 5.7 percent of working-age adults) in 2019 to more than 27 million people (or 17.9 percent) in 2021. Even as more workers are choosing or asked by employers to return to the office, a greater share of households will likely continue to work from home at least some portion of the week, if not fully remotely, than before the pandemic. And with relatively more time spent at home, homeowners will likely spend more on improvements and repairs to both accommodate changing uses and keep up with the additional wear and tear.

CONSTRAINTS ON LABOR AND MATERIALS

Since the start of the pandemic, soaring demand and shrinking availability have caused a significant run-up in construction labor and building material costs. High quitting and job opening rates have been exacerbated by decades-old challenges with worker recruitment and training. Between March 2020 and December 2022, the average hourly wages of all employees in the residential construction sector increased by more than 9 percent. Simultaneously, the pandemic saw prices of many key building materials rise dramatically: 20–25 percent for cement, brick and clay tile, flat glass, and lumber and plywood; 34 percent for insulation materials; 42 percent for gypsum products; 54 percent for plastic construction materials; and a stunning 67 percent for steel mill products.

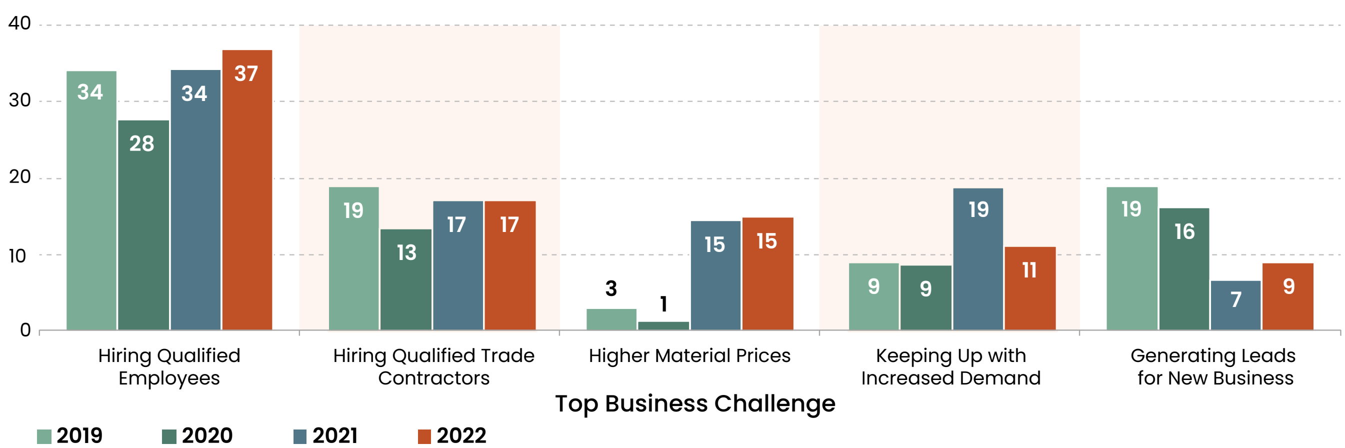
For remodeling firms, labor availability and inflated material costs have presented a major concern. Indeed, data from *Qualified Remodeler®'s* Top 500 Remodelers show that these two pressures continue to be the greatest business challenges reported by larger-scale firms **(Figure 3)**. In 2022, over half of firms in the Top 500 Remodelers cited finding and hiring qualified labor as their primary business challenge, with 37 percent most challenged by hiring payroll employees (up from 28 percent in 2020) and 17 percent most challenged by securing specialty trade subcontractors (up from 13 percent in 2020). Another 15 percent of larger-scale remodeling firms cited higher material prices as their biggest challenge in 2022, up from just 1 percent in 2020.

A growing share of homeowners with projects underway feel similarly, according to surveys by the Home Improvement Research Institute (HIRI) and The Farnsworth Group. In December 2022, 33 percent of homeowners whose improvement projects had been delayed or stopped reported high material prices as a main reason, up from less than 20 percent in December 2021. Another 17 percent of owners said high labor costs were a main reason for delaying or stopping their project at the end of 2022, compared with 6 percent the previous year. Nearly half of owners (49 percent) also pointed to the unavailability of materials as a reason behind project hiccups, though the share fell somewhat from 55 percent in December 2021. Moving forward, material cost and availability concerns should lessen, given efforts by the Federal Reserve Board to control inflation and by manufacturers to re-shore and diversify the building materials supply chain.

Figure 3

Labor Supply and Material Costs Remain Top Challenges for Large-Scale Remodelers

Share of Firms in *Top 500 Remodelers*
Percent



Notes: Companies qualifying for the Top 500 Remodelers list typically generate annual remodeling revenues of $2 million or more. Entrants are instructed to select one challenge from a pre-supplied list with the option to specify other challenges. Shown in the figure are the challenges selected by the most firms in 2022.

Source: JCHS tabulations of Qualified Remodeler® publication's Top 500 Remodelers.

ELEVATED INFLATION AND INTEREST RATES LOWER DEMAND

The residential remodeling market is facing significant headwinds in the form of decades-high inflation and rapidly rising interest rates enacted by the Federal Reserve to tamp down price growth. These interest rate hikes have more than doubled home mortgage rates, from an average of 3.1 percent in December 2021 to 6.4 percent by December 2022, and slammed the brakes on home sales and mortgage refinancing—both strong drivers of home remodeling activity. Annual growth in existing single-family home sales peaked in the second quarter of 2021 at more than 19 percent, and sales began declining on an annual basis by the second quarter of 2022. By the end of 2022, home sales had declined by more than 17 percent year over year.

In general, lower household mobility reduces remodeling demand because households tend to spend more on improvements both when they are putting their homes on the market and in the first several years after purchase. According to a 2022 HIRI survey, three in four recent sellers (who had sold homes in the preceding year) undertook one or more improvement projects to prepare their homes for sale, with expenditures averaging well over $12,000. The post-purchase spending of recent buyers is also considerably higher than non-mover spending, even after controlling for age and income. Recent buyers aged 35–64 in the middle-income quintiles consistently spend significantly more on average—about 30 percent—on improvements than otherwise similar non-movers. And higher shares of improvement spending by recent buyers go toward DIY and discretionary projects. As a result, falling household mobility rates will likely put downward pressure on DIY and discretionary spending shares.

Further, with mortgage interest rates averaging just 4.2 percent in the decade following the Great Recession, most mortgage holders today have rates substantially below current market rates. Ultra-low mortgage rates certainly provide an incentive for owners to remain in their current homes, but they also disincentivize mortgage refinancing and, in particular, home equity extractions through cash-out refinancing. These proceeds are commonly used to pay for home improvements, especially larger-scale projects. Data published by Freddie Mac show that the cash-out share of refinance mortgages increased from 36 percent in 2020 to 42 percent in 2021, and the aggregate home equity cashed out swelled by 65 percent from $150 billion to $248 billion in real dollars. In 2021, the average borrower extracted more than $60,000, or 14 percent of their property's value.

If interest rates continue to rise or remain high, the resulting widespread mortgage lock-in effect and slowing house price appreciation will surely suppress future gains in remodeling activity. This impact may be partly mitigated, however, if homeowners who choose to remain in their current homes—whether because of an ultra-low mortgage rate or a lack of desirable housing among the limited homes for sale—turn to home remodeling as an alternative to moving. Living in a home longer than originally anticipated changes the calculus of remodeling in favor of doing more and different upgrades. As lengths of tenure rise, homeowners may continue to spend relatively more money on their homes to accommodate changing needs and activities, replace worn components and systems, and make necessary repairs.

