

Appendix C.

Changes: 2013 to 2015

The American Housing Survey (AHS) began in 1973 as the Annual Housing Survey. Since 1981, the U.S. Census Bureau has conducted the national survey every odd numbered year. In 1984, it was renamed the American Housing Survey. Beginning with the 2011 AHS, the survey instrument consisted of a permanent set of core questions, plus questions on topical supplements that will rotate in and out of future surveys. Starting in 2013, the AHS asked questions from the topical supplements of only half the sample to reduce respondent burden.

Maintaining the AHS longitudinal sample for nearly thirty years had presented many challenges, including attrition of housing units, response burden, changes in geography, and disclosure avoidance and mitigation. As a result, the 2015 AHS underwent a major redesign. For the first time since 1985, the survey selected a new national and metropolitan area longitudinal sample.

Due to significant changes in sample design and weighting methodology, a re-evaluation of all variables took place, and some “core” tables were redesigned, with stubs moving to different tables and new items being introduced to the tables for the first time. These changes, along with changes to imputation processes for certain variables, may have made some data incomparable to previous years.

Results from the 2015 AHS will be available in the following two formats:

- [AHS Table Creator](#) (a web application)
- [Public Use File \(PUF\)](#) (microdata)

Summary tables in printed and .PDF formats, the American FactFinder data tool (AFF), and the Microsoft Excel file on the AHS Webpage have been discontinued. The table–numbering scheme (e.g. C-01-AO) used since 2011 was also phased out. The AHS Table Creator tool refers to the tables by title instead of table number. Using the Table Creator tool, AHS summary tables can be customized, using selected column variables and tenure and geography filters, and downloaded into Excel.

This document only notes changes in Table Creator column variables (boxheads), tables, and table items (individual table rows/stubs) for the 2015 survey year. For historical changes prior to 2015, see <http://www.census.gov/programs-surveys/ahs/tech-documentation/def-errors-changes.html>.

New Column Variables:

Main Source of Funding. (Available for Home Improvement Costs table only.)

Primary Year of Work. (Available for Home Improvement Costs table only.)

Occupancy/Vacancy Status. Rental vacancy rate was dropped (it appeared in 2013 and prior summary table boxheads in Excel only.)

HUD-Assisted Units. This variable replaces the old HUD Subsidized Renter Status variable, but category names have changed. The term “severely burdened” is no longer used, meaning the data no longer take into account housing adequacy or rent burden. That is now covered by the Worst Case Needs variable.

Worst Case Needs. (Available for Renter-Occupied Units only.)

Deleted Column Variables:

HUD Subsidized Renter Status. See HUD-Assisted Units for more information.

Modified Column Variables:

Year Structure Built. New imputation methodology was introduced for this item. If a respondent did not provide a valid answer, values were then gathered from administrative records.

Units in Structure. Housing type was redefined in 2015 and the Other (boat, RV, van, etc.) category was added.

Monthly Housing Costs. In 2013, item represented the sum of all variables in the Housing Costs table, including monthly payments for principal and interest. In 2015, the sum of monthly payments for all mortgages (minus taxes and home owners insurance) was used instead. In addition, 2015 data include “routine maintenance,” “other charges in mortgages” and “mortgage insurance”, and the “Less than \$100” category did not include negative values of monthly housing costs. In 2013, “other charges in mortgages” and “mortgage insurance” were subtracted, the “Less than \$100” category did not allow for negative values of monthly housing costs, and “routine maintenance” was included in a different stub/variable.

New Tables:

The 2015 AHS included new topical supplements. As a result, four new tables were introduced:

Housing Unit Characteristics. Table was titled Seasonal and Vacant Characteristics in the 2013 Excel file, but is new to the AHS Table Creator in 2015.

Health and Safety Characteristics. Table contains data on air and water quality, as well as safety hazards in the home. Many of the table items previously appeared in the 2011 AHS. New

items on radon testing and preventative asthma medicines were added and 2011 items on householder health, winter heating hazards, and smoke and carbon monoxide detectors were dropped.

