

Updating the Low Income Housing Tax Credit (LIHTC) Database

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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. 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.¹ 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.²

Congress initially authorized state agencies to allocate roughly \$9 billion in credits over three years: 1987, 1988, and 1989.³ Subsequent legislation modified the credit, both to make technical corrections to the original act and to make substantive changes in the program.⁴ For example, the commitment period (during which qualifying units must be rented to low-income households) was extended from 15 years to 30 years.⁵ States were also required to ensure that no more credit was

¹ 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.

² 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 the acquisition of an existing building or for federally subsidized new construction or rehab. The 70 percent credit is used for non-federally subsidized rehab or construction.

³ Assumes approximately \$300 million in allocation authority in each year, with annual credits taken for 10 years.

⁴ See Technical and Miscellaneous Revenue Act of 1988, Omnibus Budget Reconciliation Act of 1989, and Omnibus Reconciliation Act of 1990.

⁵ 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

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), providing the states with roughly \$315 million in new allocation authority each year.

Since 1987—the first year of the credit program—the LIHTC has become the principal mechanism for supporting the production of new and rehabilitated rental housing for low-income households. However, information on the number of units actually developed is difficult to assemble. Given the decentralized nature of the program, there is no single federal source of information on tax credit production. Most of the data about the early implementation of the program was 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. More recent data, through 1994, is available from the database Abt Associates created for HUD and from the GAO report on the program.⁶

1.2 Objectives of the Research

Despite the important role of the LIHTC in low-income housing production, information on the characteristics of projects and their locations is limited.⁷ The goals of this research project are to: (1) collect and clean data on tax credit projects placed in service after 1994; (2) describe the characteristics of these 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.

During the first year of data collection for this project, data were collected on properties placed in service from 1995 to 1998. The results of this first wave of data collection are presented in this report. In subsequent years, data will be collected on properties placed in service in 1999 and 2000 and will be presented in similar reports.

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

state tax credit allocation agency and the agency is unable to find a buyer (presumably a non-profit) willing 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.

⁶ See “Development and Analysis of the National LIHTC Database” Abt Associates July 1996, and GAO “Tax Credits: Opportunities to Improve Oversight of the Low-Income Housing Program”. GAO/GGD RCED-97-55, March 1997.

⁷ J. Cummings and D. DiPasquale have used a proprietary database on a group of properties in “Building Affordable Rental Housing: The Low-Income Housing Tax Credit”, Boston MA: City Research 1997

approach called for working closely with each of the allocating agencies to maximize the data provided with a minimum of burden to each agency.

1.3 Organization of this Report

This report contains five chapters:

- **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 1998.
- **Chapter Four** presents information about the location of tax credit properties placed in service from 1995 through 1998.
- **Chapter Five** summarizes key findings in a conclusion.

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:

- contacting the agencies to arrange for data collection
- mailing data requests and forms to the agencies
- following up and coordinating for first data submission (1995-1998 data)
- data entry and data cleaning
- verifying clean data with states and updating any corrections received from states
- geocoding and merging in secondary data

Each of the steps is described in detail below.

Contacting the agencies to arrange for data collection. The first step in the actual 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. Initial contact was through a letter from Abt Associates, accompanied by a letter from the HUD Deputy Assistant Secretary for Economic Affairs. This mailing was followed up by a telephone call from a project staff member.

Mailing data requests and forms to the agencies. Once we spoke with the appropriate person at each site, we mailed the data requests and blank forms to each agency. Where appropriate, we mailed a 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 for first 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.⁸

Data entry and data cleaning. As data were received from each site they were entered into a property-level database. Hard copy data were key-entered by the staff assigned to the state as they were received. Computerized files were added to the database by the programmer, again upon receipt.

The first step in data cleaning began with the data entry. As part of the project database, there are queries that perform range and consistency checks (for example, the number of low-income units must be less than or equal to the total number of units). Any problems identified by the queries were flagged and checked and staff followed up with the states with questions if necessary. Cleaning included a manual review of the states' 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
- bad addresses
- other inconsistencies or omissions.

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

Geocoding project addresses. Geocoding of project addresses was done by Abt Associates staff using MapMarker version 6.1 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 this project, we used geocoding to determine each project's census tract. Using census tract-level databases and data on OMB-defined MSAs provided by HUD, we determined MSA and place codes.

⁸ Most agencies submitted their data by paper means rather than electronically.

Merging in secondary data. Several types of locational variables were used to describe each property including Census tract characteristics and MSA characteristics. As geocoding was completed, the tracts and MSAs from which census data was needed were compiled, and census data was extracted or downloaded.

2.2 Results of Data Collection

All 58 agencies that allocate tax credits in their states or local jurisdictions submitted data for this study. Exhibit 2-1 lists the agencies.

The data collection effort required intensive follow-up with the allocating agencies to ensure a 100 percent response rate and complete and accurate data. A number of agencies took several months to send the data, generally citing staffing constraints. In addition, some agencies initially provided only lists of projects that were allocated tax credits rather than projects that had actually been placed in service. Finally, many agencies initially sent incomplete data that required follow-up. However, as can be seen from Exhibit 2-2, the agencies ultimately provided very complete data.

Exhibit 2-2 shows the overall coverage of the database for projects placed in service between 1995 and 1998. Overall, the data collection effort produced information on 4,833 and 300,891 units placed in service between 1995 and 1998. 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 1999. 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 included a variety of different listings and printouts that often had to be matched to complete the database. In using these lists, we attempted to verify any assumptions used with agency representatives; however, only about half 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). There is some concern that characteristics such as “use of RHS Section 515” financing may be understated if the notation indicating use of RHS Section 515 was not consistently entered by state agency staff.

Exhibit 2-1: Agencies – Tax Credit Allocating Agencies

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

Exhibit 2-2
LIHTC Database: Data Availability by Variable
1992-1998

Variable	1992-1994		1995-1998	
	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%	1.4%	0.5%	0.2%
Owner Contact Data ^b	18.8%	19.0%	9.4%	7.1%
Total Units	0.2%	0.2%	0.0%	0.0%
Low Income Units	1.6%	3.1%	0.2%	0.2%
Number of Bedrooms	53.1%	58.5%	17.0%	17.2%
Allocation Year	12.9%	15.1%	0.1%	0.1%
Construction Type (new/rehab)	26.7%	28.8%	1.9%	2.0%
Credit Type	47.8%	48.5%	4.2%	4.2%
Nonprofit Sponsorship	26.9%	23.7%	10.2%	10.4%
Increase in Basis	49.7%	46.9%	22.1%	17.1%
Use of Tax-Exempt Bonds	23.2%	23.7%	7.8%	7.2%
Use of RHS Section 515	25.6%	27.2%	8.6%	10.1%

^a Indicates only that some location was provided. Address may not be a complete street address.

