

Data Shop

Data Shop, a department of Cityscape, presents short articles or notes on the uses of data in housing and urban research. Through this department, the Office of Policy Development and Research introduces readers to new and overlooked data sources and to improved techniques in using well-known data. The emphasis is on sources and methods that analysts can use in their own work. Researchers often run into knotty data problems involving data interpretation or manipulation that must be solved before a project can proceed, but they seldom get to focus in detail on the solutions to such problems. If you have an idea for an applied, data-centric note of no more than 3,000 words, please send a one-paragraph abstract to david.a.vandenbroucke@hud.gov for consideration.

New Public Data Available on USDA Rural Housing Service's Single-Family and Multifamily Programs

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Abstract

The Rural Housing Service (RHS) within the U.S. Department of Agriculture's Rural Development agency has released a comprehensive set of public data on its direct and guaranteed loans across its single-family and multifamily housing program areas. These data are available for free download via a periodic release on data.gov and available to the public to map along with select public demographic, social, and economic variables compiled and maintained by PolicyMap. This article briefly describes the RHS data available by program area, discusses the challenges and limitations inherent in the data, and recommends some potential uses for future research on U.S. rural housing.

Introduction

The Bankhead-Jones Farm Tenant Act of 1937¹ first authorized the U.S. Department of Agriculture (USDA) to provide low-interest, long-term loans to farm workers for housing purposes. This authority was subsequently expanded by Title V of the Housing Act of 1949² and amended in the 1960s to include nonfarm single-family and multifamily properties. Originally called the Farmers Home Administration, USDA's Rural Housing Service (RHS) is responsible for implementing the Housing Act of 1949 in rural communities with the goal of providing safe, decent, sanitary housing for every American family.

RHS has two housing program areas: multifamily and single-family housing.³ Each program provides direct loans financed and serviced by RHS and also guaranteed loans issued through private lenders, all of which serve low- and moderate-income households living in eligible rural communities.⁴ Although the definition of rural has changed slightly over time, RHS housing programs today generally are restricted to communities of 35,000 people or less.⁵ These programs provide access to credit in markets underserved by conventional private capital.

The multifamily housing program at USDA RHS offers direct loans to owners (Section 515 Rural Rental Housing and Section 514 Farm Labor Housing) and guaranteed loans made by approved lenders (Section 538) for the construction and preservation of rental properties. Many properties in the direct loan programs are older and in need of financial preservation—to extend use restrictions for affordable rental housing—and physical rehabilitation. Owners of such properties can apply for the Multifamily Preservation & Revitalization (MPR) Demonstration to defer existing debt, provide new loans to help properties maintain their affordability and quality, or both. Many residents living in Section 515 or 514 properties also receive Section 521 Rental Assistance to reduce their rent payments to no more than 30 percent of their adjusted household income.

¹ Pub. L. 75-210, July 22, 1937.

² Pub. L. 81-171, July 15, 1949.

³ USDA RHS also has a Community Facilities program area that provides loans, guarantees, and grants for essential community facilities and public infrastructure. That program area is not addressed in this article.

⁴ The housing programs also include grant programs: multifamily housing grants for repair (Section 533) and farm labor housing projects (Section 516), and single-family home repair loans and grants to very low-income rural homeowners (Section 504). Data on these programs had not been released as of the writing of this article.

⁵ As of this writing, the current definition of *rural* for RHS housing programs is contained in Section 520 of the Housing Act of 1949 as amended by the Agricultural Act of 2014 (Farm Bill): “Any open country, or any place, town, village, or city which is not part of or associated with an urban area and (1) has a population not in excess of 2,500 inhabitants, or (2) has a population in excess of 2,500 but not in excess of 10,000 if it is rural in character, or (3) has a population in excess of 10,000 but not in excess of 20,000, and (A) is not contained within a standard metropolitan statistical area, and (B) has a serious lack of mortgage credit for lower and moderate-income families, as determined by the Secretary and the Secretary of Housing and Urban Development. For purposes of this subchapter, any area classified as ‘rural’ or a ‘rural area’ prior to October 1, 1990, and determined not to be ‘rural’ or a ‘rural area’ as a result of data received from or after the 1990, 2000, or 2010 decennial census, and any area deemed to be a ‘rural area’ for purposes of this subchapter under any other provision of law at any time during the period beginning January 1, 2000, and ending December 31, 2010, shall continue to be so classified until the receipt of data from the decennial census in the year 2020, if such area has a population in excess of 10,000 but not in excess of 35,000, is rural in character, and has a serious lack of mortgage credit for lower and moderate-income families” (42 U.S.C. § 1490).