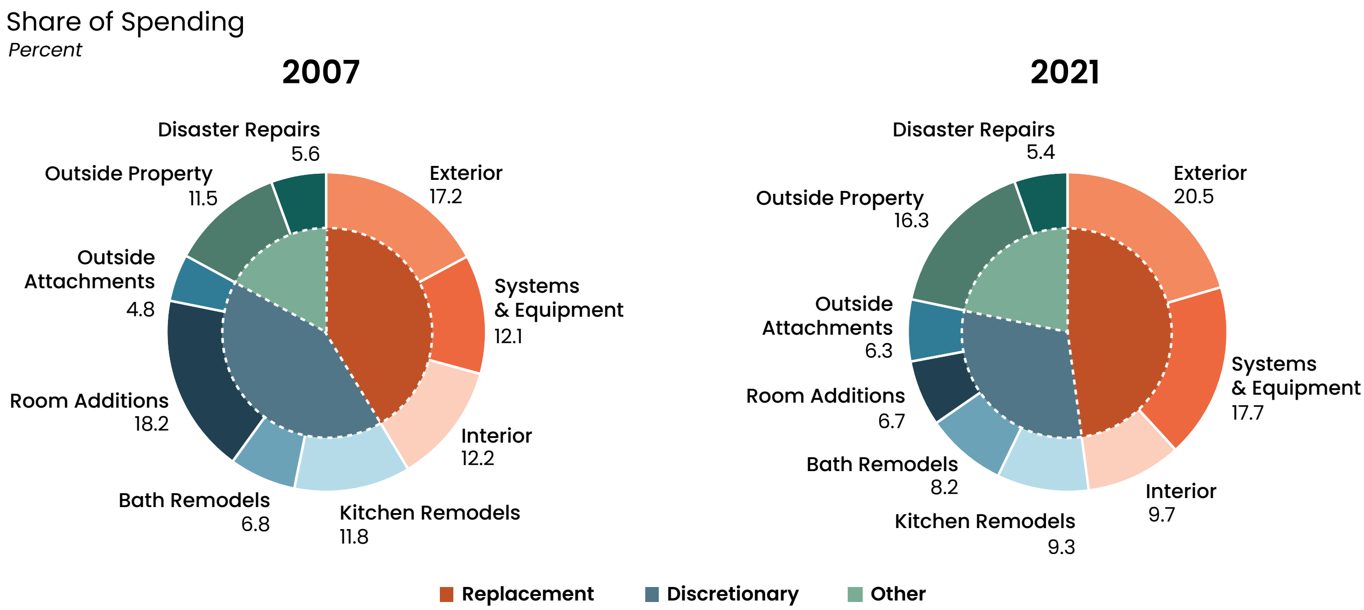
Changing Sources of Remodeling Market Growth

REPLACEMENT PROJECTS CONTINUE TO OUTPACE DISCRETIONARY

Replacement projects (such as roofing, siding, windows, doors, electrical, plumbing, and HVAC systems) continued to dominate the $331 billion homeowner improvement market in 2021, accounting for 48 percent of expenditures. Meanwhile, discretionary projects (such as kitchen and bath remodels and room additions) made up just over 30 percent of aggregate expenditures, improvements to lots or

Figure 4

Replacement Projects Are a Larger Share of Homeowner Improvement Budgets Than at the Previous Peak



Notes: See Table A-1 for more detailed definitions of project categories. Inflation-adjusted homeowner improvement spending totaled $288 billion in 2007 and $331 billion in 2021.

Source: JCHS tabulations of HUD, American Housing Surveys.

yards (such as driveways, fencing, sheds, landscaping, and recreational structures) accounted for more than 16 percent of spending, and disaster repairs made up over 5 percent of spending.

Replacement projects typically include improvements that affect the home's safety and efficient functioning, and for this reason cannot be delayed indefinitely. Discretionary projects, in contrast, typically include improvements that reflect owners' desires for updated amenities or aesthetics but can be deferred when economic conditions are uncertain. While market shares for replacement and discretionary projects have remained essentially unchanged over the last decade, they have shifted significantly since the last remodeling boom in the mid-2000s **(Figure 4)**. At that time, spending for replacement and discretionary projects were each about 40 percent of the homeowner improvement market with the remainder of spending going toward outside property and disaster repair projects. The continued dominance of replacement activity suggests the home remodeling market is more resilient to economic downturn and the corresponding decline in household discretionary spending.

MORE HOUSEHOLDS CONTRIBUTE TO IMPROVEMENT SPENDING

Historically, a relatively small number of homeowners has accounted for a large share of aggregate remodeling activity—a reflection of concentrated income and wealth. Yet, in 2021, the top 5 percent of homeowners with the highest improvement expenditure accounted for less than 50 percent of market spending nationally, compared with 54 percent in 2019 and fully 61 percent in 2005 during the last remodeling boom. At that time, nearly a quarter of home improvement spending was for upper-end discretionary projects, including major kitchen and bath remodels and room additions of more than $75,000 if professionally installed or $30,000 if DIY, adjusted for inflation. In contrast, upper-end discretionary projects only constituted 14 percent of market spending in 2021.

Strong growth in the number of owners doing improvements and faster gains in spending for mid-sized projects contributed to the less-concentrated home improvement market, reversing the trend leading up to the pandemic. Home improvement expenditures by middle-income owners and for mid-range projects grew considerably faster than the 19 percent gain in real market spending from 2019 to 2021 **(Figure 5)**. Whereas real aggregate spending by owners in the lowest income quintiles grew 8–10 percent and spending by owners in the highest quintiles grew 19–21 percent, owners in the middle-income quintile increased their aggregate improvement expenditure by 29 percent over this period. Similarly, owners with improvement spending of $10,000–49,999 increased their real aggregate expenditure by 28 percent, compared with 14 percent for owners spending less than $10,000 and 11 percent for owners spending $50,000 or more.

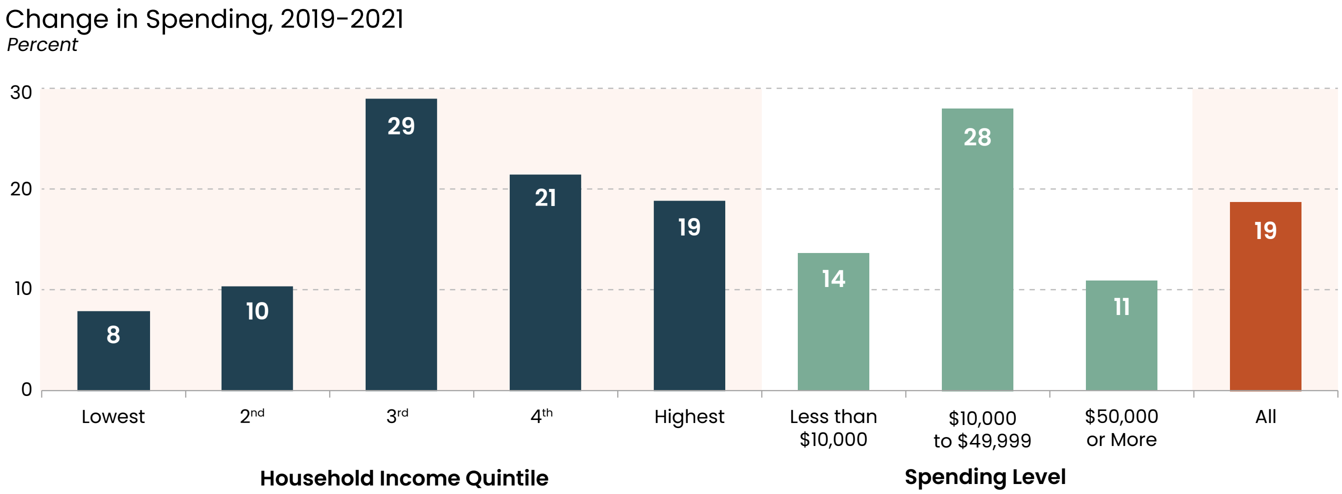
The waning concentration of home improvement spending in a small pool of high-spending households provides the remodeling market further buffer against severe declines in the event of an economic recession. Remodeling markets in the Midwest and South that are significantly less concentrated than high-cost coastal markets may be more resilient to decline. Top-spending homeowners accounted for just 38–40 percent of home improvement spending in Baltimore, Chicago, Dallas, Richmond, and Tampa, compared with 52–58 percent of market spending in Boston, Los Angeles, New York, San Francisco, and San Jose.

STRONG GAINS IN DIY ACTIVITY

Another noticeable shift in home improvement activity during the pandemic occurred in project installation. The pandemic boosted DIY project spending—which includes only the owner's costs for materials—to a record height of $66 billion in 2021 or 44 percent higher than in 2019. In contrast, homeowner spending for professionally installed projects—which includes labor, materials, profit, and overhead—grew 22 percent to $265 billion. Despite the extraordinary growth in DIY activity, the DIY share of total improvement spending only ticked up 2.5 percentage points to about 20

Figure 5

Improvement Spending by Middle-Income Owners and for Mid-Range Projects Grew the Most Since 2019



Notes: Expenditures are adjusted for inflation using CPI-U for All Items. The middle income quintile includes homeowners with household incomes of $62,000–97,000 in 2021.