^b Indicates presence of a mailing address.

- A number of agencies provided incomplete data for properties placed in service in 1998. They reported that at the time of data collection, they did not yet have a final count of projects placed in service in 1998.
- Finally, missing data was fairly common in a few variables, for example bedroom size distribution (17 percent) and increase in basis (22 percent for projects and 17 percent for units). 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 substantial improvement in the coverage relative to the earlier data collection efforts. For example, over half of all projects had missing bedroom size information in 1992 through 1994, and nearly half had missing information on increase in basis. As noted above, fewer than one quarter had missing data on these characteristics in the recent data collection effort. Collection of data on credit percentage improved, going from nearly half of projects and units with missing data in 1992 through 1994, to only about 4 percent with missing data in 1995 through 1998. Similarly, only 2 percent of projects and units had missing data on construction type compared with over 25 percent in 1992 through 1994.

In summary, the HUD LIHTC database offers substantially complete coverage of LIHTC projects placed in service between 1995 and 1998 and reasonable coverage of projects placed in service in earlier years.

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 4,833 projects and 300,891 units placed in service between 1995 and 1998. Data for this time period were obtained for all tax credit allocating agencies. However, a number of agencies provided incomplete data for properties placed in service in 1998.⁹

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.¹⁰

On average, approximately 1,300 projects and 80,000 units were placed into service during each of the study years. The lower number of projects and units placed in service in 1998 shown in Exhibit 3-1 is a result of partial data for that year, as noted above. The average LIHTC project placed in service during this period contained 62 units, with average size increasing over the four analysis years. More than one-third (36 percent) of LIHTC projects are larger than 50 units. By comparison, only 2 percent of all apartment properties nationally have 50 or more units.¹¹

Of the units produced, the vast majority were qualifying units—that is, units reserved for low-income use, with restricted rents, and for which low-income tax credits can be claimed. Overall, the ratio of qualifying units to total units was 0.96 for properties placed in service from 1995 through 1998. The distribution of qualifying ratios 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

⁹ Some agencies reported that at the time data were collected they did not yet have a final count of projects placed in service in 1998.

¹⁰ 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 and multi-phased projects that were part of a single financing package.

¹¹ 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.

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).

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 2.0 bedrooms. Fully 24 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 1997.¹² Over the four-year period, the distribution of units by bedroom count edged toward larger units with the percentage of one-bedroom units dropping from 31 percent to 25 percent, and the percentage of three-bedroom units increasing from 19 percent to 25 percent.

Exhibit 3-2 presents additional information on the characteristics of the LIHTC projects and units, beginning with the type of construction used: new, rehabilitation, or a combination of new and rehabilitation (for multi-building projects). As shown, LIHTC placed in service from 1995 through 1998 were predominately new construction, accounting for 65 percent of the projects and 63 percent of the units. Rehabilitation of an existing structure was used in 34 percent of the projects and 36 percent of the units, while a combination of new construction and rehabilitation was used in only a small fraction of LIHTC projects and units.¹³

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 28 percent of LIHTC projects placed in service from 1995 to 1998 had a nonprofit sponsor. The proportion of nonprofit-sponsored properties increased yearly during the period, from 19 percent of projects and 22 percent of units in 1995, to 35 percent of projects and 26 percent of units in 1998.

¹² U.S. Bureau of Census, 1997 American Housing Survey. Data refer to vacant and occupied rental apartments in buildings with two or more units.

¹³ The combination of new construction and rehabilitation is possible in multi-building properties, where one building was rehabilitated and one building was newly constructed.

Exhibit 3-1
Characteristics of LIHTC Projects
1995-1998

Year Placed in Service	1995	1996	1997	1998	All Projects 1995-1998
Number of Projects	1,370	1,299	1,270	894	4,833
Number of Units	78,940	81,416	79,548	60,987	300,891
Average Project Size (Units)	57.6	62.7	62.6	68.2	62.2
Distribution by Project Size					
0-10 Units	14%	14%	8%	6%	11%
11-20 Units	12%	12%	13%	10%	12%
21-50 Units	42%	37%	43%	42%	41%
51-99 Units	17%	18%	18%	22%	18%
100+ Units	16%	20%	18%	20%	18%
Average Qualifying Ratio	97.3%	96.8%	96.1%	95.8%	96.6%
Distribution by Qualifying Ratio					
0-20%					
21-40%	0%	0%	0%	0%	0%
41-60%	1%	1%	1%	2%	2%
61-80%	2%	2%	2%	2%	2%
81-90%	2%	3%	5%	5%	5%
91-95%	2%	2%	2%	2%	2%
96-100%	2%	2%	2%	1%	1%
	91%	91%	87%	87%	88%
Average Number of Bedrooms	1.9	2.0	1.9	2.0	2.0
Distribution of Units by Size					
0 Bedrooms					
1 Bedroom	4%	4%	4%	2%	4%
2 Bedrooms	31%	29%	29%	25%	29%
3 Bedrooms	44%	44%	42%	45%	44%
4+ Bedrooms	19%	20%	21%	25%	21%
	3%	3%	3%	4%	3%

Notes: The analysis dataset includes 4,833 projects and 300,893 units placed in service between 1995 and 1998. The database contains missing data for qualifying ratio (1.0%) and bedroom count (17.0%). Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Exhibit 3-2
Additional Characteristics of LIHTC Projects
1995-1998

Year Placed in Service	1995		1996		1997		1998		All Projects 1995-1998	
	Projects	Units	Projects	Units	Projects	Units	Projects	Units	Projects	Units
Construction Type										
New	66%	62%	62%	59%	64%	62%	67%	69%	65%	63%
Rehab	33%	36%	36%	39%	34%	36%	32%	30%	34%	36%
Both	1%	1%	1%	2%	3%	2%	1%	1%	2%	1%
Nonprofit Sponsor	19%	22%	25%	24%	35%	30%	35%	26%	28%	25%
RHS Section 515	23%	12%	16%	8%	13%	7%	13%	6%	17%	8%
Tax-Exempt Bond Financing	4%	10%	6%	16%	7%	20%	14%	30%	7%	18%
Credit Type										
30 Percent	26%	19%	20%	21%	19%	26%	24%	35%	22%	25%
70 Percent	63%	67%	69%	66%	71%	64%	66%	56%	67%	63%
Both	11%	14%	11%	13%	9%	11%	10%	10%	10%	12%

