Updating the Low-Income Housing Tax Credit Database:

PROJECTS PLACED IN SERVICE THROUGH 2001

U.S. Department of Housing and Urban Development
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Prepared for:
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Executive Summary

This report presents the results of the most recent update to the database of LIHTC properties. Abt Associates Inc. first created for HUD a national database of LIHTC properties placed into service from 1987 through 1994. In December 2000, HUD published the results of the first update to this database, *Updating the Low Income Housing Tax Credit (LIHTC) Database*, which included properties placed in service from 1995 through 1998. Subsequent updates have included properties placed in service through 1999 and 2000. This report publishes the results of the third update to the database, which includes properties placed in service through 2001.

As with the earlier data collection efforts, this study relied on state tax credit allocating agencies to provide information about each of the properties in their jurisdictions. Based on the data received from agencies, tax credit production averaged roughly 1,300 projects and 90,000 units annually between 1995 and 2001. While the number of projects placed into service each year has remained fairly stable over the years, the number of units has grown steadily from roughly 56,000 units produced annually in the 1992 through 1994 period. This increase reflects a boost in the size of the average LIHTC project from 42.1 units in the earlier study period to 73.9 units for properties placed in service in 2001. The larger average project size is in turn a function of the increase in the number of tax credit projects with tax-exempt bonds, which are more than twice as large as the average LIHTC project. Overall, tax credit projects are larger and have larger units than apartments in general.

Nearly two-thirds of LIHTC projects placed into service from 1995 through 2001 were newly constructed (although only one-third in the Northeast were new construction). Close to one-third of the projects had a nonprofit sponsor, with an increase in nonprofit sponsorship over the years. At the same time, the number of LIHTC projects with Rural Housing Service Section 515 loans has declined. The South accounts for the largest share of tax credit units in the United States, and the South and West boast larger-than-average LIHTC properties. The South also claims the largest proportion of properties with Rural Housing Service Section 515 loans. The Northeast has the highest proportion of nonprofit-sponsored LIHTC projects.

Just under half of LIHTC units placed into service from 1995 to 2001 are located in central cities, and nearly two-fifths are in metro area suburbs, similar to the distribution of occupied rental housing units overall. Tax credit properties tend to be developed in areas with favorable cost environments, either because the area has relatively low development costs or because it is a Difficult Development Area (an area with high development costs relative to incomes, qualifying the project to claim an increased basis). Finally, nearly one-third of LIHTC properties have residents receiving tenant-based rental subsidies through the Housing Choice Voucher Program.

Chapter One
Introduction

1.1 Overview of the LIHTC

The Low Income Housing Tax Credit (LIHTC) was created by the Tax Reform Act of 1986.[1] The act eliminated a variety of tax provisions which had favored rental housing and replaced them with a program of credits for the production of rental housing targeted to lower income households. Under the LIHTC program, the states were authorized to issue Federal tax credits for the acquisition, rehabilitation, or new construction of affordable rental housing. The credits can be used by property owners to offset taxes on other income, and are generally sold to outside investors to raise initial development funds for a project. To qualify for credits a project must have a specific proportion of its units set aside for lower income households and the rents on these units are limited to 30 percent of qualifying income.[2] The amount of the credit that can be provided for a project is a function of development cost (excluding land), the proportion of units that is set aside, and the credit rate (which varies based on development method and whether other federal subsidies are used). Credits are provided for a period of 10 years.[3]

Congress initially authorized state agencies to allocate roughly $9 billion in credits over three years: 1987, 1988, and 1989.[4] Subsequent legislation modified the credit, both to make technical corrections to the original act and to make substantive changes in the program.[5] For example, the commitment period (during which qualifying units must be rented to low-income households) was extended from 15 years to 30 years.[6] States were also required to

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1 Public Law (PL) 99-514.

2 Owners may elect to set aside at least 20 percent of the units for households at or below 50 percent of area median income or at least 40 percent for households with incomes below 60 percent of area median. Rents in qualifying units are limited to 30 percent of the elected 50 or 60 percent of income.

3 The credit percentages are adjusted monthly, but fall in the neighborhood of 4 percent or 9 percent of qualifying basis. In general, credits are intended to provide a discounted stream of benefits equal to either 30 percent (for the 4 percent credit) or 70 percent (for the 9 percent credit) of the property's qualifying basis. The 30 percent credit is used for federally subsidized new construction or rehab. The 70 percent credit is used for non-federally subsidized rehab or construction.

4 Assumes approximately $300 million in allocation authority in each year, with annual credits taken for 10 years.

5 See Technical and Miscellaneous Revenue Act of 1988 (PL 100-647), Omnibus Budget Reconciliation Act of 1989 (PL 101-239), and Omnibus Reconciliation Act of 1990 (PL 101-508).

6 The Omnibus Reconciliation Act of 1989 extended the commitment period from 15 to 30 years. However, project owners are allowed to sell or convert the project to conventional market housing if they apply to the state tax credit allocation agency and the agency is unable to find a buyer (presumably a non-profit) willing

ensure that no more credit was allocated to a project than was necessary for financial viability. The credit was also made a permanent part of the Federal tax code (Section 42) in 1993.[7] In 2000, Congress significantly expanded the tax credit by increasing the per-capita cap from $1.25 to $1.50 in 2001 and to $1.75 in 2002, with annual adjustments for inflation starting in 2003.[8] The tax credit cap of $1.25 per capita had not been adjusted since the program's inception.

Since 1987—the first year of the credit program—the LIHTC has been the principal mechanism for supporting the production of new and rehabilitated rental housing for low-income households, with approximately $5 billion in annual budget authority.[9] Although the U.S. Department of Housing and Urban Development (HUD) is not formally responsible for allocation or use of the housing tax credit, HUD has monitored and analyzed the tax credit since its inception because of its important role in providing for the housing needs of low-income people.

1.2 Previous Property-level LIHTC Data Collection

Most of the data about the early implementation of the program were compiled by the National Council of State Housing Agencies (NCSHA), an association of state housing finance agencies, the entities responsible for allocating tax credits in most states. Abt Associates then collected data for properties placed in service from 1987 through 1994 in a database created for HUD. The General Accounting Office (GAO) also collected some property-level data for projects placed in service from 1992 through 1994.[10] Another study collected more detailed data on a smaller sample of projects placed in service from 1987 through 1996.[11]

In 1999, HUD awarded a contract to Abt Associates to collect data on LIHTC properties placed in service from 1995 through 1998. The results of data collection were presented in

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to maintain the project as low-income for the balance of the 30 year period. If no such buyer is found, tenants are protected with rental assistance for up to three years.

7 See Omnibus Budget Reconciliation Act of 1993 (PL 103-66).

8 See Community Renewal Tax Relief Act of 2000 (PL 106-554).

9 The $5 billion figure is widely cited, including on the "Fact Sheet on President's FY2001 Budget for Selected Low-Income Programs," at http://www.senate.gov/~budget/democratic/analysis/low_income.pdf

10 See "Development and Analysis of the National LIHTC Database," Abt Associates, July 1996, and "Tax Credits: Opportunities to Improve Oversight of the Low-Income Housing Program," GAO/GGD RCED-97-55, March 1997.

11 See "Building Affordable Rental Housing: An Analysis of the Low-Income Housing Tax Credit," Jean L. Cummings and Denise DePasquale, February 1998.

the *Updating the Low Income Tax Credit (LIHTC) Database* Final Report dated December 2000. Under amendments to that contract, Abt Associates then collected data on LIHTC projects placed in service in 1999 and 2000 and updated the Final Report accordingly. This report presents the findings on LIHTC projects placed in service in 2001 as well as cumulative findings for the period of 1995 through 2001.

1.3 Objectives of the Research

The goals of this research project are to: (1) collect data from LIHTC allocating agencies on tax credit projects placed in service in 2001 and verify data on projects placed in service in earlier years; (2) describe the characteristics of these and earlier projects and their local areas; and (3) provide a clean, documented data file that can be used as a reliable sampling frame for future, more in-depth research.

The approach used for this research project is based on the method used by Abt Associates Inc. in developing the database of tax credit projects placed in service during 1987-1994. Our research approach called for working closely with each of the allocating agencies to maximize the data provided with a minimum of burden to each agency.

1.4 Organization of this Report

This report is organized as follows:

- **Chapter One** provides an overview of the LIHTC program and the objectives of the research.
- **Chapter Two** describes the data collection approach and summarizes the results of data collection in terms of agency response and data quality.
- **Chapter Three** presents characteristics of tax credit properties placed in service from 1995 through 2001.
- **Chapter Four** presents information about the location of tax credit properties placed in service from 1995 through 2001.
- **Chapter Five** summarizes key findings in a conclusion.
- **Appendix A** presents findings by state.
- **Appendix B** contains the data collection form sent to tax credit allocating agencies.
- **Appendix C** presents a detailed description of the database and the data dictionary.

Chapter Two
Data Collection and Database Creation

2.1 Data Collection Approach

The data collection approach used for this research project is based on the method used by Abt Associates Inc. in developing the database of tax credit projects placed in service during 1987-1994. The research approach called for working closely with each of the 58 allocating agencies to maximize the data provided with a minimum of burden to each agency.

Data collection included several steps:

- identifying the appropriate contact person in each allocating agency
- mailing data requests and forms to the agencies
- following up and coordinating with the agencies for each data submission
- data entry
- geocoding
- verifying data with states and making any corrections received from states
- data cleaning and merging in secondary data

Each of the steps is described in detail below.

Identifying the appropriate contact person in each tax credit allocating agency. The first step in the data collection was to identify the appropriate contact person in each of the allocating agencies. As a starting point, we compiled contact data from the previous study, as well as updated lists of contacts from the National Council of State Housing Finance Agencies web site. Contact names were then verified by telephone prior to our initial contact.

Mailing data requests and forms to the agencies. The request for data on properties placed in service in 2001 was made through a letter from Abt Associates, accompanied by a letter from the HUD Deputy Assistant Secretary for Economic Affairs, along with blank data forms.[12] We also sent each agency a diskette of tax credit data submitted by the agency in years prior to 2001 to facilitate review and verification of data from those earlier years. This mailing was followed up by a telephone call from a project staff member. Where

[12] Previous rounds of data collection gathered data on properties placed in service from 1995 to 2000.

appropriate, we mailed a MS Excel spreadsheet shell or an MS Access table with data entry screens for an agency to enter data, or a listing of the variables needed if an agency chose to download the data from their own data systems.

Following up and coordinating data submission. After mailing data requests to agencies, we conducted intensive follow-up with most states to ensure that data were submitted in a usable form and in a timely manner. Research assistants and analysts were responsible for the day-to-day tracking and follow-up of data receipt.

Data review and follow-up. Upon receipt of the data, it was reviewed for completeness and consistency.[13] Any problems identified were flagged and checked, and staff followed up with the states with questions if necessary. This process included a manual review of the agencies' submissions to detect a range of possible problems, including:

- submission of data on allocations rather than placements in service
- duplicate or multiple allocation projects
- building-level instead of project-level data
- incomplete or "bad" addresses
- other inconsistencies or omissions.

Data entry. As complete data were received from each site they were entered into a project-level database. Hard copy data were double key-entered by data entry personnel. Computerized files were added to the database by the programmer, again upon receipt.

Geocoding project addresses. Geocoding of project addresses was done by Abt Associates staff using MapMarker Plus software. MapMarker (the geocoding component of the MapInfo family of mapping products) geocodes each address with the latitude and longitude markers and an extended census tract designation that incorporates the state and county FIPS code, census tract, block group, and block number for each address. For the majority of records for properties placed in service from 1995 to 1999, we geocoded using MapMarker Plus version 7.0 to determine each project's 1990 census tract. Once geocoded, we used MapInfo Professional version 6.0 mapping software and electronic maps of the Census 2000 geographic entities to determine each project's 2000 census tract. For subsequent updates to the National LIHTC Database, geocoding was again done with MapMarker Plus version 7.0[14] to determine 1990 census tract numbers. To determine 2000 census tract numbers, geocoding

[13] About half the agencies submitted their data by paper means and half submitted it electronically.

[14] MapMarker Plus version 7.0 was the latest version of the software available to output 1990 U.S. Census codes. For some of the later placed in service projects for which the software could not find a 1990 census tract, data on 2000 census tracts and electronic maps were used to determine the 1990 census tract.

was done with later versions of MapMarker Plus. The most recent data collection used version 8.3. Using census tract-level databases and data on OMB-defined MSAs provided by HUD, we determined MSA and place codes.

Verifying data. Once each agency's data were entered, additional queries were run on the data to ensure consistency within and across records. The data were sent to each agency for verification, along with details on inconsistencies found. Any corrections received from states were used to update the file.

Merging in secondary data. Several types of locational variables were used to describe each property including census tract characteristics and MSA characteristics. Demographic data, including data on income, poverty, minorities, female-headed families with children, and renter versus owner occupancy, were taken from the 2000 Census. As geocoding was completed, the tracts and MSAs from which census data were needed were compiled, and census data were extracted or downloaded.

2.2 Results of Data Collection

The updated database contains data from all 58 agencies that allocate tax credits in their states or local jurisdictions.[15] Exhibit 2-1 lists the agencies.

The data collection effort required intensive follow-up with the allocating agencies to ensure a high response rate and complete and accurate data. A number of agencies took several months to send the data, generally citing staffing constraints. In addition, many agencies initially sent incomplete data that required follow-up. However, the agencies ultimately provided very complete data.

Overall, the updated database includes information on 9,311 projects and 633,080 units placed in service between 1995 and 2001. This includes an additional 140 projects (12,408 units) placed in service from 1995-2000 that were not previously identified by the allocating agencies. See Appendix C for more details.

[15] Data for the DC Housing Finance Agency and the DC Department of Housing and Community Development were obtained from the *District of Columbia Housing Pipeline Report*, posted by the DC Office of Planning and Economic Development at http://dcbiz.dc.gov/news_room/2002/november/fy02q4_hpr.pdf.

Exhibit 2-1: Tax Credit Allocating Agencies

Alabama Housing Finance Authority	Montana Board of Housing
Alaska Housing Finance Corporation	Nebraska Investment Finance Authority
Arizona Department of Housing	Nevada Department of Business & Industry
Arkansas Development Finance Authority	New Hampshire Housing Finance Authority
California Tax Credit Allocation Committee	New Jersey Housing & Mortgage Finance Agency
City of Chicago Department of Housing	New Mexico Mortgage Finance Authority
Colorado Housing & Finance Authority	New York State Division of Housing & Community Renewal
Connecticut Housing Finance Authority	New York State Housing Finance Agency
Delaware State Housing Authority	City of New York Department of Housing Preservation & Development
District of Columbia Department of Housing & Community Development	North Carolina Housing Finance Agency
District of Columbia Housing Finance Agency	North Dakota Housing Finance Agency
Florida Housing Finance Corporation	Ohio Housing Finance Agency
Georgia Department of Community Affairs	Oklahoma Housing Finance Agency
Housing & Community Development Corporation of Hawaii	Oregon Housing & Community Services
Idaho Housing & Finance Association	Pennsylvania Housing Finance Agency
Illinois Housing Development Authority	Puerto Rico Housing Finance Corporation
Indiana Housing Finance Authority	Rhode Island Housing & Mortgage Finance Corporation
Iowa Finance Authority	South Carolina Housing Finance & Development Authority
Kansas Housing Resources Corporation	South Dakota Housing Development Authority
Kentucky Housing Corporation	Tennessee Housing Development Agency
Louisiana Housing Finance Agency	Texas Department of Housing & Community Affairs
Maine State Housing Authority	Utah Housing Corporation
Maryland Department of Housing & Community Development	Vermont Housing Finance Agency
Massachusetts Department of Housing & Community Development	Virgin Islands Housing Finance Authority
MassHousing	Virginia Housing Development Authority
Michigan State Housing Development Authority	Washington State Housing Finance Commission
Minnesota Housing Finance Agency	West Virginia Housing Development Fund
Mississippi Home Corporation	Wisconsin Housing & Economic Development Authority
Missouri Housing Development Commission	Wyoming Community Development Authority

Exhibit 2-2 shows the coverage of the database for projects placed in service between 1995 and 2001. The exhibit indicates the percentage of projects and units missing the variable in each year. For comparison purposes, the exhibit also shows the coverage for projects placed in service between 1992 and 1994. Overall, the data collected in the LIHTC database represent the best data that state agencies were able to supply as of 2003. Nevertheless, there are a number of important caveats to keep in mind regarding the database and the analysis presented in the subsequent sections. In particular:

- Because few states compiled data specifically for our data request, source documents often included a variety of different listings and printouts that had to be matched to complete the database. In using these lists, we attempted to verify any assumptions used with agency representatives, and only two-thirds of the agencies responded to these verification requests. For the same reason, variable coverage is not complete—that is, we were limited to the items states already had compiled (although for different purposes).
- Finally, missing data was fairly common in a few variables, for example bedroom size distribution (14.0 percent) and increase in basis (18.8 percent). Although missing variables are concentrated in particular states, we have no reason to suspect that these variables do not provide good representative statistics for LIHTC projects nationally.

These results represent a major improvement in data coverage relative to the earlier data collection efforts. The percentage of projects and units that had missing data dropped considerably for all variables, with particularly dramatic improvement for number of bedrooms, allocation year, construction type, credit type, increase in basis. Further, within the 1995-2001 period, data coverage improved significantly for owner address, increase in basis, and number of bedrooms.[16] In summary, the HUD LIHTC database offers substantially complete coverage of LIHTC projects placed in service between 1995 and 2001 and reasonable coverage of projects placed in service in earlier years.

[16] For example, between 1995 and 2001, the percentage of units with missing bedroom information decreased from 17.4 percent to only 8.9 percent. Similarly, the percentage of units in projects missing owner address dropped from 11.6 percent to only 2.0 percent.

Exhibit 2-2
LIHTC Database: Percent Missing Data by Variable
1992-2001

Variable	1992-1994		1995-2001	
	Percent of Projects with Missing Data	Percent of Units with Missing Data	Percent of Projects with Missing Data	Percent of Units with Missing Data
Project Address[a]	1.1%	1.5%	0.5%	0.2%
Owner Contact Data	18.4%	18.3%	7.7%	5.7%
Total Units	0.7%	---	0.2%	---
Low Income Units	2.1%	3.2%	0.5%	0.4%
Number of Bedrooms[b]	53.6%	58.3%	14.0%	12.7%
Allocation Year	12.5%	14.4%	0.2%	0.2%
Construction Type (new/rehab)	26.8%	28.7%	1.4%	1.6%
Credit Type	47.9%	48.3%	8.5%	9.6%
Nonprofit Sponsorship	26.9%	23.7%	9.5%	10.4%
Increase in Basis	49.8%	46.8%	18.8%	14.1%
Use of Tax-Exempt Bonds	23.5%	24.3%	9.6%	9.8%
Use of RHS Section 515	25.5%	27.0%	12.1%	14.3%

[a] Indicates only that some location was provided. Address may not be a complete street address.
[b] For some properties, bedroom count was provided for most but not all units, in which case data is not considered missing. The percent of units with missing bedroom count data is based on properties where no data were provided on bedroom count.

Chapter Three
Characteristics of Tax Credit Projects

This chapter presents information on the characteristics of Low Income Housing Tax Credit (LIHTC) projects based on information obtained from the state allocating agencies. Information is presented for 9,311 projects and 633,080 units placed in service between 1995 and 2001. Section 3.1 presents basic property characteristics. Section 3.2 presents trends in characteristics over time.

3.1 Basic Property Characteristics

Exhibit 3-1 presents information on the basic characteristics of LIHTC properties by placed-in-service year. Placed-in-service projects are those that have received a certificate of occupancy and for which the state has submitted an IRS Form 8609 indicating that the property owner is eligible to claim low-income housing tax credits.[17]

On average, approximately 1,300 projects and 90,000 units were placed into service during each of the study years. The average LIHTC project placed in service during this period contained 68.0 units. Tax credit properties tend to be larger than the average apartment property. Fully 41.0 percent of LIHTC projects are larger than 50 units, compared to only 2.2 percent of all apartment properties nationally.[18] In terms of units, more than three-quarters of LIHTC units were in properties with more than 50 units, compared with only 20 percent of renter occupied apartment units in general.[19]

Of the units produced, the vast majority were qualifying units, or tax credit units—that is, units reserved for low-income use, with restricted rents, and for which low-income tax credits can be claimed. The distribution of qualifying ratios (the percentage of tax credit units in a project) shows that the vast majority of projects are composed almost entirely of low-income units. Only a very small proportion of the properties have lower qualifying ratios, reflecting the minimum elections set by the program (i.e., a minimum of 40 percent of the units at 60 percent of median income or 20 percent of the units at 50 percent of median).