Source: JCHS tabulations of HUD, American Housing Surveys.

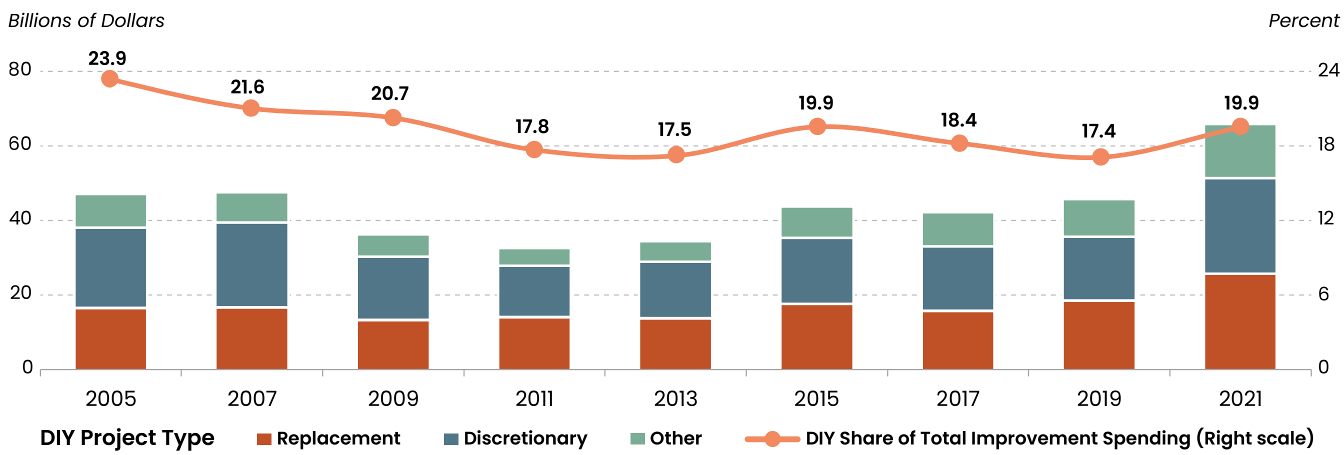
percent. This was still well below historical highs in the mid-2000s when DIY spending was closer to a quarter of the market **(Figure 6)**. In 2021, DIY improvement spending was equally divided between discretionary and replacement projects at 39 percent each, whereas during the mid-2000s boom about half of DIY spending was for discretionary projects.

Younger homeowners are consistently the most likely of any age group to do DIY projects. In 2021, more than 1 in 5 owners under age 35 did a DIY project, more than twice the share of owners age 65 and over. Owners under age 35 also devoted 26 percent of their home improvement dollars to DIY projects, compared with just 13 percent for owners age 65 and over. And given the typically higher cost of professional installations, lower-income owners also focus a considerable share of their home improvement spending on DIY projects. In 2021, 21 percent of home improvement spending by owners in the lowest income quintile was for DIY projects, compared with 15 percent of spending by owners in the highest income quintile. Significantly, DIY improvement spending by lower-income owners is much more heavily focused on replacements of critical home components. As a whole, homeowners in the lowest income quintile spent 56 percent of their DIY dollars for replacements, compared with 34 percent by owners in the highest income quintile.

Since younger homeowners and those with lower incomes focus relatively more of their improvement dollars on DIY projects, the share of DIY activity is typically larger in more affordable housing markets with lower home values and value-to-income ratios. Among the 25 major metros covered in the 2021 American Housing Survey, DIY installations accounted for 20–24 percent of market spending in Birmingham, Detroit, Minneapolis, and Rochester. These metros have higher proportions of younger homeowners because of the lower barriers to homeownership. Conversely, the metros with the lowest shares of spending on DIY projects of 12 percent or less included mainly high-cost markets such as Los Angeles, San Jose, and Washington, DC.

Figure 6

DIY Improvement Spending Jumped in 2021, But Its Market Share Was Still Below Historic Highs



Notes: Replacement projects include exterior, systems and equipment, flooring, and insulation. Discretionary projects include kitchen and bath remodels, room additions, and outside attachments. Other projects include outside property and disaster repairs. See Table A-1 for more detailed definitions of project categories.

Source: JCHS tabulations of HUD, American Housing Surveys.

Although DIY spending is expected to grow along with the overall market, the pandemic-driven uptick in the DIY share of aggregate improvement spending is unlikely to continue in the long term. The many factors that contributed to the persistent decline in the DIY share in the decades before the pandemic remain, including growing wealth, declining rates of household mobility, and aging of both the housing stock and homeowners. As more members of the more racially and ethnically diverse millennial generation reach prime ages for first-time homebuying and remodeling, younger owners and households of color may become a larger share of the home improvement market. But their DIY shares of spending have also trended down over the decades. Finally, the larger focus on replacements in the project mix such as roofing, electrical, and plumbing will continue to suppress the DIY share, given that most homeowners lack the specialized skills to perform these types of improvements.

Changing Household Demographics

OLDER OWNERS EXPAND SPENDING

Homeowners age 65 and over spent $84 billion on improvement projects in 2021, lifting their share of overall improvement spending to 25 percent, up from 21 percent in 2011 and just 14 percent in 2001. Total expenditures by older homeowners increased significantly faster than other age groups over the past decade. Between 2011 and 2021, real spending by homeowners age 65 and over increased by fully 86 percent, while spending by homeowners under age 65 grew by 41 percent.

Both the rising number of older homeowners and their increasing per-owner spending are contributing to their growing share of the home improvement market. In the past decade, the number of homeowners age 65 and over grew by 6.7 million households, reaching 27.0 million in 2021 and driving up their share of homeowners from 27 percent to 33 percent. While the share of older homeowners undertaking home improvement projects remained unchanged over the decade, at 27 percent, average spending climbed significantly. Average per-owner spending by older owners increased 40 percent between 2011 and 2021 after adjusting for inflation, from $2,200 to $3,100.

Older homeowners are much more likely to live in older units and to have longer occupancies. For these reasons, in 2021, owners age 65 and over devoted a larger share of their home improvement dollars (55 percent) to replacing home components, systems, and equipment than homeowners under age 65 (45 percent). In contrast, older owners spent relatively less on discretionary and outside property improvements, but both groups dedicated a similar share of their budgets to disaster repairs.

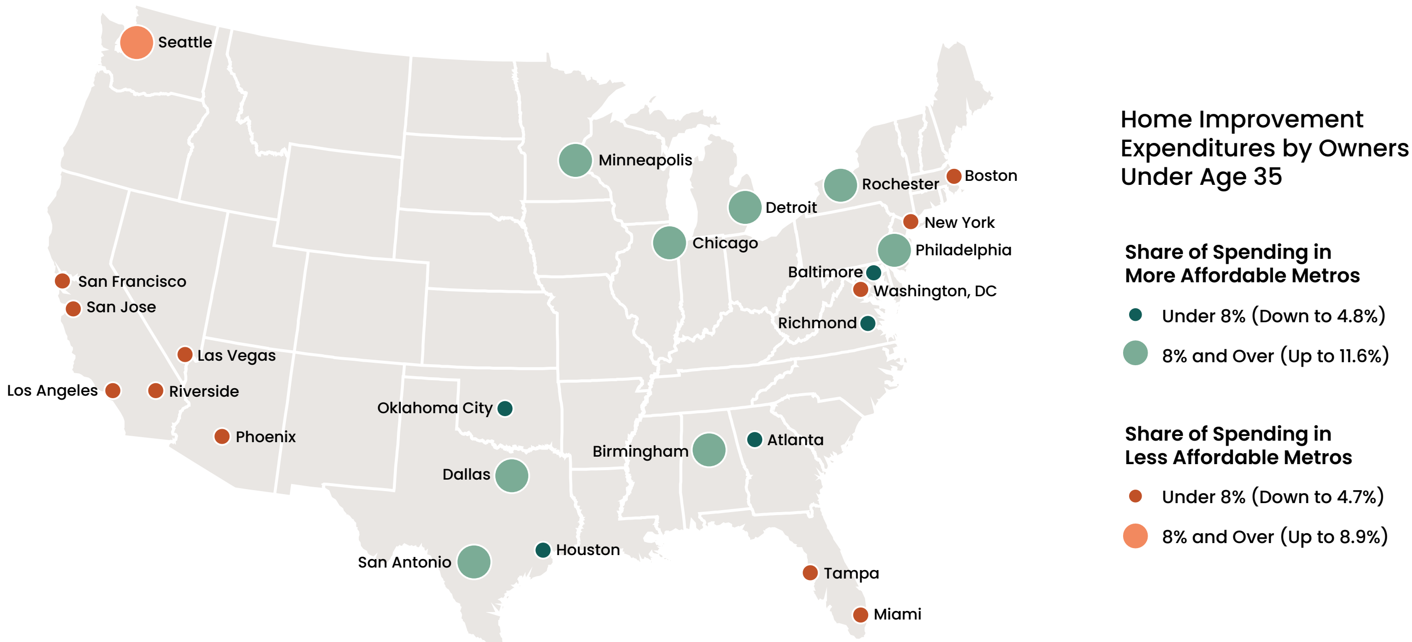
In the near term, home improvement spending by older owners may grow to an even greater share of the market if high interest rates incentivize them to remodel their typically older homes rather than move. And over the next decade, as the number and share of older homeowners continue to grow, more homeowners will also need to modify their homes for accessibility. Already in 2020 and 2021, 1.1 million homeowners age 65 and over reported at least one improvement project intended to make their homes more accessible for people with limited mobility.