Notes: The analysis dataset includes 4,833 projects and 300,893 units placed in service between 1995 and 1998. The database contains missing data for construction type (1.9%), nonprofit sponsor (10.2%), RHS Section 515 (8.6%), bond financing (7.8%), and credit type (4.2%). Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Exhibit 3-2 also presents information about two common sources of additional subsidy: use of tax-exempt bonds (which are issued by the same agency that allocates the credit), and Rural Housing Service (RHS)¹⁴ Section 515 loans (which imply a different regulatory regime and different compliance monitoring rules). Overall, RHS Section 515 loans were used in about 17 percent of the projects and 8 percent of the units placed in service during the study period, with the proportion of RHS projects dropping steadily throughout the period. The drop in RHS projects is related to the dramatic decrease in funding for the Section 515 program over the study period, from \$540 million in 1994 to \$220 million in 1995 and 1996, to \$153 million in 1997.¹⁵ At the same time, the proportion of tax-exempt bond-financed projects increased each year, with 7 percent of projects and 18 percent of units receiving bond financing over the four-year period. The increase in LIHTC projects with tax-exempt bond financing is related to the high level of competition among projects for tax credits. Developers often must secure tax-exempt bond financing to make their applications

¹⁴ The Rural Housing Service was formerly called the Farmers Home Administration.

¹⁵ RHS Section 515 funding information provided by the Housing Assistance Council on March 9, 2000.

more competitive in the eyes of the allocating agency. In addition, bond-financed properties are eligible for credits outside the per-capita state units.

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 of the LIHTC projects placed in service during the study period have a 70 percent credit, 22 percent have a 30 percent credit, and 10 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 (77 percent compared with 60 percent) and less likely to be rehabilitation projects (21 percent compared with 39 percent). Projects that are mixed new construction and rehab generally have both 30 percent and 70 percent credits.

Exhibit 3-3 also shows the breakdown of two major federal subsidies by credit type. As shown, 59 percent of projects with 30 percent credits have RHS Section 515, and 20 percent have tax-exempt bond financing. A 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. However, there are two circumstances under which a project can receive other sources of federal funds 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.¹⁶

¹⁶ Information provided by the National Council of State Housing Agencies (NCSHA)

Exhibit 3-3
Characteristics of LIHTC Projects by Credit Type
1995-1998

	Projects			Units		
	30%	70%	Both	30%	70%	Both
Construction Type						
New	60%	77%	9%	55%	77%	11%
Rehab	39%	21%	84%	45%	22%	83%
Both	0%	1%	7%	0%	1%	6%
RHS Section 515	59%	2%	12%	20%	1%	8%
Tax-Exempt Bond Financing	20%	1%	3%	38%	2%	5%

Notes: The analysis dataset includes 4,833 projects and 300,893 units placed in service between 1995 and 1998. The database contains missing data for construction type (1.9%), RHS Section 515 (8.6%), bond financing (7.8%), and credit type (4.2%). When data are presented in a cross tabulation of two variables, the percentage of missing data may increase. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

We also examined key project characteristics for several specific groups of properties, including 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 159 units, and with 59 percent of bond-financed properties having over 100 units. By contrast, RHS projects are particularly small, with an average size of just over 30 units. Nonprofit projects, with an average size of 56 units, are just slightly smaller than the average size of 62 units for the universe of properties placed into service from 1995 through 1998.

In terms of construction type, the three groups show similar splits between new construction and rehab. While the average qualifying ratios among nonprofit and RHS properties were similar to the average of all units, bond-financed properties had a much lower average qualifying ratio of only 78 percent.¹⁷

¹⁷ Projects with RHS Section 515 are required to be 100 percent tax credit properties. It appears that the average qualifying ratio is 99 percent rather than 100 percent primarily because of the presence of manager and other legitimate non-residential units.

Exhibit 3-4
Characteristics of Specific LIHTC Property Types
1995-1998

	Nonprofit Sponsor (N = 1,214)	Tax-Exempt Bond Financing (N = 322)	RHS Section 515 (N = 744)
Average Project Size (units)	56.4	159.2	30.7
Distribution by Project Size			
0-10 units	9%	1%	3%
11-20 units	16%	2%	19%
21-50 units	42%	13%	71%
51-99 units	19%	25%	6%
100+ units	14%	59%	1%
Construction Type			
New	54%	59%	60%
Rehab	42%	41%	40%
Both	4%	0%	0%
Average Qualifying Ratio	96.8%	77.9%	99.0%

Notes: The analysis dataset includes 4,833 projects and 300,893 units placed in service between 1995 and 1998. The database contains missing data for construction type (1.9%), qualifying ratio (1.0%), nonprofit sponsor (10.2%), RHS Section 515 (8.6%), and bond financing (7.8%). Data are partial for properties placed in service in 1998. 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, over 80 percent 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.

3.2 Changes in Characteristics Over Time

The LIHTC database is useful for examining trends in housing production under the tax credit program 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 changing characteristics over time.

Exhibit 3-5
Percentage of Projects Placed in Service from Different Allocation Years
1995-1998

Allocation Year	Year Placed in Service				
	1995	1996	1997	1998	1995-1998
1992 or earlier	0.4%	0.1%	0.2%	0.0%	0.2%
1993	35.1%	0.8%	0.2%	0.2%	10.4%
1994	49.3%	44.1%	1.9%	0.0%	26.5%
1995	15.2%	42.2%	43.2%	4.0%	27.7%
1996	0.0%	12.9%	40.7%	44.3%	22.2%
1997	0.0%	0.0%	13.8%	36.8%	10.3%
1998	0.0%	0.0%	0.0%	14.7%	2.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: The analysis dataset includes 4,833 projects and 300,893 units placed in service between 1995 and 1998. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Exhibit 3-6 presents key characteristics for LIHTC projects placed in service during the period 1992-1994 and for 1995, 1996, 1997, and 1998. 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.¹⁸ 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 (159 units) compared to the universe of projects (62 units) placed in service from 1995 to 1998.

¹⁸ As noted previously, the drop in the number of projects and units placed in service in 1998 reflects partial data provided by some allocating agencies for that year.