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[17] IRS reporting is on a building-by-building basis. However, in this study, we use the LIHTC project as a unit of analysis. A project would include multi-building properties.

[18] National Multi Housing Council, tabulation of unpublished data from the U.S. Census Bureau's 1995-1996 Property Owners and Managers Survey. Data do not include public housing projects.

[19] U.S. Census Bureau, American Housing Survey 2001, based on renter occupied units in buildings with five or more units. See http://www.census.gov/hhes/www/housing/ahs/ahs01/tab41.html.

Overall, the ratio of qualifying units to total units was 95.7% for properties placed in service from 1995 through 2001 and trended slightly downward over these years.

Exhibit 3-1 also presents information on the size of the LIHTC units based on the number of bedrooms. As shown, the average unit had 1.94 bedrooms. Nearly one quarter (23.7 percent) of LIHTC units in the study period had three or more bedrooms, compared to only 11 percent of all apartment units nationally, and 16 percent of all apartments built from 1990 to 1997.[20]

Exhibit 3-2 presents additional information on the characteristics of the LIHTC projects, beginning with the type of construction: new, rehabilitation, or a combination of new and rehabilitation (for multi-building projects). As shown, LIHTC projects placed in service from 1995 through 2001 were predominately new construction, accounting for close to two-thirds (62.9 percent) of the projects. Rehabilitation of an existing structure was used in 35.5 percent of the projects, while a combination of new construction and rehabilitation was used in only a small fraction of LIHTC projects.[21]

The tax credit program requires that 10 percent of each state's LIHTC dollar allocation be set aside for projects with nonprofit sponsors. As shown in Exhibit 3-2, overall 30.6 percent of LIHTC projects placed in service from 1995 to 2001 had a nonprofit sponsor.

Exhibit 3-2 also presents information about two common sources of additional subsidy: use of tax-exempt bonds (which are generally issued by the same agency that allocates the credit), and Rural Housing Service (RHS)[22] Section 515 loans (which imply a different regulatory regime and different compliance monitoring rules). Overall, RHS Section 515 loans were used in 13.6 percent of the projects placed in service during the study period.

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[20] U.S. Bureau of Census, 1997 American Housing Survey. Data refer to occupied rental apartments in buildings with two or more units.

[21] The combination of new construction and rehabilitation is possible in multi-building properties, where one building was rehabilitated and one building was newly constructed.

[22] The Rural Housing Service was formerly called the Farmers Home Administration.

Exhibit 3-1
Characteristics of LIHTC Projects
1995-2001

Year Placed in Service	1995	1996	1997	1998	1999	2000	2001	All Projects 1995-2001
Number of Projects	1,374	1,303	1,334	1,291	1,460	1,273	1,276	9,311
Number of Units	79,293	81,989	87,377	91,674	106,488	91,991	94,268	633,080
Average Project Size	57.7	62.9	65.5	71.0	72.9	72.3	73.9	68.0
Distribution								
0-10 Units	13.5%	14.3%	7.6%	7.3%	6.2%	6.1%	4.5%	8.5%
11-20 Units	11.9%	11.8%	12.5%	10.9%	12.1%	11.7%	10.8%	11.7%
21-50 Units	41.5%	36.3%	41.7%	38.4%	37.4%	35.8%	40.2%	38.8%
51-99 Units	17.1%	17.8%	18.8%	21.4%	21.4%	22.1%	21.6%	20.0%
100+ Units	15.9%	19.7%	19.4%	22.0%	22.9%	24.2%	22.9%	21.0%
Average Qualifying Ratio	97.3%	96.8%	96.0%	95.7%	95.0%	94.7%	94.6%	95.7%
Distribution								
0-20%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-40%	0.6%	1.5%	1.4%	1.6%	1.2%	1.1%	1.2%	1.2%
41-60%	2.4%	2.1%	2.3%	2.4%	2.9%	3.3%	2.0%	2.5%
61-80%	2.1%	2.7%	5.1%	5.6%	7.5%	7.2%	9.9%	5.7%
81-90%	2.4%	1.7%	2.2%	2.0%	2.3%	3.2%	4.4%	2.6%
91-95%	1.9%	1.6%	1.6%	1.5%	2.9%	2.9%	3.0%	2.2%
96-100%	90.7%	90.5%	87.4%	86.8%	83.3%	82.4%	79.5%	85.8%
Average Bedrooms	1.93	1.96	1.93	2.01	1.95	1.90	1.90	1.94
Distribution								
0 Bedroom	3.7%	4.0%	4.2%	2.9%	4.3%	3.4%	2.9%	3.6%
1 Bedroom	30.7%	29.3%	29.4%	27.4%	28.5%	32.2%	29.5%	29.5%
2 Bedroom	43.8%	44.3%	42.7%	43.5%	42.7%	41.6%	43.9%	43.2%
3 Bedroom	18.7%	19.5%	20.6%	22.3%	20.9%	20.2%	20.7%	20.5%
≥4 Bedroom	3.1%	2.9%	3.2%	4.0%	3.6%	2.5%	2.9%	3.2%

Notes: The analysis dataset includes 9,311 projects and 633,080 units placed in service between 1995 and 2001. The database contains missing data for qualifying ratio (percentage of tax credit units) (0.5%) and bedroom count (14.0%). Totals may not sum to 100 percent because of rounding.

Exhibit 3-2
Additional Characteristics of LIHTC Projects
1995-2001

Year Placed in Service	1995	1996	1997	1998	1999	2000	2001	All Projects 1995-2001
Construction								
New	65.9%	62.4%	62.6%	63.4%	64.1%	60.0%	61.4%	62.9%
Rehab	32.7%	36.3%	34.6%	35.0%	34.3%	39.0%	37.1%	35.5%
Both	1.4%	1.2%	2.8%	1.6%	1.7%	1.0%	1.6%	1.6%
Nonprofit Sponsor	19.0%	25.3%	35.4%	36.5%	34.8%	31.1%	32.3%	30.6%
RHS Section 515	23.4%	15.7%	13.5%	11.3%	10.4%	9.4%	10.6%	13.6%
Tax-Exempt Bonds	3.9%	6.4%	8.2%	13.1%	19.4%	25.2%	23.1%	14.2%
Credit Type								
30 Percent	26.0%	20.2%	20.1%	26.0%	28.9%	30.0%	29.3%	25.7%
70 Percent	62.9%	68.4%	70.4%	64.1%	63.4%	63.2%	61.9%	64.9%
Both	11.0%	11.5%	9.4%	9.9%	7.7%	6.8%	8.8%	9.3%

Notes: The analysis dataset includes 9,311 projects and 633,080 units placed in service between 1995 and 2001. The database contains missing data for construction type (1.4%), nonprofit sponsor (9.5%), RHS Section 515 (12.1%), bond financing (9.6%), and credit type (8.5%). Totals may not sum to 100 percent because of rounding.

The final characteristic presented in Exhibit 3-2 is the credit type that was used by LIHTC projects. The 30 percent present value credit is used for acquisition and when other federal financing is used for the rehab or new construction, while the 70 percent present value credit is available to non-federally financed rehab or construction. Roughly two-thirds (64.9 percent) of the LIHTC projects placed in service during the study period have a 70 percent credit, one-fourth (25.7 percent) have a 30 percent credit, and 9.3 percent have both.

Exhibit 3-3 presents more detail on the type of credit, providing a breakdown of credit percentage based on construction type and financing. Projects with 70 percent credits are more likely to be new construction than those with 30 percent credits (75.5 percent compared with 55.7 percent) and less likely to be rehabilitation projects (23.3 percent compared with 43.6 percent).

Exhibit 3-3
Characteristics of LIHTC Projects by Credit Type
1995-2001

Credit Type	Projects			Units		
	30%	70%	Both	30%	70%	Both
Construction Type						
New	55.7%	75.5%	7.6%	54.4%	77.3%	9.7%
Rehab	43.6%	23.3%	84.5%	45.1%	21.6%	83.8%
Both	0.7%	1.2%	7.9%	0.5%	1.1%	6.6%
RHS Section 515	39.6%	2.8%	20.4%	12.5%	1.5%	13.6%
Tax-Exempt Bond Financing	50.8%	1.1%	4.1%	82.5%	2.3%	9.0%

Notes: The analysis dataset includes 9,311 projects and 633,080 units placed in service between 1995 and 2001. The database contains missing data for construction type (1.4%), RHS Section 515 (12.1%), bond financing (9.6%), and credit type (8.5%). When data are presented in a cross tabulation of two variables, the percentage of missing data may increase. Totals may not sum to 100 percent because of rounding.

Exhibit 3-3 also shows the breakdown of two major federal subsidies by credit type. As shown, 39.6 percent of projects with 30 percent credits have RHS Section 515, and 50.8 percent have tax-exempt bond financing. A very small percentage of projects with 70 percent credits have RHS or tax-exempt bond financing. In general, tax credit projects that receive other sources of federally subsidized funding are not eligible for the 70 percent credit, but there are exceptions to this rule. For example, there are two circumstances under which a project can receive tax-exempt bonds and still claim a 70 percent tax credit: (1) if the developer excludes the bond proceeds from the eligible basis, or (2) if the developer pays off the debt associated with the bond financing before the property is placed in service.[23] In addition, tax credit projects with HOME funds can, in some cases, receive a 70 percent credit. Although the tax code does not specifically provide for a 70 percent credit for RHS programs, it appears that exceptions have been made in a small number of cases.[24]

We also examined key project characteristics for three specific groups of tax credit properties: nonprofit-sponsored, RHS Section 515, and tax-exempt bond-financed projects. As shown in Exhibit 3-4, bond-financed projects are the largest of these three groups, with an average project size of 153.4 units, and with 62.7 percent of bond-financed properties having over 100 units. By contrast, RHS projects are particularly small, with an average size of just 31.3 units. Nonprofit projects, with an average size of 55.7 units, are slightly smaller than

[23] Information provided by the National Council of State Housing Agencies (NCSHA)

[24] In testimony before the House Subcommittee on Housing and Community Opportunity, Robert P. Yoder (past President of Council for Affordable and Rural Housing) testified on July 17, 2001, that the tax credit rules should be clarified to permit the 70 percent credit for RHS programs.

the average size of 68.0 units for the universe of properties placed into service from 1995 through 2001. Bond-financed tax credit projects also stand out because of their lower-than-average qualifying ratio. In terms of construction type, the three groups show similar splits between new construction and rehab.

Exhibit 3-4
Characteristics of Specific LIHTC Property Types
1995-2001

	Type of LIHTC Project			All LIHTC Projects 1995-2001
	Nonprofit Sponsor	Tax-Exempt Bond Financing	RHS Section 515	
Average Project Size (units)	55.7	153.4	31.3	68.0
Distribution by Project Size				
0-10 units	6.9%	0.7%	3.1%	8.4%
11-20 units	16.0%	2.6%	18.9%	11.7%
21-50 units	43.0%	11.6%	70.2%	38.9%
51-99 units	20.5%	22.4%	6.5%	20.1%
100+ units	13.7%	62.7%	1.3%	21.2%
Construction Type				
New	56.4%	53.5%	52.9%	63.0%
Rehab	39.8%	45.7%	46.8%	35.3%
Both	3.8%	0.8%	0.3%	1.6%
Average Qualifying Ratio	97.0%	89.0%	99.1%	95.8%

Notes: The analysis dataset includes 9,311 projects and 633,080 units placed in service between 1995 and 2001. The database contains missing data for construction type (1.4%), qualifying ratio (0.5%), nonprofit sponsor (9.5%), RHS Section 515 (12.1%), and bond financing (9.6%). Totals may not sum to 100 percent because of rounding.

Finally, we examined the length of time it took for an allocated project to be placed in service. Exhibit 3-5 shows, for each placed-in-service year, the percentage of projects from different allocation years. During data collection, we requested the earliest allocation year and the latest placed-in-service year when a project had multiple allocation or place-in-service years. For each of the placed-in-service years, more than three-quarters of the projects had allocation dates either one or two years before the place-in-service year, with the bulk of the remainder allocated in the same year. Only a very small fraction of projects were allocated credits more than two years before the placed-in-service date.[25]

[25] In 171 properties, tax credits were allocated after the placed-in-service year. These properties, most of which have tax-exempt bonds, are concentrated among a few LIHTC allocating agencies that have atypical methods of defining allocation year.

Exhibit 3-5
Percentage of Projects Placed in Service from Different Allocation Years
1995-2001

Year Tax Credit Allocated	Year Placed in Service							
	1995	1996	1997	1998	1999	2000	2001	1995-2001
Pre-1993	0.4%	0.0%	0.3%	0.0%	0.0%	0.1%	0.0%	0.1%
1993	35.2%	0.8%	0.2%	0.4%	0.1%	0.0%	0.0%	5.4%
1994	49.1%	43.4%	1.9%	0.1%	0.2%	0.3%	0.0%	13.7%
1995	15.4%	42.6%	41.5%	2.9%	0.5%	0.2%	0.0%	14.7%
1996	0.0%	13.1%	40.5%	39.7%	4.6%	0.4%	0.0%	14.0%
1997	0.0%	0.1%	15.2%	38.7%	39.8%	4.8%	0.1%	14.5%
1998	0.0%	0.0%	0.3%	15.0%	39.2%	38.6%	1.8%	13.8%
1999	0.0%	0.0%	0.2%	2.6%	12.1%	41.3%	38.7%	13.2%
2000 or later	0.0%	0.0%	0.1%	0.6%	3.6%	14.4%	59.4%	10.7%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Notes: The analysis dataset includes 9,311 projects and 633,080 units placed in service between 1995 and 2001. Totals may not sum to 100 percent because of rounding.

3.2 Changes in Characteristics Over Time

The LIHTC database is useful for examining trends in housing production under the tax credit program not only because we can see yearly changes within the study period but also because we can compare it to data from HUD's earlier study of tax credit properties placed in service from 1992 through 1994. In this section, we present trends in characteristics over time.

Exhibit 3-6 presents key characteristics for LIHTC projects placed in service during the period 1992-1994 and for each year from 1995 through 2001. As shown, the number of projects placed in service annually was consistent over the years, with an average of approximately 1,300 projects per year. However, the number of *units* placed in service rose from the earlier study period to later years, reflecting a larger average project size. The larger project size in the current study period is associated with a higher percentage of tax-exempt bond financed projects compared with the earlier study period. On average, tax-exempt bond financed projects are more than twice as large (153.4 units) compared to the universe of projects (68.0 units) placed in service from 1995 to 2001.

Exhibit 3-6
Characteristics of LIHTC Properties Over Time: 1992-1994 Compared to Subsequent Years

Year Placed in Service	1992-1994	1995	1996	1997	1998	1999	2000	2001
Annual Number of Projects	1,329[a]	1,374	1303	1,334	1,291	1,460	1,273	1,276
Annual Number of Units	56,054[a]	79,293	81,989	87,377	91,674	106,488	91,991	94,268
Annual Number of Low-Income Units	51,907[a]	73,670	76,565	80,044	84,197	96,845	84,014	87,244
Average Project Size (units)	42.1	57.7	62.9	65.5	71.0	72.9	72.3	73.9
Distribution by Size								
0-10 units	21.9%	13.5%	14.3%	7.6%	7.3%	6.2%	6.1%	4.5%
11-50 units	55.7%	53.4%	48.1%	54.2%	49.3%	49.5%	47.5%	60.0%
51-99 units	12.6%	17.1%	17.8%	18.8%	21.4%	21.4%	22.1%	21.6%
100+ units	9.8%	15.9%	19.7%	19.4%	22.0%	22.9%	24.2%	22.9%
Average Bedrooms	1.85	1.93	1.96	1.93	2.01	1.95	1.90	1.90
Distribution								
0 Bedrooms	5.5%	3.7%	4.0%	4.2%	2.9%	4.3%	3.4%	3.0%
1 Bedroom	39.8%	30.7%	29.3%	29.4%	27.4%	28.5%	32.2%	29.5%
2 Bedrooms	38.5%	43.8%	44.3%	42.7%	43.5%	42.7%	41.6%	43.9%
3 Bedrooms	14.8%	18.7%	19.5%	20.6%	22.3%	20.9%	20.2%	20.7%
4+ Bedrooms	1.3%	3.1%	2.9%	3.2%	4.0%	3.6%	2.5%	2.9%
Average Qualifying Ratio	97.8%	97.3%	96.8%	96.0%	95.7%	95.0%	94.7%	94.6%
Distribution of Projects by Construction Type								
New	65.9%	65.9%	62.4%	62.6%	63.4%	64.1%	60.0%	61.4%
Rehab	33.2%	32.7%	36.3%	34.6%	35.0%	34.3%	39.0%	37.1%
Both	0.7%	1.4%	1.2%	2.8%	1.6%	1.7%	1.0%	1.6%
Nonprofit Sponsor	20.3%	19.0%	25.3%	35.4%	36.5%	34.8%	31.1%	32.3%
RHS Section 515	34.5%	23.4%	15.7%	13.5%	11.3%	10.4%	9.4%	10.6%
Tax-Exempt Bond Financing	2.7%	3.9%	6.4%	8.2%	13.1%	19.4%	25.2%	23.1%

[a]Average for 1992, 1993, and 1994.

Notes: Data for 1992-1994 are from *Development and Analysis of the National Low-Income Housing Tax Credit Database*, prepared by Abt Associates for the Office of Policy Development and Research, U.S. Department of Housing and Urban Development, July 1996. The analysis dataset includes 9,311 projects and 633,080 units placed in service between 1995 and 2001. The database contains missing data for bedroom count (14.0 %), qualifying ratio (0.5%), construction type (1.4%), nonprofit sponsor (9.5%), RHS Section 515 (12.1%), and bond financing (9.6%). Qualifying ratio is a simple average of the qualifying ratio of projects. Totals may not sum to 100 percent because of rounding.

The average project size increased steadily, from 42.1 units in the earlier study period to 73.9 units in 2001. Similarly, the proportion of projects with 10 or fewer units dropped from 21.9 percent in 1992-1994 to only 4.5 percent in 2001. At the same time, the percentage of properties with 50 or more units more than doubled, from 22.4 percent to 44.5 percent. In terms of unit size, the share of zero- and one-bedroom units dropped, while the share of units with two or more bedrooms increased, from the 1992-94 period.

We also see an increase in nonprofit sponsorship and tax-exempt bond financing, and a decrease in the use of the RHS Section 515 program. The share of properties with nonprofit sponsors increased from 20.3 percent of properties in 1992-1994 to 32.3 percent in 2001. At the same time, the proportion of properties with RHS funding dropped dramatically, from 34.5 percent to only 10.6 percent, reflecting the sharp decrease in Section 515 loans nationwide from $512 million in 1994 to $151 million in 1996 to $114 million annually from 1999 to 2001.[26] Finally, the percentage of projects financed with bonds jumped from 2.7 percent to 23.1 percent, reflecting the increased competition among projects for tax credits. Developers often must secure tax-exempt bond financing to make their applications more competitive in the eyes of the allocating agency. In addition, bond-financed properties are eligible for credits outside the per-capita state credit ceilings.

[26] RHS Section 515 funding information provided by the Housing Assistance Council web page (www.ruralhome.org/rhs/inception/515.htm).

Chapter Four
Location of Tax Credit Projects

This chapter presents information on the locations of Low Income Housing Tax Credit (LIHTC) projects placed in service from 1995 through 2001. Specifically, it addresses regional patterns of development, whether properties are located in central cities, suburbs, or rural areas, the characteristics of the neighborhoods in which LIHTC projects are developed, and changes in these patterns over time.

In order to analyze information related to property location, projects in the LIHTC database were geocoded—that is, linked with their census tract—based on the address information provided by the allocating agencies. Geocoding was performed for the entire LIHTC database using MapMarker Plus geocoding software from the MapInfo Corporation. Overall, addresses provided by the allocating agencies were successfully matched with a census tract for 93.9 percent of the projects in the database.[27] Regionally, the success rates for geocoding were 95.2 percent in the Northeast, 94.4 percent in the Midwest, 94.8 percent in the West, and 92.3 percent in the South.