A SLOW REBOUND BY YOUNGER OWNERS

Home improvement activity by younger households continues to tick up after years of decline following the devastating effects of the Great Recession on job and housing markets. The number of owners under age 35 reached 8.2 million in 2021, an increase of 1.3 million since bottoming in 2015. This swell was due to both a millennial-driven increase in the number of households under age 35 over this period, as well as an increase in their homeownership rate, from 31.1 percent to 35.1 percent. Consequently, home improvement spending by owners under age 35 also grew to $27 billion dollars in 2021 from $20 billion in 2015, after adjusting for inflation. However, both the number

Figure 7

Younger Owners Account for a Higher Share of Market Spending in More Affordable Metros



Notes: Data are for 25 metros available in the 2021 AHS, including the 15 largest by population. More/less affordable metro areas are defined as the bottom/top metros ranked by the ratio of median home value to median household income. More affordable metros have value-to-income ratios under 4.7 and less affordable metros have ratios of 4.7 and over.

Source: JCHS tabulations of HUD, 2021 American Housing Survey.

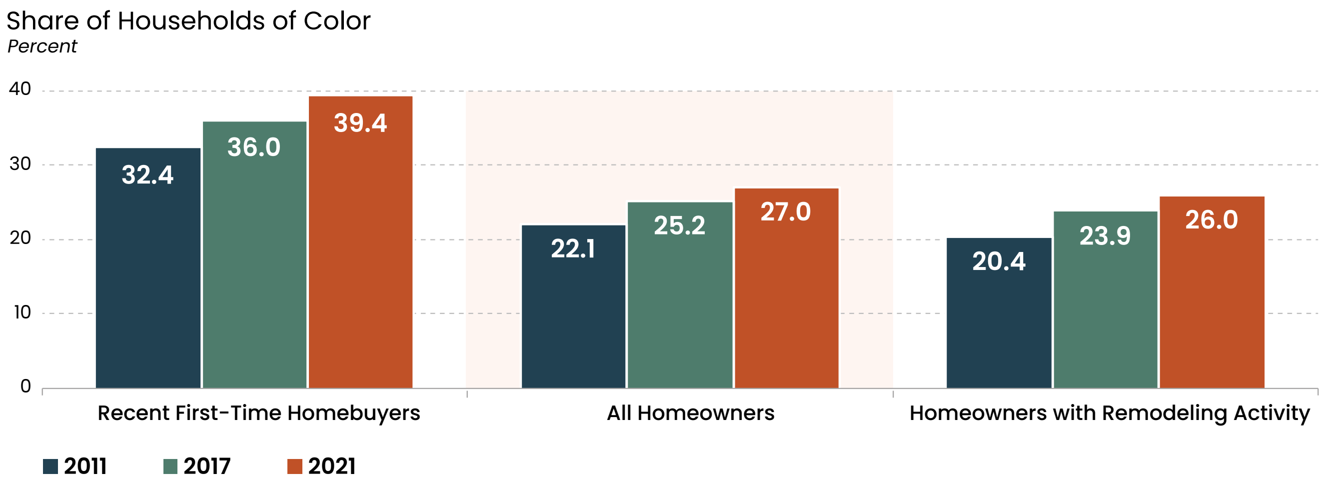
of young homeowners and their spending on home improvements are still considerably lower than at the prior housing market peak in 2007 when 10.4 million owners under age 35 spent almost $35 billion in real terms on improvements. The share of home improvement spending contributed by younger owners was 8 percent in 2021, down from 12 percent in 2007.

The relatively low contribution of younger homeowners reflects in part worsening affordability and high housing cost burdens in many parts of the country since the Great Recession. Indeed, younger homeowners tend to contribute larger shares of aggregate improvement spending in more affordable metros **(Figure 7)**. In 2021, homeowners under age 35 contributed 9–12 percent of home improvement expenditures in Birmingham, Detroit, Rochester, and Chicago, where the typical home value is 3–4 times the typical household income. More affordable metro areas have fewer barriers to homeownership and tend to have higher proportions of younger homeowners. In contrast, younger homeowners account for just 5 percent of the remodeling market in several less affordable markets where the typical home value is 7–10 times the typical household income, including Boston, Los Angeles, San Francisco, and San Jose. The share of homeowners under age 35 in these metros is just 6–8 percent.

As a group, younger homeowners are spending relatively more of their improvement budgets on discretionary projects, such as kitchen and bath remodels and room additions. In 2021, 32 percent of home improvement spending by owners under age 35 was for discretionary projects, a slightly larger share than owners age 35 and over. Conversely, younger owners spent somewhat smaller shares on replacement projects (47 percent), and the same share on outside property improvements (16 percent) and disaster repairs (5 percent) as owners age 35 and over.

Figure 8

Households of Color Are a Growing Share of Homebuying and Remodeling Markets



Notes: Households of color include those headed by an American Indian or Alaska Native, Asian, Black, Multiracial, or Native Hawaiian or Pacific Islander householder or Hispanic householder of any race. Recent homebuyers purchased within the past three calendar years.

Source: JCHS tabulations of HUD, American Housing Surveys.

HOMEOWNERS OF COLOR INCREASE REMODELING MARKET SHARE

Households headed by a person of color are a growing share of homebuying and remodeling markets **(Figure 8)**. Between 2011 and 2021, households of color grew their share of first-time homebuyers by fully 7 percentage points from 32 percent to 39 percent. Households of color also increased their share of homeowners by nearly 5 percentage points, from 22 percent to 27 percent. Similarly, households of color grew their share of homeowners with remodeling activity by almost 6 percentage points over the decade, to 26 percent. In 2021, homeowners of color spent $76 billion on home improvements—more than double their spending in 2011 in real dollars, increasing their share of the market to 23 percent from just 16 percent. Annual per-owner spending among homeowners of color also increased 65 percent over this period, compared with 39 percent among all homeowners.

Even though households of color have grown their shares of housing and home improvement markets, centuries of discriminatory policies and practices have produced substantial and enduring racial disparities in homeownership, home equity, and wealth that prevent households of color from being a representative share of the remodeling market. At last measure in 2019, the median net wealth of white homeowners ($300,000) was nearly three times that of Black homeowners ($113,000) and nearly twice that of Hispanic homeowners ($165,000). Due to ongoing discrimination in education and labor markets, households of color also generally have less income and savings to draw from than white households, further limiting their capacity to invest in their homes and producing substantial gaps in home remodeling spending by race and ethnicity.

As a result of these longstanding inequities, households of color continue to be underrepresented among homeowners, as well as homeowners with improvement spending. In 2021, households of color accounted for more than 35 percent of all households in the US, but only 27 percent of all homeowners, 26 percent of homeowners with remodeling activity, and 22 percent of homeowners in the top 5 percent with highest levels of improvement spending. Homeowners of color are also more likely than white households to spend little or nothing on home improvements and maintenance. In 2021, 37 percent of Asian homeowners, 38 percent of Black homeowners, 35 percent of Hispanic homeowners, and 38 percent of Multiracial homeowners or homeowners of another race spent less than $500 for improvements or repairs, above the 33 percent share of white households. Homeowners of color also spent less per owner. In 2021, white homeowners spent an average of $5,100 on home improvements and maintenance, well above the levels for Asian ($4,900), Black ($4,100), Hispanic ($4,300), and Multiracial homeowners or homeowners of another race ($4,700).

