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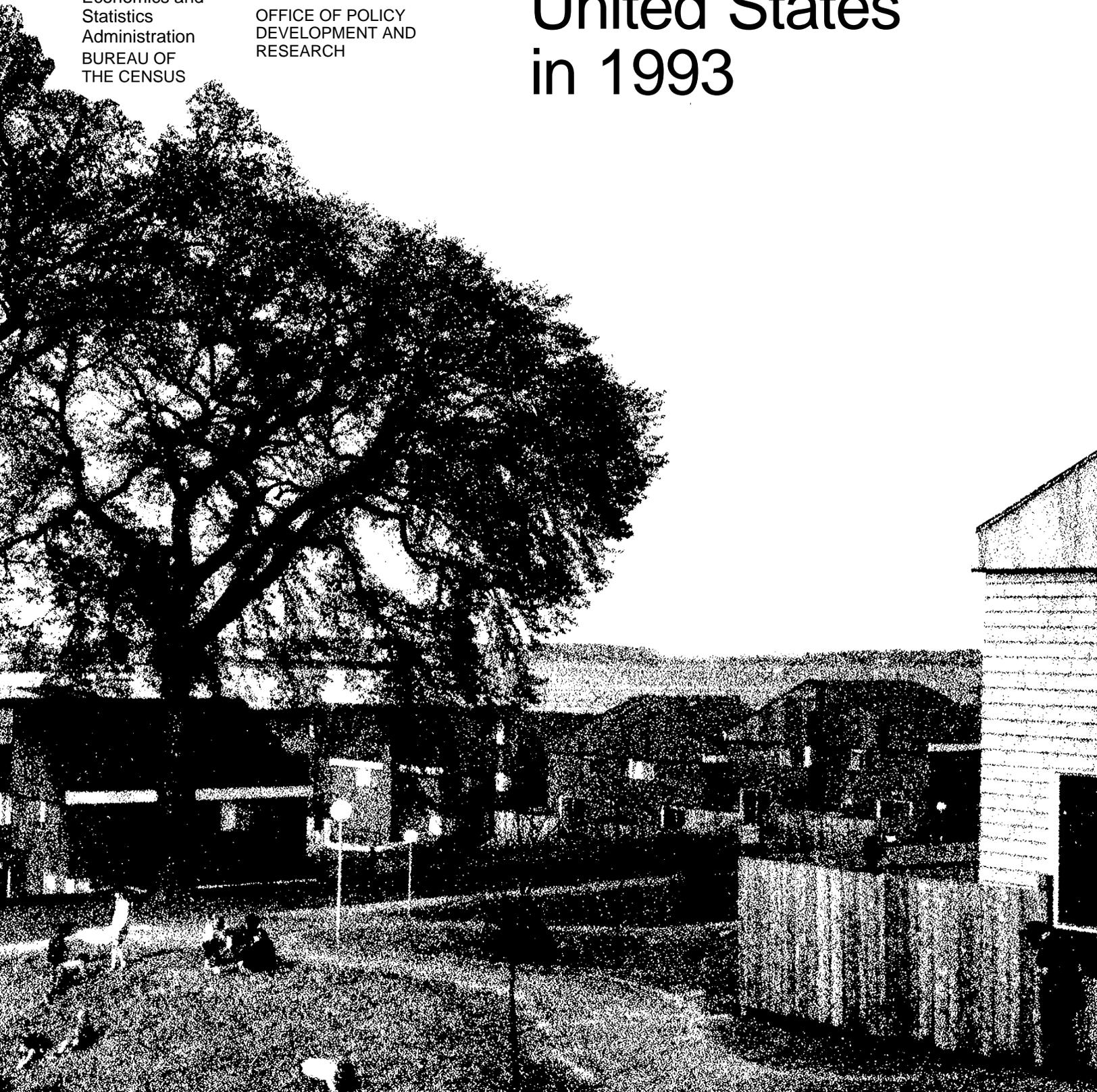
Economics and
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THE CENSUS