Arts and Culture. Table covers topics such as the importance of access to arts and culture in choosing a neighborhood, as well as the social and economic impacts of arts and cultural events on neighborhoods.

Housing Counseling. Table provides estimates for why homeowners and /or renters sought out professional housing counseling, how much it cost, and if it was helpful.

Food Security. Table measures access to sufficient quantity of affordable and nutritious food.

Deleted Tables:

All of the 2013 topical supplements were dropped from the 2015 AHS, but may return in subsequent surveys. As a result, the following tables are not options in the 2015 Table Creator menus:

Public Transportation.

Frequency of Use and Distance To Public Transportation.

Additional Types of Transportation.

Community Involvement.

Emergency and Disaster Preparedness.

Doubled Up Households — Movers Leaving and Entering Unit.

Delinquent Payments and Notices.

Table Changes: (listed by table title and universe)

Housing Unit Characteristics (All Housing Units)

Major Changes: Table title was Seasonal and Vacant Characteristics in 2013. The 2015 version incorporates stubs from the following tables: General Housing, Rooms Size and Amenities, Heating Air Conditioning and Appliances, and Neighborhoods. Census Regions and Divisions and Metropolitan/Nonmetropolitan Area were deleted as table stubs because they can be selected as column variables in the AHS Table Creator.

General Housing (Occupied Units)

Major changes: In 2013, this table was available in the Excel summary tables for all housing units, not just occupied units. In 2015, the items in this table are available for all housing units, but only from the Housing Unit Characteristics table in the AHS Table Creator.

Deleted Items:

Stories Between Main and Apartment Entrances.

Elevator on Floor.

Manufactured/Mobile Home Site Placement.

Modified Items:

Units in Structure. Housing type was redefined in 2015 and the Other (boat, RV, van, etc.) category was added.

Year Structure Built. Non-response values were imputed using administrative records first rather than hot deck matrices. Values that could not be gathered from administrative records were

Stories in Structure. In 2015, it excludes both manufactured/mobile homes and “other” structure types, such as boats, RV’s, vans etc. In 2013, it excluded only manufactured/mobile homes.

Access to Structure. The single units data (entering home from outside) include single-units, manufactured/mobile homes, and “other” structure types, such as boats, RVs, and vans.

Foundation Type. The 2013 Foundation stub and the Manufactured/Mobile Home Setup stub were combined into the new stub, Foundation Type.

Rooms, Size, and Amenities (Occupied Units)

Major changes: In 2013, this table was available in the Excel summary tables for all housing units, not just occupied units. In 2015, the items in this table are available for all housing units, but only from the Housing Unit Characteristics table in the AHS Table Creator.

Deleted Items:

Rooms Used for Business.

Vehicles Available.

Modified Items:

Bathrooms. Item was labeled Complete Bathrooms in 2013. This item also now includes information from the 2013 Plumbing Facilities stub, which gives more detailed information about units without a complete bathroom.

Lot Size. Item was estimated prioritizing administrative records rather than self response. Where no administrative records could be found, lot size was calculated using the self response answer if possible. If there was neither a self response value nor data in administrative records, then lot size was

calculated using block level imputation or hot deck matrices. In 2015, figures include single-units, manufactured/mobile homes, and “other” structure types, such as boats, RVs, and vans.

Selected Amenities. Telephone available row was deleted.

Vehicle Parking. Driveway or off street parking availability item was dropped.

Heating, Air Conditioning, and Appliances (Occupied Units)

Major changes: In 2013, this table was available in the Excel summary tables for all housing units, not just occupied units. In 2015, the items in this table are available for all housing units, but only from the Housing Unit Characteristics table in the AHS Table Creator.

Deleted Items:

Other Heating Equipment.

Modified Items:

Units Using Each Fuel. Categories changed and electricity and gas costs were estimated using regression models instead of respondent provided information. For more information, see Monthly Cost Paid for Electricity/Gas under Housing Costs.

Primary/Secondary Air Conditioning. Two new 2015 stubs replaced the 2013 Air Conditioning, Central Air Conditioning Fuel, and Other Central Air Fuel stubs. The new stubs distinguish between primary and secondary air conditioning, show more detail in the number of room air conditioners, and incorporate air condition fuel.