While the growing shares of households of color in homebuying and home improvement markets stands as a positive indicator of change, the disproportionate financial impacts of the pandemic on households of color and worsening economic conditions threaten to reverse recent gains. Remedying the longstanding and ongoing racial disparities in housing and labor markets will be critical to reduce racial inequities in home remodeling spending.

Revitalization of the Nation's Housing Stock

OLD AND INADEQUATE HOMES DEMAND GREATER INVESTMENT

The US housing stock is older than at any time ever recorded. The Great Recession sent new construction rates to historic lows, and the useful lives of homes are increasing. In 2021, the median age of owner-occupied homes reached 41 years, up from 35 years a decade earlier and just 31 years in 2001. The aging housing stock has fueled significant spending on home improvements, including replacements of core home systems and components, as well as routine maintenance.

Nationally, 49.5 percent of the owner-occupied stock was built before 1980. But the age of the housing stock varies significantly by metro, largely reflecting differences in the timing of past homebuilding, the availability of land, and local building restrictions. The share of homes built before 1980 is less than 33 percent in many Sunbelt metros, such as Las Vegas, Atlanta, Dallas, Phoenix, and Houston. But in areas like New York, Boston, Los Angeles, Rochester, San Francisco, and Detroit, two-thirds or more of owner-occupied homes were built before 1980, representing important markets for home lifecycle improvements and repairs.

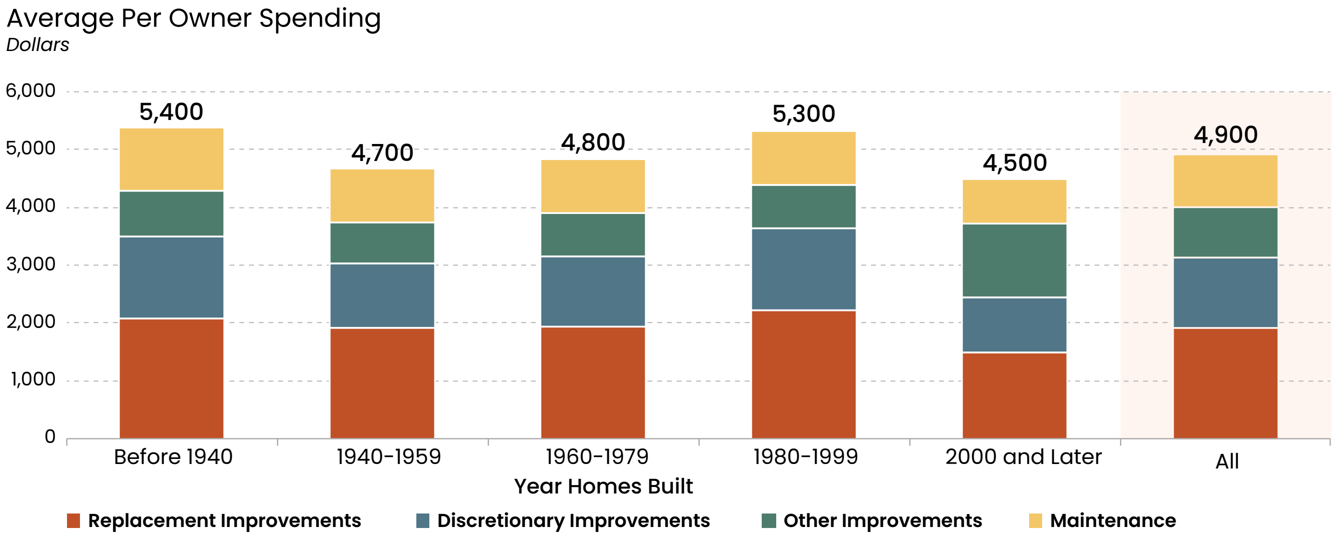
After homes age past 20 years, improvement and repair spending increases significantly and remains high as many core components and systems reach the end of their useful lives **(Figure 9)**. As a result, homeowners typically spend more on improvements and repairs to older homes, though household income and home value are also key influences on the size of home investments. In 2021, homeowners in homes built before 2000 spent an average of $400 dollars more on home improvements and $200 more on routine maintenance than homeowners living in houses built after 2000. On average, homeowners in older homes also spent significantly more on replacements than those living in homes built after 2000.

Investment in the aging housing stock is vital given the persistence of substandard housing conditions. In 2021, 2.8 million owner-occupied homes, representing 3.4 percent of the owner-occupied stock were classified as moderately or severely inadequate, in addition to 3.9 million renter-occupied homes, or 8.4 percent of the renter-occupied stock. The US Department of Housing and Urban Development (HUD) classifies units as moderately or severely inadequate based on a wide range of structural deficiencies, from large holes and leaks to the absence of basic features like plumbing, electricity, water, and heat. However, many more housing units deemed "adequate" are also in poor condition and pose health or safety risks to their occupants.

Due to the persistent deterioration of housing structures and possible disrepair of components and systems over time—as well as increasing home performance standards—inadequate conditions are more common in older homes. In 2021, 6.1 percent of owner-occupied homes built before 1940 were moderately or severely inadequate, more than three times that of homes built since 2000 (1.7 percent). Similarly, 12.7 percent of renter-occupied homes built before 1940 were also considered inadequate, compared

Figure 9

Outlays for Improvements and Repairs Increase After Homes Age Past 20 Years



Notes: Replacement improvements include exterior, systems and equipment, flooring, and insulation. Discretionary improvements include kitchen and bath remodels, room additions, and outside attachments. Other improvements include outside property and disaster repairs. See Table A-1 for more detailed definitions of improvement project categories.

Source: JCHS tabulations of HUD, 2021 American Housing Survey.

with just 5.6 percent of rental homes built since 2000. As the median home age grows, the housing stock will require increasing investment to meet fundamental home adequacy standards and preserve the quality and functionality of homes.

FINANCIAL BURDEN OF RENOVATION AND REPAIRS

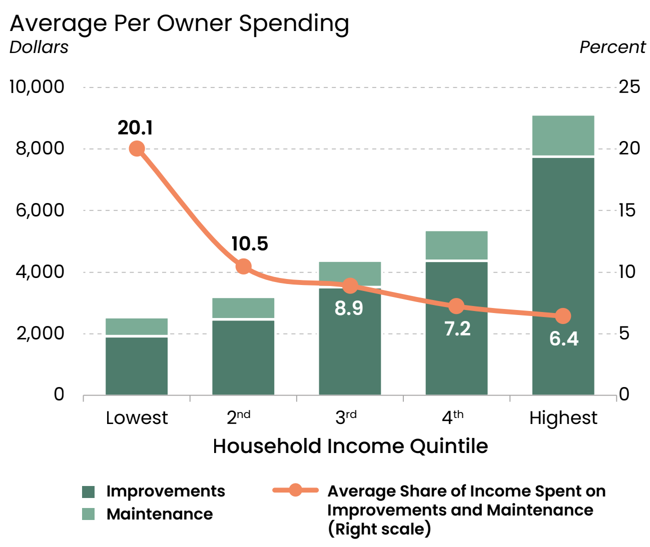
Given their limited resources, many low-income homeowners are unable to invest in replacements of critical home components and systems or even basic maintenance. In 2021, fully 28 percent of homeowners with incomes in the lowest quintile (less than $32,000) did not spend anything to improve or maintain their homes, well above the national share of 19 percent and twice the 14 percent share of homeowners in the highest income quintile (more than $150,000). Lower-income homeowners were also more than twice as likely as higher-income homeowners to spend less than $500 annually on home improvement or maintenance projects, at 20 percent compared with 9 percent. On average, homeowners in the lowest income quintile spent just $2,500 to improve and maintain their homes in 2021—about half of the $4,900 average across all homeowners and less than a third of the $9,100 average for homeowners in the highest income quintile.

Indeed, remodeling and repair projects are relatively expensive and spending for these projects typically represents a significant portion of homeowners' incomes. In 2021, homeowners spent the equivalent of 10.6 percent of their incomes on home improvements and maintenance on average. This pool reflects all homeowners, including those who did not undertake any home improvement or maintenance projects. However, as household income increases, home improvement and repair spending typically represents a smaller share of homeowner incomes **(Figure 10)**. On average, homeowners in the highest income quintile spent the equivalent of just 6.4 percent of their incomes on home improvement and maintenance projects in 2021. Meanwhile, the lowest-income homeowners spent more than three times that income share on average, with an equivalent of 20.1 percent of their incomes going toward home improvements and maintenance.