**U.S.
Department of
Housing and
Urban Development**

OFFICE OF POLICY
DEVELOPMENT AND
RESEARCH

CURRENT HOUSING REPORTS H151/93-1

Supplement to the American Housing Survey for the United States in 1993



Acknowledgments

This report presents data from the American Housing Survey, which was sponsored by the U.S. Department of Housing and Urban Development and conducted by the U.S. Bureau of the Census. It was prepared primarily under the direction of **Duane T. McGough**, Director, Housing and Demographic Analysis Division, Department of Housing and Urban Development, and **Daniel H. Weinberg**, Chief, Housing and Household Economic Statistics Division, Bureau of the Census.

Duane T. McGough, assisted by **Ron Sepanik**, **Paul Burke**, **Connie Casey**, and **David A. Vandenbroucke** was responsible for overseeing the American Housing Survey resultant report on behalf of the Department of Housing and Urban Development.

Within the Bureau of the Census, this report was developed in the Housing and Household Economic Statistics Division. It was prepared under the supervision of **Leonard J. Norry**, Assistant Division Chief for Housing Characteristics, by **Edward D. Montfort**, Chief, American Housing Survey Branch, assisted by **Paul P. Harple**. **William L. Hartnett**, **Mary Lynn Fessler**, **Sandra Lord**, **Sandra J. Reading**, and **Barbara T. Williams** performed specific activities related to data collection procedures, statistical presentation, organization of the report, and preparation of text materials. **Ethelery A. Johnson** provided statistical assistance.

Under the direction of **Sherry L. Courtland**, Chief, Demographic Surveys Division, **John C. Cannon**, assisted by **Gemma M. Furno** and **J. Joy Sharp**, coordinated the operational aspects of the American Housing Survey. **Thomas J. Meerholz**, Assistant Division Chief, directed the systems and processing procedures. The computer programming and processing were performed under the supervision of **Thomas L. Blatt**, by **Debra K. P. Knoll**, **Pura del C. Acevedo Perez**, **Diana Rubin**, and **Jimmy T. Nguyen**. **Wendy Peebles** provided clerical and keying procedures and scheduling.

The Demographic Statistical Methods Division, under the direction of **Preston Jay Waite**, Chief, performed sampling and reinterview and related activities. **James Hartman** and **Mark Gorsak** developed the sample design, weighting, and computation of sampling variances and standard errors. **Chuck Edwards**, **Sneha Desai**, **Jeffrey Wneck**, **Pat Marks**, and **Kathleen Walsh** (Data Preparation Division, Jeffersonville, IN) implemented the sample selection and prepared the sample controls. **Andrea Meier** and **Michael Ringwelski** conducted the reinterview design, procedures, analysis, and programming.

Field Division, under the management of **Paula J. Schneider**, Chief, administered the data collection, clerical processing, and data entry activities.

The staff of the Administrative and Customer Services Division, **Walter C. Odom**, Chief, provided publication planning, design, composition, editorial review, and printing planning and procurement. **Barbara M. Abbott** coordinated and edited the publication.



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Issued January 1996



**U.S. Department
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Assistant Secretary for
Policy Development
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**Economics and
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for Programs

Nancy M. Gordon,
Associate Director for
Demographic Programs

Daniel H. Weinberg,
Chief, Housing and Household
Economic Statistics Division



**OFFICE OF POLICY
DEVELOPMENT AND
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Michael A. Stegman,
Assistant Secretary for
Policy Development
and Research