For most of the analyses presented in this chapter, including location type (central city, suburb, or non-metro area) and characteristics of census tracts in which LIHTC properties are located, analyses are based on the dataset of geocoded projects placed in service from 1995 through 2001. However, for analysis of regional patterns of development, census tract information is not needed, so analyses are based on all projects (not solely geocoded projects). [28]

4.1 Regional Patterns of Development

In this section, we examine the regional distribution of LIHTC properties and the characteristics of projects by Census region. Exhibit 4-1 presents the regional distribution of

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[27] Geocoding output parameters were set to obtain reliable census tract numbers. Property addresses needed to have complete and accurate house numbers, street names, and either cities and states or zip codes. Addresses were first geocoded during an initial, automatic pass. Properties not geocoded during the automatic pass were run through the system again in interactive mode. During the interactive pass, we attempted to correct property addresses by correcting spelling errors and by using a variety of online databases to obtain corrected zip codes and property address information. Properties for which we could not determine a complete and accurate address to were left ungeocoded by the geocoding software. Additional information about the geocoding processes can be found in Appendix C.

[28] Projects in Puerto Rico and the U.S. Virgin Islands, which are not in any of the four Census regions, were excluded from the analysis of location characteristics.

LIHTC projects and units, with a comparison of the distribution of all LIHTC projects to that of the geocoded subset. As shown, the South accounts for the largest share of all LIHTC projects (34.1 percent), followed by the Midwest (27.8 percent), West (19.4 percent), and Northeast (18.7 percent). Looking at units, as opposed to projects, the South accounts for an even larger share (40.3 percent), with 22.8 percent in the Midwest, 22.7 percent in the West, and 14.3 percent in the Northeast. To provide context, the findings on LIHTC projects and units were compared to rental units and population in general. Overall, the South leads the nation in total rental units at 33.7 percent of units nationally, corresponding closely to the distribution of LIHTC projects in the South. The West accounts for 24.2 percent of all rental units in the United States, followed by the Northeast (21.4 percent) and Midwest (20.6 percent). The South leads the nation in population, with 35.6 percent of the population, compared with 22.9 percent in the Midwest, 22.5 percent in the West and 19.0 percent in the Northeast. These numbers roughly correspond to the distribution of LIHTC projects and units across all regions.

As shown in Exhibit 4-1, the distribution of geocoded properties closely matches the distribution of all LIHTC properties in the database. Given this close match, as well as the high rate of geocoding overall, we are confident that the geocoded data provide a reasonable basis for the analyses presented in this chapter.

Exhibit 4-1
Regional Distribution of LIHTC Projects and Units
1995-2001

Region	All LIHTC Projects		Geocoded LIHTC Projects		All U.S. Rental Housing Units	U.S. Population
	Projects	Units	Projects	Units		
Northeast	18.7%	14.3%	19.0%	14.2%	21.4%	19.0%
Midwest	27.8%	22.8%	27.9%	22.6%	20.6%	22.9%
South	34.1%	40.3%	33.5%	40.4%	33.7%	35.6%
West	19.4%	22.7%	19.5%	22.8%	24.2%	22.5%

Notes: The dataset used in this analysis includes 9,253 projects and 629,587 units placed in service between 1995 and 2001. Of these, 8,690 projects and 605,701 units were geocoded. Projects and units in Puerto Rico and the Virgin Islands were excluded. Total population and rental units are based on 2000 Census data. Totals may not sum to 100 percent because of rounding.

Exhibit 4-2 presents the regional distribution of new construction tax credit units across the four years from 1995 to 2001, as well as multi-family units completed over the same time period. As shown, the share of LIHTC new construction in the West nearly tripled between 1995 and 2000, then dropped in 2001. Between 2000 and 2001, the share of new LIHTC properties in the South increased significantly (from 40.2 percent to 56.5 percent). When looking at multi-family rental unit completions nationally, we do not see such patterns, so the

trends in tax credit properties placed in service in these regions show real shifts in the usage of the tax credit relative to other finance methods.

The bottom panel of Exhibit 4-2 shows the ratio of new LIHTC units to new multifamily rental completions for each year during the study period. As shown, LIHTC units account for more than one-fifth (22.3 percent) of all new apartment units nationally from 1995 to 2001, with higher shares in the Northeast (36.7 percent) and Midwest (27.1 percent).

Exhibit 4-2
Regional Distribution of New Construction LIHTC Units
by Year Placed in Service
1995-2001

Year Placed in Service	1995	1996	1997	1998	1999	2000	2001	All Projects 1995-2001
New Construction LIHTC Units	N= 47,386	N= 47,573	N= 51,548	N= 57,012	N= 67,463	N= 53,666	N= 57,533	N= 382,181
Northeast	10.5%	5.4%	11.7%	9.7%	7.9%	8.9%	10.4%	9.2%
Midwest	36.8%	33.1%	25.3%	19.5%	20.0%	20.1%	12.8%	23.3%
South	40.8%	42.9%	36.6%	44.5%	45.4%	40.2%	56.6%	44.1%
West	11.8%	18.6%	26.4%	26.3%	26.8%	30.8%	20.2%	23.4%
New Multifamily Completions	N= 196,000	N= 234,000	N= 230,000	N= 260,000	N= 279,000	N= 272,000	N= 240,000	N= 1,711,000
Northeast	5.6%	3.4%	4.8%	5.4%	7.5%	6.3%	5.8%	5.6%
Midwest	21.9%	20.9%	21.3%	19.2%	16.5%	18.4%	17.1%	19.2%
South	49.0%	48.7%	47.4%	51.5%	50.9%	51.5%	51.3%	50.1%
West	24.0%	26.9%	26.5%	23.8%	25.1%	23.9%	26.3%	25.2%
Share of New Multifamily Rental Unit Completions that Are New Construction LIHTC Units								
U.S. Total	24.2%	20.3%	22.4%	21.9%	24.2%	19.7%	24.0%	22.3%
Northeast	45.3%	32.3%	55.0%	39.4%	25.3%	28.0%	42.7%	36.7%
Midwest	40.6%	32.1%	26.6%	22.3%	29.3%	21.6%	18.0%	27.1%
South	20.2%	17.9%	17.3%	18.9%	21.5%	15.4%	26.5%	19.7%
West	11.9%	14.0%	22.3%	24.2%	25.8%	25.4%	18.4%	20.7%

Notes: The dataset used in this analysis includes 9,253 projects and 629,587 units placed in service between 1995 and 2001. Projects and units in Puerto Rico and the Virgin Islands were excluded. Data on new multifamily rental unit completions were taken from the website http://www.census.gov/ftp/pub/const/www/newresconstindex.html. Totals may not sum to 100 percent because of rounding.

Exhibit 4-3 presents information on project characteristics by region. As shown, average project size ranges from around 54 units in the Northeast and Midwest to 80 units in the South and West, with an overall average of 75.5 units per project. Across all regions, the average ratio of qualifying tax credit units to total units was 95.7 percent, ranging from 91.8 percent in the Northeast to 97.8 percent in the South. Unit size was fairly consistent across the four regions, with an average of 1.9 bedrooms per unit.

Construction type differed dramatically by region. In the Midwest, South, and West, new construction predominated, ranging from 69.3 percent of LIHTC projects in the South to 71.5 percent in the West. By contrast, only 32.3 percent of projects in the Northeast were newly constructed, reflecting the low rate of population growth and the relative lack of undeveloped land (and the related focus on rehabilitation) in that region.

Exhibit 4-3
Characteristics of LIHTC Projects by Region
1995-2001

	Northeast	Midwest	South	West	All Regions
Average Project Size (Units)	51.8	55.8	80.3	79.7	75.5
Average Qualifying Ratio	91.8%	95.8%	97.8%	95.5%	95.7%
Average Number of Bedrooms	1.7	2.1	2.0	1.9	1.9
Distribution of Units by Size					
0 Bedrooms	6.1%	3.8%	1.3%	6.4%	3.6%
1 Bedroom	43.1%	27.2%	25.9%	30.7%	29.6%
2 Bedrooms	34.3%	44.4%	47.5%	39.3%	43.2%
3 Bedrooms	14.1%	20.6%	22.3%	20.4%	20.4%
4+ Bedrooms	2.3%	4.0%	3.0%	3.2%	3.2%
Construction Type					
New Construction	32.3%	69.7%	69.3%	71.5%	62.9%
Rehab	65.2%	28.0%	29.4%	28.1%	35.5%
Both	2.5%	2.3%	1.3%	0.4%	1.6%
Nonprofit Sponsor	40.8%	29.3%	22.9%	38.2%	30.8%
RHS Sec515	5.8%	11.0%	20.6%	8.5%	13.2%
Tax-Exempt Bond Financing	13.6%	10.1%	12.0%	27.3%	14.3%
Credit Type					
30 Percent	17.6%	21.3%	29.0%	33.1%	25.5%
70 Percent	68.1%	68.6%	61.3%	65.2%	65.3%
Both	14.4%	10.1%	9.7%	1.8%	9.2%

Notes: The dataset used in this analysis includes 9,253 projects and 629,587 units placed in service between 1995 and 2001. Projects and units in Puerto Rico and the Virgin Islands were excluded. The dataset contains missing data for bedroom count (14.1%), construction type (1.4%), nonprofit sponsor (9.5%), RHS Section 515 (12.0%), bond financing (9.5%) and credit type (8.6%). Totals may not sum to 100 percent because of rounding.

Exhibit 4-3 also presents information on sponsor type and financing. As shown, properties were more likely to have been developed by a nonprofit sponsor in the Northeast (40.8 percent) and West (38.2 percent) compared with the Midwest (29.3 percent) and South (22.9 percent). Properties developed in the West were also more than twice as likely to have tax-exempt bond financing than the other regions. Not surprisingly, the use of rurally oriented RHS Section 515 financing differed by region, with projects in the South considerably more likely to use this loan source than projects in the other regions. In all four regions, most

projects received a 70 percent credit, with the proportion ranging from 61.3 percent in the South to 68.6 percent in the Midwest. Projects with 30 percent credits accounted for most of the remaining projects in all regions but the Northeast, where the share of projects receiving both types of credits was similar to the share receiving the 30 percent credit. The greater use of both types of credits in the Northeast is likely associated with the combination of acquisition and non-federally financed rehab in many projects in that region.

4.2 Location of LIHTC Projects in Metro and Non-Metro Areas

This section examines the location of LIHTC projects in terms of central city, suburban (metro non-central city), or non-metro areas. Exhibit 4-4 shows the distribution of LIHTC projects and units by location type. As shown, 48.2 percent of tax credit units placed in service from 1995 to 2001 are located in central city neighborhoods, 38.0 percent are located in metro-area suburbs, and 13.8 percent are in non-metro areas. This distribution is similar to that of rental housing units in general: 45.5 percent are located in central cities, 39.1 percent in metro-area suburbs, and 15.5 percent in non-metro areas.[29]

Exhibit 4-4
Distribution of LIHTC Projects and Units by Location Type
1995-2001

Year Placed in Service	1995	1996	1997	1998	1999	2000	2001	All Projects 1995-2001
Projects	N= 1,254	N= 1,222	N= 1,240	N= 1,181	N= 1,282	N= 1,251	N= 1,260	N= 8,690
Central City	43.9%	43.2%	43.1%	42.3%	43.4%	40.1%	41.4%	42.5%
Suburb	27.7%	29.3%	30.4%	32.2%	32.9%	34.1%	30.0%	30.9%
Non-metro	28.4%	27.5%	26.5%	25.6%	23.7%	25.8%	28.6%	26.6%
Units	N= 76,052	N= 78,239	N= 83,710	N= 86,719	N= 97,250	N= 90,525	N= 93,206	N= 605,701
Central City	51.0%	49.5%	50.1%	47.7%	48.8%	45.1%	46.1%	48.2%
Suburb	33.5%	37.0%	35.6%	39.5%	39.3%	40.7%	39.2%	38.0%
Non-metro	15.5%	13.4%	14.3%	12.9%	11.8%	14.2%	14.7%	13.8%

Notes: The dataset used in this analysis includes only geocoded projects. Metropolitan area definitions are as of June 30, 1999. Suburb is defined here as metro area, non-central city. Totals may not sum to 100 percent because of rounding.

Exhibit 4-5 shows the location type (central city, suburb, or non-metro area) by region. As shown, LIHTC units in projects in the Northeast are much more likely to be in central city locations than projects in other regions: 62.5 percent of units in the Northeast are in central

[29] Based on 2000 Census data for occupied rental housing.

cities, compared to 47.9 percent in the Midwest, 47.0 percent the West, and 44.0 percent in the South. At the same time, only 6.4 percent of Northeast projects are in non-metro areas, compared to much higher proportions in all other regions. When compared to rental units nationally, LIHTC units in the Northeast are more likely to be in central cities than rental units in general, while in the South, LIHTC units are more likely to be in the suburbs than rental units nationally.

Exhibit 4-5
Metro/Non-Metro Status of LIHTC Units by Region
1995-2001

	Northeast	Midwest	South	West	All Regions
LIHTC Units					
Central City	62.5%	47.9%	44.0%	47.0%	48.2%
Suburb	31.1%	32.8%	41.3%	41.6%	38.0%
Non-metro	6.4%	19.3%	14.7%	11.4%	13.8%
All Rental Units					
Central City	51.1%	44.8%	44.6%	47.3%	46.7%
Suburb	41.2%	33.2%	35.6%	42.0%	37.8%
Non-metro	7.6%	22.1%	19.8%	10.7%	15.5%

Notes: The dataset used in this analysis includes only geocoded projects. Metropolitan area definitions are as of June 30, 1999. Suburb is defined here as metro area, non-central city. All U.S. Rental Units data are based on 2000 Census tracts. Totals may not sum to 100 percent because of rounding.

Exhibit 4-6 presents information on project characteristics by type of location. As shown, projects located in suburban areas are the largest, with 85.6 units on average, compared with 79.1 units for central city projects and only 36.2 units for non-metro projects. The ratio of qualifying tax credit units to total units is high, however, regardless of location type. Unit sizes were uniform across the three location types, with an average of 1.9 bedrooms per unit. However, central cities have a somewhat higher proportion of efficiency units.

Construction type varies considerably by location type, with just under three-quarters of projects in suburbs and non-metro areas newly constructed, compared with less than half of projects in central cities. Rehab accounts for only one-quarter of suburban and non-metro projects, compared with nearly half of those in central city neighborhoods.

Nonprofit sponsors were involved in a larger share of central city projects (37.3 percent) compared with suburban (26.6 percent) or non-metro projects (25.6 percent). The use of bond financing was much more common among projects in suburbs (21.4 percent) and central cities (17.1 percent) compared with non-metro properties (4.3 percent). As expected, RHS Section 515 loans were more common among non-metro properties (31.1 percent) and

less common among central city (0.7 percent) and suburban (10.0 percent) properties. The more common use of the 30 percent credit among non-metro properties is associated with this funding source.

Exhibit 4-6
Characteristics of LIHTC Projects by Location Type
1995-2001

	Central City	Suburb	Non-Metro Area	Total
Average Project Size (Units)	79.1	85.6	36.2	69.7
Average Qualifying Ratio	93.9%	96.0%	97.6%	95.5%
Average Number of Bedrooms	1.9	1.9	1.9	1.9
Distribution of Units by Size				
0 Bedrooms	6.3%	1.4%	1.3%	3.7%
1 Bedroom	29.0%	30.3%	29.8%	29.6%
2 Bedrooms	41.1%	45.3%	44.4%	43.2%
3 Bedrooms	19.7%	20.4%	21.9%	20.3%
4+ Bedrooms	3.7%	2.7%	2.5%	3.1%
Construction Type				
New Construction	48.1%	72.0%	73.0%	62.1%
Rehab	49.1%	27.3%	25.9%	36.2%
Both	2.8%	0.6%	1.1%	1.7%
Nonprofit Sponsor	37.3%	26.6%	25.6%	30.9%
RHS Section 515	0.7%	10.0%	31.1%	12.0%
Tax-Exempt Bond Financing	17.1%	21.4%	4.3%	14.8%
Credit Type				
30 Percent	18.9%	28.3%	30.0%	25.0%
70 Percent	69.4%	64.2%	61.8%	65.6%
Both	11.7%	7.5%	8.3%	9.4%

Notes: The dataset used in this analysis includes only geocoded projects. The dataset contains missing data for bedroom count (14.2%), construction type (1.3%), nonprofit sponsor (9.6%), RHS Section 515 (11.8%), bond financing (9.2%) and credit type (8.6%). Metropolitan area definitions are as of June 30, 1999. Suburb is defined here as metro area, non-central city. Totals may not sum to 100 percent because of rounding.

4.3 Location of LIHTC Projects in DDAs and QCTs

This section presents information on the location of LIHTC projects in Difficult Development Areas (DDAs) and Qualified Census Tracts (QCTs). As part of the Omnibus Reconciliation Act of 1989, Congress added provisions to the LIHTC program designed to increase production of LIHTC units in hard-to-serve areas. Specifically, the Act permits projects located in DDAs or QCTs to claim a higher eligible basis (130 percent of the standard basis) for the purposes of calculating the amount of tax credit that can be received. Designated by HUD, DDAs are metropolitan areas or non-metropolitan counties in which

construction, land, and utility costs are high relative to incomes, and QCTs are tracts in which at least 50 percent of the households have incomes less than 60 percent of the area median income. The data are based on DDA designations for the year placed in service. The QCT designations are from 1999.[30]

Exhibit 4-7 presents the distribution of LIHTC projects across DDAs and QCTs. As shown, 20.1 percent of projects are located in DDAs, and 25.1 percent are located in QCTs, with a total of 38.8 percent in designated areas.[31] In looking at units, the proportions are similar.

Exhibit 4-7
Distribution of LIHTC Projects and Units by Location in DDAs and QCTs
1995-2001

Year Placed in Service	1995	1996	1997	1998	1999	2000	2001	All Projects 1995-2001
Projects	1,254	1,222	1,240	1,181	1,282	1,251	1,260	8,690
DDA	14.4%	12.5%	20.4%	22.3%	22.9%	24.2%	23.7%	20.1%
QCT	20.8%	23.4%	25.5%	27.8%	28.0%	24.0%	26.2%	25.1%
DDA or QCT	30.5%	32.2%	39.4%	42.9%	43.6%	41.2%	42.1%	38.8%
Units	76,052	78,239	83,710	86,719	97,250	90,525	93,206	605,701
DDA	15.4%	11.9%	17.9%	21.4%	21.7%	23.8%	19.9%	19.1%
QCT	19.4%	24.5%	23.7%	24.1%	26.2%	22.2%	24.4%	23.6%
DDA or QCT	30.5%	32.7%	36.9%	41.0%	42.7%	40.3%	38.6%	37.8%

Notes: The dataset used in this analysis includes only geocoded projects. Totals may not sum to 100 percent because of rounding.

It should be noted that not all projects located in a DDA or QCT actually received a higher eligible basis. The data indicate that more than one-third of properties located in a DDA and one-fourth of those in a QCT did not receive a higher eligible basis.[32]

Exhibit 4-8 presents information on project characteristics for properties located inside and outside designated areas. As shown, there are minimal differences in project size, average unit size, or the percentage of qualifying units across DDAs, QCTs, and non-designated

[30] Because QCT designations are based on decennial census data, the designations are fairly static between decennial censuses. The 1999 QCTs are nearly identical to those in force throughout the 1995 to 2000 period.

[31] Some properties are located in both a DDA and a QCT.

[32] In addition, there are 331 projects which, according to the allocating agency, received a higher basis but which, according to our geocoding, are located in neither a DDA nor a QCT. Most of these projects were located in a DDA at some point, though not in the year they were placed in service.

areas. By contrast, projects in QCTs, and to a lesser extent those in DDAs, are considerably more likely to be rehabilitated than projects in non-designated areas, which are more likely to be newly constructed. Similarly, projects in QCTs and DDAs are more likely to have a nonprofit sponsor. At the same time, QCTs have the smallest proportion of tax-exempt bond-financed projects and projects with the 30-percent credit, the latter indicating the presence of subsidized financing. Non-designated areas have the largest share of properties with RHS Section 515 financing.