Household financial resources shape not only the size of remodeling and repair investments but also the composition of projects. Overall, lower-income households spent a much greater share of combined home improvement and repair budgets (75 percent) than higher-income households (53 percent) on projects integral for basic habitability, namely replacements of core home components and systems, disaster repairs, and routine home maintenance. Fully 46 percent of lower-income homeowner improvement and repair budgets went toward replacement projects such as windows and doors, roofing, insulation, plumbing, electrical, and HVAC systems—well above the 35 percent share for homeowners in the highest quintile. Additionally, homeowners with lower incomes spent much larger shares on basic home maintenance (24 percent) and extensive disaster repairs (5 percent) compared with those in the highest quintile (15 percent and 3 percent).

Figure 10

Lower-Income Owners Spend Less on Improvements and Repairs, But Their Investment Represents a Larger Share of Their Incomes



Notes: The lowest income quintile includes homeowners with incomes of less than $32,000. The highest income quintile includes homeowners with incomes of more than $150,000. Homeowners with zero or negative income are assumed to spend 0% of income for improvements and repairs, while those spending over 100% are top-coded at 100%. Average share of income spent on home improvements and maintenance includes households with no spending.

Source: JCHS tabulations of HUD, 2021 American Housing Survey.

The high cost of home improvements and repairs reinforces existing disparities in living conditions. Lower-income households are more likely to occupy inadequate housing, both because these homes cost less to purchase and because high project costs prevent lower-income homeowners from making necessary improvements and repairs. In 2021, 6 percent of homeowners with incomes in the lowest quintile were living in homes classified as moderately or severely inadequate, compared with just 2 percent of homeowners in the highest income quintile. Similarly, homeowners of color are disproportionately likely to live in homes with structural deficiencies, due at least in part to centuries of discriminatory housing policies and practices that have excluded households of color from neighborhoods and denied them housing choices, as well as longstanding labor market discrimination that has constrained their earning power. In 2021, nearly 6 percent of Black homeowners and 5 percent of Hispanic homeowners were living in inadequate housing—well above the 3 percent share for white homeowners.

Public and nonprofit programs that subsidize home improvements and repairs are critical to closing this investment gap and meeting low-income homeowners' urgent needs, increasing home safety and accessibility, and preserving the existing housing stock. HUD's Community Development Block Grant Program and HOME Investment Partnerships Program provide grant funding to state and local governments to help homeowners cover the cost of property rehabilitation and repairs. The Department of Energy's Weatherization Assistance Program funds energy-efficiency retrofits for lower-income households. Many municipal home repair programs and new state efforts, such as Pennsylvania's Whole-Home Repairs Program, also help low-income and older homeowners cover project costs. Given the scale of unmet home improvement and repair needs, expanding the reach of existing programs, increasing their funding, and spreading awareness is essential for making all housing safe and habitable.

Opportunities for Future Investment

RETROFITTING FOR ENERGY EFFICIENCY

Over the past two decades, homeowner spending on energy-related improvement projects—such as roofing, HVAC, windows and doors, and systems and equipment—has accounted for a growing share of the remodeling market **(Figure 11)**. In 2021, homeowners spent $111 billion on building envelopes and systems and equipment projects with the potential to improve home energy performance—three times more than in 2001. As a result, energy-related improvements accounted for 34 percent of aggregate market spending on home improvements in 2021, up more than 5 percentage points from the market share two decades earlier.

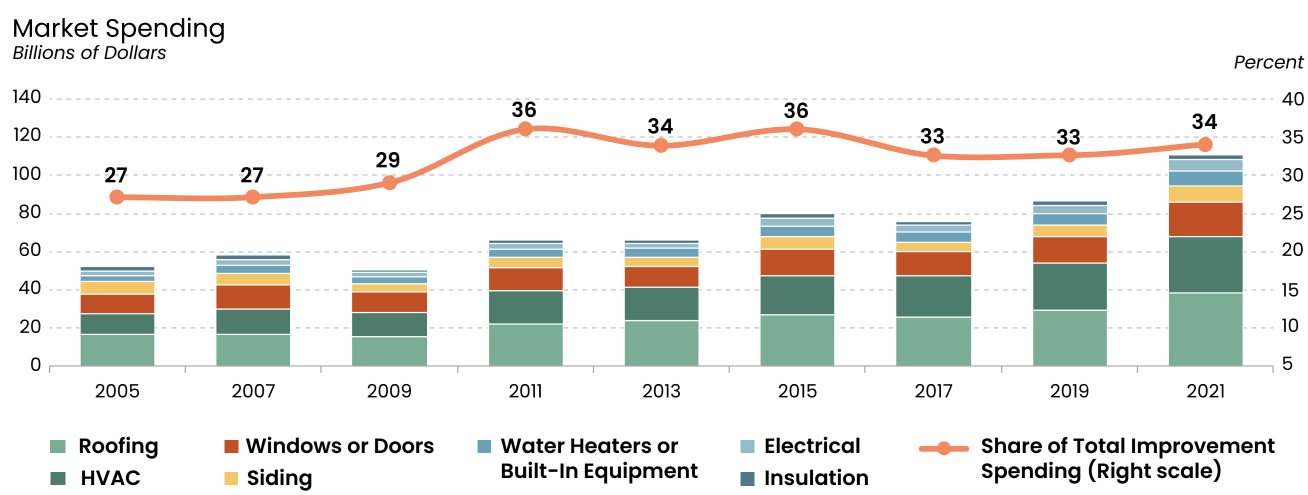
Whole-house roof replacements accounted for more than a third ($38 billion) of homeowner spending on energy-related improvement projects in 2021. Homeowners also spent large amounts on HVAC ($30 billion) and adding or replacing windows and doors ($18 billion). Additionally, homeowners spent about $9 billion on siding replacements, $8 billion on water heaters and built-in equipment, $5 billion on electrical upgrades, and $3 billion on adding or replacing insulation. Whether to simply replace worn components or reduce energy bills, these projects are often necessary expenditures that contribute to basic habitability.

Much of the increase in energy-related improvement expenditures over the decades is due to the aging of the existing housing stock. The share of homeowners remodeling in the interest of energy efficiency increases with the age of their homes, as older homes are less efficient than newer ones and require greater investment to improve energy performance **(Figure 12)**. Between 2020 and 2021, 19.2 percent of homeowners residing in homes built before 1940 reported doing one or more energy-efficiency improvements—nearly twice the share of owners in homes built since 2000.

Remodeling for energy efficiency purposes will become increasingly urgent for household financial savings, as well as for national greenhouse gas emission reduction goals. Public incentives, like the tax credits and

Figure 11

A Significant Share of Owner Improvement Spending Goes Toward Energy-Related Projects



Notes: Built-in equipment includes dishwashers and garbage disposals. Spending for water heaters or built-in equipment before 2011 is partially estimated.

Source: JCHS analysis of HUD, American Housing Surveys.

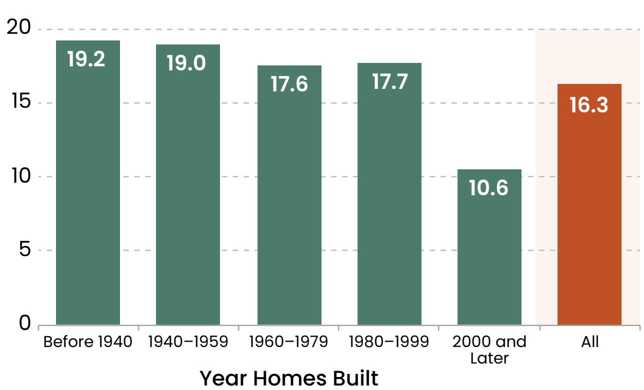
rebates provided through the Inflation Reduction Act (IRA) and additional funding for the Weatherization Assistance Program in the Infrastructure Investment and Jobs Act, should grow demand for energy-efficiency retrofits, renewable energy installations, digitalized energy management, and electrification to improve home energy performance. Data from the latest Residential Energy Consumption Survey suggest that millions of homes across the country will require significant investment in home system and equipment conversions to become more electrified in addition to more energy efficient. This is especially true in most Northeastern and Midwestern states, where less than 15 percent of the occupied housing stock was all-electric in 2020.