The RHS single-family program seeks to provide affordable homeownership opportunities to low- and moderate-income households that lack access to credit but seek to purchase modest homes in eligible rural communities. It provides direct mortgage loans to homebuyers (Section 502 Direct) and guaranteed loans made through qualified lenders (Section 502 Guaranteed). The Mutual Self-Help Housing program (Section 523) also funds technical assistance to groups of low-income families contributing sweat equity to help build one another's homes. These households are eligible for Section 502 Direct loans.

Before 2016, publicly available data on the RHS portfolio was limited to ineligible area maps, annual obligations, real estate owned and foreclosed properties, and a limited release, beginning in 2011, of multifamily Section 515 Rural Rental Housing project characteristics. The new release expands the multifamily data available and adds aggregated data on active single-family loans and borrowers for the first time. RHS expects to release the new data sets, which are posted on the USDA Rural Development Datasets webpage⁶ and archived by data.gov, at least annually.

Multifamily Data

The newly released multifamily data cover all properties with at least one active loan in the RHS direct loan programs—Section 515 and Section 514—and guaranteed loan program—Section 538. Some MPR and Section 521 rental assistance data also are included in the direct loan program data.

The direct loan program data include three data sets that can be merged using a unique property identifier. The three data sets are (1) property characteristics, (2) property transaction history, and (3) tenant characteristics. For each property in the property characteristics data set, the data include latitude and longitude coordinates and property address; resident population type served by the development; date of operation and initial occupancy; ownership and management information, including profit type of owner and name of management agent; identifiers indicating RHS loan program (Section 515, Section 514 Off-Farm, or Section 514 On-Farm), federal Low-Income Housing Tax Credit status and expiration date, and RHS MPR Demonstration status; and unit information including total number of units, units authorized to receive Section 521 rental assistance, bedroom sizes, and vacancies. As of the first public data release in June 2016, the property characteristics data set included 14,480 properties with 434,317 units. Exhibit 1 highlights key data elements available by property and units.

The property transaction history data set for the direct loan programs shows the history of property transfers, consolidations, and sales within the USDA RHS property portfolio. These actions are the primary means through which properties can be preserved as affordable rental housing beyond their initial loan terms or as individual owners desire to exit the program. This data set includes all new property identification numbers and associated former property identification numbers, type of transaction, and effective dates to allow for the tracking and analysis of these transactions over time.

As of the first public data release in June 2016, 3,140 properties had been preserved through these transaction types.

⁶ https://www.sc.egov.usda.gov/data/data_files.html.

Exhibit 1

Summary of USDA Section 515 and Section 514 Direct Loan Property and Unit Characteristics, June 2016

Property or Unit Characteristic	Properties	Units
Totals	14,480	434,317
Program		
Section 515 Rural Rental Housing	13,877	417,511
Section 514 Off-Farm Farm Labor Housing	300	16,133
Section 514 On-Farm Farm Labor Housing	303	673
Project type		
Family	9,328	284,245
Elderly	4,798	137,465
Mixed	193	7,941
Other	162	4,666
Preservation		
USDA restrictive use provision expires January 2017 or later	7,437	238,816
USDA Multifamily Preservation & Revitalization Demonstration	718	24,746
USDA consolidated, transferred, or sold	3,140	NA
Low-Income Housing Tax Credit	6,005	196,605
Property characteristics		
Average date of operation	1987	NA
One-bedroom units	12,408	216,803
Two-bedroom units	11,311	182,173
Three-bedroom units	3,261	31173
Four-bedroom units	467	3228
Five-bedroom units	19	60
Handicapped-accessible units	7,290	17,481
Vacant units (as of April 2016)	8,985	27,077
Rental assistance		
Units authorized	12,177	283,307

NA = not applicable. USDA = U.S. Department of Agriculture.