Exhibit 4-8
Characteristics of LIHTC Projects by Location in DDAs or QCTs
1995-2001

	In DDA	In QCT	Not in DDA or QCT	Total
Average Project Size (Units)	66.3	65.6	70.8	69.7
Average Qualifying Ratio	91.8%	94.9%	96.3%	95.5%
Average Number of Bedrooms	1.8	2.0	1.9	1.9
Distribution of Units by Size				
0 Bedrooms	5.6%	7.9%	2.1%	3.7%
1 Bedroom	32.8%	28.4%	29.1%	29.6%
2 Bedrooms	38.1%	36.9%	46.4%	43.2%
3 Bedrooms	20.3%	21.5%	19.9%	20.3%
4+ Bedrooms	3.2%	5.2%	2.5%	3.1%
Construction Type				
New Construction	48.2%	41.7%	71.3%	62.1%
Rehab	50.4%	54.6%	27.9%	36.2%
Both	1.4%	3.7%	0.8%	1.7%
Nonprofit Sponsor	36.1%	43.0%	25.0%	30.9%
RHS Sec515	6.3%	2.3%	16.5%	12.0%
Tax-Exempt Bond Financing	18.6%	11.0%	15.1%	14.8%
Credit Type				
30 Percent	22.4%	14.7%	28.5%	25.0%
70 Percent	69.1%	72.0%	63.4%	65.6%
Both	8.5%	13.3%	8.1%	9.4%

Notes: The dataset used in this analysis includes only geocoded projects. The dataset contains missing data for bedroom count (14.2%), construction type (1.3%), nonprofit sponsor (9.6%), RHS Section 515 (11.8%), bond financing (9.2%) and credit type (8.6%). Totals may not sum to 100 percent because of rounding. Some properties are located in both a DDA and a QCT.

As noted previously, DDAs are defined as metropolitan areas or non-metropolitan counties in which construction, land, and utility costs are high relative to incomes. While developers have an incentive to place tax credit properties in DDAs because they can claim a higher eligible basis, we can assume that, all other things being equal, the developer would favor a location with low development costs relative to incomes. To test this hypothesis, we examined development costs relative to incomes in the areas where tax credit properties are

located, using HUD-defined Fair Market Rents (FMRs) as a proxy for development costs and the LIHTC maximum income limit (60 percent of area median income) as a measure of income.[33] We first sorted non-DDA metropolitan areas and non-metropolitan counties in the United States by the ratio of FMR to 30 percent of 60 percent of area median income (the maximum LIHTC rent), from lowest to highest. We then created three categories, each with approximately one-third of all renter households not in DDAs: low development cost, moderate development cost, and high development cost. We then did the same using multifamily building permits for 1994 to 2000. Finally, we analyzed the distribution of tax credit projects and units in these three categories.

We found that tax credit projects and units are disproportionately located in favorable development cost areas, that is, metro areas and non-metro counties where development costs are low relative to incomes. As shown in the first panel of Exhibit 4-9, 37.8 percent of tax credit projects and 30.3 percent of tax credit units are located in low development cost areas, compared with 25.6 percent of all U.S. renter households. We also looked at the distribution of tax credit projects and units located in QCTs by development cost category. As shown, 29.0 percent of LIHTC projects and 26.6 percent of LIHTC units in QCTs are located in the lowest development cost category, slightly higher than the distribution of all renter households.

The second panel of Exhibit 4-9 presents the same analysis using multifamily building permit data instead of all renter units. Once again, tax credit projects and units are shown to be disproportionately located in low development cost areas.

[33] We used 2000 2-bedroom FMRs and 60 percent of 2000 area median income.

Exhibit 4-9
Distribution of LIHTC Units and Projects
by Development Cost Category
1995-2001

Development Cost Category Based on Renter Units	Ratio of FMR to Maximum LIHTC Rent	All U.S. Rental Units	LIHTC Projects	LIHTC Units	LIHTC Projects in QCTs	LIHTC Units in QCTs
Low	.639 to .791	25.6%	37.8%	30.3%	29.0%	26.6%
Moderate	>.791 to .884	26.4%	23.2%	25.6%	24.0%	29.3%
High (non-DDA)	>.884 to 1.117	25.8%	18.8%	25.0%	21.7%	23.6%
In DDAs		22.3%	20.1%	19.1%	25.3%	20.6%
Total		100%	100%	100%	100%	100%

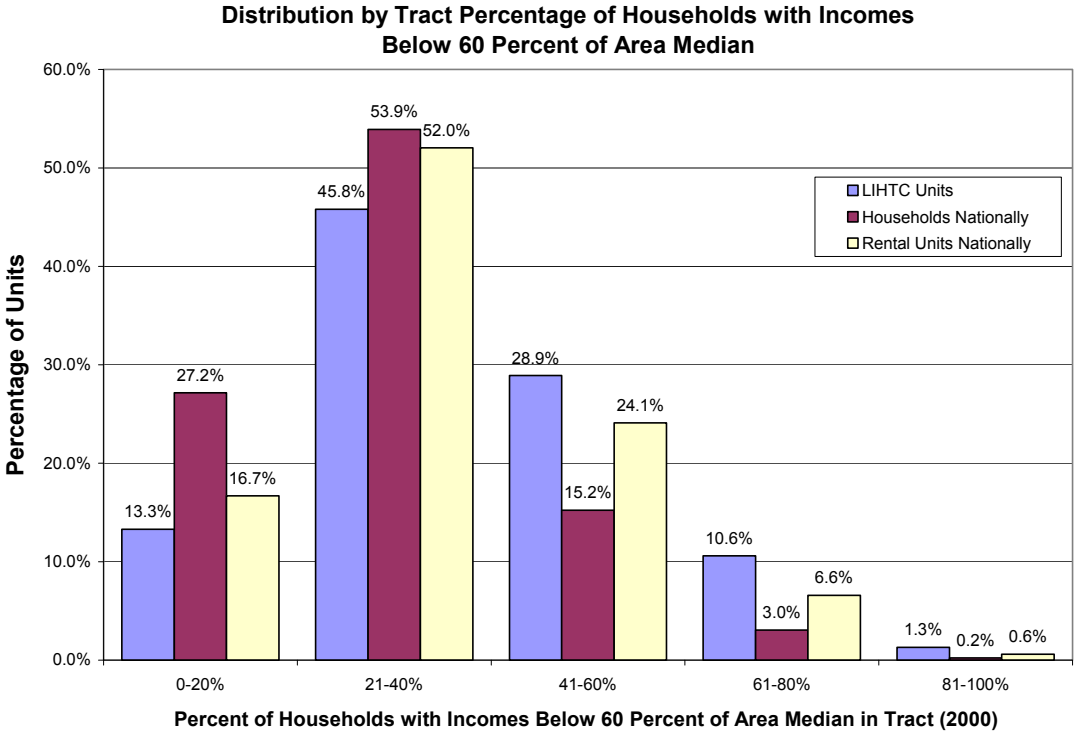
Development Cost Category Based on Building Permits	Ratio of FMR to Maximum LIHTC Rent	Multifamily Building Permit Units 1994-2000	LIHTC Projects	LIHTC Units	LIHTC Projects in QCTs	LIHTC Units in QCTs
Low	.639 to .777	28.8%	41.7%	34.5%	31.7%	30.2%
Moderate	>.777 to .876	28.6%	20.7%	23.1%	22.7%	27.5%
High (non-DDA)	>.876 to 1.183	29.0%	17.4%	23.3%	20.3%	21.7%
In DDAs		13.6%	20.1%	19.1%	25.3%	20.6%
Total		100%	100%	100%	100%	100%

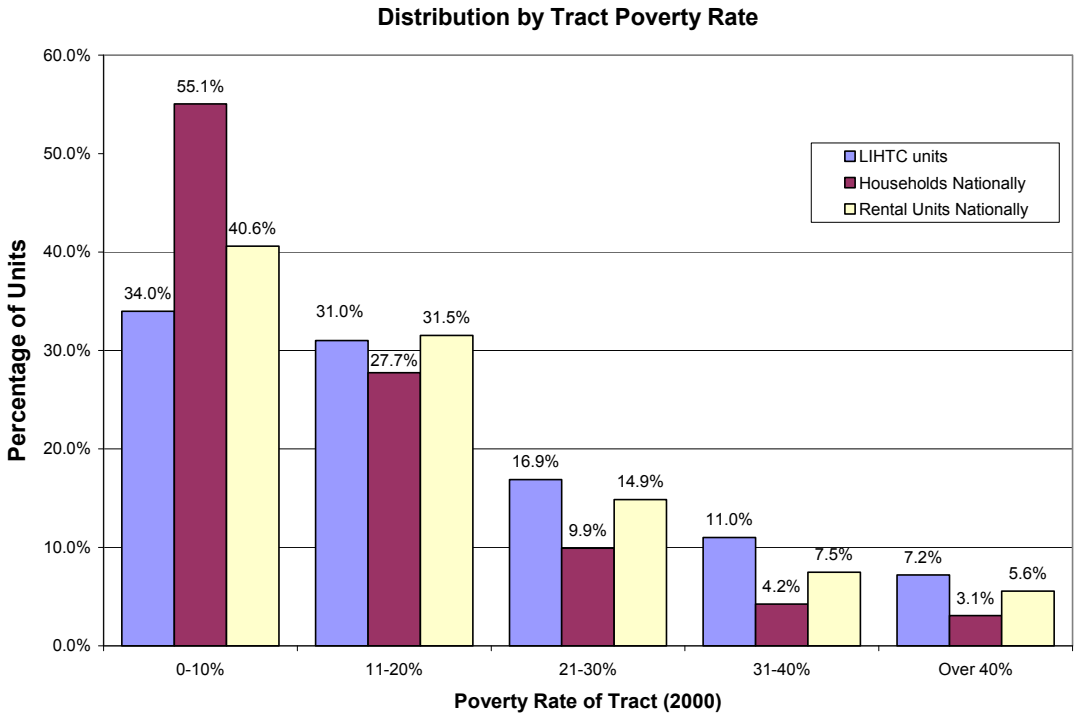
Maximum LIHTC rent equals one-twelfth of 30 percent of 60 percent of area median income (or one-twelfth of 30 percent of 120 percent of the very low income limit). All U.S. Rental Units are from the 2000 Census. Annual building permit data for metropolitan areas and non-metropolitan counties are from the U.S. Census Bureau. The percentages for All U.S. Rental Units and Building Permit Units are not exactly equal for each of the three non-DDA development cost categories because MSAs (or non-metro counties) lying on the cutoffs for one-third and two-thirds of units could not be split up.

4.4 Neighborhood Characteristics of LIHTC Properties

This section focuses on the income and demographic characteristics of the census tracts in which LIHTC projects are located. Exhibit 4-10 presents information on the extent to which LIHTC units are located in lower income areas. For comparison, it presents the same information for households nationally and rental units nationally, using 2000 Census data. The first panel of the exhibit uses the LIHTC cutoff (60 percent of area median income) as an indicator of neighborhood income. The exhibit shows the proportion of LIHTC units located in tracts with varying shares of households that meet the income qualification for occupancy in a tax credit unit. As shown, LIHTC units are more likely than households in general or rental units in general to be located in census tracts where more than 60 percent of the households would qualify to live in a tax credit unit.

Exhibit 4-10
Distribution of LIHTC Units by Census Tract Income Measures
1995-2001





The second panel of Exhibit 4-10 considers the extent to which LIHTC units are located in areas of concentrated poverty, compared to households nationally and rental units nationally. The figures are based on the proportion of persons that had incomes below the poverty threshold in 2000. The measure has been used in recent years to classify low-poverty tracts for programs aimed at increasing economic mobility among assisted families. For example, HUD's Moving to Opportunity (MTO) program requires families to move to a tract where the poverty rate is no greater than 10 percent.

As shown, tax credit units are more likely than households in general or rental units in general to be located in high poverty areas, and less likely to be located in low-poverty areas. Based on the geocoded LIHTC data, 34.0 percent of the LIHTC units would meet the MTO criterion, compared to 55.1 percent of households nationally and 40.6 percent of rental units nationally. In addition, 7.2 percent of tax credit units are located in tracts where more than 40 percent of the people are poor (compared to 3.1 percent of households and 5.6 percent of rental units nationally).

Additional demographic indicators are presented in Exhibit 4-11, with the same information presented for households nationally and rental units nationally using 2000 Census data. As shown, LIHTC units are more likely to be located in tracts with large minority populations or large proportions of female-headed households, compared to households in general or rental

Exhibit 4-11
Distribution of LIHTC Units by Other Census Tract Characteristics
1995-2001

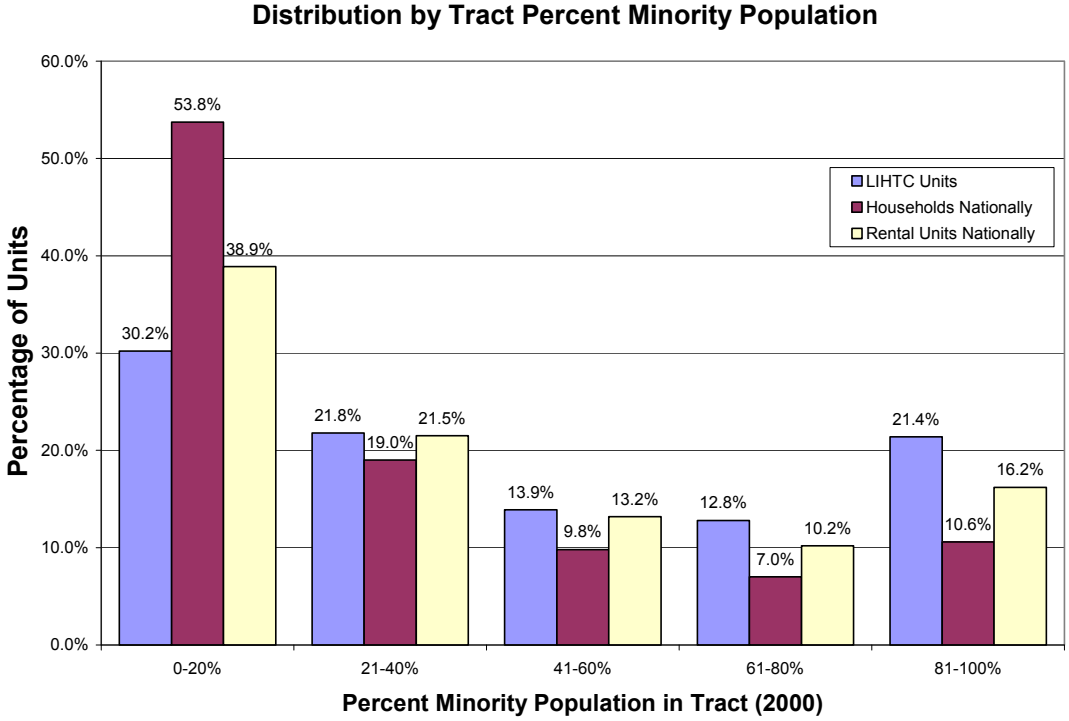
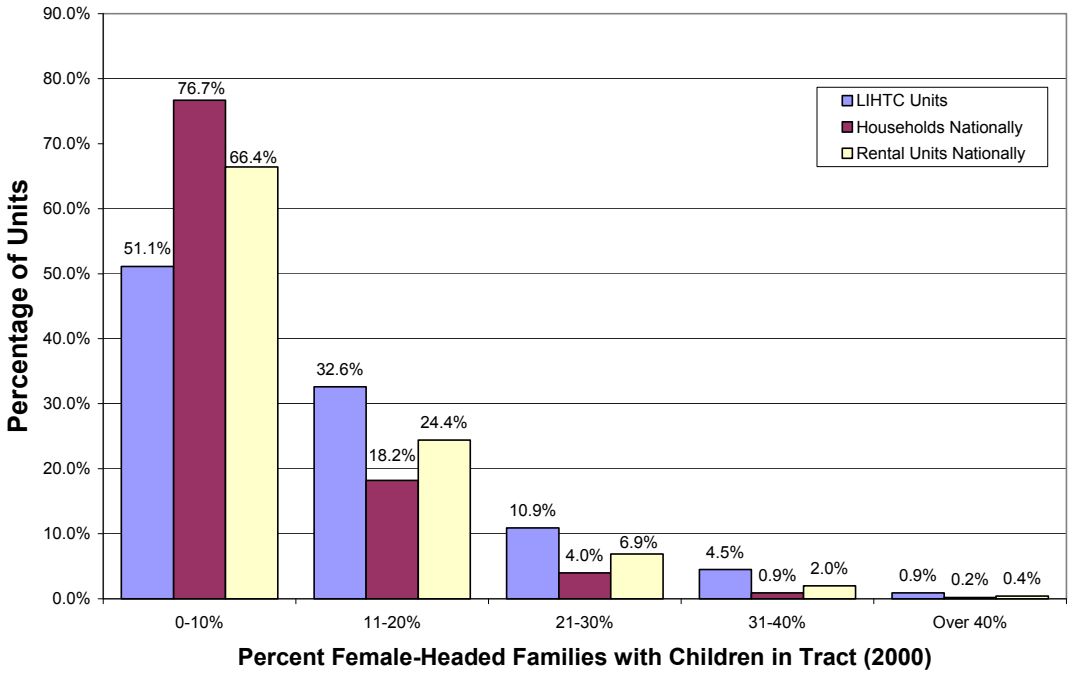
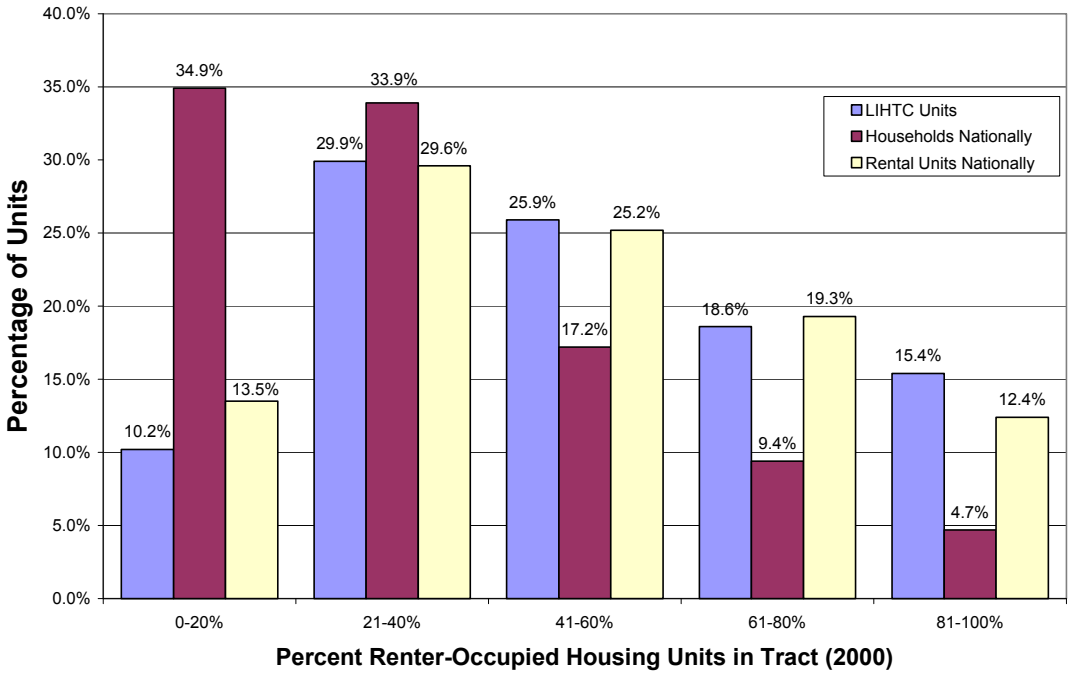


Exhibit 4-11 *(Continued)*
Distribution of LIHTC Units by Other Census Tract Characteristics
1995-2001

Distribution by Tract Percent Female-Headed Families with Children



Distribution by Tract Percent Renter-Occupied Housing Units



Note: Percent minority is defined as the percentage of the population that were not reported as white-alone, non-Hispanic.

units in general. LIHTC units are more heavily concentrated than housing units in general in census tracts where rental units predominate, but are about as concentrated in such tracts as rental units overall.