Funding from these federal efforts in part aims to reduce energy insecurity and energy cost burdens among low-income households. Under the IRA, those making less than 80 percent of area median income are eligible for twice the rebate values of their wealthier neighbors. This will help offset remodeling costs for lower-income households, who are more likely to live in poorly insulated and inefficient homes and, despite consuming less energy than households with higher incomes, spend a higher share of their incomes on energy costs. In 2021, the typical homeowner with household income in the lowest quintile (less than $32,000) devoted nearly a quarter of their monthly housing costs to energy bills, including electric, gas, oil, and other fuels. In comparison, owners with income in the highest quintile (more than $150,000) typically dedicated less than 11 percent of their total monthly housing costs to energy bills. Homeowners of color are also disproportionally likely to experience energy insecurity or related energy hardships.

Figure 12

Owners of Older Homes Are More Likely to Remodel for Energy Efficiency

Share of Owners Remodeling to Increase Home's Energy Efficiency in 2020–2021
Percent



Note: Survey asked owners "In the last two years, did you do any home improvements to improve energy efficiency?"

Source: JCHS tabulations of HUD, 2021 American Housing Survey.

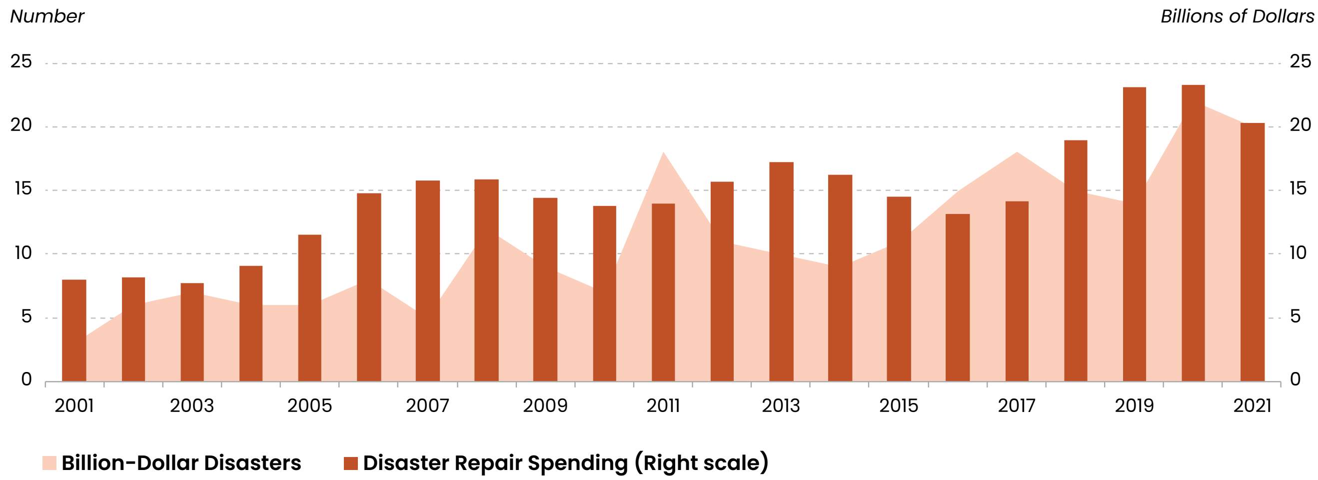
RECOVERING FROM AND PREPARING FOR DISASTER DAMAGES

Weather- and climate-related disasters have increased significantly in recent decades. The combined inflation-adjusted damages just from billion-dollar disasters climbed from an annual average of $59 billion in the 2000s to $94 billion in the 2010s, to $145 billion in 2020–2022. As a result, homeowners are spending more to restore damaged homes **(Figure 13)**. On a three-year rolling basis, real aggregate expenditures for disaster repairs to owner-occupied homes reached $20 billion in 2021, up from average annual spending of $17 billion in the 2010s and well above the $12 billion averaged in the 2000s. Disaster repair spending as a share of national improvement expenditures also trended upward from an average of 5.4 percent between 2002 and 2011 to 6.9 percent over the last decade. A range of weather events necessitate extensive home repairs, including severe snow, hail, and windstorms which accounted for 44 percent of disaster-related restoration spending in 2021, along with the hurricanes, tornadoes, flooding, and wildfires that capture news headlines.

Disasters have long-lasting impacts on local remodeling markets. Following a disaster, repair spending on owner-occupied homes is typically spread over several years as insurance companies assess the damages and determine claims and owners establish their financial capacity to repair uncovered damages. Local contractors and remodelers, who often suffer damages to their own homes and places of

Figure 13

The Disaster Reconstruction Market Has Grown with More Frequent and Severe Storms



Notes: Billion-dollar disasters are events that generate over $1 billion in damages after adjusting for inflation. Disaster repair data are three-year rolling averages for spending to owner-occupied homes and is adjusted to 2021 dollars using the CPI-U for All Items.

Source: JCHS tabulations of National Oceanic and Atmospheric Administration, US Billion-Dollar Weather and Climate Disasters; and HUD, American Housing Surveys.

business, may not be able to meet the surge in demand. Years after Hurricane Harvey hit in 2017, for example, homeowners in Houston were still spending a much greater share of their improvement dollars on disaster repairs. In 2021, disaster repair spending accounted for more than 13 percent of the improvement market in Houston—nearly 2.5 times the national share. With 20 or more billion-dollar disasters occurring each year in 2020 and 2021, disaster repair spending is likely to increase substantially in subsequent years.

As more owners become aware of the disaster risks posed to their homes, mitigation projects bring additional opportunities for remodeling activity. According to a recent Freddie Mac survey, 66 percent of homeowners are "somewhat to extremely concerned" about severe weather-related events impacting their homes in the next five years. However, the high cost of and limited public assistance for mitigation retrofits, combined with a lack of information about their benefits, prevent many households from pursuing them. Homeowners are more likely to undertake mitigation projects when public assistance programs or insurers require these improvements as part of post-disaster rebuilding efforts. Expanding assistance for lower-income households, who are more financially vulnerable to hazards but less able to afford home retrofits, is critical to maintain the housing stock and prevent household displacement.

MODIFYING FOR ACCESSIBILITY

Many homes lack basic features that make them accessible for people with limited mobility, such as those using a wheelchair or a walker. In 2019, only 41 percent of owner-occupied homes enabled "single-floor living" with a no-step entry, an entry-level bedroom and bathroom, and/or a lift to access multiple floors. At the same time, 4.3 million homeowners reported that a person in their household had difficulty getting around or using their home, including entering the home and getting to and using the kitchen, bedroom, or bathroom. Among homeowners who use an assistive mobility device, 14 percent reported that their home's layout and features did not adequately meet their needs.

Many older homeowners are pursuing improvement projects for accessibility and safety. From 2020 to 2021, 42 percent of the 2.7 million homeowners undertaking such projects were age 65 and older, while 28 percent were aged 55–64. While these homeowners were specifically motivated to make accessibility-related improvements, many more likely chose to incorporate accessibility features into projects already underway or planned for other reasons.

As the number and share of older adults and multigenerational households increase in the coming decades, more homeowners are likely to undertake accessibility projects. Homeowners wanting to accommodate aging parents or caregivers may also consider adding rooms or an accessory dwelling unit. With limited options for relocating to accessible housing, older households will seek to modify their homes to remain in their communities as their needs evolve. Accessibility modifications can be costly, and the need for these projects will be especially high in the Northeast and Midwest, regions of the country with relatively older housing stock, as well as lower-density locations, where large shares of older owners live in older, multistory, single-family homes. Filling this need will require greater investments in public and nonprofit programs that offer accessibility modification grants or low-cost loans to lower-income households with older occupants and those with disabilities.

THE OUTLOOK

Despite the enormous growth in home remodeling activity during the pandemic, a meaningful share of the existing housing stock remains in dire need of investment in the form of major home component replacements and basic repairs. For lower-income households who are more likely to occupy inadequate housing units, the costs of replacements and basic maintenance can prevent them from making necessary updates, endangering their health and safety. Improvement and maintenance cost burdens—as well as shortcomings in housing adequacy, accessibility, energy performance, and disaster recovery—are also likely to have a disproportionate impact on homeowners of color. New funding for federal and state programs that incentivize and subsidize home repairs may help address these mounting needs and inequities, but increased awareness and investments in public and nonprofit programs are still paramount.