Kitchen Equipment. Item was labeled Kitchen and Laundry Equipment in 2013. It was separated into two new stubs in 2015– Kitchen Equipment and Laundry Equipment. Disposal in sink and trash compactor items were deleted from the Kitchen Equipment stub.

Laundry Equipment. See Kitchen Equipment above.

Clothes Dryer Fuel. A bottled gas category was added.

Plumbing, Water, and Sewage Disposal (Occupied Units)

New Items:

Number of Units Connected to Septic Tank or Cesspool.

Modified Items:

Primary Source of Water. Categories changed and detailed data on wells moved to the Health and Safety Characteristics table under Type of Well.

Type of Sewage System. Item was labeled Means of Sewage Disposal in 2013. Categories were also expanded in 2015 to show more detail on different types of septic tanks or cesspools. Chemical toilets are now included in the “other” category.

Housing Quality (Occupied Units)

New Items:

Mold. This is a reinstated item last used in 2011 Health and Safety Characteristics table. In 2015, it moved to the Housing Quality table.

Modified Items:

Housing Adequacy. Item was labeled Selected Physical Problems in 2013. A new category (“adequate”) was added and “severe” and “moderate physical problems” were relabeled “severely inadequate” and “moderately inadequate.” Recodes were modified and indented categories changed as a result.

Selected Deficiencies. Categories changed. Rats, mice, and rodents were separated out in 2013, but were combined into one category in 2015.

Housing Migration (Occupied Units)

Major Changes: Universe changed from ‘Respondent moved during past year’ to ‘Household member(s) moved during past two years.’ In addition, while the AHS collected information for up to 3 mover groups, data for the majority of the table represent the first member or group of members who moved. Additional information on all mover groups can be found under ‘Household Moves and Formation’ in the [Subject Definitions](#), or in the microdata.

Deleted Items:

Main Reason for Leaving Previous Residence.

New Items:

Household Moves and Formation.

Moved more than 50 miles.

Modified Items:

Reasons for Leaving Previous Residence. Categories changed.

Housing and Neighborhood Search and Satisfaction
(Occupied Units)

Major Changes: The time period of the data changed. In 2013, it was for respondents who moved during past year. In 2015, it was for respondents who moved during the past two years.

Deleted Items:

Home Search.

Choice of Present Home.

Main Reason for Choice of Present Home.

Neighborhood Search.

Choice of Present Neighborhood.

Main Reason for Choice of Present Neighborhood.

New Items:

Housing Search Ended Earlier Than Intended.

Modified Items:

How Respondent Found Current Unit. Categories changed.

Household Demographics (Occupied Units)

Deleted Items:

Household Moves and Formation in Last Year.

New Items:

Other Household Characteristics.

Veteran Status.

Periods of Armed Forces Service.

Modified Items:

Race and Hispanic Origin. Categories have been expanded to include new detail on specific Asian and Pacific Islander groups

Persons Other Than Spouse or Children. Categories changed.

Income Characteristics (Occupied Units)

Modified Items:

Food Stamps. In 2013, it was restricted to families and primary individuals with total incomes of \$25,000 per year or less. In 2015, the question was only asked

of families and primary individuals eligible to receive food stamps.

Income Sources of Families and Primary Individuals. Categories changed.

Housing Costs (Occupied Units)

Deleted Items:

Median Monthly Housing Costs for Owners.

Rent Paid by Lodgers.
Cost and Ownership Sharing.

Annual Taxes Paid Per \$1,000 Value.

New Items:

Monthly Cost Paid for Rent.

Monthly Cost Paid for Utilities.

Modified Items:

Monthly Total Housing Costs. In 2013, item represented the sum of all variables in the Housing Costs table, including monthly payments for principal and interest. In 2015, the sum of monthly payments for all mortgages (minus taxes and home owners insurance) was used instead. In addition, 2015 data include "routine maintenance," "other charges in mortgages" and "mortgage insurance", and the "Less than \$100" category did not include negative values of monthly housing costs. In 2013, "other charges in mortgages" and "mortgage insurance" were subtracted, the "Less than \$100" category did not allow for negative values of monthly housing costs, and "routine maintenance" was included in a different stub/variable.