The final direct loan program data set includes aggregated tenant characteristics by property. These characteristics include property address and aggregated demographic information including female-headed households, residents ages 62 or older, minors, disability status, race, and ethnicity. The data set also includes average annual income; average annual income by source of income; a cost-burden indicator for those paying more than 30 percent of their adjusted income for rent; a zero-income indicator; and rental assistance subsidy counts by type of assistance, including USDA Section 521, U.S. Department of Housing and Urban Development (HUD) Project-Based Section 8 program, and HUD Housing Choice Vouchers. As of June 2016, USDA Section 515 and 514 properties were home to 687,869 residents occupying 407,240 units. A summary of resident characteristics is presented in exhibit 2.

The guaranteed loan data set contains loan-level data on all active loans, including details on loan, property, and community characteristics. Loan characteristics, summarized in exhibit 3, include fiscal year obligation date, date of loan closing, lender name, borrower name (borrowers classified as individuals are redacted), loan amount, total development cost, loan-to-cost ratio of RHS loan, and a program indicator for the Low-Income Housing Tax Credit Program. Property characteristics include name; location via latitude and longitude coordinates and address; resident population type served by the development; construction type (new construction or rehab/repair); and unit information including total number of units, bedroom sizes, and average contract rent by bedroom size. Community characteristics include whether the property is in a colonia or tribal community

or designated by HUD as an Enterprise Zone or Enterprise Community, the population of the community at time of obligation, and the median household income of the community at time of obligation. In July 2016, 789 active loans to 736 properties were providing 36,595 affordable rental units. Property and unit characteristics as of July 2016 are summarized in exhibit 4.

Exhibit 2

Summary of USDA Section 515 and Section 514 Direct Loan Resident Characteristics, June 2016

Resident Characteristic	Value
Total households ^a	407,240
Total residents	687,869
Composition	
Female-headed households	285,338
Elderly (age 62 or older) residents	162,328
Disabled/handicapped residents	127,100
Children residents	203,059
Race/ethnicity ^b	
American Indian/Alaskan Native	4,791
Asian	17,279
Black/African-American	162,224
Hawaiian/Pacific Islander	4,640
White	533,445
Unspecified	2,671
Ethnicity—Hispanic	137,000
Income	
Residents receiving any rental assistance ^c	541,237
USDA Section 521	447,783
HUD Project-Based Section 8	51,317
HUD Housing Choice Voucher	33,530
Other public rental assistance/reduced rents	7,974
Other private rental assistance	633
Residents receiving no rental assistance	146,632
Median value of average household income	\$12,976
Households with no income	2,517
Households paying more than 30% adjusted income for rent	46,621

HUD = U.S. Department of Housing and Urban Development. USDA = U.S. Department of Agriculture.

^a This characteristic is the same as occupied units, which is calculated by subtracting vacant units from total units in exhibit 1.

^b Due to errors in underlying data, counts of residents by race are overstated by approximately 37,000 individuals. Counts by race exceed resident counts in 8,636 properties and are fewer than resident counts in 661 properties. See the Challenges and Limitations section for further discussion on data quality issues.

^c Residents receive only one type of rental assistance.

Exhibit 3

Summary of USDA Section 538 Guaranteed Loan Characteristics, July 2016

Loan Characteristic	Value
Number of active loans	789
Average loan closing date	April 2010
Average loan amount	\$1,241,810
Average total development cost	\$6,074,191
Median loan-to-cost ratio of guaranteed loan	0.2
Loans made with allocation of Low-Income Housing Tax Credits	751
Loans made within colonia/tribal area	15
Loans made within EZ/EC-designated area	18

EZ/EC = Enterprise Zone/Enterprise Community. USDA = U.S. Department of Agriculture.