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
Annual Number of Projects	1,329 ^a	1,370	1,299	1,270	894
Annual Number of Units	56,015 ^a	78,940	81,416	79,548	60,987
Average Project Size (units)	42	58	63	63	68
Distribution by Project Size					
0-10 units	22%	14%	14%	8%	6%
11-50 units	56%	54%	48%	56%	53%
50-99 units	13%	17%	18%	18%	22%
100+ units	10%	16%	20%	18%	20%
Distribution of Units by Size					
0 Bedrooms	6%	4%	4%	4%	2%
1 Bedroom	40%	31%	29%	29%	25%
2 Bedrooms	39%	44%	44%	42%	45%
3 Bedrooms	15%	19%	20%	21%	25%
4+ Bedrooms	1%	3%	3%	3%	4%
Average Qualifying Ratio	98%	97%	96%	96%	95%
Distribution of Projects by Construction Type					
New	66%	66%	62%	64%	67%
Rehab	33%	33%	36%	34%	32%
Both	1%	1%	1%	3%	1%
Nonprofit Sponsor	20%	19%	25%	35%	35%
RHS Section 515	35%	23%	16%	13%	13%
Tax-Exempt Bond Financing	3%	4%	6%	7%	14%

^aAverage 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 1995-1998 dataset includes 4,833 projects and 300,893 units placed in service between 1995 and 1998. The database contains missing data for bedroom count (17.0%), qualifying ratio (1.0%), construction type (1.9%), nonprofit sponsor (10.2%), RHS Section 515 (8.6%), and bond financing (7.8%). Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

The average project size increased steadily, from 42 units in the earlier study period to 68 units in 1998. Similarly, the proportion of projects with 10 or fewer units dropped from 22 percent in 1992-1994 to only 6 percent in 1998. At the same time, the percentage of properties with 50 or more units nearly doubled, from 23 percent to 44 percent.

Not only did the projects get larger, but so did the units. As shown in Exhibit 3-6, the proportion of studios and one-bedroom apartments decreased significantly, while the share of three-bedroom and four-bedroom units rose. Studios and one-bedroom apartments dropped from nearly half the units (46 percent) in 1992-1994 to just over a quarter (27 percent) in 1998. Similarly, the share of three- and four-bedroom apartments jumped from only 16 percent in the early study period to 29 percent in the most recent study year.

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 substantially, from 20 percent in 1992-1994 to 33 percent in 1998. At the same time, the proportion of properties with RHS funding dropped dramatically, from 35 percent to only 12 percent, and the percentage of projects financed with bonds rose from 3 percent to 13 percent. As noted earlier, the drop in RHS projects reflects lower funding levels for this development type over the study years and the increase in bond-financed projects appears to reflect overall increased demand for the LIHTC.

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 1998. Specifically, it addresses regional patterns of development, the extent to which properties are located in central cities versus other types of locations, and the types of neighborhoods in which LIHTC projects are developed.

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 geocoding software (version 6.1 Plus) from the MapInfo Corporation. Overall, addresses provided by the allocating agencies were successfully matched with a Census tract for 91 percent of the projects in the database.¹⁹ Regionally, the success rates for geocoding were 95 percent in the Midwest, 92 percent in the Northeast, 89 percent in the West, and 89 percent in the South.²⁰

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 1998. 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).

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 LIHTC projects and

¹⁹ To obtain an accurate match using this software, property addresses needed to have complete and accurate house numbers, street names, and zip codes. Properties with complete and accurate addresses were 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 were left ungeocoded.

²⁰ Projects in Puerto Rico and the U.S. Virgin Islands were excluded from the analysis of location characteristics.

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 (38 percent), followed by the Midwest (29 percent), Northeast (18 percent), and West (14 percent). Looking at units, as opposed to projects, the South accounts for an even larger share (45 percent), with 25 percent in the Midwest and 15 percent each in the Northeast and the West. To provide context, the findings on LIHTC projects and units were compared to apartments in general. Overall, the South and Northeast each account for 28 percent of all apartments in the United States, followed by the West (24 percent) and Midwest (21 percent).²¹ The South also leads the nation in new apartment construction, with 48 percent of newly constructed multifamily buildings, compared with 25 percent in the West, 19 percent in the Midwest and 8 percent in the Northeast.²²

Because of the regional differences in geocoding rates, it was important to determine the extent of any regional biases in the geocoded subset. 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 report.

Exhibit 4-1
Regional Distribution of LIHTC Projects and Units
1995-1998

Region	All LIHTC Projects		Geocoded Projects	
	Projects	Units	Projects	Units
Northeast	18%	15%	19%	15%
Midwest	29%	25%	31%	25%
South	38%	45%	37%	45%
West	14%	15%	14%	15%

Notes: The dataset used in this analysis includes 4,803 projects and 299,603 units placed in service between 1995 and 1998. Of these, 4,377 projects and 285,433 units were geocoded. Projects and units in Puerto Rico and the Virgin Islands were excluded. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Exhibit 4-2 presents the regional distribution of tax credit properties and units across the four years from 1995 to 1998. As shown, the share of production in the Midwest dropped steadily over the study period, from 34 percent of projects to 20 percent, while the share in the West more than

²¹ National Multi Housing Council estimates for 1997 based on U.S. Census Bureau data. Apartments are defined as being in buildings with two or more units.

²² U.S. Bureau of Census data on building permits issued in 1998 for construction of apartments.

doubled, from 8 percent to 17 percent. The share of properties in the South and West fluctuated over the study period with no clear pattern. The regional trends are similar when looking at unit distributions.

Exhibit 4-3 presents information on project characteristics by region. As shown, average project size ranges from 51 units in the Northeast to 73 units in the South, with an overall average of 62 units per project. Across all regions, the average ratio of qualifying tax credit units to total units was 96 percent, ranging from 92 percent in the Northeast to 98 percent in the South.

Unit size was fairly consistent across the four regions. Overall, LIHTC units had an average of 2.0 bedrooms, ranging from 1.8 bedrooms per unit in the Northeast to 2.1 bedrooms in the Midwest. Driving the smaller average unit size in the Northeast are a relatively large percentage of one-bedroom units and relatively small percentages of three- and four-bedroom units.