Exhibit 4-12 summarizes census tract information from Exhibits 4-10 and 4-11, showing the proportions of LIHTC units that are located in tracts that have high poverty concentrations, are predominantly minority, have high rates of female-headed families, and are predominantly renter occupied. To provide a better understanding of how neighborhood conditions vary across geographical groupings, the table presents these measures for each of the three types of locations discussed earlier in this section—central cities, suburbs, and non-metro areas.

Exhibit 4-12
Census Tract Characteristics of LIHTC Units by Location Type
1995-2001

Census Tract Characteristic	Central City		Suburb		Non-Metro Area		Total	
	LIHTC Units	All Rental Units	LIHTC Units	All Rental Units	LIHTC Units	All Rental Units	LIHTC Units	All Rental Units
Over 30 Percent of People Below Poverty Line	31.3%	21.4%	4.5%	4.3%	9.9%	8.9%	18.2%	12.3%
Over 50 Percent Minority Population	57.8%	45.4%	28.0%	24.1%	14.8%	12.0%	40.5%	32.2%
Over 20 Percent Female-Headed Families with Children	26.9%	16.1%	7.1%	3.5%	4.7%	2.7%	16.3%	9.3%
Over 50 Percent Renter Occupied Units	68.0%	63.9%	29.6%	30.6%	13.1%	12.8%	45.9%	43.4%

Notes: The dataset used for this analysis includes only geocoded projects. Metropolitan area definitions are as of June 30, 1999. Suburb is defined here as metro area, non-central city. Information on poverty, minority population, female-headed households, and renter-occupied housing units is based on 2000 Census data and tract definitions.

As shown, 31.3 percent of LIHTC units in central city locations are located in neighborhoods of concentrated poverty (where over 30 percent of the people are in poverty), compared with only 4.5 percent in the suburbs, 9.9 percent in non-metro areas, and 18.2 percent in all areas combined. Overall, LIHTC units are slightly more likely to be located in areas of concentrated poverty than rental units nationally (18.2 percent of LIHTC units vs. 12.3 percent all rental units). In particular, nearly one-third of LIHTC units in central city locations are in high-poverty areas, compared to just over one-fifth of rental units overall.

Minority concentration also varies across location types, with 57.8 percent of all units in central cities located in neighborhoods with high minority concentrations (over 50 percent), compared with 28.0 percent in the suburbs and 14.8 percent in non-metro areas. LIHTC

units are more likely to be in areas of high minority concentrations compared to all rental units nationally, and this difference is most notable in central city locations.

Not surprisingly, the proportion of units in neighborhoods with a large share of female-headed families was considerably higher for central cities (26.9 percent) than for suburban (7.1 percent) and non-metro areas (4.7 percent). LIHTC units are again more likely than rental units nationally to be in census tracts with high concentrations of female-headed families. Finally, central city LIHTC units were more than twice as likely as suburban and five times as likely as non-metro units to be in predominantly renter-occupied tracts. In central city locations, LIHTC units were more often in census tracts with high renter concentrations (68.0 percent) than rental units nationally (63.9 percent).

Exhibit 4-13 shows neighborhood characteristics for LIHTC properties developed in DDAs and QCTs. As expected, projects in QCTs—which are by definition low-income tracts—are located in areas with high rates of poverty, minority populations, female-headed families, and renter-occupied units. By contrast, projects in DDAs are located in areas with comparatively lower rates of poverty, minority populations, female-headed families, and renter-occupied units, although still considerably higher than those areas that are neither QCTs or DDAs. When compared to rental units nationally, LIHTC units generally are more likely to be in disadvantaged census tracts.

Exhibit 4-13
Census Tract Characteristics of LIHTC Units by DDA or QCT Designation
1995-2001

Census Tract Characteristic	In DDA		In QCT		Not in DDA or QCT		Total	
	LIHTC Units	All Rental Units	LIHTC Units	All Rental Units	LIHTC Units	All Rental Units	LIHTC Units	All Rental Units
Over 30 Percent of People Below Poverty Line	24.6%	17.8%	63.7%	61.0%	3.3%	3.0%	18.2%	13.0%
Over 50 Percent Minority Population	53.1%	46.2%	80.3%	73.4%	25.4%	18.0%	40.5%	32.2%
Over 20 Percent Female-Headed Families with Children	18.8%	11.9%	44.8%	42.3%	7.5%	3.4%	16.3%	9.3%
Over 50 Percent Renter Occupied Units	62.2%	59.8%	84.6%	85.0%	30.2%	29.2%	45.9%	43.4%

Notes: The dataset used for this analysis includes only geocoded projects. Information on poverty, minority population, female-headed households, and renter-occupied housing units is based on 2000 Census data. QCTs are based on 1999 definitions and 1990 census tract definitions.

Exhibit 4-14 presents information on neighborhood characteristics for units in three types of LIHTC projects: those with nonprofit sponsors, those financed with tax-exempt bonds, and

those using RHS Section 515 financing. As shown, 27.1 percent of units in tax credit properties with a nonprofit sponsor were located in neighborhoods with high concentrations of poverty, compared with only 11.8 percent of units in tax credit properties with bond financing and 8.9 percent of units in tax credit properties with RHS Section 515 loans. Nonprofit units were also the most likely to be in tracts with high proportions of minority residents (44.7 percent) compared with units in bond-financed tax credit properties (39.0 percent) and units in tax credit properties with Section 515 (15.1 percent). Similarly, nonprofit units were more likely to be in tracts with a high percentage of female-headed families (21.0 percent), compared with bond-financed (11.6 percent) and Section 515 (2.9 percent) units. Finally, just over half the units in LIHTC properties with non-profit sponsors or tax-exempt bond financing were in predominantly renter-occupied areas, compared to only 5.2 percent of those with RHS Section 515 loans.

Overall, units in properties developed by nonprofit sponsors are the most likely to be located in areas of high poverty and minority concentration. These data confirm that nonprofits tend to locate their projects in the more difficult neighborhoods.

Exhibit 4-14
Census Tract Characteristics of LIHTC Units by Project Type
1995-2001

Census Tract Characteristic	Type of LIHTC Project			All LIHTC Units
	Nonprofit Sponsor	Tax-Exempt Bond Financing	RHS Section 515	
Over 30 Percent of People Below Poverty Line	27.1%	11.8%	8.9%	18.2%
Over 50 Percent Minority Population	44.7%	39.0%	15.1%	40.5%
Over 20 Percent Female-Headed Families with Children	21.0%	11.6%	2.9%	16.3%
Over 50 Percent Renter Occupied Units	52.9%	51.1%	5.2%	45.9%

Notes: The dataset used in this analysis includes only geocoded projects. The dataset contains missing data for nonprofit sponsor (9.6%), RHS Section 515 (11.8%), and bond financing (9.2%). Information on poverty, minority population, female-headed households, and renter-occupied housing units is based on 2000 Census data and tract definitions.

4.5 Section 8 Vouchers in LIHTC Properties

In this section, we examine the extent to which LIHTC properties have residents with tenant-based Section 8 rental subsidies. The Section 8 tenant-based voucher program, now called the Housing Choice Voucher (HCV) Program, is the nation's largest subsidized housing program. Through the HCV program, the Federal Government provides rental assistance for more than 1.5 million low-income households. Both the LIHTC and HCV programs share

the goal of providing increased access to affordable housing. HCV holders use their vouchers to rent units in the private rental market, and LIHTC properties are eligible for rent with vouchers. To better understand the overlap between the LIHTC and HCV programs, we have estimated the percentage of LIHTC-developed properties whose residents include voucher holders.

The overlap between the HCV and LIHTC programs was examined in four ways. First, an expected proportion of LIHTC projects with HCV tenants was computed from data on the census tract locations of HCV tenants, LIHTC projects, and other units affordable to HCV tenants. Second, an address matching procedure was performed to produce a count of LIHTC projects and HCV tenants with matching address data. Third, the expected number of HCV tenants in LIHTC housing was estimated, again from data on the census tract locations of HCV tenants, LIHTC housing, and other affordable rental units. Finally, the results of address matching are used to estimate the number of HCV households in LIHTC housing.

Expected Number of LIHTC Projects with HCV Tenants

To help provide some context to the address matching results presented below, we used 2000 Census data and counts of HCV households from the Multifamily Tenant Characteristics System (MTCS)[34], the data warehouse for Section 8 and Public Housing Tenant data, to determine an expected rate of tax credit projects with HCV households. For each LIHTC project, we first determined the number of income-eligible households in its 2000 Census tract. This number plus the number of LIHTC units placed in service in the tract in 2000 and 2001 gave an estimate of the total number of LIHTC income-eligible renters in the tract.[35] HCV renters in the census tract, as determined from the MTCS, would be a subset of the LIHTC income eligible renters. The number of low income LIHTC units in the census tract would also represent a subset of LIHTC income eligible renters. Using combinatorial probability, we estimated the likelihood of the intersection of HCV renters and low income LIHTC units for each LIHTC project placed in service between 1995 and 2001.[36]

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[34] The original file of HCV program voucher holders only included 1990 census tract identifiers. To determine an expected match rate using 2000 census data required 2000 census tract identifiers for the HCV households. An extract of MTCS data from the same period of analyses as the HCV file used in the matching task was created including 2000 census tract data.

[35] This estimate does not account for other changes in the number of LIHTC-income eligible renters in the census tract. For example, since the 2000 Census, income-eligible households could have moved in or out of the census tract, and some income-eligible households living in the census tract could have moved into LIHTC units placed in service from 2000-2001 and been replaced by non-eligible households so that adding the LIHTC units may overstate the number of income-eligible renters.

[36] Each tract has a population of LIHTC-eligible households (E). Of these, some number (h) are HCV tenants. An LIHTC project in the tract accounts for some number (u) of the units in which LIHTC-eligible and HCV tenants reside. The expected rate of LIHTC projects with HCV tenants was based on computing for each LIHTC project the probability that it had no HCV tenants, or P(0). The probability of having at

An additional factor regarding local rent levels was also applied to the analyses. LIHTC units house tenants whose income is at most 60 percent of area median income, with tenants paying 30 percent of income. Thus, maximum LIHTC rent for tax credit projects can be calculated as 30 percent of 60 percent of area median income. Still, in the vast majority of the country, FMRs are well below the LIHTC maximum rents. HUD officials in charge of setting FMRs occasionally receive requests for increases in FMRs initiated by LIHTC developers and owners who would be interested in renting to HCV tenants if vouchers paid higher rents. With HUD approval, housing authorities can set their payment standards for the HCV program at up to 110 percent of FMR. Voucher holders themselves can choose to pay more than 30 percent of income for rent, paying instead up to 40 percent of their income for rent on units that pass the housing authority's inspection standards and rent reasonableness test.

These aspects of rent payments in the LIHTC and HCV programs offer three scenarios under which to look at the expected presence of HCV tenants in LIHTC properties. Under the most restrictive of circumstances, LIHTC projects could possibly have at least one HCV tenant if the maximum LIHTC rent was less than FMR. Under a less restrictive scenario, LIHTC projects could possibly have at least one HCV tenant if the maximum LIHTC rent was less than 110 percent of FMR. Under a least restrictive scenario, LIHTC projects could possibly have at least one HCV tenant if the maximum LIHTC rent was less than 110 percent of FMR plus 10 percent of the local very low income level.[37] The 10 percent would represent the additional income over 30 percent that HCV tenants may pay for rent.

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least one HCV tenant was then 1-P(0).

The combinatorial formula for the probability of choosing all u tenants from the non-HCV population (E - h) without replacement was:

$P(0) = [(E-h)!*(E-u)!]/[E!*(E-h-u)!]$ with

E = Number of LIHTC income-eligible households in the 2000 Census tract as computed from 2000 Census data, plus the number of LIHTC units placed in service in 2000 and 2001 in the 2000 Census tract.

h = Number of HCV tenants in the 2000 Census tract.

u = Number of low income units in the LIHTC project. Where the number of low income units was missing, the number of total units was used.

LIHTC projects were flagged as likely to have HCV tenants for two analyses. For the first analyses, the probability of having at least one HCV tenant was greater than 50 percent, or $P(0)<.5$. For the second analyses the probability of having at least one HCV tenant was greater than 75 percent, or $P(0)<.25$.

[37] Very low income is defined as less than 50 percent of area median income.

The national shares of LIHTC projects placed in service from 1995-2001 expected to have at least one HCV tenant are presented in Exhibit 4-15. Because these expected rate calculations were based on census tract-level data, only geocoded LIHTC projects were used in these analyses. The rent constraints identify criteria LIHTC projects needed to meet before determining the expected presence of HCV households. LIHTC projects that did not meet the rent constraint had zero probability of an HCV tenant. In addition to the three rent scenarios, two probability estimate cutoffs were also used. Under the first scenario, a project had to have at least an estimated 50 percent probability of at least one HCV tenant to be flagged as expected to overlap with the HCV program. Under the second scenario, a project had to have at least an estimated 75 percent probability of at least one HCV tenant to be flagged as expected to overlap with the HCV program.

Exhibit 4-15
Expected Presence of Section 8 Voucher Holders in LIHTC Projects and Neighborhoods
1995-2001

Rent Constraints	Percent of LIHTC Projects With: Estimated 50 Percent or Higher Probability of Presence of Housing Choice Voucher Holders in Property	Percent of LIHTC Projects With: Estimated 75 Percent or Higher Probability of Presence of Housing Choice Voucher Holders in Property
Maximum LIHTC rents less than FMR	14.9%	12.5%
Maximum LIHTC rents less than 110 percent of FMR	26.9%	23.4%
Maximum LIHTC rents less than 110 percent of FMR plus 10 percent of income at the very low income level	78.7%	68.6%

Notes: The dataset used in this analysis includes 9,253 projects and 629,587 units placed in service between 1995 and 2001. Of these, 8,690 projects and 605,701 units were geocoded. Projects and units in Puerto Rico and the Virgin Islands were excluded. LIHTC projects in areas that did not meet the rent constraint were given a zero percent probability of the presence of Housing Choice Voucher holders in the project.

The expected rates of overlap in the LIHTC and HCV programs cover a wide range, from 12.5 percent to 78.7 percent of LIHTC projects, depending on the rent scenario constraints and the estimated probability of overlap. Under the most restrictive rent scenario, where maximum LIHTC rents were less than FMR, only 12.5 percent of LIHTC projects were expected to overlap with the HCV program using the estimated 75 percent probability of an HCV tenant. Just under 15 percent of LIHTC projects were expected overlap with the HCV program using the estimated 50 percent probability of an HCV tenant. When the maximum LIHTC rents were less than 110 percent of FMR, the expected percent of overlap was 26.9 percent given the estimated 50 percent chance of an HCV tenant. Under the least restrictive

rent scenario, with maximum LIHTC rents set to 110 percent of FMR plus 10 percent of very low income and having at least a 50 percent probability of an HCV tenant, 78.7 percent of LIHTC projects were expected to overlap with the HCV program.

Address Matching LIHTC Projects and HCV Tenants

For this analysis, we merged the LIHTC database with a database of Housing Choice Voucher holders. This HCV database, provided by HUD to Abt Associates, included nearly 1.5 million records, 80 percent of which were geocoded with latitude and longitude data and 1990 census tract codes. The geocoded records also included address data, providing a locational snapshot of tenant-based voucher holders as of December 2001. Since only the geocoded HCV records (80 percent of the all records) were used in these analyses, the estimated overlap of LIHTC-developed properties whose residents include tenant-based voucher holders is likely undercounting the actual number.

Matching records from the HCV database and the LIHTC database were completed by comparing address string fields. Determining the percentage of LIHTC projects with tenant-based voucher holders using a simple merge by address was unlikely to produce highly accurate results. First, address data are generally not standardized to U.S. Postal Service standards. Second, the LIHTC database is a project-level database, and not a building or address-level file. Multi-building tax credit projects that have multiple addresses and may span more than one street are represented by one address.[38] Multi-phase projects where each phase and set of buildings receives a different LIHTC allocation may be represented by one address, even though they are in the database under different records. Because the LIHTC database does not contain a comprehensive set of LIHTC building and unit addresses, any merge using the address fields would not have the benefit of the full universe of LIHTC addresses to match against. Still, given the unique nature of address data, merging using the address fields was likely to produce high quality matches.

Three rounds of address string matching were completed.[39] Each round provided more insight into how to revise the next attempt at string matching. In the first round, matching was done using the address data as it appeared in both data sets. As expected given the address issues described above, the match rate of tax credit properties with HCV tenants, measured by the percent of LIHTC projects matched with at least one HCV tenant, was very low, only 1.6 percent. In the second round of matching, the addresses in both files were standardized. Standardization of addresses included:

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[38] Because the data collection form instructs allocating agencies to report only one address to use as the representative address for each LIHTC project, it is not clear how many multi-building and multi-address LIHTC properties exist nationally.

[39] Programming for the tasks to match HCV addresses to LIHTC properties was completed under a subcontract to The QED Group, LLC.

1. Removal of special characters and punctuation marks
2. Removal of multiple internal spaces or blanks
3. Removal of unit and apartment numbers
4. Conversion of street addresses to shortened versions where possible, i.e., 'road' to 'Rd', 'Street' to 'St', 'Drive' to 'Dr', etc.
5. Creation of a flag for valid addresses
6. Separating addresses into several components to be able to merge on key fields

With standardized addresses, the match rate of tax credit properties with HCV tenants increased to 18.8 percent.

The third round of address field matching used a "fuzzy" matching technique to account for data entry and spelling errors with thoroughfare names in the databases. The process involved creating a score based on the spelling differences in the street or thoroughfare name and city.[40] In doing the scoring, it was required that house numbers matched.[41] A cutoff score was determined based on a visual inspection of the addresses matched and their scores.[42] This matching and scoring technique yielded a match rate of tax credit properties with HCV tenants of 35.2 percent.

It should be noted that with this matching method it is possible that an HCV address was matched to multiple LIHTC properties as long as the matching scores were below the cutoff. The extent to which this overestimates the match rate is not clear. In addition to creating a flag in the LIHTC file that an HCV address matched to a specific tax credit property, the counts of HCV records matched to each tax credit property were also created. The counts of

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[40] Scoring was determined using the SPEDIS function in SAS. The scores are based on the similarity of strings by *spelling distance* or *edit distance*. Spelling or edit distance calculations involve determining the number of changes - additions, substitutions or deletions - required to transform one string into another. Different types of changes yield different "costs"; the "costs" are then summed and normalized based on the length of the string. "1100 Bolton St" and "1100 Botton St," for example, are the same but for the substitution of "l" for "t" in a middle character. In this example, the scoring would "cost" 100 points for replacing a middle character, and then be normalized by the length of the string (nine characters, without the house number). The final score, rounded to an integer, is 100/9=11. Cost functions may be applied to the various types of edits, for example, to penalize deletions more heavily or to treat all edits equally.

[41] Experiments with different parameterizations of this scoring technique showed that differences in street numbers should be penalized far more heavily than differences in street name spellings. For example, addresses at opposite ends of New York City, 15 Fifth Avenue and 1500 Fifth Avenue, may be 100 blocks apart, but the addition or deletion of the two zeroes in the addresses may result in a low score within the parameters of an acceptable match. Therefore, house numbers were required to match exactly and not included as part of the strings for which the address match score was calculated.

[42] After reviewing the address matches made using the spelling distance function, cutoff score determined to be the cutoff was 40. Any match made with a score higher than 40 was not considered a match.

HCV addresses matched to each tax credit property were compared to the number of total units reported for the tax credit property. In some cases, there were more HCV records than total numbers of units in the tax credit property. These cases represented 1 percent of matched LIHTC records.

Previous work to determine the overlap of LIHTC projects and federal voucher holders was reported in a 1999 GAO report.[43] The LIHTC projects used in that analysis were a sample of projects placed in service from 1992-1994 drawn for a previously released GAO report looking at LIHTC project tenant characteristics and LIHTC program oversight procedures. In that analysis, the percent of LIHTC projects with tenant-based rental assistance was 36 percent, ±10 percent.[44] The matching rate in the GAO report is similar to the matching rate of 35.2 percent for LIHTC properties placed in service from 1995-2001 that we have calculated in this report.