Monthly Total Housing Costs as Percent of Household Income. Changed from using current income in the denominator in 2013 to using household income in the denominator in 2015. (See also Monthly Total Housing Costs.)

Monthly Total Mortgage Amount. Item was labeled Monthly Payment for Principal and Interest in 2013. Like 2013, the 2015 data exclude taxes and insurance.

Monthly Mortgage Amount as Percent of Household Income. Item was labeled Monthly Mortgage Payment as Percent of Current Income in 2013. Three changes took place: 1.) Moved to Housing Costs table in 2015 from Mortgage Characteristics table in 2013. 2.) Changed from using current income in the denominator in 2013 to using household income in the denominator in 2015. 3.) Unlike the 2013 data, 2015 excludes taxes and insurance. (See also Monthly Total Mortgage Amount.)

Monthly Cost Paid for Homeowner or Renter Insurance. Item was labeled Property Insurance in 2013. In addition, dollar amount categories were added.

Monthly Homeowner or Condominium Association Fee Amount. Item represents the sum of Condominium and Cooperative Fee, Homeowner Association Fee Paid, and the Manufactured/Mobile Home Park Fee Paid rows from the 2013 Other Housing Costs per Month stub.

Monthly Cost Paid for Lot/Land Rent. Item was collapsed under Other Housing Costs per Month in 2013. In addition, dollar amount categories were added.

Monthly Cost Paid for Electricity/Gas. Three major changes took place: 1.) Average monthly costs in 2015 were estimated from regression models developed from the Residential Energy Consumption Survey (RECS), sponsored by the Department of Energy. This is a departure from 2013 and prior, where respondents were asked for their average monthly costs based on the last 12 months. Those costs for which the household could only provide a total cost for the year, the average monthly cost was computed by dividing the yearly cost by 12. 2.) In 2013, data were for piped gas, but in 2015, they include bottled gas as well. 3.) In 2013, summary tables included units where utilities were included in rent. In 2015, the universe was restricted to those who paid utilities separately.

Monthly Cost Paid for Fuel Oil. In 2013, summary tables included units where utilities were included in rent. In 2015, the universe was restricted to those who paid the utility separately.

Monthly Cost Paid for Other Fuel. Item was collapsed under Monthly Costs Paid for Selected Utilities and Fuels in 2013.

Monthly Cost Paid for Trash Collection. Item was collapsed under Monthly Costs Paid for Selected Utilities and Fuels in 2013.

Monthly Cost Paid for Water. Item was collapsed under Monthly Costs Paid for Selected Utilities and Fuels in 2013.

Value, Purchase Price, and Source of Down Payment (Owner-Occupied Units)

Deleted Items:

Other Activities on Property.

Previous Occupancy.

New Items:

Lead Pipes.

Modified Items:

Ratio of Value to Household Income. Changed from using current income in the denominator in 2013 to using household income in the denominator in 2015.

How Acquired. In 2015, the universe expanded to include all occupied units. In 2013, it was limited to first occupants in single-family units built 2010 or later.

Mortgage Characteristics (Owner-Occupied Units)

Major Changes: Although the mortgage questions essentially asked respondents the same types of information as in the past, the 2015 mortgage tables were expanded, rearranged, and redesigned and now separate the data into two different universes. The Mortgage Characteristics table shows data for all types of mortgages, including home-equity line-of-credits, whereas the Additional Mortgage Characteristics table shows data for primary mortgages only (excluding home-equity line-of-credits). Some table stubs were slightly renamed as a result.

Deleted Items:

Number of Regular Mortgages and Home-Equity Mortgages.

Types of Mortgages.

Total Outstanding Line-of-Credit Loans.

New Items:

Type of Loan.

Modified Items:

Mortgages Currently on Property. Categories changed.

Number of Regular Mortgages. Item was labeled Number of Regular Mortgages and Home-Equity Mortgages in 2013. The stub includes home-equity lump-sum mortgages, but excludes home-equity credit lines and reverse annuity mortgages.