Exhibit 4-2
Regional Distribution of LIHTC Projects and Units by Year Placed in Service
1995-1998

Year Placed in Service	1995	1996	1997	1998	All Projects 1995-1998
Projects	N=1,356	N=1,295	N=1,264	N=888	N=4,803
Northeast	18%	15%	22%	19%	18%
Midwest	34%	33%	26%	20%	29%
South	39%	37%	34%	44%	38%
West	8%	14%	18%	17%	14%
Units	N=78,403	N=81,279	N=79,233	N=60,688	N=299,603
Northeast	16%	12%	18%	15%	15%
Midwest	32%	29%	22%	15%	25%
South	44%	42%	41%	55%	45%
West	9%	17%	20%	15%	15%

Notes: The dataset used in this analysis includes 4,803 projects and 299,603 units placed in service between 1995 and 1998. Projects and units in Puerto Rico and the Virgin Islands were excluded. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Construction type differed dramatically by region. In the Midwest, South, and West, new construction predominated, ranging from 69 percent of LIHTC projects in the South to 81 percent in the West. By contrast, only 31 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. A small fraction of the projects in the Northeast, Midwest, and South combined new construction with rehab.

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 (42 percent) and West (36 percent) compared with the Midwest (25 percent) and South (21 percent). Properties developed in the Northeast and West were also more 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 roughly twice as likely to use this loan source as projects in the Northeast or West. In all four regions, most projects received a 70 percent credit, with the proportion ranging from 63 percent in the South to 73 percent in the Midwest and West. Projects with 30 percent credits accounted for most of the remaining projects in all regions but the Northeast, where 22 percent of projects received both types of credits. 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.

Exhibit 4-3
Characteristics of LIHTC Projects by Region
1995-1998

	Northeast	Midwest	South	West	All Regions
Average Project Size (Units)	51	53	73	67	62
Average Qualifying Ratio	92%	96%	98%	96%	96%
Average Number of Bedrooms	1.8	2.1	2.0	2.0	2.0
Distribution of Units by Size					
0 Bedrooms	6%	5%	2%	9%	4%
1 Bedroom	41%	25%	27%	27%	29%
2 Bedrooms	36%	44%	47%	38%	44%
3 Bedrooms	15%	21%	21%	24%	21%
4+ Bedrooms	2%	5%	3%	2%	3%
Construction Type					
New Construction	31%	72%	69%	81%	64%
Rehab	66%	27%	30%	19%	34%
Both	3%	1%	2%	0%	2%
Nonprofit Sponsor	42%	25%	21%	36%	28%
RHS Sec515	9%	14%	22%	12%	16%
Tax-Exempt Bond Financing	9%	6%	6%	13%	7%
Credit Type					
30 Percent	14%	18%	27%	24%	22%
70 Percent	64%	73%	63%	73%	68%
Both	22%	9%	10%	3%	11%

Notes: The dataset used in this analysis includes 4,803 projects and 299,603 units placed in service between 1995 and 1998 (projects and units in Puerto Rico and the Virgin Islands were excluded). The dataset contains missing data for bedroom count (17.1%), construction type (2.0%), nonprofit sponsor (10.2%), RHS Section 515 (8.7%), bond financing (7.8%) and credit type (4.2%). Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

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, 47 percent of tax credit units placed in service from 1995 to 1998 are located in central city neighborhoods, 39 percent are located in metro-area suburbs, and 15 percent are in non-metro areas. This distribution is very similar to that of rental housing units in general: 46 percent are located in central cities, 38 percent in metro-area suburbs, and 16 percent in non-metro

areas.²³ Over the four-year period, the shares of LIHTC projects in central cities have dropped, while the proportion in suburban locations has increased.

Exhibit 4-4
Distribution of LIHTC Projects and Units by Location Type
1995-1998

Year Placed in Service	1995	1996	1997	1998	All Projects 1995-1998
Projects	N=1,237	N=1,181	N=1,155	N=804	N=4,377
Central City	43%	43%	42%	35%	41%
Suburb	29%	31%	32%	36%	32%
Non-metro	28%	26%	27%	29%	27%
Units	N=75,163	N=76,786	N=75,324	N=58,160	N=285,433
Central City	48%	48%	48%	40%	47%
Suburb	36%	39%	37%	45%	39%
Non-metro	15%	13%	15%	15%	15%

Notes: The dataset used in this analysis includes only geocoded projects. Suburb is defined here as metro area, non-central city. Data are partial for properties placed in service in 1998. 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 projects in the Northeast are much more likely to be in central city locations than projects in other regions: fifty-eight percent of projects in the Northeast are in central cities, compared to 39 percent in the Midwest and West and 35 percent in the South. At the same time, only 12 percent of Northeast projects are in non-metro areas, compared to close to one-third in other regions.

Exhibit 4-5
Metro/Non-Metro Status of LIHTC Projects by Region
1995-1998

	Northeast	Midwest	South	West	All Regions
Central City	58%	39%	35%	39%	41%
Suburb	29%	29%	34%	33%	32%
Non-metro	12%	32%	31%	27%	27%

Notes: The dataset used in this analysis includes only geocoded projects. Suburb is defined here as metro area, non-central city. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

²³ U.S. Bureau of Census, 1997 American Housing Survey. Data refer to occupied rental housing.

Exhibit 4-6 presents information on project characteristics by type of location. As shown, projects located in suburban areas are the largest, with 80 units on average, compared with 74 units for central city projects and only 35 units for non-metro projects.²⁴

The ratio of qualifying tax credit units to total units is high, however, regardless of location type. Unit sizes were fairly uniform across the three location types, with an average of 2.0 bedrooms per unit. However, central cities have a somewhat higher proportion of efficiency units.

Construction type varies considerably by location type, with roughly three-quarters of projects in suburbs (76 percent) and non-metro areas (73 percent) newly constructed, compared with less than half of projects in central cities (47 percent). Rehab accounts for only about one-quarter of suburban (23 percent) and non-metro (26 percent) projects, compared with half of those in central city neighborhoods.

Nonprofit sponsors were involved in a larger share of central city projects (37 percent) compared with suburban (24 percent) or non-metro projects (21 percent). The use of bond financing was much more common among projects in central cities (9 percent) and suburbs (11 percent) projects compared with non-metro properties (2 percent). As expected, RHS Section 515 loans were more common among non-metro properties (37 percent) and less common among central city (1 percent) and suburban (11 percent) properties. The much more common use of the 30 percent credit among non-metro properties is associated with this funding source: fully 85 percent of non-metro properties with a 30 percent credit had RHS Section 515 loans.

²⁴ From 1995 to 1998, the average size of LIHTC projects increased 20 percent in suburban and central city locations and 12 percent in non-metro areas.