The results of this matching task are further discussed below.[45] Exhibit 4-16 summarizes the percentage of LIHTC properties matched with HCV Program renters by selected neighborhood characteristics.

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[43] *GAO/RCED-99-279R Tax Credits: The Use of Tenant-Based Assistance in Tax-Credit-Supported Properties*, September 1999.

[44] The GAO report categorized the sampled LIHTC projects as either having property-based rental assistance, no property-based rental assistance but at least one unit with tenant-based vouchers, neither property-based rental assistance nor tenant-based vouchers, and unknown information on rental assistance. The reported figure of 36 percent ±10 percent is the percent of LIHTC projects with no property-based rental assistance but at least one unit with tenant-based vouchers. The sampling error is reported at the 95 percent confidence level.

[45] Other matching techniques were explored to find the percentage of LIHTC projects with HCV tenants. Using latitude and longitude data, distances between LIHTC projects and HCV tenants were calculated, and distance cutoffs were used to determine matches. This distance matching technique determined that 36.3 percent of LIHTC properties placed in service from 1995-2001 had at least one HCV household. Another matching technique explored was based on appending census block codes and matching records based on 2000 census blocks. This census block matching technique yielded 55.1 percent of LIHTC projects placed in service from 1995-2001 with HCV households. Because additional refinements to the matching techniques were needed to better interpret these exploratory results, full results from distance matching and census block matching are not presented here.

Additional analysis was done to look at the percent of LIHTC projects in census tracts with voucher holders. Using the 1990 census tract identifiers in both the LIHTC and HCV data sets, 94.6 percent of LIHTC projects were in neighborhoods that also included HCV households.

Exhibit 4-16
Presence of Section 8 Voucher Holders in LIHTC Projects and Neighborhoods
1995-2001

	Presence of Housing Choice Voucher Holders in Property
LIHTC Projects	35.2%
LIHTC Projects by Metro Type	
Central City	37.2%
Suburb	38.7%
Non-metro	28.1%
LIHTC Projects by DDA or QCT	
DDA	36.3%
QCT	35.4%
DDA or QCT	35.6%
LIHTC Projects by Incidence of Poverty in Tract	
Over 30 % of people in tract in poverty	34.7%
Less than 30% of people in tract in poverty	35.4%

Notes: The dataset used in this analysis includes 9,253 projects and 629,587 units placed in service between 1995 and 2001. Of these, 8,690 projects and 605,701 units were geocoded. Projects and units in Puerto Rico and the Virgin Islands were excluded.

Looking at the matches by metropolitan type, LIHTC properties in metropolitan locations were more likely to overlap with HCV Program households than LIHTC properties non-metropolitan areas. While the overall match rate of LIHTC properties with HCV households was 35.2 percent, the match rate for suburban LIHTC properties was 38.7 percent, and for central cities in MSAs, the match rate was 37.2 percent. The rate of non-metropolitan tax credit projects with HCV participants was 28.1 percent.

The rate of LIHTC properties in DDAs and QCTs with HCV tenants was similar to the overall match rate. Of LIHTC properties in QCTs, 35.4 percent matched voucher holder addresses. Of LIHTC properties in DDAs, 36.3 percent matched voucher holder addresses. The 2000 census tract poverty rates for LIHTC properties that matched with HCV Program households were also analyzed. Again, the percents closely aligned the overall match rates. Nearly 35 percent of the LIHTC properties in census tracts with poverty rate over 30 percent matched with HCV records, as did 35.4 percent of LIHTC properties in census tracts with 30 percent poverty or less matched with HCV records when matching by address string and scoring.

Expected Proportion and Matched Number of HCV Tenants in LIHTC Projects

Additional analysis was done to look at the proportion of HCV households in LIHTC projects. As a first step, we again used data from the 2000 Census and the Multifamily

Tenant Characteristics System (MTCS) to determine an expected rate of HCV households in tax credit projects.[46] The steps included:

- *Estimating the number of rental units in each 2000 census tract with rents below the 2000 FMR.* Data from the 2000 Census have counts of rental units by gross rent. Gross rents are reported in dollar ranges. Using linear interpolation, the total number of rental units below the 2000 FMR was determined for each 2000 Census tract, estimating the number of "available" units for the HCV Program.[47]
- *Calculating the expected proportion of HCV program assisted households in LIHTC units at the census tract level.* Using the total number of LIHTC units[48] in each 2000 census tract, the ratio of LIHTC units to "available" units was calculated to estimate the expected proportion[49] of HCV households in LIHTC units. This assumes that LIHTC units are available to HCV tenants even though maximum LIHTC rents generally are higher than the FMR, and LIHTC projects are not required to accept HCV tenants.[50]
- *Determining the number of HCV households in LIHTC units.* Given the calculated expected proportion of HCV program households in LIHTC units and the number of HCV program households in each 2000 Census tract, the expected number of HCV households in LIHTC units was calculated.
- *Calculating the national expected rate of HCV households in LIHTC units.* The tract-level counts were summed to get an expected national total and proportion of HCV households in LIHTC units.

The resulting figure was an expectation that 8.0 percent of HCV households were in LIHTC projects.

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46 As mentioned previously, the original file of HCV program voucher holders only included 1990 census tract identifiers. An extract of MTCS data from the same period of analyses as the HCV file used in the matching task was created to get data at the 2000 census tract level.

47 HCV tenants may rent housing units that are more expensive than the FMR but cannot spend more than 40 percent of their income on the tenant's share of rent. Also, PHAs may set payment standards up to 110 percent of the FMR (or higher with HUD approval). Therefore limiting available units to those strictly below the FMR would tend to inflate the estimate of HCV tenants in LIHTC units by 'reducing the denominator' in computing the ratio of LIHTC units to available units.

48 The total number of units includes all geocoded LIHTC records placed in service from 1987-2001.

49 The calculated proportion was capped to 1.

50 This assumption also tends to increase the expected proportion of HCV tenants in LIHTC housing, this time by 'inflating the numerator.'

As mentioned above, in doing the matching of HCV households to LIHTC properties, we also tracked the number of HCV households that matched each tax credit project. Using those counts of HCV households, capped to the number of units reported to the match tax credit property, the address string with scoring matching procedure found 4.1 percent of HCV households in LIHTC projects. Although the matching procedure yielded half the calculated expected rate, it is still close in scale.

4.6 Changes in Location Characteristics Over Time

In this section, we present trends in location characteristics over time. Exhibit 4-17 presents key characteristics for LIHTC units placed in service during the period 1992-1994 and for each year from 1995 through 2001. As shown, there appear to be no consistent trends in the regional distribution of tax credit units, with the exception of an increase in the West from 1995 to 2000, from 9.0 percent to 30.2 percent, and an overall drop in the Midwest from 32.3 percent to 14.8 percent from 1995 to 2001.

There does appear to be a slight trend toward the development of more tax credit units in the suburbs and fewer in central cities and non-metro areas. In the 1992 to 1994 period, the share of LIHTC projects in central cities was considerably larger than that in suburban locations. Over the years, however, that difference has shrunk as development has shifted to the suburbs from central cities and rural areas. There is no consistent pattern of change in distribution of LIHTC units by location in a Difficult Development Area or Qualified Census Tract from 1992 through 2001.

In terms of census tract characteristics, the data show no clear trends in the percentage of LIHTC units developed in census tracts with high rates of poverty, minority population, or renter-occupied units.

Exhibit 4-17
Distribution of LIHTC Units by Location Characteristics Over Time: 1992-1994 Compared to Subsequent Years

Year Placed in Service	1992-1994	1995	1996	1997	1998	1999	2000	2001
Distribution by Region								
Northeast	12.9%	15.4%	11.8%	16.1%	14.9%	13.7%	16.2%	11.8%
Midwest	26.9%	32.3%	28.9%	24.9%	20.4%	20.8%	19.1%	14.8%
South	41.5%	43.3%	42.2%	37.4%	40.3%	38.3%	34.4%	47.2%
West	18.7%	9.0%	17.1%	21.6%	24.4%	27.3%	30.2%	26.3%
Distribution by Location Type								
Central City	49.2%	51.0%	49.5%	50.1%	47.7%	48.8%	45.1%	46.1%
Suburb	31.1%	33.5%	37.0%	35.6%	39.5%	39.3%	40.7%	39.2%
Non-metro	19.7%	15.5%	13.4%	14.3%	12.9%	11.8%	14.2%	14.7%
Distribution by Location in DDA or QCT								
DDA	16.1%	15.4%	11.9%	17.9%	21.4%	21.7%	23.8%	19.9%
QCT	26.9%	19.4%	24.5%	23.7%	24.1%	26.2%	22.2%	24.4%
DDA or QCT	37.1%	30.5%	32.7%	36.9%	41.0%	42.7%	40.3%	38.6%
Distribution by Census Tract Characteristics								
>30% Poor* Households	21.0%	16.6%	19.7%	16.5%	19.3%	19.3%	18.3%	17.4%
>50% Minority Population	40.2%	37.7%	35.9%	41.2%	44.9%	39.9%	40.9%	42.3%
>50% Renter	43.6%	46.7%	48.9%	48.0%	46.7%	47.7%	42.3%	41.5%

*Defined as below the poverty line

Notes: The data set used in this analysis includes only geocoded projects, except the analysis of distribution by region, which used the full data set excluding Puerto Rico and the Virgin Islands. Suburb is defined here as metro area, non-central city. Information on poverty, minority population, female-headed households, and renter-occupied housing units is based on 2000 Census data and tract definitions.

Chapter Five
Conclusion

Tax credit production averaged roughly 1,300 projects and 90,000 units annually between 1995 and 2001. While the number of projects placed into service each year has remained fairly stable over the years, the number of units has grown steadily from roughly 56,000 units produced annually in the 1992 through 1994 period. This increase reflects a boost in the size of the average LIHTC project from 42.1 units in the earlier study period to 73.9 units for properties placed in service in 2001. The larger properties, in turn, are a function of the dramatic increase in LIHTC projects with tax-exempt bond financing and a similarly dramatic decrease in LIHTC projects with Rural Housing Service Section 515 loans during the same period. Bond-financed tax credit properties are more than twice as large as the average tax credit property, and LIHTC properties with Section 515 loans less than half as large.

On average, tax credit projects in the study period are larger and have larger units than apartments in general. More than 40 percent of LIHTC properties have more than 50 units, compared to only 2 percent of all apartment properties nationally. Similarly, more than three-quarters of LIHTC units are in properties with more than 50 units, compared with only one-fifth of renter occupied apartment units in general. In addition, nearly one-fourth of tax credit units have three or more bedrooms, compared with16 percent of all apartments built from 1990 to 1997.

Overall, nearly two-thirds of LIHTC projects placed into service from 1995 through 2001 were newly constructed (although less than one-third in the Northeast were new construction). Close to one-third of the projects had a nonprofit sponsor, with a significant increase in nonprofit sponsorship since the beginning of the study period. Over the years, the proportion of LIHTC projects with Rural Housing Service Section 515 loans has declined.

The South accounts for the largest share of tax credit units in the United States, and the South and West boast larger-than-average LIHTC properties. The Northeast and West have the highest proportion of nonprofit-sponsored LIHTC projects. Just under half of tax credit units are located in central cities, two-fifths are in suburban locations, with the balance in rural areas. Tax credit projects and units are disproportionately located in Difficult Development Areas (areas with high development costs relative to incomes which qualify the project to claim an increased basis) and in areas with relatively low development costs, compared to rental housing in general. Finally, we found that nearly one-third of LIHTC properties have residents receiving tenant-based rental subsidies through the Housing Choice Voucher Program.

Appendix A

Characteristics and Locations of LIHTC Units by State

Exhibit A1: Physical Characteristics of LIHTC Units by State, 1995-2001

Region/State	Total Number of Projects	Total Number of Units	Average Project Size (in Units)	Average Number of Bedrooms (per Unit)	Construction Type		
					New	Rehab	Both
U.S. Total	9,311	633,080	68	1.9	62%	37%	1%
Northeast:	1,733	89,794	52	1.7	40%	58%	2%
CT	94	6,140	65	1.8	19%	81%	0%
MA	167	15,702	94	1.7	18%	81%	1%
ME	51	2,164	42	1.7	33%	65%	2%
NH	68	3,216	47	1.9	38%	55%	7%
NJ	121	7,698	64	1.7	54%	40%	6%
NY	743	37,287	50	1.6	50%	50%	1%
PA	364	13,391	37	1.7	46%	49%	5%
RI	45	2,235	50	1.8	8%	91%	1%
VT	80	1,961	25	1.6	42%	57%	1%
Midwest:	2,571	143,416	56	2.1	63%	35%	2%
IA	177	6,961	39	1.9	87%	12%	1%
IL	289	22,101	76	1.5	50%	50%	0%
IN	194	12,675	65	1.9	67%	31%	2%
KS	152	7,975	52	1.9	64%	31%	5%
MI	284	19,329	68	1.9	76%	22%	2%
MN	233	9,543	41	2.3	55%	45%	0%
MO	379	17,955	47	2.1	51%	49%	0%
ND	54	1,599	30	2.0	70%	30%	0%
NE	120	4,077	34	2.3	88%	12%	0%
OH	375	28,364	76	2.2	57%	36%	7%
SD	51	1,717	34	1.9	80%	20%	0%
WI	263	11,120	42	2.3	73%	27%	0%

Exhibit A1: Physical Characteristics of LIHTC Units by State, 1995-2001
(Continued)

Region/State	Total Number of Projects	Total Number of Units	Average Project Size (in Units)	Average Number of Bedrooms (per Unit)	Construction Type		
					New	Rehab	Both
South:	3,158	253,589	80	2.0	68%	31%	1%
AL	166	7,969	48	2.0	78%	21%	1%
AR	108	4,657	43	1.7	74%	26%	0%
D.C.	21	4,524	215	2.1	4%	93%	3%
DE	42	2,393	57	1.7	59%	41%	0%
FL	242	47,857	198	2.2	95%	5%	0%
GA	224	21,242	95	2.0	66%	33%	2%
KY	208	6,167	30	2.1	71%	29%	0%
LA	215	11,811	55	1.9	52%	37%	12%
MD	155	14,723	95	1.5	45%	54%	1%
MS	145	6,812	47	2.3	68%	31%	0%
NC	480	17,838	37	2.1	68%	30%	1%
OK	129	7,983	62	1.7	39%	61%	0%
SC	105	5,894	56	2.1	68%	31%	2%
TN	135	11,947	88	2.1	69%	31%	0%
TX	383	45,526	119	2.0	65%	35%	0%
VA	317	32,892	104	1.9	60%	39%	1%
WV	83	3,354	40	1.9	63%	36%	1%
West:	1,791	142,788	80	1.9	64%	36%	0%
AK	33	1,466	44	1.7	54%	46%	0%
AZ	98	8,263	84	2.1	85%	14%	1%
CA	698	66,777	96	1.9	51%	49%	0%
CO	150	10,631	71	1.9	82%	18%	0%
HI	18	1,959	109	1.6	77%	23%	0%
ID	53	2,645	50	2.1	99%	0%	1%
MT	67	2,083	31	1.7	66%	34%	0%
NM	65	4,957	76	2.0	86%	13%	1%

Exhibit A1: Physical Characteristics of LIHTC Units by State, 1995-2001
(Continued)

Region/State	Total Number of Projects	Total Number of Units	Average Project Size (in Units)	Average Number of Bedrooms (per Unit)	Construction Type		
					New	Rehab	Both
NV	53	5,826	110	2.0	100%	0%	0%
OR	170	11,359	67	1.8	73%	25%	2%
UT	83	5,029	61	2.2	77%	23%	0%
WA	278	20,636	74	1.9	61%	39%	0%
WY	25	1,157	46	1.9	100%	0%	0%
U.S. Possessions:	58	3,493	60	2.1	61%	39%	0%
PR	49	3,265	67	2.1	63%	37%	0%
VI	9	228	25	1.7	40%	60%	0%

Notes: Percentages of units with missing data are bedroom count (14.1%) and construction type (1.6%). Totals may not sum to 100 percent because of rounding.
[1]In Wyoming, construction type percentages are omitted because 78 percent of the observations are missing.

Exhibit A2: Development Characteristics of LIHTC Units by State, 1995-2001

Region/State	Non-Profit Sponsor	RHS Section 515	Tax-Exempt Bonds	Average Ratio of LIHTC Units/ Total Units	Credit Type		
					30%	70%	Both
U.S. Total	25%	6%	32%	94.9%	36%	55%	9%
Northeast:	35%	3%	33%	90.2%	30%	52%	17%
CT	31%	0%	45%	95.5%	46%	51%	3%
MA	35%	1%	38%	86.7%	34%	32%	33%
ME	34%	9%	21%	94.9%	16%	53%	31%
NH	24%	7%	44%	94.0%	39%	37%	24%
NJ	50%	0%	27%	97.8%	15%	83%	2%
NY	30%	2%	47%	84.9%	36%	55%	9%
PA	40%	9%	2%	97.5%	17%	67%	16%
RI	41%	3%	15%	97.8%	9%	34%	57%
VT	67%	7%	34%	85.4%	37%	42%	21%
Midwest:	28%	5%	24%	95.5%	31%	59%	10%
IA	11%	7%	9%	97.5%	14%	83%	3%
IL	34%	0%	24%	96.5%	27%	73%	1%
IN	21%	8%	23%	96.1%	31%	64%	5%
KS	13%	4%	18%	94.3%	29%	62%	9%
MI	8%	10%	19%	94.0%	27%	59%	14%
MN	23%	3%	32%	92.8%	38%	48%	14%
MO	21%	5%	30%	97.8%	40%	54%	6%
ND	19%	12%	14%	98.0%	21%	71%	8%
NE	33%	2%	64%	92.2%	53%	45%	2%
OH	58%	4%	31%	97.0%	34%	43%	23%
SD	26%	17%	9%	99.7%	34%	63%	3%
WI	12%	4%	13%	92.0%	27%	68%	4%

Exhibit A2: Development Characteristics of LIHTC Units by State, 1995-2001
(Continued)

Region/State	Non-Profit Sponsor	RHS Section 515	Tax-Exempt Bonds	Average Ratio of LIHTC Units/ Total Units	Credit Type		
					30%	70%	Both
South:	19%	8%	30%	97.3%	35%	56%	9%
AL	21%	10%	10%	100.0%	15%	76%	10%
AR	13%	29%	26%	91.4%	51%	44%	6%
D.C.	27%	0%	62%	99.6%	40%	60%	0%
DE	6%	9%	15%	99.3%	29%	71%	0%
FL	7%	0%	64%	96.4%	63%	34%	3%
GA	19%	7%	17%	91.6%	28%	68%	4%
KY	34%	18%	0%	99.1%	30%	70%	0%
LA	48%	20%	0%	99.0%	11%	58%	31%
MD	19%	5%	43%	97.1%	35%	52%	14%
MS	10%	14%	30%	98.4%	45%	39%	16%
NC	24%	7%	18%	99.2%	23%	67%	10%
OK	40%	33%	6%	98.2%	23%	55%	22%
SC	36%	14%	3%	95.9%	13%	71%	16%
TN	12%	6%	18%	99.3%	21%	73%	7%
TX	18%	8%	8%	95.3%	15%	76%	9%
VA	18%	6%	52%	97.1%	57%	35%	8%
WV	19%	39%	0%	100.0%	23%	58%	19%
West:	30%	4%	48%	94.9%	48%	50%	2%
AK	35%	9%	38%	93.0%	35%	61%	4%
AZ	22%	3%	22%	96.7%	19%	76%	5%
CA	36%	4%	53%	95.5%	55%	45%	0%
CO	18%	2%	56%	83.9%	58%	40%	2%
HI	64%	2%	26%	99.7%	26%	74%	0%
ID	32%	4%	12%	90.3%	11%	89%	0%
MT	26%	14%	29%	95.7%	49%	51%	0%
NM	14%	9%	36%	96.4%	39%	54%	6%

Exhibit A2: Development Characteristics of LIHTC Units by State, 1995-2001 *(Continued)*

Region/State	Non-Profit Sponsor	RHS Section 515	Tax-Exempt Bonds	Average Ratio of LIHTC Units/ Total Units	Credit Type		
					30%	70%	Both
NV	22%	6%	64%	98.7%	36%	64%	0%
OR	46%	2%	53%	97.0%	54%	45%	2%
UT	7%	6%	45%	93.0%	34%	56%	11%
WA	29%	3%	49%	97.3%	55%	42%	3%
WY	10%	0%	37%	100.0%	76%	24%	0%
U.S. Possessions:	0%	87%	0%	82.8%	47%	22%	31%
PR	0%	86%	0%	79.6%	43%	24%	33%
VI	0%	100%	0%	100.0%	100%	0%	0%

Notes: Percentages of units with missing data are nonprofit sponsor (12.2%), RHS Section 515 (16.9%), bond financing (11.8%), and credit type (11.3%). Totals may not sum to 100 percent because of rounding.