Total Remaining Debt Across All Mortgages or Similar Debts. Item was labeled Total Outstanding Principal Amount in 2013.

Home-Equity Line-of-Credit Has a Current Balance. Item was labeled Total Outstanding Line of Credit Loans in 2013. In 2013, categories with actual dollar

values were shown, but in 2015, the item changed to a yes/no question.

Additional Mortgage Characteristics (Owner-Occupied Units)

Major Changes: Although the mortgage questions essentially asked respondents the same types of information as in the past, the 2015 mortgage tables were expanded, rearranged, and redesigned and now separate the data into two different universes. The Mortgage Characteristics table shows data for all types of mortgages, including home-equity line-of-credits, whereas the Additional Mortgage Characteristics table shows data for primary mortgages only (excluding home-equity line-of-credits). Some table stubs were slightly renamed as a result.

Deleted Items:

Remaining Years Mortgaged.

Primary Mortgage Refinancing Solicitation.

Reasons for Choosing Primary Mortgage.

Reference Interest Rate for Mortgages With Varying Payments.

Frequency of Interest Rate Adjustments for Primary Mortgages.

New Items:

Number of Years With Fixed Interest Rate on Adjustable Rate Mortgage.

Final Payment Due for Balloon Mortgage.

Percentage Used for Purchase of Home.

Frequency of Mortgage Payment.

Principal Included in Mortgage Payment.

Interest Included in Mortgage Payment.

Amount of Private Mortgage Insurance Included in Monthly Payment.

Amount of Other Charges Included in Monthly Payment.

Modified Items:

Type of Mortgage. Item was labeled Payment Plan of Primary Mortgage in 2013. Categories were also changed, renamed, or dropped.

Year Mortgage Obtained. Item was labeled Year Primary Mortgage Originated in 2013.

Interest Rate of Mortgage. Item was labeled Current Interest Rate in 2013.

Term of Mortgage. Item was labeled Term of Primary Mortgage at Origination or Assumption in 2013.

Source of Mortgage Financing. Item was labeled Lenders of Primary and Secondary Mortgages in 2013.

Type of Federal Government Mortgage Insurance. Item was labeled Guarantors of Primary Mortgages in 2013.

Subsidized State and Local Mortgages. Item was labeled Lower Cost State and Local Mortgages in 2013.

Monthly Mortgage Payment Amount. Item was labeled Monthly Mortgage Payment in 2013 and appeared in the Mortgage Characteristics table. In 2015, it moved to the Additional Mortgage Characteristics table and was restricted to primary mortgages only. Like 2013, data include taxes and insurance.

Reason Mortgage Payment Changed Over Last 12 Months. One category was dropped.

Home Improvement Characteristics (Owner-Occupied Units)

Major Changes: Individual types of home improvement jobs (disaster repairs, room additions and renovations, systems and equipment, remodeling, and interior and exterior additions and replacements) were dropped.

Deleted Items:

Government Subsidy for Repairs and Alterations.

Energy Efficiency. (See Reasons for Home Improvement.)

Disaster Repairs.

New Items:

Gut Rehabilitation in the Last Ten Years.

Reason(s) for Home Improvement.

Modified Items:

Routine Maintenance Costs in Typical Year. Item was labeled Routine Maintenance in Last Year in 2013. In addition to the time period changing, the dollar value ranges shown in each category also changed because costs changed from monthly in 2013 to yearly in 2015.

Home Improvement Costs (Owner-Occupied Units)

Modified Items:

Disaster Repairs. Summary data for all disasters were dropped from summary tables, but data for individual disasters are still available. The landslide category was dropped because no landslides were reported in 2015 sample units.

Exterior Additions and Replacements. New categories were added (e.g. Chimney/stairs/other exterior additions). Several items moved here from the 2013 Other Additions and Replacements stub (e.g. Attached garage/carport used to be listed in two separate categories; Porch/deck/patio/terrace used to be split into Deck/porch and Patio/terrace/detached deck in 2013).