Exhibit 4-6
Characteristics of LIHTC Projects by Location Type
1995-1998

	Central City	Suburb	Non-Metro Area	Total
Average Project Size (Units)	74	80	35	65
Average Qualifying Ratio	95%	96%	98%	96%
Average Number of Bedrooms	2.0	2.0	1.9	2.0
Distribution of Units by Size				
0 Bedrooms	7%	2%	1%	4%
1 Bedroom	28%	29%	30%	29%
2 Bedrooms	42%	45%	45%	44%
3 Bedrooms	20%	21%	20%	20%
4+ Bedrooms	3%	3%	3%	3%
Construction Type				
New Construction	47%	76%	73%	63%
Rehab	50%	23%	26%	35%
Both	3%	1%	1%	2%
Nonprofit Sponsor	37%	24%	21%	28%
RHS Section 515	1%	11%	37%	14%
Tax-Exempt Bond Financing	9%	11%	2%	8%
Credit Type				
30 Percent	10%	20%	35%	21%
70 Percent	75%	72%	57%	69%
Both	15%	8%	8%	11%

Notes: The dataset used in this analysis includes only geocoded projects. The dataset contains missing data for bedroom count (17.7%), construction type (1.7%), nonprofit sponsor (10.6%), RHS Section 515 (8.8%), bond financing (7.6%) and credit type (4.3%). Data are partial for properties placed in service in 1998. 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 Fiscal Year 1999.

Exhibit 4-7 presents the distribution of LIHTC projects across DDAs and QCTs. As shown, 16 percent of projects are located in DDAs, and 24 percent are located in QCTs, for a total of 35 percent in designated areas.²⁵ In looking at units, the proportions are similar. Over the analysis years, the shares of projects in DDAs or QCTs rise somewhat.

Exhibit 4-7
Distribution of LIHTC Projects and Units by Location in DDAs and QCTs
1995-1998

Year Placed in Service	1995	1996	1997	1998	All Projects 1995-1998
Projects	N=1,237	N=1,181	N=1,155	N=804	N=4,377
DDA	14%	13%	20%	20%	16%
QCT	21%	24%	27%	26%	24%
DDA or QCT	31%	32%	39%	41%	35%
Units	N=75,163	N=76,786	N=75,324	N=58,160	N=285,433
DDA	15%	12%	17%	18%	15%
QCT	19%	24%	24%	26%	23%
DDA or QCT	31%	32%	37%	41%	35%

Notes: The dataset used in this analysis includes only geocoded projects. Data are partial for properties placed in service in 1998. 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 about one-third of properties located in a DDA and one-fourth of those in a QCT did not receive a higher eligible basis.²⁶

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

²⁵ Some properties are located in both a DDA and a QCT.

²⁶ In addition, there are 156 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.

designated areas have the largest share of properties with RHS Section 515 financing, while DDAs have the largest proportion of tax-exempt bond-financed projects. Finally, use of the 30-percent credit, as an indicator of subsidized financing, is higher in DDAs and non-designated areas than in QCTs.

Exhibit 4-8
Characteristics of LIHTC Projects by Location in DDAs or QCTs
1995-1998

	In DDA	In QCT	Not in DDA or QCT	Total
Average Project Size (Units)	67	63	66	65
Average Qualifying Ratio	93%	96%	97%	96%
Average Number of Bedrooms	1.8	2.0	2.0	2.0
Distribution of Units by Size				
0 Bedrooms	4%	8%	2%	4%
1 Bedroom	31%	27%	29%	29%
2 Bedrooms	41%	38%	46%	44%
3 Bedrooms	21%	22%	20%	20%
4+ Bedrooms	2%	5%	3%	3%
Construction Type				
New Construction	58%	37%	74%	63%
Rehab	40%	60%	25%	35%
Both	2%	4%	1%	2%
Nonprofit Sponsor	36%	43%	22%	28%
RHS Sec515	13%	3%	19%	14%
Tax-Exempt Bond Financing	12%	5%	8%	8%
Credit Type				
30 Percent	21%	9%	24%	21%
70 Percent	66%	74%	67%	68%
Both	14%	17%	9%	11%

Notes: The dataset used in this analysis includes only geocoded projects. The dataset contains missing data for bedroom count (17.7%), construction type (1.7%), nonprofit sponsor (10.6%), RHS Section 515 (8.8%), bond financing (7.6%) and credit type (4.3%). Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding. Some properties are located in both a DDA and a QCT.

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 4-9 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, using 1990 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 and of households nationally located in tracts with varying shares of households that meet the qualification for occupancy in a tax credit unit. Overall, about one-quarter of the tax credit units were located in neighborhoods where 51 percent or more of the households had incomes that would qualify them for LIHTC occupancy. By contrast, less than 10 percent of households nationally were located in such neighborhoods.

The second panel of Exhibit 4-9 considers the extent to which LIHTC units are located in areas of concentrated poverty. The figures are based on the proportion of persons that had incomes below the poverty threshold in 1990. 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.

Based on the geocoded LIHTC data, 40 percent of the LIHTC units would meet the MTO criterion, compared to 54 percent of households nationally. Further, 81 percent of the units are located in tracts where the poverty rate is 30 percent or less, compared to 92 percent of households nationally. Finally, 10 percent of tax credit units are located in tracts where more than 40 percent of the households are poor (compared to 4 percent of households nationally).

Exhibit 4-9
Distribution of LIHTC Units by Census Tract Income Measures
1995-1998

Census Tract Income Measure	Percentage of LIHTC Units	Percentage of Households Nationally
Percentage of Households with Incomes Under 60 Percent of Median		
0-10%	3%	5%
11-20%	16%	21%
21-30%	23%	31%
31-40%	22%	23%
41-50%	12%	11%
51-60%	10%	5%
61-70%	7%	3%
71-80%	4%	1%
81-90%	2%	<1%
91-100%	1%	<1%
Percentage of Persons Below Poverty Line		
0-10%	40%	54%
11-20%	28%	27%
21-30%	13%	11%
31-40%	9%	5%
41-50%	5%	2%
51-60%	3%	1%
61-70%	1%	<1%
Over 70%	1%	<1%

Notes: The dataset used in this analysis includes only geocoded projects. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Additional demographic indicators are presented in Exhibit 4-10. As shown, more than half the units (59 percent) were located in tracts with 30 percent or less minority population. At the same time, 28 percent were located in tracts where over half the population was minority. Over three-quarters (79 percent) of the units were in neighborhoods with fairly low proportions of female-headed families (20 percent or less), although a small percentage of the units were in neighborhoods with very high concentrations of this household type. Finally, 57 percent of units are located in tracts where housing is predominantly owner-occupied. This percentage is about ten percentage points lower than the nation's average homeownership rate.