[1]In Wyoming, credit type percentages are omitted because 68 percent of the observations are missing.

Exhibit A3: Distribution of LIHTC Units by Central City/Suburb/Non-Metro Location by State, 1995-2001

Region/State	Central City		Suburb		Non-Metro		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
U.S. Total	48%	47%	38%	38%	14%	15%	605,701	35,664,348
Northeast:	63%	51%	31%	41%	6%	8%	86,275	7,634,320
CT	68%	45%	30%	51%	2%	4%	6,114	431,941
MA	75%	48%	22%	49%	3%	3%	15,669	935,528
ME	34%	25%	35%	20%	31%	55%	1,768	147,295
NH	50%	33%	24%	29%	26%	38%	3,211	143,906
NJ	28%	20%	72%	80%	0%	0%	7,047	1,053,172
NY	76%	73%	21%	22%	3%	5%	35,846	3,317,694
PA	40%	34%	50%	53%	10%	13%	12,729	1,370,666
RI	62%	48%	30%	45%	8%	7%	2,226	163,268
VT	18%	13%	29%	18%	53%	69%	1,665	70,850
Midwest:	48%	45%	33%	33%	19%	22%	136,997	7,360,787
IA	41%	36%	17%	14%	42%	50%	6,885	317,857
IL	72%	55%	20%	33%	8%	12%	18,795	1,502,895
IN	51%	49%	31%	29%	18%	22%	12,241	667,144
KS	45%	40%	18%	19%	37%	41%	7,773	319,188
MI	32%	37%	55%	50%	13%	14%	19,310	992,537
MN	21%	35%	54%	40%	25%	25%	8,994	482,262
MO	48%	37%	31%	34%	20%	29%	17,425	652,445
ND	59%	46%	2%	8%	40%	46%	1,400	85,853
NE	55%	48%	19%	10%	26%	42%	3,630	216,867
OH	57%	47%	30%	38%	14%	15%	28,092	1,373,251
SD	58%	31%	6%	6%	36%	63%	1,525	92,305
WI	32%	47%	44%	28%	24%	24%	10,927	658,183

Exhibit A3: Distribution of LIHTC Units by Central City/Suburb/Non-Metro Location by State, 1995-2001 *(Continued)*

Region/State	Central City		Suburb		Non-Metro		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
South:	44%	45%	41%	36%	15%	20%	244,597	12,027,328
AL	34%	47%	28%	28%	37%	25%	7,614	478,375
AR	50%	38%	21%	17%	29%	45%	4,223	319,161
D.C.	100%	100%	0%	0%	0%	0%	4,524	147,124
DE	22%	32%	45%	53%	33%	15%	2,233	82,698
FL	31%	36%	64%	59%	4%	5%	47,115	1,896,130
GA	35%	26%	45%	47%	20%	27%	20,314	977,215
KY	38%	28%	26%	28%	36%	43%	5,414	465,250
LA	41%	48%	29%	33%	30%	19%	11,326	530,918
MD	23%	25%	71%	68%	6%	7%	14,555	639,108
MS	25%	23%	32%	17%	43%	60%	5,718	289,467
NC	61%	48%	20%	25%	19%	27%	16,345	959,658
OK	49%	44%	26%	22%	25%	34%	6,947	424,034
SC	24%	35%	42%	40%	35%	25%	5,866	426,237
TN	65%	54%	20%	20%	15%	26%	11,548	671,542
TX	65%	66%	26%	23%	8%	11%	45,226	2,676,395
VA	38%	39%	53%	43%	9%	18%	32,829	861,234
WV	11%	20%	49%	27%	40%	53%	2,800	182,782
West:	47%	47%	42%	42%	11%	11%	137,832	8,641,913
AK	61%	46%	0%	0%	39%	54%	1,331	83,091
AZ	54%	63%	33%	27%	13%	10%	7,893	607,771
CA	49%	49%	48%	49%	2%	3%	64,745	4,956,536
CO	43%	49%	44%	37%	13%	14%	10,217	542,101
HI	55%	42%	25%	32%	20%	26%	1,853	175,352

Exhibit A3: Distribution of LIHTC Units by Central City/Suburb/Non-Metro Location by State, 1995-2001 *(Continued)*

Region/State	Central City		Suburb		Non-Metro		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
ID	28%	32%	7%	9%	65%	59%	2,637	129,685
MT	40%	34%	0%	4%	60%	62%	1,874	110,944
NM	57%	51%	13%	11%	31%	38%	4,789	203,526
NV	44%	39%	50%	51%	6%	9%	5,740	293,918
OR	45%	39%	33%	38%	22%	23%	10,768	476,772
UT	30%	38%	46%	41%	24%	21%	4,789	199,734
WA	44%	42%	44%	43%	12%	15%	20,100	804,389
WY	54%	27%	14%	4%	32%	69%	1,096	58,094

Notes: The dataset used in this analysis includes only geocoded projects (projects and units in Puerto Rico and the Virgin Islands were excluded). Suburb is defined here as metro area, non-central city. Metropolitan area definitions for LIHTC units are as of June 30, 1999. Total number of rental units are based on 1990 Census data and tract definitions. Totals may not sum to 100 percent because of rounding

Exhibit A4: Distribution of LIHTC Units Located in DDAs and QCTs by State, 1995-2001

Region/State	DDA		QCT		DDA or QCT		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
U.S. Total	19%	23%	24%	16%	38%	37%	605,701	35,664,348
Northeast:	58%	55%	37%	18%	74%	65%	86,275	7,634,320
CT	34%	16%	56%	17%	74%	32%	6,114	431,941
MA	62%	81%	45%	19%	79%	87%	15,669	935,528
ME	98%	91%	11%	4%	98%	90%	1,768	147,295
NH	100%	97%	5%	7%	100%	97%	3,211	143,906
NJ	23%	29%	35%	17%	54%	45%	7,047	1,053,172
NY	82%	81%	36%	20%	86%	85%	35,846	3,317,694
PA	4%	4%	35%	16%	38%	19%	12,729	1,370,666
RI	26%	16%	44%	20%	64%	33%	2,226	163,268
VT	69%	84%	13%	8%	76%	85%	1,665	70,850
Midwest:	0%	0%	25%	18%	25%	18%	136,997	7,360,787
IA	0%	0%	7%	10%	7%	10%	6,885	317,857
IL	0%	0%	46%	23%	46%	23%	18,795	1,502,895
IN	0%	0%	15%	13%	15%	13%	12,241	667,144
KS	0%	0%	17%	10%	17%	10%	7,773	319,188
MI	0%	0%	29%	24%	29%	24%	19,310	992,537
MN	0%	0%	11%	11%	11%	11%	8,994	482,262
MO	0%	0%	22%	15%	22%	15%	17,425	652,445
ND	0%	0%	6%	7%	6%	7%	1,400	85,853
NE	0%	0%	5%	14%	5%	14%	3,630	216,867
OH	0%	0%	33%	20%	33%	20%	28,092	1,373,251
SD	2%	7%	0%	4%	2%	12%	1,525	92,305
WI	0%	0%	12%	13%	12%	13%	10,927	658,183

Exhibit A4: Distribution of LIHTC Units Located in DDAs and QCTs by State, 1995-2001 *(Continued)*

Region/State	DDA		QCT		DDA or QCT		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
South:	10%	7%	21%	15%	30%	20%	244,597	12,027,328
AL	1%	0%	11%	17%	12%	17%	7,614	478,375
AR	3%	2%	8%	9%	11%	11%	4,223	319,161
D.C.	0%	0%	85%	49%	85%	49%	4,524	147,124
DE	34%	15%	2%	10%	36%	12%	2,233	82,698
FL	40%	24%	10%	12%	45%	36%	47,115	1,896,130
GA	1%	0%	25%	18%	26%	18%	20,314	977,215
KY	6%	3%	32%	15%	38%	17%	5,414	465,250
LA	8%	4%	25%	22%	32%	25%	11,326	530,918
MD	1%	0%	17%	14%	17%	14%	14,555	639,108
MS	12%	7%	32%	18%	40%	22%	5,718	289,467
NC	0%	4%	15%	10%	16%	14%	16,345	959,658
OK	0%	0%	15%	11%	15%	11%	6,947	424,034
SC	4%	5%	21%	13%	25%	17%	5,866	426,237
TN	0%	0%	36%	17%	36%	17%	11,548	671,542
TX	6%	7%	35%	17%	39%	24%	45,226	2,676,395
VA	0%	0%	7%	11%	7%	11%	32,829	861,234
WV	3%	21%	24%	11%	28%	31%	2,800	182,782
West:	30%	38%	19%	15%	42%	48%	137,832	8,641,913
AK	35%	38%	30%	13%	48%	38%	1,331	83,091
AZ	20%	12%	29%	11%	45%	20%	7,893	607,771
CA	44%	51%	20%	16%	53%	59%	64,745	4,956,536
CO	7%	4%	17%	19%	24%	22%	10,217	542,101
HI	56%	100%	33%	14%	81%	100%	1,853	175,352

Exhibit A4: Distribution of LIHTC Units Located in DDAs and QCTs by State, 1995-2001 *(Continued)*

Region/State	DDA		QCT		DDA or QCT		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
ID	17%	11%	22%	9%	30%	20%	2,637	129,685
MT	37%	9%	14%	15%	47%	15%	1,874	110,944
NM	15%	17%	11%	12%	26%	26%	4,789	203,526
NV	2%	1%	10%	19%	12%	20%	5,740	293,918
OR	26%	39%	14%	9%	41%	50%	10,768	476,772
UT	8%	6%	10%	15%	18%	15%	4,789	199,734
WA	16%	17%	20%	15%	34%	35%	20,100	804,389
WY	0%	0%	0%	9%	0%	9%	1,096	58,094

Notes: The dataset used in this analysis includes only geocoded projects (projects and units in Puerto Rico and the Virgin Islands were excluded). DDA definitions for LIHTC units are from year placed in service and DDA definitions for all rental units are from 2000. QCT definitions are from 1999. Total number of rental units are based on 1990 Census data and tract definitions. Totals may not sum to 100 percent because of rounding.

Exhibit A5: Census Tract Characteristics of LIHTC Units by Location Type, 1995-2001

Region/State	More than Half the Households Below 60% Median Income		Over 30% of the Households In Poverty		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
U.S. Total	24.7%	15.8%	18.2%	12.3%	605,701	35,664,348
Northeast:	38.8%	20.4%	32.1%	14.8%	86,275	7,634,320
CT	58.1%	26.6%	24.2%	10.4%	6,114	431,941
MA	52.9%	22.4%	39.5%	9.6%	15,669	935,528
ME	11.6%	8.5%	2.7%	3.6%	1,768	147,295
NH	6.1%	6.9%	4.3%	2.2%	3,211	143,906
NJ	35.1%	20.4%	19.2%	7.4%	7,047	1,053,172
NY	34.9%	20.8%	37.2%	21.1%	35,846	3,317,694
PA	39.1%	18.8%	32.5%	12.7%	12,729	1,370,666
RI	47.3%	26.3%	43.9%	19.7%	2,226	163,268
VT	12.9%	8.4%	0.0%	2.2%	1,665	70,850
Midwest:	24.9%	16.7%	16.5%	10.6%	136,997	7,360,787
IA	5.8%	8.6%	3.8%	5.7%	6,885	317,857
IL	41.4%	20.9%	31.0%	12.4%	18,795	1,502,895
IN	19.4%	13.1%	7.4%	7.4%	12,241	667,144
KS	14.8%	10.6%	7.4%	5.6%	7,773	319,188
MI	24.0%	21.8%	19.0%	15.1%	19,310	992,537
MN	10.4%	14.3%	9.0%	6.8%	8,994	482,262
MO	34.6%	15.2%	18.5%	9.1%	17,425	652,445
ND	2.2%	2.5%	3.5%	4.8%	1,400	85,853
NE	4.5%	10.9%	3.7%	4.2%	3,630	216,867
OH	32.5%	18.6%	22.5%	13.5%	28,092	1,373,251
SD	3.3%	7.4%	6.3%	9.1%	1,525	92,305
WI	12.6%	14.1%	6.9%	9.4%	10,927	658,183

Exhibit A5: Census Tract Characteristics of LIHTC Units by Location Type, 1995-2001 ***(Continued)***

Region/State	More than Half the Households Below 60% Median Income		Over 30% of the Households In Poverty		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
South:	23.0%	13.7%	16.8%	12.7%	244,597	12,027,328
AL	11.8%	19.7%	12.8%	18.5%	7,614	478,375
AR	5.9%	9.2%	12.1%	12.6%	4,223	319,161
D.C.	99.2%	49.9%	39.8%	23.9%	4,524	147,124
DE	0.0%	8.7%	0.0%	6.6%	2,233	82,698
FL	10.6%	11.8%	12.3%	11.2%	47,115	1,896,130
GA	35.2%	13.8%	19.4%	11.7%	20,314	977,215
KY	32.5%	12.7%	28.4%	14.3%	5,414	465,250
LA	28.4%	20.3%	42.1%	29.5%	11,326	530,918
MD	19.8%	17.2%	11.6%	8.1%	14,555	639,108
MS	30.3%	11.1%	44.7%	27.9%	5,718	289,467
NC	16.3%	9.6%	10.3%	7.4%	16,345	959,658
OK	19.6%	8.4%	16.7%	9.6%	6,947	424,034
SC	23.2%	10.5%	13.5%	10.6%	5,866	426,237
TN	33.3%	14.4%	26.4%	12.7%	11,548	671,542
TX	34.3%	15.2%	21.6%	13.1%	45,226	2,676,395
VA	11.0%	10.1%	3.2%	7.1%	32,829	861,234
WV	22.2%	9.7%	3.6%	13.2%	2,800	182,782
West:	18.5%	13.8%	13.5%	10.9%	137,832	8,641,913
AK	0.0%	6.4%	7.3%	0.6%	1,331	83,091
AZ	23.5%	12.5%	31.9%	14.2%	7,893	607,771
CA	21.4%	16.8%	14.6%	13.3%	64,745	4,956,536
CO	14.1%	12.4%	2.2%	4.7%	10,217	542,101
HI	19.4%	8.4%	0.0%	2.0%	1,853	175,352
ID	7.2%	4.8%	2.5%	3.2%	2,637	129,685
MT	6.9%	7.1%	6.9%	10.3%	1,874	110,944
NM	8.3%	8.7%	19.9%	17.2%	4,789	203,526

Exhibit A5: Census Tract Characteristics of LIHTC Units by Location Type, 1995-2001
(Continued)

Region/State	More than Half the Households Below 60% Median Income		Over 30% of the Households In Poverty		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
NV	27.3%	12.7%	16.0%	5.6%	5,740	293,918
OR	18.4%	7.2%	16.2%	5.0%	10,768	476,772
UT	8.5%	10.5%	2.5%	9.0%	4,789	199,734
WA	16.4%	8.4%	11.7%	6.9%	20,100	804,389
WY	0.0%	7.2%	0.0%	4.0%	1,096	58,094

Notes: The dataset used in this analysis includes only geocoded projects (projects and units in Puerto Rico and the Virgin Islands were excluded). Data are based on 1990 Census data and tract definitions.

Exhibit A6: Additional Census Tract Characteristics of LIHTC Units by Location Type, 1995-2001

Region/State	Over 50% Population Is Minority		Over 20% Families Are Female-Headed		Over 50% Housing Is Renter-Occupied		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
U.S. Total	41%	32%	16%	9%	46%	44%	605,701	35,664,348
Northeast:	46%	33%	27%	15%	67%	57%	86,275	7,634,320
CT	70%	33%	25%	17%	74%	51%	6,114	431,941
MA	50%	16%	25%	8%	78%	58%	15,669	935,528
ME	0%	0%	0%	1%	32%	25%	1,768	147,295
NH	0%	0%	0%	0%	50%	37%	3,211	143,906
NJ	53%	45%	26%	12%	50%	58%	7,047	1,053,172
NY	54%	46%	35%	23%	80%	71%	35,846	3,317,694
PA	30%	16%	22%	9%	40%	28%	12,729	1,370,666
RI	28%	19%	20%	12%	65%	54%	2,226	163,268
VT	0%	0%	0%	0%	30%	28%	1,665	70,850
Midwest:	26%	19%	17%	10%	36%	33%	136,997	7,360,787
IA	3%	3%	0%	0%	15%	17%	6,885	317,857
IL	50%	37%	29%	13%	57%	45%	18,795	1,502,895
IN	24%	13%	16%	7%	29%	27%	12,241	667,144
KS	12%	9%	5%	2%	36%	27%	7,773	319,188
MI	28%	25%	18%	15%	33%	31%	19,310	992,537
MN	8%	8%	1%	3%	20%	30%	8,994	482,262
MO	37%	15%	29%	10%	36%	29%	17,425	652,445
ND	1%	3%	1%	2%	15%	32%	1,400	85,853
NE	4%	6%	4%	4%	17%	29%	3,630	216,867
OH	30%	17%	22%	11%	44%	34%	28,092	1,373,251
SD	1%	7%	0%	5%	19%	25%	1,525	92,305
WI	9%	12%	4%	7%	29%	33%	10,927	658,183

Exhibit A6: Additional Census Tract Characteristics of LIHTC Units by Location Type, 1995-2001 *(Continued)*

Region/State	Over 50% Population Is Minority		Over 20% Families Are Female-Headed		Over 50% Housing Is Renter-Occupied		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
South:	45%	33%	19%	9%	42%	37%	244,597	12,027,328
AL	31%	29%	20%	14%	16%	27%	7,614	478,375
AR	31%	17%	21%	8%	18%	20%	4,223	319,161
D.C.	100%	67%	74%	28%	100%	82%	4,524	147,124
DE	17%	14%	0%	8%	30%	27%	2,233	82,698
FL	38%	33%	16%	8%	38%	37%	47,115	1,896,130
GA	62%	41%	30%	14%	50%	43%	20,314	977,215
KY	25%	7%	23%	5%	34%	25%	5,414	465,250
LA	46%	38%	29%	21%	32%	36%	11,326	530,918
MD	47%	42%	17%	17%	57%	47%	14,555	639,108
MS	58%	37%	42%	22%	27%	22%	5,718	289,467
NC	44%	26%	18%	7%	35%	30%	16,345	959,658
OK	17%	10%	8%	3%	38%	29%	6,947	424,034
SC	34%	28%	17%	9%	25%	25%	5,866	426,237
TN	35%	21%	31%	12%	52%	31%	11,548	671,542
TX	62%	47%	14%	4%	55%	46%	45,226	2,676,395
VA	35%	26%	8%	8%	37%	40%	32,829	861,234
WV	0%	0%	0%	0%	9%	14%	2,800	182,782
West:	44%	38%	4%	3%	49%	50%	137,832	8,641,913
AK	26%	16%	0%	2%	66%	44%	1,331	83,091
AZ	63%	28%	6%	3%	42%	42%	7,893	607,771
CA	66%	53%	7%	5%	56%	59%	64,745	4,956,536
CO	15%	16%	0%	1%	37%	40%	10,217	542,101
HI	100%	87%	0%	1%	88%	53%	1,853	175,352
ID	3%	1%	0%	0%	27%	21%	2,637	129,685
MT	0%	4%	0%	2%	26%	27%	1,874	110,944
NM	73%	51%	0%	2%	21%	26%	4,789	203,526

Exhibit A6: Additional Census Tract Characteristics of LIHTC Units by Location Type, 1995-2001 *(Continued)*

Region/State	Over 50% Population Is Minority		Over 20% Families Are Female-Headed		Over 50% Housing Is Renter-Occupied		Total Number of Units	
	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units	LIHTC units	All rental units
NV	39%	25%	16%	2%	46%	56%	5,740	293,918
OR	7%	2%	0%	0%	46%	35%	10,768	476,772
UT	4%	5%	0%	0%	21%	37%	4,789	199,734
WA	10%	8%	0%	1%	53%	42%	20,100	804,389
WY	0%	1%	0%	1%	0%	15%	1,096	58,094

Notes: The dataset used in this analysis includes only geocoded projects (projects and units in Puerto Rico and the Virgin Islands were excluded). Data are based on 2000 Census data and tract definitions.