Interior Additions and Replacements. Several items moved here from the 2013 Systems and Equipment stub. Some row items were renamed (e.g. Water heater/dishwasher/garbage disposal used to be included in Appliances/major equipment in 2013; Septic tank used to be Plumbing/pipes in 2013; Security system was rolled into Appliances/major equipment in 2013; Water pipes used to be included in Plumbing/pipes in 2013; Electrical wiring/fuse boxes/breaker switches was labeled Electrical Systems in 2013).

Lot or Yard Additions and Replacements. Item was labeled Other Additions and Replacements in 2013. Several items moved to/from the 2013 Exterior Additions and Replacements stub. Landscaping/sprinkler system, Driveways/walkways, and Fencing/walls were added.

Rent Subsidies and Rental Property Management (Renter-Occupied Units)

Deleted Items:

Renter Maintenance Quality.

Building and Ground Maintenance.

New Items:

Rent Control or Stabilization.

Type of Government Subsidy (Matched Data). Data from HUD administrative records.

Modified Items:

Rent Reductions. Categories changed.

Owner or Manager on Property. More detailed categories were added on the presence of owner or manager by building size.

Neighborhoods (Occupied Units)

Major Changes: In 2013, this table was available in the Excel summary tables for all housing units, not just occupied units. In 2015, the items in this table are available for all housing units, but only from the Housing Unit Characteristics table in the AHS Table Creator. In 2013, neighborhood questions were part of a topical module that was only asked of half the sample to reduce respondent burden. As a result, 2013 summary table estimates did not add to total because the total was estimated using the full sample, whereas the other estimates shown in the table used only half the sample. In 2015, the neighborhood questions became a core module and were, therefore, asked of the full sample. All estimates now sum to total.

Deleted Items:

Neighborhood Shopping.

Parking Lots Within ½ Block.

Condition of Streets Within ½ Block.

Age of Other Residential Buildings Within ½ Block.

Police Protection.

New Items:

Secured Communities. Reinstated item last used in 2009.

Senior Citizen Communities. Reinstated item last used in 2009.

Opinion of neighborhood by selected characteristics.

Modified Items:

Description of Area Within ½ Block. Some categories were dropped.

Overall Opinion of Present Neighborhood/Structure. These two stubs moved from the Housing and Neighborhood Search and Satisfaction table to the Neighborhood table in 2015.

Health and Safety Characteristics (Occupied Units)

New Items:

Number of Units Well Serves.

Modified Items:

Type of well. Item moved to the Health and Safety Characteristics table in 2015 from the Water, Plumbing, and Sewage Disposal table in 2013.

Safety of Primary Source of Water. Item moved from the Plumbing, Water, and Sewage Disposal table in 2013 to the Health and Safety Characteristics table in 2015. The stub now also incorporates information from the 2013 Source of Drinking Water stub.

New Metro Areas:

(Metros in the 2015 AHS Sample, but not in 2013)

Atlanta
Cincinnati
Cleveland
Dallas
Denver
Kansas City
Los Angeles-Long Beach
Memphis
Milwaukee
New Orleans
Phoenix
Pittsburgh
Portland
Riverside-San Bernardino
San Francisco
Raleigh

Metros sampled in 2015 match Office of Management and Budget (OMB) February 2013 delineations. All of the above metros, except Raleigh, were last sampled in the 2011 AHS. For more on how the definitions changed between 2011 and 2015, see [Metropolitan Area Histories](#) and <https://www.census.gov/population/metro/data/metrodef.html>.

Deleted Metro Areas:

(2013 Metro Areas not in 2015 AHS Sample)

Baltimore
Hartford
Minneapolis-St. Paul
Northern NJ
Oklahoma City
Rochester
San Antonio
Tampa-St. Petersburg
Orlando
Las Vegas
Nashville
Austin
Jacksonville
Louisville
Richmond
Tucson

Nine of the 25 metropolitan areas sampled in 2015 (not shown above) were also sampled in 2013. For more on how the definitions of those areas changed between 2013 and 2015, see [Metropolitan Area Histories](#) and <https://www.census.gov/population/metro/data/metrodef.html>.