Exhibit 4-10
Distribution of LIHTC Units by Other Census Tract Characteristics
1995-1998

Census Tract Characteristic	Percentage of Units
Percent Minority Population	
0-10%	32%
11-20%	17%
21-30%	10%
31-40%	6%
41-50%	5%
51-60%	4%
61-70%	4%
71-80%	4%
81-90%	5%
91-100%	11%
Percent Female-Headed Households	
0-10%	45%
11-20%	34%
21-30%	11%
31-40%	6%
41-50%	4%
Over 50%	1%
Percent Owner-Occupied Units	
0-10%	9%
11-20%	8%
21-30%	8%
31-40%	9%
41-50%	10%
51-60%	14%
61-70%	16%
71-80%	16%
81-90%	9%
91-100%	2%

Notes: The dataset used in this analysis includes only geocoded projects. Data are partial for properties placed in service in 1998. Totals may not sum to 100 percent because of rounding.

Exhibit 4-11 summarizes census tract information from Exhibits 4-9 and 4-10, 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 households, and are predominantly owner 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.

As shown, 33 percent of LIHTC units in central city locations are located in neighborhoods of concentrated poverty (over 30 percent poor households), compared with only 5 percent in the suburbs, 13 percent in non-metro areas, and 19 percent in all areas combined. National data show that only 12 percent of all U.S. census tracts exceed 30 percent poor households. Minority concentration also varies across location types, with 48 percent of all units in central cities located in neighborhoods with high minority concentrations (over 50 percent), compared with 15 percent in the suburbs and 10 percent in non-metro areas. Overall, 30 percent of LIHTC units are located in tracts with over 50 percent minority population (by comparison, only about 18 percent of all U.S. tracts have this characteristic).

Not surprisingly, the proportion of units in neighborhoods with a large share of female-headed households was considerably higher for central cities (37 percent) than for suburban and non-metro areas (7 percent). Overall, 21 percent of LIHTC units are in tracts with more than 20 percent female heads of household (5 percent of all U.S. tracts have this characteristic). Finally, suburban area LIHTC units were more than twice as likely and non-metro area units three times as likely as central city units to be in predominantly owner-occupied tracts. Overall, 57 percent of LIHTC units are located in predominantly owner-occupied tracts (76 percent of U.S. tracts meet this criterion).

Exhibit 4-11
Census Tract Characteristics of LIHTC Units by Location Type
1995-1998

Census Tract Characteristic	Central City	Suburb	Non-Metro Area	Total
Over 30 Percent Households Below Poverty Line	33%	5%	13%	19%
Over 50 Percent Minority Population	48%	15%	10%	30%
Over 20 Percent Female-Headed Households	37%	7%	7%	21%
Over 50 Percent Owner Occupied Units	30%	76%	90%	57%

Notes: The dataset used for this analysis includes only geocoded projects. Data are partial for properties placed in service in 1998. Suburb is defined here as metro area, non-central city.

Exhibit 4-12 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, and female-headed households, and a low rate of owner-occupied units. By contrast, projects in DDAs are located in areas with relatively

low rates of poverty, minority populations, and female-headed households, although still considerably higher than those areas that are neither QCTs or DDAs.

Exhibit 4-12
Census Tract Characteristics of LIHTC Units by DDA or QCT Designation
1995-1998

Census Tract Characteristic	In DDA	In QCT	Not in DDA or QCT	Total
Over 30 Percent Households Below Poverty Line	6%	74%	2%	22%
Over 50 Percent Minority Population	26%	73%	15%	27%
Over 20 Percent Female-Headed Households	13%	61%	8%	22%
Over 50 Percent Owner Occupied Units	54%	16%	71%	64%

Notes: The dataset used for this analysis includes only geocoded projects. Data are partial for properties placed in service in 1998.

Exhibit 4-13 presents information on neighborhood characteristics for three types of LIHTC projects: those with nonprofit sponsors, those using RHS Section 515 financing, and those financed with tax-exempt bonds. As shown, 27 percent of nonprofit units were located in neighborhoods with high concentrations of poverty, compared with only 13 percent of units with RHS Section 515 loans and 7 percent with bond financing. Nonprofit units were also the most likely to be in tracts with high proportions of minority residents (39 percent) compared with RHS units (11 percent) and bond-financed units (24 percent). Similarly, nonprofit units were more likely to be in tracts with a high percentage of female heads of household (30 percent), compared with RHS (7 percent) and bond-financed (14 percent) units. Finally, about half of both nonprofit units (48 percent) and units with bond financing (51 percent) were in predominantly owner-occupied areas, compared with 95 percent of units 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 4-13
Census Tract Characteristics of LIHTC Units by Project Type
1995-1998

Census Tract Characteristic	Type of Project		
	Nonprofit Sponsor	RHS Section 515	Tax-Exempt Bond Financing
Over 30 Percent Households Below Poverty Line	27%	13%	7%
Over 50 Percent Minority Population	39%	11%	24%
Over 20 Percent Female-Headed Households	30%	7%	14%
Over 50 Percent Owner Occupied Units	48%	95%	51%

Notes: The dataset used in this analysis includes only geocoded projects. The dataset contains missing data for nonprofit sponsor (10.6%), RHS Section 515 (8.8%), and bond financing (7.6%). Data are partial for properties placed in service in 1998.

4.5 Changes in Location Characteristics Over Time

In this section, we present trends in location characteristics over time. Exhibit 4-14 presents key characteristics for LIHTC units placed in service during the period 1992-1994 and for 1995, 1996, 1997, and 1998.

As shown, there appears to be no consistent pattern of change in distribution of LIHTC units by region or by location in a Difficult Development Area or Qualified Census Tract from 1992 through 1998. By contrast, there does appear to be a trend toward the development of fewer tax credit units in central cities and more in the suburbs. From 1992 to 1998, the percentage of units developed in central city locations dropped from 54 percent to 40 percent, while the share of units in suburban areas rose from 26 percent to 45 percent.