Frederick J. Eggers,
Deputy Assistant Secretary
for Economic Affairs

Duane T. McGough,
Director, Housing and
Demographic Analysis Division



CONTENTS

	Page					
Major Changes	IV					
Explanations and Cautions	V					
Tables on Occupied Units	Total occupied	Owners	Renters	Black house- holders	Hispanic house- holders	Elderly house- holders
Family Type						
1. General Characteristics.....	1-1	2-1	3-1	4-1	5-1	6-1
2. Financial Characteristics	1-2	2-2	3-2	4-2	5-2	6-2
3. Housing Quality	1-3	2-3	3-3	4-3	5-3	6-3
Standard Column Headings						
4. Neighborhood Quality	1-4	2-4	3-4	4-4	5-4	6-4
5. Journey to Work	1-5	2-5	3-5	4-5	5-5	6-5
6. Additional Residential Units	1-6	2-6	-	-	-	-
Tables on Occupied Units—Con.	Central cities	Suburbs	Outside MSA's	Urban	Rural	
Family Type						
1. General Characteristics.....	7-1	8-1	9-1	10-1	11-1	
2. Financial Characteristics	7-2	8-2	9-2	10-2	11-2	
3. Housing Quality	7-3	8-3	9-3	10-3	11-3	
Standard Column Headings						
4. Neighborhood Quality	7-4	8-4	9-4	10-4	11-4	
5. Journey to Work	7-5	8-5	9-5	10-5	11-5	
6. Additional Residential Units	-	-	-	-	-	
Appendixes	Page					
A. Definitions	A-1					
Questionnaire for Occupied Units..	A-12					
B. Sample Design, Weighting, and Telephone Experiments	B-1					
C. Historical Changes	C-1					
D. Errors.....	D-1					
Subject Index	Index-1					

Major Changes This Year

(For previous years' changes, see appendix C)

The former appendix B has been divided. Appendix B now covers sample design, weighting, and telephone interview experiments. Appendix D covers errors from sampling and other causes. Appendix D also includes data on completeness of the answers: how many households gave answers to different questions on the survey.

Explanations and Cautions

EXPLANATIONS

Contents of book. This book presents supplemental data for occupied housing units by family type on apartments; single-family homes; mobile homes; age, sex, and race of householders; income; housing and neighborhood quality; housing costs; equipment and fuels; and size of the housing units. The book also presents data on journey to work, and additional residential units—both vacation and investment properties (for total-occupied and owner-occupied units).

Scope of the survey. The American Housing Survey (AHS) is conducted by field representatives who obtain information from occupants of homes. The 1993 national survey was conducted from July through December 1993. This is a national sample of about 55,000 interviews conducted every other year. From 1973 when it started, to 1981, the AHS collected national data every year, instead of every other year, and was called the Annual Housing Survey.

CAUTIONS

Sampling and nonsampling errors. The numbers in this book have errors from sampling and other causes (incomplete data, wrong answers, etc.). Table A shows how big the errors from sampling are (except for items relating to journey to work—see appendix D). Nonsampling errors are usually even bigger.

As an example of how to use table A, suppose this book shows 1,000,000 homes of a certain type. The table shows the range of error is 76,000 homes. This means there are likely to be between 924,000 and 1,076,000 homes of this type. More precision cannot be obtained from this survey.

Appendix D gives more detailed formulas, to calculate errors for a wide range of items. Appendix D also gives some estimates of nonsampling errors.

Undercoverage and nonresponse. Each home in the AHS sample represents a large number of other homes. However, because of incomplete sampling lists (i.e., undercoverage) and nonresponse, the homes in the survey do not represent all homes in the country. Therefore, the raw numbers from the survey are raised proportionally so that the numbers published here match independent estimates of the total number of homes. These independent esti-

Table A. **Sampling Error**

When this book shows one of the following numbers—	90-percent confidence intervals for error from sampling—
0	4,000
10,000	8,000
100,000	24,000
500,000	54,000
1,000,000	76,000
2,500,000	120,000
10,000,000	230,000
25,000,000	334,000
50,000,000	391,000
75,000,000	352,000
90,000,000	271,000
106,611,000	4,000

mates are based on the 1990 Census of Housing, plus changes since then. Housing unit undercoverage and household nonresponse is about 7 percent. Compared to the level derived from the adjusted 1990 decennial census counts, housing unit undercoverage alone is about 1.9 percent.

