AMERICAN HOUSING
SURVEY

Identifying and Weighting Records in the National and Metropolitan Area Samples:
2011 and 2013

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

PD&R

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Identifying and correctly weighting American Housing Survey (AHS) records within the national longitudinal sample and independent metropolitan area oversamples can be difficult. This document explains how to do that for 2011 and 2013.

1. Overview

Since its inception in 1973, the AHS has been composed of a national longitudinal sample and independent metropolitan area longitudinal oversamples (hereinafter referred to as metropolitan area samples). Since 1985, the AHS national longitudinal sample has been surveyed every odd year, and the metropolitan area samples have been surveyed in selected years and selected areas, on a rotating basis. Although the AHS national longitudinal sample and the AHS metropolitan area sample are independent of one another, they are surveyed with the same instrument. In 2007, the U.S. Department of Housing and Urban Development (HUD) and the Census Bureau began surveying the AHS national longitudinal sample and AHS metropolitan area samples every odd year.

The AHS national longitudinal sample microdata records and the AHS metropolitan area samples microdata records are published as separate public use files (PUFs)[1]. There were three exceptions to this practice and these exceptions were put in place to improve the precision of national estimates while still maintaining the ability to produce metropolitan area estimates with an acceptable level of precision. The three exceptions were:

The AHS metropolitan area sample microdata records from the Big 5[2] (Chicago, Detroit, New York City, Northern New Jersey, and Philadelphia) metropolitan areas were integrated into the national longitudinal sample PUF for 2009 and 2013.

The AHS metropolitan area sample microdata records from Los Angeles was integrated into the national longitudinal sample PUF for 2011.

The AHS metropolitan area sample microdata records from the Big 6[3] areas (the Big 5 plus Los Angeles) was integrated into the national longitudinal sample PUF for 1995, 1999, and 2003.

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[1] When the 2011 estimates were initially released, the national longitudinal sample and metropolitan area samples records were merged into one "combined national sample PUF." The combined file was only created for 2011, and in following years the separate national and metropolitan PUFs were again created. In April 2019, to make 2011 more comparable to other years, the 2011 PUF was re-released as separate national longitudinal sample and metropolitan area sample PUFs (with revised weights).

[2] The Big 5 group of metropolitan area longitudinal oversamples do not follow the Office of Management and Budget's 1993 or 2003 metropolitan statistical area boundaries. Users are encouraged to consult Metropolitan Area Oversample Histories: 1973 – 2013 AHS Help Guide.

[3] The Big 6 group of metropolitan area longitudinal oversamples do not follow the Office of Management and Budget's 1993 or 2003 metropolitan statistical area boundaries. Users are encouraged to consult Metropolitan Area Oversample Histories: 1973 – 2013 AHS Help Guide.

2. Frequently Asked Questions

What is the difference in metropolitan area definitions between the AHS national longitudinal sample PUF and the AHS metropolitan area Sample PUF?

In the AHS national longitudinal sample PUFs, for all years:

- The *SMSA* and *CMSA* variables in the AHS national sample PUF correspond to the 1983 *OMB* definitions of metropolitan areas.

- The only exception is for microdata records in the Big 6 (1995, 1999, 2003, 2011 Los Angeles only) and Big 5 areas (2009, 2013). These records are technically AHS metropolitan area sample records, but they are integrated into the AHS national longitudinal sample PUF. For these records only, AHS users should consult the survey documentation for the specific survey year to determine the Big 5 or Big 6 metropolitan area definition

- Use the variable *WGT90GEO* to generate both Big 6 and national level estimates from the 2011 and 2013 PUFs.

- Most national level estimates derived from the AHS national longitudinal sample PUF will match the AHS Table Creator, except for certain variables that have disclosure avoidance techniques applied.

- Big 6 estimates derived from the AHS national longitudinal sample PUF will NOT match the AHS Table Creator due to respondent confidentiality protections. To protect respondent confidentiality.

  - All sample microdata records in *SMSAs* where the total population was less than 100,000 or outside of *SMSAs* (nonmetro) were given a value of 9999.

  - In addition, where the urban population, the metropolitan area population, or any combination of urban area and metropolitan area population was less than 100,000 or outside of *SMSAs* (nonmetro) were also given a value of 9999.

  - Some microdata records in *SMSAs* in the Chicago, New York, and Northern New Jersey areas were also pseudocoded to reflect their location within the general metropolitan area, but not within a specific *PMSA*. These have *SMSA* values of 9991, 9992, or 9993.

  - For more information on disclosure avoidance techniques, see *Geography in the Public Use File: 1985 to 2013*.

In the AHS metropolitan area sample PUFs, for all years:

- The *SMSA* variable on the AHS metropolitan area sample PUF corresponds to the definition of the metropolitan area in place for that particular survey year. AHS users should consult the survey documentation for that specific survey year to determine the metropolitan area definition.