Appendix B

LIHTC Data Collection Form

LIHTC DATA FORM

State: _____ State Identifying Number: _____

Allocating Agency Name: _____

Project Name: _____

Project Address: _____
(NUMBER) (STREET)

_____ _____ _____
(CITY) (STATE) (ZIP)

Owner/Owner's Representative: _____
(FIRST NAME) (LAST NAME)

_____
(COMPANY NAME)

_____
(NUMBER) (STREET)

_____ _____ _____
(CITY) (STATE) (ZIP)

_____
(AREA CODE AND TELEPHONE NUMBER)

Number of *Total* Units: _____

Number of Total Units *by Size*: _____ _____ _____ _____ _____ = _____
OBR **1BR** **2BR** **3BR** **4+BR** **Total**

Number of *Low Income* Units: _____

Year Placed In Service: _____

Year Project Received Allocation or Bond Issued: _____

Type *(check all that apply)*:

- ☐ New Construction
- ☐ Rehab (with or without acquisition)
- ☐ Existing (for 1987-89 allocations only)

Credit Percentage *(check one)*:

- ☐ 9% (70% present value)
- ☐ 4% (30% present value)
- ☐ Both

	Yes	**No**
Did the project have a non-profit sponsor?	☐	☐
Increased basis due to qualified census tract or difficult development area?	☐	☐
Did the project use tax-exempt bonds?	☐	☐
Did the project use Farmers Home Section 515 loans?	☐	☐

INSTRUCTIONS FOR LIHTC DATA FORM

State: *Enter the Postal Service two character abbreviation for your state.*

State Identifying Number: *Enter the number or code sequence that your agency uses to identify properties. This should be an identifier that will permit future identification of this project.*

Project Name: *Enter the name of the project, if one exists. Example: Westside Terrace Apartments. Do not enter a partnership name (e.g., Venture Limited II).*

Project Address: *Enter the complete address of the property, including address number and street name, city, state, and (if available) zip code. Do not enter a P.O. box or multiple addresses (e.g., 52-58 Garden Street). If the project consists of more than one building with different addresses, enter only one address, using the address for the building with the greatest number of units.*

Owner's Contact Name, Address and Phone Number: *Enter the name, address and phone number of the owner or owner's contact person. This will often be a representative of the general partner. This information will be used for future mail or telephone contacts regarding the development. As such, we need an individual and company name and address as opposed to the partnership name.*

Number of Total Units: *Enter the total number of units in this project, summing across buildings if needed.*

Number of Total Units by Size: *Enter the number of units in the development (summing across buildings if necessary) that have 0, 1, 2, 3, or 4 or more bedrooms. Make sure these units sum to the total number of units in the project.*

Number of Low Income Units: *Enter the number of units in the development (summing across buildings if necessary) that were qualified to receive Low Income Housing Tax Credits at the time the buildings were placed in service.*

Year Placed in Service: *Enter the year the project was placed in service. If this is a multiple building project, with more than one placed in service date, enter the most recent date. Placement in service date is available from IRS Form 8609, Item 5.*

Year Project Received Allocation or Bond Issued: *Enter the initial allocation year for which tax credits were awarded for the project. Allocation date is available from IRS Form 8609, Item 1a. If the project received multiple allocations, use the earliest allocation year. If no allocation was required (i.e., 50 percent or greater tax-exempt bond financed) and IRS Form 8609, Item 1a is blank, enter the year the bond was issued.*

Type (New Construction or Acquisition/Rehab): *Enter the production type for which the project is receiving tax credits, i.e., a newly constructed project and/or one involving rehabilitation. For projects allocated in 1987-1989 only, an additional type -- acquisition only -- is also possible. If the project involves both New Construction and Rehab, check both boxes. (Construction type can be inferred from IRS Form 8609, Item 6. If box a or b is checked, the building is new construction. If box c and d or e is checked, the building is acquisition/rehab. If box c only is checked, the building is acquisition-only.)*

Credit Percentage: *This item indicates the type of credit provided: 9% credit (70% present value) or 4% (30% present value). Maximum applicable credit percentage allowable is available from IRS Form 8609, Item 2. The entry on the 8609 is an exact percentage for the project and may include several decimal places (e.g., 8.89% or 4.2%). Please check the closest percentage -- either 9 or 4 percent. The box marked "Both" may be checked for where acquisition is covered at 4% and rehab at 9%.*

Did the project have a non-profit sponsor? *Check yes if the project sponsor is a 501(c)(3) nonprofit entity. Use the same criteria for determining projects to be included in the 10 percent non-profit set aside.*

Increased Basis Due to Qualified Census Tract or Difficult Development Area*? Check yes if the project actually received an increase in the eligible basis due to its location in a qualified census tract or difficult development area. Increased basis can be determined from IRS Form 8609, Item 3b. (Note: projects may be located in a qualified tract without receiving the increase.)*

Did project use tax-exempt bonds? *Check yes if financing was provided through tax-exempt bonds. Use of tax-exempt bonds can be determined from IRS Form 8609, Item 4, which shows the percentage of the basis financed from this source.*

Did project use Farmers Home Section 515 loans? *Check yes if the project was financed with a Farmers Home Section 515 direct loan.*

Appendix C

Description of the LIHTC Database

Description of the LIHTC Database

The LIHTC Database contains records for 21,084 projects and 1,039,323 units placed in service between 1987 and 2001. The original database contained records for 9,785 projects and 339,190 units placed in service between 1987 and 1994. In late 1996, efforts were made to improve the coverage of the LIHTC database for earlier years of the program. This resulted in the addition of 1,989 projects containing 67,056 units to the database. In 2000, 4,833 projects and 300,891 units placed in service from 1995 to 1998 were added. In April 2002, data were added on 1,737 projects and 130,906 units placed in service from 1997 to 1999. In February 2003, 1,332 projects and 95,180 units were added. The current update adds 1,408 records and 106,100 units. These records cover projects placed in service from 1995-2001. Exhibit C1 shows the history of data updates by year placed in service.

Project Data

Project data was collected from the state allocating agencies. Data were either provided in electronic form, provided on the LIHTC data collection form, or compiled by Abt Associates staff from listing or other documents provided by the states. In a few cases, data were collected directly from agency files by members of the study team.

Geographic Indicators

Project street addresses were used to match properties with their 1990 and 2000 census tracts. Projects placed in service between 1987 and 1994 were initially geocoded using HUD's Conquest[51] geographical information system, as well as through the efforts of a private vendor. The geocoding rate for these projects was 79 percent. Projects placed in service between 1995 and 1998 were first geocoded using MapMarker version 6.1 Plus.[52] Street-level matching was used to obtain the 1990 census tract location of each address. Properties were first geocoded during an initial, automatic pass. Properties not geocoded during the automatic pass were run through the system again in interactive mode. During the interactive pass, we attempted to correct property addresses by correcting spelling errors and by using a variety of online databases to obtain corrected zip codes and property address information. Following the interactive geocoding pass, the overall geocoding rate for projects placed in service between 1995 and 1998 was 91 percent.

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[51] Conquest as a proprietary GIS package which could be used to identify geographic location based on street address and to attach Census or other demographic variables for the location.

[52] The address dictionaries for the MapMarker Plus family of geocoding software are produced from U.S. Postal Service and GDT, Inc. databases.

All projects were later re-geocoded using MapMarker version 7.0. For properties placed in service between 1987 and 1998 and included in the database update in 2000, the addresses were geocoded through an automatic pass. If a property was not automatically geocoded but was geocoded previously, the older geocoding information was kept in the database. Properties neither geocoded during the automatic pass nor geocoded previously were run through the system for interactive geocoding. Projects added to the database in July 2002, with placed in service year from 1997 to 1999, were geocoded through automatic and interactive passes using MapMarker version 7.0. Properties for which we could not determine a complete and accurate address were left ungeocoded. For all geocoded records in the July 2002 update, using MapInfo Professional version 6.0 mapping software and electronic maps of the Census 2000 geographic entities, we also determined the 2000 census tract for each geocoded property. The overall geocoding rate for all properties in the database in that update was 89 percent.

In the February 2003 update to the database, projects added with placed in service year from 1998 to 2000 were geocoded through automatic and interactive passes. MapMarker Plus version 7.0[53] was used to determine 1990 census tracts, and MapMarker Plus version 7.2 was used to determine 2000 census tracts. The overall geocoding rate for the database was 90 percent.

Similarly to the previous updates to the database, in this update, projects added to the database with placed in service year from 1995 to 2001 were geocoded through automatic and interactive passes. Again, MapMarker Plus version 7.0 was used to determine 1990 census tracts. MapMarker Plus version 8.3 was used to determine 2000 census tracts. The overall geocoding rate for the database was 90 percent.

Location Data

For all projects successfully geocoded, geographic indicators were used to develop information on project locations, for example, whether the property was located in an MSA or non-metro area (as of the 2000 Census), and, for projects in MSAs, whether the project was located in a central city of the MSA. HUD data files and listings were also used to identify projects located in areas that had been designated by HUD as Difficult Development Areas when projects were placed in service. The criteria for this designation are legislatively determined and are intended to capture areas with below average incomes and relatively high development costs.

A complete listing of all database variables is provided in Exhibit C2.

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[53] MapMarker Plus version 7.0 was the latest version of the software available to output 1990 U.S. Census codes.

Exhibit C1
History of Data Updates to National LIHTC Database

Year Placed in Service		Original Database	Revision to Original Database	First Update		Second Update				Third Update				Fourth Update			
				1995-1998 New Data	Final 1995-1998 Update	Effect of Edits	1997-1999 New Data	Effective Update	Final 1997-1999 Update	Effect of Edits	1998-2000 New Data	Effective Update	Final 1998-2000 Update	Effect of Edits	1995-2001 New Data	Effective Update	Final 1995-2001 Update
missing	Projects	931	1,011		1,942	-1		-1	**1,941**				**1,941**				**1,941**
	Units	18,776	38,651		57,427	-1		-1	**57,426**				**57,426**				**57,426**
1987	Projects	502	200		702				**702**				**702**				**702**
	Units	12,403	4,683		17,086				**17,086**				**17,086**				**17,086**
1988	Projects	1,012	464		1,476				**1,476**				**1,476**				**1,476**
	Units	25,942	9,868		35,810				**35,810**				**35,810**				**35,810**
1989	Projects	1,198	191		1,389				**1,389**				**1,389**				**1,389**
	Units	34,589	8,168		42,757				**42,757**				**42,757**				**42,757**
1990	Projects	1,038	77		1,115				**1,115**				**1,115**				**1,115**
	Units	39,889	3,552		43,441				**43,441**				**43,441**				**43,441**
1991	Projects	1,097	46		1,143				**1,143**	0		0	**1,143**				**1,143**
	Units	39,428	2,134		41,562				**41,562**	-2		-2	**41,560**				**41,560**
1992	Projects	1,355			1,355				**1,355**				**1,355**				**1,355**
	Units	49,931			49,931				**49,931**				**49,931**				**49,931**
1993	Projects	1,355			1,355				**1,355**				**1,355**				**1,355**
	Units	59,942			59,942				**59,942**				**59,942**				**59,942**
1994	Projects	1,297			1,297				**1,297**				**1,297**				**1,297**
	Units	58,290			58,290				**58,290**				**58,290**				**58,290**
1995	Projects			1,370	1,370				**1,370**				**1,370**	1	3	4	**1,374**
	Units			78,940	78,940				**78,940**				**78,940**	143	210	353	**79,293**
1996	Projects			1,299	1,299	-1		-1	**1,298**				**1,298**	-1	6	5	**1,303**
	Units			81,416	81,416	-56		-56	**81,360**				**81,360**	177	452	629	**81,989**
1997	Projects			1,270	1,270	-9	53	44	**1,314**				**1,314**	1	19	20	**1,334**
	Units			79,548	79,548	-1,115	6,098	4,983	**84,531**				**84,531**	311	2,535	2,846	**87,377**
1998	Projects			894	894	9	310	319	**1,213**	-1	45	44	**1,257**	-3	37	34	**1,291**
	Units			60,987	60,987	1,007	24,585	25,592	**86,579**	-23	2,146	2,123	**88,702**	-950	3,922	2,972	**91,674**
1999	Projects					2	1,374	1,376	**1,376**	-7	83	76	**1,452**	-3	11	8	**1,460**
	Units					220	100,168	100,388	**100,388**	-1,049	5,914	4,865	**105,253**	-162	1,397	1,235	**106,488**
2000	Projects									8	1,204	1,212	**1,212**	-3	64	61	**1,273**
	Units									1,020	87,174	88,194	**88,194**	-95	3,892	3,797	**91,991**
2001	Projects														1,276	1,276	**1,276**
	Units														94,268	94,268	**94,268**
All	Projects	9,785	1,989	4,833	16,607	0	1,737	1,737	**18,344**	0	1,332	1,332	**19,676**	-8	1,416	1,408	**21,084**
	Units	339,190	67,056	300,891	707,137	55	130,851	130,906	**838,043**	-54	95,234	95,180	**933,223**	-576	106,676	106,100	**1,039,323**

Exhibit C2
Low Income Housing Tax Credit Database, 1987-2001
Data Dictionary

Variable Name	Variable Definition	Variable Type*	Decimal Places	Value Labels
HUD_ID	Unique Project Identifier for the Database (recreated for all records with each update) — characters 1-3: Allocating agency code (see table below) digits 4-7: Year placed in service (0000 if unknown or missing) digits 8-10: Record number within allocating agency and year placed in service	A		
PROJECT	Project name	A		
PROJ_ADD	Project street address	A		
PROJ_CTY	Project city	A		
PROJ_ST	Project state	A		
PROJ_ZIP	Project zip	A		
STATE_ID	State-defined Project ID	A		
CONTACT	Owner or owner's contact	A		
COMPANY	Name of contact company	A		
CO_ADD	Contact's business address	A		
CO_CTY	Contact's city	A		
CO_ST	Contact's state	A		
CO_ZIP	Contact's zip	A		
CO_TEL	Contact's telephone	A		
LATITUDE	Latitude: Degrees Decimal	N	6	
LONGITUD	Longitude: Negative Degrees Decimal -- GIS Mapping Convention	N	6	
REG	Census Region	N		1=Northeast 2=Midwest 3=South 4=West
MSA	MSA Number	N		
PLACECE	Census Place Code (1990)	N		
PLACEFP	FIPS Place Code (2000)	N		
FIPS1990	Unique 1990 Census Tract ID -- digits 1-2: State FIPS Code digits 3-5: County FIPS Code digits 6-11: Census Tract Number (no decimal point included)	A		
ST1990	1990 State FIPS Code	N		
CNTY1990	1990 County FIPS Code	N		
TRCT1990	1990 Census Tract Number	N	2	
FIPS2000	Unique 2000 Census Tract ID -- digits 1-2: State FIPS Code digits 3-5: County FIPS Code digits 6-11: Census Tract Number (no decimal point included)	A		
ST2000	2000 State FIPS Code	N		
CNTY2000	2000 County FIPS Code	N		
TRCT2000	2000 Census Tract Number	N	2	

Exhibit C2 *(Continued)*
Low Income Housing Tax Credit Database, 1987-2001
Data Dictionary

Variable Name	Variable Definition	Variable Type*	Decimal Places	Value Labels
N_UNITS	Total number of units	N		
LI_UNITS	Total number of low income units	N		
N_0BR	Number of efficiencies	N		
N_1BR	Number of 1 bedroom units	N		
N_2BR	Number of 2 bedroom units	N		
N_3BR	Number of 3 bedroom units	N		
N_4BR	Number of 4 bedroom units	N		
YR_PIS	Year placed in service	A		
YR_ALLOC	Allocation year	A		
NON_PROF	Was there a non-profit sponsor?	N		1=Yes 2=No
BASIS	Was there an increase in eligible basis?	N		1=Yes 2=No
BOND	Was a tax-exempt bond received?	N		1=Yes 2=No
FMHA_515	Were FmHA (RHS) Section 515 loans used?	N		1=Yes 2=No
TYPE	Type of construction	N		1=New construction 2=Acquisition and Rehab 3=Both new construction and A/R 4=Existing
CREDIT	Type of credit percentage	N		1=30 percent present value 2=70 percent present value 3=Both
N_UNITSR	Total number of units or if total units missing or inconsistent, total low income units	N		
LI_UNITR	Total number of low income units or if total low income units missing, total units	N		
METRO	Is the census tract metro or non-metro?	N		1=Metro/Non-Central City 2=Metro/Central City 3=Non-Metro
DDA	Is the census tract in a difficult development area?	N		0=Not in DDA 1=In Metro DDA 2=In Non-Metro DDA
QCT	Is the census tract a qualified census tract?	N		1=In a qualified tract 2=Not in a qualified tract

* A=Alphanumeric, contains characters and numbers; N=Numeric, contains numbers including decimal points and negative signs.

Allocating Agency Codes Used in HUD_ID

AKA Alaska Housing Finance Corporation
ALA Alabama Housing Finance Authority
ARA Arkansas Development Finance Authority
AZA Arizona Department of Commerce, Office of Housing and Community Development/Arizona Department of Housing
CAA California Tax Credit Allocation Committee
COA Colorado Housing and Finance Authority
CTA Connecticut Housing Finance Authority
DCA District of Columbia Housing Finance Agency
DCB DC Department of Housing and Community Development
DEA Delaware State Housing Authority
FLA Florida Housing Finance Corporation
GAA Georgia Department of Community Affairs/Georgia Housing and Finance Authority
HIA Housing and Community Development Corporation of Hawaii
IAA Iowa Finance Authority
IDA Idaho Housing and Finance Association
ILA Illinois Housing Development Authority
ILB City of Chicago Department of Housing
INA Indiana Housing Finance Authority
KSA Kansas Department of Commerce and Housing/Kansas Housing Resources Corporation
KYA Kentucky Housing Corporation
LAA Louisiana Housing Finance Agency
MAA Massachusetts Housing Finance Agency
MAB Massachusetts Dept. of Housing and Community Development
MDA Maryland Department of Housing and Community Development
MEA Maine State Housing Authority
MIA Michigan State Housing Development Authority
MNA Minnesota Housing Finance Authority
MOA Missouri Housing Development Commission
MSA Mississippi Home Corporation
MTA Montana Department of Commerce, Board of Housing
NCA North Carolina Housing Finance Agency
NDA North Dakota Housing Finance Agency
NEA Nebraska Investment Finance Authority
NHA New Hampshire Housing Finance Authority
NJA New Jersey Housing and Mortgage Finance Agency
NMA New Mexico Mortgage Finance Agency
NVA Nevada Department of Business and Industry - Housing Division
NYA New York State Division of Housing and Community Renewal
NYB New York State Housing Finance Agency
NYC City of New York, Dept. of Housing Preservation and Development
OHA Ohio Housing Finance Agency
OKA Oklahoma Housing Finance Agency
ORA Oregon Housing and Community Services Department
PAA Pennsylvania Housing Finance Agency
PRA Puerto Rico Housing Finance Corporation
RIA Rhode Island Housing and Mortgage Finance Corporation
SCA South Carolina State Housing Finance and Development Authority
SDA South Dakota Housing Development Authority
TNA Tennessee Housing Development Agency

Allocating Agency Codes Used in HUD_ID

TXA Texas Department of Housing and Community Affairs
UTA Utah Housing Finance Agency/Utah Housing Corporation
VAA Virginia Housing Development Authority
VIA Virgin Islands Housing Finance Authority
VTA Vermont Housing Finance Agency
WAA Washington State Housing Finance Commission
WIA Wisconsin Housing and Economic Development Authority
WVA West Virginia Housing Development Fund
WYA Wyoming Community Development Authority

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HUD USER
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Washington, DC 20026-3268

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POSTAGE & FEES PAID
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March 2004