The weighting procedures used for AHS-N partially correct for the bias due to nonresponse and housing unit, but not within household, undercoverage. The procedures assume the housing units missed by the survey are like those included, which is not entirely accurate. Housing unit undercoverage varies by age, ethnicity, and race of householder and type of household. For some groups, such as Blacks the undercoverage is at least 9 percent. Some AHS-N estimates are affected by missed persons within sample households. These are persons per room, square feet per person, some household composition items (e.g., persons per household), and income characteristics. We don't know the effect of this within household undercoverage on these characteristics. Appendix D shows how complete the answers were for each question, before adjustments. Appendix B explains how the numbers were proportionally adjusted.

Income and poverty. Historically, the AHS underreports income and overreports poverty when compared with the Current Population Survey (CPS), and both surveys underreport income and overreport poverty when compared with tax returns and national income accounts. The AHS households mention fewer sources of income than CPS. The poverty data in the AHS are not published as an official count of households in poverty, but to show the housing characteristics of low-income households. For a discussion of income and poverty, see appendix C.

A detailed discussion of AHS income data is presented in the Census Bureau memorandum for the record, "Comparison of 1989 AHS and CPS Income Reporting." The

memorandum for the record, "AHS Poverty Data, 1985 to 1989," presents a detailed discussion of AHS poverty data. Copies of both memoranda can be obtained by writing to the Housing and Household Economic Statistics Division, at the address below.

Telephone interviewing. The use of Computer Assisted Telephone Interviewing (CATI) in part of the AHS sample has significant effects on a variety of characteristics. The CATI portion of the sample produces lower estimates for many housing quality problems and higher estimates for some income and cost items. For more discussion of CATI, see appendix B and appendix C.

DATA AVAILABILITY

The AHS data are presented nationally as well as for 44 selected metropolitan areas (see table on next page). Table B shows the sources for obtaining AHS data, the product available, and the pricing for each product. Each source or organization offering AHS data sets its own charges, so prices may vary between the sources. For the data user whose needs are not met by the book tabulations (printed books or microfiche), there are tapes and CD-ROM's with copies of each respondent's answers, so these answers can be tabulated by computer programs in any way desired (microdata). CD-ROM's also provide copies of the tables. Plans are underway to make the microdata available on the Internet. Contact HHES for more details. To protect the confidentiality of the respondents; names, addresses, and places smaller than 100,000 people are not identified. The sample design generally will not support analysis for areas smaller than those shown in the books.

Table B. Sources for American Housing Survey Data

Source	Telephone	Books	Microfiche	Computer tapes	CD-ROM's
HUD User Box 6091 Rockville, MD 20850.....	800-245-2691 301-251-5154 TDD 800-877-8674	National and Metro \$4		National and Metro \$100	National and Metro \$150
Customer Services Bureau of the Census Washington, DC 20233-8500	301-457-4100 TDD 301-457-4611 Fax 301-457-3842	Metro \$10-\$20	National and Metro \$2-\$4	National and Metro \$175	National and Metro \$150
Superintendent of Documents ¹ Washington, DC 20402-9326	202-783-3238 Fax 202-512-2250	National \$20-\$40			
Housing and Household Economic Statistics Division Bureau of the Census Washington, DC 20233-8500	301-763-8551 Fax 301-763-8674	Analytical reports H121, H123 \$2-\$10			

¹Ask for Census Bureau series H150 and H151. Depository libraries may order Superintendent of Documents prefix C3.215. Libraries often keep National books in a special catalog and section for U.S. Government documents. Metropolitan reports may be located in the general catalog, since these are not published by the Superintendent of Documents.