Exhibit 4-14
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
Distribution by Region					
Northeast	13%	16%	12%	18%	15%
Midwest	27%	32%	29%	22%	15%
South	42%	44%	42%	41%	55%
West	19%	19%	17%	20%	15%
Distribution by Location Type					
Central City					
Suburb	54%	48%	48%	48%	40%
Non-metro	26%	36%	39%	37%	45%
	20%	15%	13%	15%	15%
Distribution by Location in DDA or QCT					
DDA	16%	15%	12%	17%	19%
QCT	27%	20%	24%	24%	25%
DDA or QCT	37%	31%	32%	36%	42%
Distribution by Census Tract Characteristics					
>30% Poor Households*	39%	18%	19%	20%	21%
>50% Minority Population	34%	29%	28%	30%	31%
>50% Owner Occupied	56%	58%	55%	55%	61%

*Defined as below the poverty line

Notes: The data set used in this analysis includes only geocoded projects. Data are partial for properties placed in service in 1998. Suburb is defined here as metro area, non-central city.

In terms of Census tract characteristics, the data show a substantial drop in the percentage of units developed in census tracts with more than 30 percent households below the poverty line. Thirty-nine percent of the units placed in service from 1992 to 1994 were developed in such census tracts, compared to only about half that share in subsequent years. This shift appears to be related to the increased proportion of units developed in suburban locations compared to central city locations. There is no clear trend in terms of Census tract minority population or homeownership rate.

Chapter Five

Conclusion

The objective of this study was to update the database of LIHTC properties that have been placed in service and that are currently providing housing to low-income households. An earlier study, also performed by Abt Associates Inc., created a national database of LIHTC properties placed into service from 1987 through 1994. This study updates the database to include properties placed in service between 1995 and 1998.

Given the decentralized nature of the LIHTC program, there is no national source of information on the characteristics or locations of these properties. Therefore, this study, as with the earlier study, relied on state tax credit allocating agencies to provide a few basic items of data about each of the properties in their jurisdictions. The data collection effort included intensive follow-up with the allocating agencies to ensure a 100 percent response rate and complete and accurate data. As a result, the database created by this study contains data from all 58 tax credit allocating agencies and has relatively low rates of missing data.

Based on these data, tax credit production averaged roughly 1,300 projects and 80,000 units annually between 1995 and 1998. While the number of projects placed into service each year has remained stable over the years, the number of units has grown from roughly 56,000 units produced annually in the 1987 through 1994 period. This increase stems from a boost in the size of the average LIHTC project from 42 units in the earlier study period to 62 units in the current study.

Overall, tax credit projects are relatively large: more than one-third of LIHTC properties have more than 50 units, compared to only 2 percent of all apartment properties nationally. LIHTC properties also have larger units on average, with nearly one-fourth of tax credit units having three or more bedrooms, compared to only 11 percent of apartments nationally.

Overall, nearly two-thirds of LIHTC projects placed into service from 1995 through 1998 were newly constructed (although less than one-third in the Northeast were new construction). More than one-fourth of the projects had a nonprofit sponsor, with a steady increase in nonprofit sponsorship over the study period. Over the years, the number of LIHTC projects with tax-exempt bond financing has grown while the use of the Rural Housing Service Section 515 loan program has declined.

The South accounts for the largest share of tax credit units in the United States (45 percent), followed by the Midwest (25 percent), Northeast (15 percent), and West (15 percent). By

comparison, the South accounts for 48 percent of total apartment construction nationally. The South also boasts larger-than-average LIHTC properties as well as the largest proportion of properties with RHS Section 515. The Northeast earns the distinction of having the highest proportion of nonprofit-sponsored LIHTC projects as well as a much higher share of properties that were rehabilitated rather than newly constructed.

Nearly half (47 percent) of LIHTC units placed into service during the study period are located in central cities and 39 percent in metro area suburbs, similar to the distribution of occupied rental housing units overall. Over the four-year period, the shares of LIHTC projects in central cities have dropped while the proportion in suburban locations has increased. Just over one-third of tax credit projects are located in a DDA or a QCT.

Appendix A

LIHTC Data Collection Form

LIHTC DATA FORM

State: _____ State Identifying Number: _____

Allocating Agency Name: _____

Project Name: _____

Project Street 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 Place In Service: 19_____

Year Project Received Allocation or Bond Issued: 19_____

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
Does project have a non-profit sponsor?	<input type="checkbox"/>	<input type="checkbox"/>
Increased basis due to qualified tract or difficult development area?	<input type="checkbox"/>	<input type="checkbox"/>
Did the project use tax-exempt bonds?	<input type="checkbox"/>	<input type="checkbox"/>
Did the project use Farmers Home Section 515 loans?	<input type="checkbox"/>	<input type="checkbox"/>

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 street address of the property, including 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 street 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.*

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

Number of 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 the 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 last 2 digits of 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: *Enter the last 2 digits of the initial allocation year for the project. Allocation date is available from IRS Form 8609, Item 1a. If the project received multiple allocations, use the earliest allocation year.*

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%.*

Does 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 Location in a Qualified Census Tract or Difficult Development Area? *Check yes if the project actually received increased basis due to its location in a qualified census tract or difficulty 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.)*

Does 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.*

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

Appendix B

Description of the LIHTC Database

Description of the LIHTC Database

The LIHTC Database contains records for 16,607 projects and 708,971 units placed in service between 1987 and 1998. 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. This most recent update to the database added data on 4,833 projects and 300,891 units placed in service from 1995 to 1998.

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 census tract. Projects placed in service between 1987 and 1994 were geocoded using HUD's Conquest²⁷ 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 geocoded using MapMarker version 6.1 Plus. Street-level matching was used to obtain the census tract location of each address. Properties were first geocoded during an initial, automatic pass. This resulted in a geocoding rate of 55 percent. 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. Properties for which we could not determine a complete and accurate address were left ungeocoded.

²⁷ 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.

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 1990 Census), and, for projects in MSA, 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 below.

Low Income Housing Tax Credit Database, 1987-1998 Data Dictionary

Variable Name	Variable Definition	Variable Type*	Decimal Places	Value Labels
HUD_ID	Unique Project Identifier for the Database	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		
PLACE	Census Place Code	N		
TRACT_ID	Unique Census Tract ID: State FIPS Code, County FIPS Code, Census Tract Number (no decimal point included)	A		
STATE	State FIPS Code	N		
COUNTY	County FIPS Code	N		
TRACT	Census Tract Number	N	2	
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

Low Income Housing Tax Credit Database, 1987-1998

Data Dictionary

Variable Name	Variable Definition	Variable Type*	Decimal Places	Value Labels
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=Missing
CREDIT	Type of credit percentage	N		1=4 percent (30 percent pv) 2=9 percent (70 percent pv) 3=Both
N_UNITSR	Replace missing total units with low income units	N		
LI_UNITR	Replace missing low income units with 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
FLAG1	Missing allocation year was replaced with placed in service year	N		1=Yes

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