The residential remodeling industry has also transformed over the past 15 years to meet demand for a wider range of improvements and repairs. Although remodeling activity faces serious challenges in the near term, including rising costs of projects and financing, labor and supply constraints, declining home sales, and the risk of a broader economic recession, the market is more diversified than during the last boom in the mid-2000s. The greater focus on need-to-do replacement projects and disaster repairs, growing contributions from households with a wider range of incomes pursuing projects of all sizes, and the increasing need for investments to address the full range of home performance deficiencies all suggest the residential remodeling market is more resilient to a downturn today.

Indeed, numerous tailwinds are expected to support home improvement and repair spending in both the near and long term. Homeowners are still sitting on record levels of home equity that provide both the incentive and resources for improvements. The aging housing stock is in growing need of replacing major home components and systems, as well as increased maintenance spending. Changing household demographics suggest growing remodeling activity among households of color, older homeowners seeking to age in place safely, and millennials purchasing and remodeling their first homes. Public and non-profit entities are also providing new incentives and greater assistance for energy-efficiency improvements and disaster recovery and preparation. The rise of remote work and other lasting effects of the pandemic on home uses and activities will continue to encourage investment in renovation and repair. Ultimately, there will always be a need to improve and repair the nation's homes—and a demand for the industry that fills that need.

Table A-1

Homeowner Improvement Expenditures: 2021

	Homeowners Reporting Projects (000s)	Average Expenditure ($)	Total Expenditures (Millions of $)
DISCRETIONARY	**6,926**	**14,520**	**100,565**
Kitchen Remodels	**2,287**	**13,445**	**30,751**
Minor	1,920	6,878	13,204
Major	367	47,773	17,547
Bath Remodels	**3,372**	**8,018**	**27,035**
Minor	2,755	3,795	10,456
Major	617	26,873	16,580
Room Additions	**878**	**25,163**	**22,089**
Kitchen	75	30,023	2,244
Bath	166	22,755	3,775
Bedroom	259	13,912	3,602
Recreation	119	17,305	2,054
Other	483	21,576	10,415
Outside Attachments	**2,330**	**8,882**	**20,690**
Porch, deck, patio, or terrace	2,029	7,280	14,769
Garage or carport	469	12,620	5,921
REPLACEMENT	**20,642**	**7,669**	**158,309**
Exterior	**7,883**	**8,586**	**67,690**
Roofing	3,804	10,046	38,212
Siding	1,111	7,694	8,549
Windows or doors	4,071	4,353	17,724
Chimney, stairs, or other exterior improvements	918	3,491	3,204
Interior	**7,109**	**4,505**	**32,025**
Insulation	1,456	1,984	2,890
Carpeting, flooring, paneling, or ceiling tiles	5,621	3,786	21,283
Other major improvements inside home	1,080	7,274	7,853
Systems and Equipment	**15,564**	**3,765**	**58,594**
Internal water pipes	1,861	2,249	4,187
Plumbing fixtures	4,674	1,775	8,296
Electrical wiring, fuse boxes, or breaker switches	2,817	1,942	5,471
HVAC	4,234	7,088	30,008
Central air conditioning	2,974	6,093	18,118
Built-in heating equipment	2,651	4,485	11,890
Appliances/Major Equipment	9,743	1,091	10,632
Water heaters	3,916	1,308	5,124
Built-in dishwashers or garbage disposals	4,110	709	2,915
Security systems	3,458	750	2,593
OTHER	**9,687**	**7,410**	**71,783**
Disaster Repairs	**1,017**	**17,562**	**17,867**
Outside Property Improvements	**8,995**	**5,994**	**53,916**
Septic tanks	235	4,307	1,013
Driveways or walkways	2,402	4,309	10,350
Fencing or walls	2,840	3,036	8,622
Swimming pools, tennis courts, or other recreational structures	644	15,687	10,108
Sheds, detached garages, or other buildings	1,602	5,675	9,094
Landscaping or sprinkler systems	3,784	2,867	10,848
Other major improvements to lot or yard	631	6,150	3,882
Total	**24,512**	**13,490**	**330,657**

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 $30,000 for kitchen projects and more than $15,000 for bath projects, and DIY improvements of more than $12,000 for kitchen projects and more than $6,000 for bath projects.

Source: JCHS tabulations of US Department of Housing and Urban Development (HUD), 2021 American Housing Survey.

Improving America's Housing 2023 was prepared by the Harvard Joint Center for Housing Studies. The Center advances understanding of housing issues and informs policy. Through its research, education, and public outreach programs, the Center helps leaders in government, business, and the civic sectors make decisions that effectively address the needs of cities and communities. Through graduate and executive courses, as well as fellowships and internship opportunities, the Center also trains and inspires the next generation of housing leaders.

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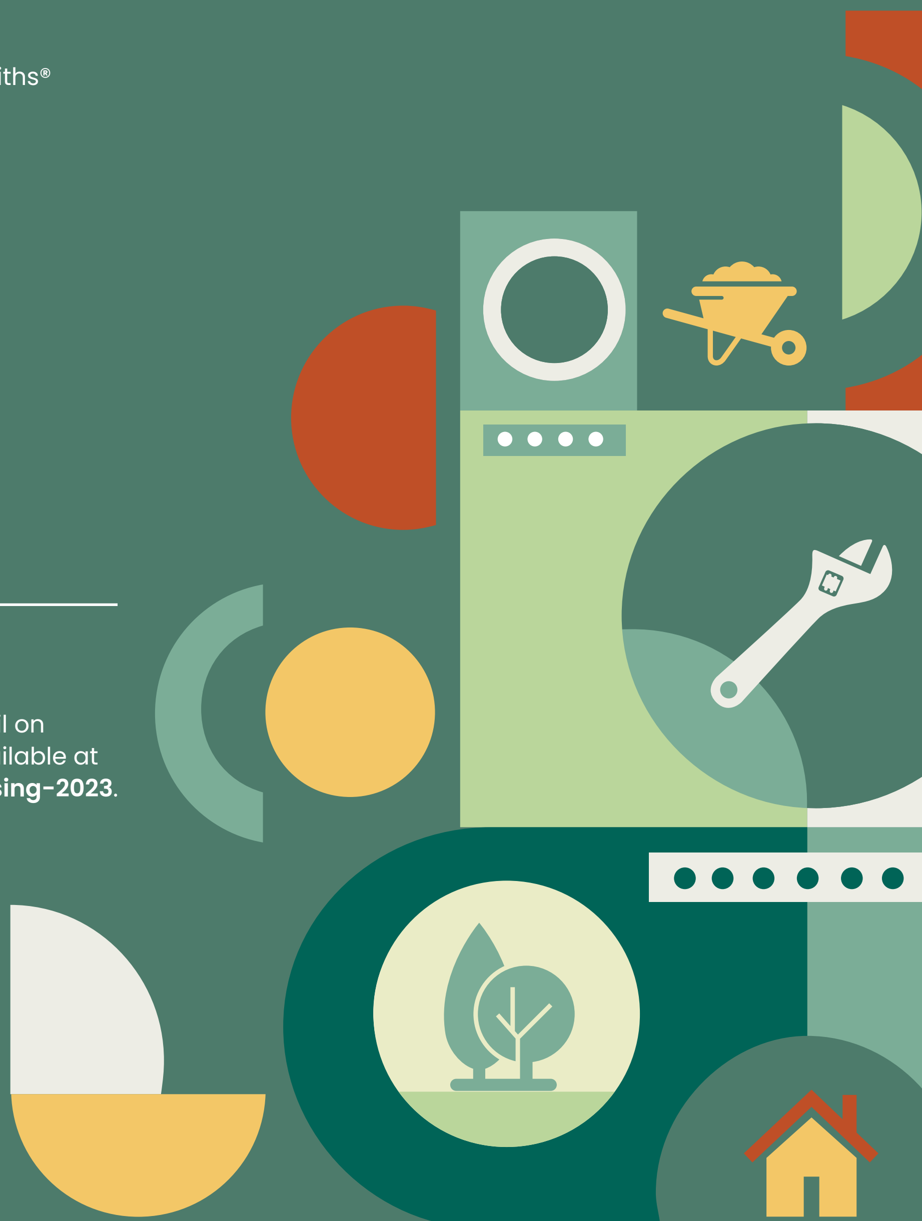
INTERACTIVE DATA & RESOURCES

Data tables, interactive charts, and additional detail on historical home improvement expenditures are available at **www.jchs.harvard.edu/improving-americas-housing-2023**.



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