- Use the variable *WEIGHT* to generate metropolitan area estimates from the 2011 and 2013 metropolitan area sample PUFs.

- Most metropolitan area estimates derived from the AHS metropolitan area sample PUFs will match the AHS Table Creator, except when certain variables have disclosure avoidance techniques applied.

For all records NOT in one of the selected metropolitan areas, the *SMSA* and *CMSA* variable correspond to the 1983 *OMB* definitions of metropolitan areas.

For 2011 or 2013, how do I identify a specific metropolitan area within the PUFs and how do I know which metropolitan area definition was used?

The PUF variables standard metropolitan statistical area *SMSA* and consolidated metropolitan statistical areas *CMSA* contain the codes that identify a specific metropolitan area. When using the metropolitan area samples, including the Big 5 and Big 6 records integrated into the national longitudinal sample, the *SMSA* or *CMSA* code corresponds to the AHS metropolitan area sample definition in place for that survey. The precise geographic definitions for each AHS metropolitan area are *in Appendix A, 2011 AHS Metropolitan Area Definitions*, and *Appendix C, 2013 AHS Metropolitan Area Definitions*. Additional information about the *SMSA* and *CMSA* variables is available in the AHS Codebook available on the AHS website.

Can I use other metropolitan areas within the national longitudinal sample PUF for analysis?

By design, the AHS national longitudinal sample includes many housing units that are located within metropolitan areas. These AHS national longitudinal sample records may be identified using the *SMSA* and *CMSA* variables; however, HUD does not recommend using the AHS national longitudinal sample to produce any housing unit or characteristic estimates for specific metropolitan areas other than the aforementioned Big 5 or Big 6 areas. The sample sizes are too small to produce reliable estimates. The *SMSA* code for a case that is part of the AHS national longitudinal sample (meaning it is not part of a metropolitan area sample) corresponds to the 1983 *OMB* definition of the metropolitan area. The geographic definitions for each AHS national metropolitan area are in *Appendix B, 2011 and 2013 AHS Metropolitan Area Definitions*.

Besides *SMSA*, what other geographic variables can I find on the national longitudinal sample and metropolitan area sample PUFs in 2011 and 2013?

The AHS national longitudinal sample PUFs and AHS metropolitan area sample PUFs have unique geography variables that are specific to the particular sample and survey year. For the 2013 metropolitan area sample PUF, HUD scaled back the availability of certain geographic indicators for disclosure avoidance. The following exhibit outlines which geographic variables are available in the 2011 and 2013 AHS.

Exhibit 2.1.   Geographic Variables in the 2011 and 2013 AHS PUFs

PUF Geographic Variable	2011 AHS National Longitudinal Sample PUF	2011 AHS Metropolitan Area Sample PUF	2013 AHS National Longitudinal Sample PUF	2013 AHS Metropolitan Area Sample PUF
REGION	Present		Present	
DIVISION	Present		Present	
CMSA	Present		Present	
SMSA	Present	Present	Present	Present
METRO3	Present		Present	
ZONE		Present		
METRO		Present		Present
STATE		Present		
COUNTY		Present		
DEGREE	Present		Present	

Appendix A.

Exhibit A.1. 2011 AHS Metropolitan Area Sample PUF Metropolitan Area Definitions

Name	SMSA or CMSA Code
Anaheim-Santa Ana, CA Metropolitan Division	SMSA = 0360
Atlanta-Sandy Springs-Marietta, GA Metropolitan Statistical Area	SMSA = 0520
Birmingham-Hoover, AL Metropolitan Statistical Area	SMSA = 1000
Buffalo-Niagara Falls, NY Metropolitan Statistical Area	SMSA = 1280
Charlotte-Gastonia-Concord, NC-SC Metropolitan Statistical Area	SMSA = 1520
Cincinnati-Middletown, OH-KY-IN Metropolitan Statistical Area	SMSA = 1640
Cleveland-Elyria-Mentor, OH Metropolitan Statistical Area	SMSA = 1680
Columbus, OH Metropolitan Statistical Area	SMSA = 1840
Dallas-Plano-Irving, TX Metropolitan Division	SMSA = 1920
Denver, CO Metropolitan Statistical Area (except Broomfield County)	SMSA = 2080
Fort Worth-Arlington, TX Metropolitan Division	SMSA = 2800
Indianapolis-Carmel, IN Metropolitan Statistical Area	SMSA = 3480
Kansas City, MO-KS Metropolitan Statistical Area	SMSA = 3760
Memphis, TN-MS-AR Metropolitan Statistical Area	SMSA = 4920
Milwaukee-Waukesha-West Allis, WI Metropolitan Statistical Area	SMSA = 5080
New Orleans-Metairie-Kenner, LA Metropolitan Statistical Area	SMSA = 5560
Oakland-Fremont-Hayward, CA Metropolitan Division	SMSA = 5775
Phoenix-Mesa-Scottsdale, AZ Metropolitan Statistical Area	SMSA = 6200
Pittsburgh, PA Metropolitan Statistical Area	SMSA = 0845, 6280
Portland-Vancouver-Beaverton, OR-WA Metropolitan Statistical Area	SMSA = 6440
Providence, RI (see definition in Metropolitan Area Oversample Histories Document)	SMSA = 6480
Riverside-San Bernardino-Ontario, CA Metropolitan Statistical Area	SMSA = 6780
Sacramento--Arden-Arcade--Roseville, CA Metropolitan Statistical Area	SMSA = 6920
San Diego-Carlsbad-San Marcos, CA Metropolitan Statistical Area	SMSA = 7320
San Francisco-San Mateo-Redwood City, CA Metropolitan Division	SMSA = 7360
San Jose-Sunnyvale-Santa Clara, CA Metropolitan Statistical Area	SMSA = 7400
St. Louis, MO-IL Metropolitan Statistical Area (except Sullivan City)	SMSA = 0275, 2285, 7040
Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area	SMSA = 5720