Dates of AHS Metropolitan Surveys: 1974 to 1994

(A book for each survey is published about 18 months later)

Area	1992-1994	1988-1991	1984-1987	1981-1983	1980	1977-1979	1974-1976
Albany-Schenectady-Troy, NY*					80	77	74
Allentown-Bethlehem-Easton, PA-NJ*					80	76	
Anaheim-Santa Ana, CA PMSA	94	90	86	81		77	74
Atlanta, GA MSA*		91	87	82		78	75
Baltimore, MD MSA*		91	87	83		79	76
Birmingham, AL MSA*	92	88	84		80		76
Boston, MA-NH CMSA*	93	89	85	81		77	74
Buffalo, NY CMSA	94	88	84			79	76
Chicago, IL PMSA's*		91	87	83		79	75
Cincinnati, OH-KY-IN PMSA		90	86	82		78	75
Cleveland, OH PMSA	92	88	84			79	76
Colorado Springs, CO*						78	75
Columbus, OH MSA*		91	87	82		78	75
Dallas, TX PMSA	94	89	85	81		77	74
Denver, CO CMSA*		90	86	83		79	76
Detroit, MI PMSA*	93	89	85	81		77	74
Fort Worth-Arlington, TX PMSA*	94	89	85	81		77	74
Grand Rapids, MI*					80		76
Hartford, CT CMSA*		91	87	83		79	75
Honolulu, HI*				83		79	76
Houston, TX (new sample in 1987) PMSA's*		91	87	83		79	76
Indianapolis, IN MSA	92	88	84		80		76
Kansas City, MO-KS CMSA*		90	86	82		78	75
Las Vegas, NV						79	76
Los Angeles-Long Beach, CA PMSA		89	85		80	77	74
Louisville, KY-IN*				83	80		76
Madison, WI*				81		77	75
Memphis, TN-AR-MS MSA*	92	88	84		80	77	74
Miami-Ft. Lauderdale, FL CMSA*		90	86	83		79	75
Milwaukee, WI PMSA	94	88	84			79	75
Minneapolis-St. Paul, MN-WI MSA*	93	89	85	81		77	74
New Orleans, LA MSA*		90	86	82		78	75
New York, NY PMSA's*		91	87	83	80		76
Newark, NJ (now covered by Northern NJ)				81		77	74
Norfolk-Virginia Beach-Newport News, VA MSA*	92	88	84			78	75
Northern NJ PMSA's*		91	87				
Oklahoma City, OK MSA*	92	88	84		80		76
Omaha, NE-IA*						79	76
Orlando, FL*				81		77	74
Paterson-Clifton-Passaic, NJ (now covered by Northern NJ)				82		78	75
Philadelphia, PA-NJ PMSA		89	85	82		78	75
Phoenix, AZ MSA	94	89	85	81		77	74
Pittsburgh, PA CMSA*		90	86	81		77	74
Portland, OR-WA CMSA*		90	86	83		79	75

Dates of AHS Metropolitan Surveys: 1974 to 1994—Con.

(A book for each survey is published about 18 months later)

Area	1992- 1994	1988- 1991	1984- 1987	1981- 1983	1980	1977- 1979	1974- 1976
Providence-Pawtucket-Warwick, RI-MA PMSA's*	92	88	84		80		76
Raleigh, NC *						79	76
Riverside-San Bernardino-Ontario, CA PMSA	94	90	86	82		78	75
Rochester, NY MSA*		90	86	82		78	75
Sacramento, CA *				83	80		76
Saginaw, MI *					80	77	74
St. Louis, MO-IL CMSA *		91	87	83	80		76
Salt Lake City, UT MSA *	92	88	84		80	77	74
San Antonio, TX MSA*		90	86	82		78	75
San Diego, CA MSA	94	91	87	82		78	75
San Francisco-Oakland, CA PMSA	93	89	85	82		78	75
San Jose, CA PMSA*	93	88	84				
Seattle-Tacoma, WA CMSA*		91	87	83		79	76
Spokane, WA*				81		77	74
Springfield-Chicopee-Holyoke, MA-CT*						78	75
Tacoma, WA (now covered by Seattle-Tacoma)				81		77	74
Tampa-St. Petersburg, FL MSA *	93	89	85				
Washington, DC-MD-VA MSA *	93	89	85	81		77	74
Wichita, KS *				81		77	74

* Broader areas are surveyed after 1983. Each book has a map that defines the area surveyed that year.