Appendix B.

Exhibit B.1. 2011 and 2013 AHS Metropolitan Area Definitions for Metropolitan Area Integrated into the National Longitudinal Sample PUF

Name	SMSA Code	Year in Sample	AHS Metropolitan Area Definition
Chicago, IL	SMSA = 0620, 1600, 3690, 3965, 9991	2013	Same as 2003 *OMB* Chicago-Joliet-Naperville, IL-IN-WI Metropolitan Statistical Area, except for the following: Does not include DeKalb County from the Chicago-Naperville-Joliet, IL Metropolitan Division. Does not include Kenosha County, WI from the Lake County-Kenosha County, IL-WI Metropolitan Division. Does not include the Gary, IN Metropolitan Division
Detroit-Warren-Livonia, MI	SMSA = 2160	2013	Same as the 2003 *OMB* Detroit-Warren-Livonia, MI Metropolitan Statistical Area and also includes the Monroe, MI Metropolitan Statistical Area
Los Angeles-Long Beach, CA Metropolitan Division	SMSA = 4480	2011	Same as the 1983 *OMB* definition for the Los Angeles-Long Beach, CA PMSA. Only on the 2011 national sample PUF.
New York City, NY	SMSA = 5380, 5600, 9992	2013	Includes the following NY counties: Bronx, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk
Northern New Jersey, NJ	SMSA = 0875, 3640, 5015, 5190, 5640, 8480, 9993	2013	Includes the following NJ counties: Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union
Philadelphia, PA	SMSA = 6160	2013	Same as 2003 OMB Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metropolitan Statistical Area, except for the following: Does not include the Wilmington, DE-MD-NJ Metropolitan Division

Appendix C.

Exhibit C.1.   2013 AHS Metropolitan Area Sample PUF Metropolitan Area Definitions

Name	SMSA Code
Austin-Round Rock, TX Metropolitan Statistical Area	SMSA = 0640
Baltimore-Towson, MD Metropolitan Statistical Area	SMSA = 0720
Boston-Cambridge-Quincy, MA-NH Metropolitan NECTA	SMSA = 1120
Hartford-West Hartford-East Hartford, CT Metropolitan NECTA	SMSA = 3280
Houston-Baytown-Sugar Land, TX Metropolitan Statistical Area	SMSA = 3360
Jacksonville, FL Metropolitan Statistical Area	SMSA = 3600
Las Vegas-Paradise, NV Metropolitan Statistical Area	SMSA = 4120
Louisville, KY-IN Metropolitan Statistical Area	SMSA = 4520
Miami-Fort Lauderdale-Miami Beach, FL Metropolitan Statistical Area	SMSA = 5000
Minneapolis-St. Paul-Bloomington, MN-WI Metropolitan Statistical Area	SMSA = 5120
Nashville-Davidson--Murfreesboro--Franklin, TN Metropolitan Statistical Area	SMSA = 5360
Oklahoma City, OK Metropolitan Statistical Area	SMSA = 5880
Orlando, FL Metropolitan Statistical Area	SMSA = 5960
Richmond, VA Metropolitan Statistical Area	SMSA = 6760
Rochester, NY Metropolitan Statistical Area	SMSA = 6840
San Antonio, TX Metropolitan Statistical Area	SMSA = 7240
Seattle-Tacoma-Bellevue, WA Metropolitan Statistical Area	SMSA = 7600
Tampa-St. Petersburg-Clearwater, FL Metropolitan Statistical Area	SMSA = 8280
Tucson, AZ Metropolitan Statistical Area	SMSA = 8520
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area	SMSA = 8840

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