Exhibit 4

Summary of USDA Section 538 Guaranteed Property and Unit Characteristics, July 2016

Property or Unit Characteristic	Properties	Units
Totals	736	36,595
Project type		
Family	465	24,080
Elderly	220	9,806
Mixed	23	1,292
Other	2	99
Low-Income Housing Tax Credit	703	34,724
Property characteristics		
Average number of units	NA	50
Construction type—new construction	413	20,959
Construction type—rehab/repair	298	14,408
Construction type—other	25	1,228
One-bedroom units	520	11,744
Two-bedroom units	632	15,409
Three-bedroom units	420	8,172
Four-bedroom units	100	1,262
Five-bedroom units	1	8
Average contract rent—one-bedroom	\$472	NA
Average contract rent—two-bedroom	\$526	NA
Average contract rent—three-bedroom	\$574	NA
Average contract rent—four-bedroom	\$594	NA
Average contract rent—five-bedroom	\$875	NA
Community characteristics		
Average population at obligation	9,759	NA
Average median household income at obligation	\$40,360	NA
Colonia/tribal area	12	613
EZ/EC-designated area	15	784

EZ/EC = Enterprise Zone/Enterprise Community. NA = not applicable. USDA = U.S. Department of Agriculture.

Due to data system limitations, no reliable administrative data crosswalk exists between Section 515/514 and Section 538 properties, although many Section 538 loans have been made to preserve older Section 515/514 properties. The property names and addresses contained in the separate databases for each program can be merged, however, to determine an approximate overlap and reveal additional information on properties and tenants in those Section 538 properties that are also part of the Section 515/514 portfolio.

Single-Family Data

The RHS single-family data release includes loan, borrower, and property characteristics for all active loans in the Section 502 Direct and Guaranteed loan portfolios, aggregated to the county and congressional district levels. The Section 502 Direct loan program data are available in four separate data sets covering loan and borrower characteristics by county and by congressional district. Active loan characteristics include the number of loans, average loan amount, average

loan amount by 5-year ranges, number of loans to Section 523 Mutual Self-Help Housing program participants, and number of leveraged loans that are supplemented by an affordable housing loan or grant from another funding source. Active borrower characteristics include the number of borrowers, income level, race, ethnicity, marital status, average number of children in household, and average household size. As of July 2016, 232,753 active Section 502 Direct loans had been made to 232,582 borrowers. A summary of loan and borrower characteristics is presented in exhibit 5.

The Section 502 Guaranteed loan program data released cover loan, borrower, and property characteristics for all active loans aggregated by county and congressional district. Loan characteristics include average requested loan amount, average loan amount, average loan-to-value ratio, and average appraised home value. Borrower characteristics released include average household income, average monthly total household debt-to-income ratio, race, ethnicity, marital status, average number of dependents, average household size, first-time homebuyer status, age, and disability status. Property characteristics include project type (planned unit development, condominium, or cooperative), housing structure (detached or attached), whether the property is a manufactured home, and living-area square footage. As of July 2016, 962,953 Section 502 Guaranteed loans were active. A summary of loan, borrower, and property characteristics is presented in exhibit 6.

Exhibit 5

Summary of USDA Section 502 Direct Loan and Borrower Characteristics, July 2016

Loan or Borrower Characteristic	Value
Loans	
Number of active loans	232,753
Median value of average loan amount by county	\$69,210
Loans to Section 523 Mutual Self-Help Housing program participants	17,080
Leveraged loans	39,305
Borrowers	
232,582	
Borrowers by income group	
Very-low income	91,033
Low income	139,947
Borrowers by marital status—married	
82,197	
Borrowers by race/ethnicity	
American Indian/Alaskan Native	3,475
Asian	2,874
Black/African-American	48,081
Hawaiian/Pacific Islander	1,282
White	171,651
Ethnicity—Hispanic	38,180
Median value of average number of children by county	1.2
Median value of average household size by county	2.5

USDA = U.S. Department of Agriculture.

Exhibit 6**Summary of USDA Section 502 Guaranteed Loan, Borrower, and Property Characteristics, July 2016**

Characteristic	Value
Loans	
Number of active loans	962,953
Median value of average loan amount by county	\$104,085
Median value of average appraised value by county	\$106,970
Median value of average loan-to-value ratio by county	0.98
Borrowers	
Borrowers by income group	
Very-low income	37,759
Low income	208,424
Moderate income	699,512
Median value of average borrower gross income by county	\$49,578
Median value of average monthly total household debt-to-income ratio by county	0.35
First-time homebuyers	789,893
Borrowers by marital status—married	
Median value of average borrower age by county	37
Borrowers with disabilities	5,480
Median value of average number of dependents by county	0.8
Median value of average household size by county	2.3
Borrowers by race/ethnicity	
American Indian/Alaskan Native	5,880
Asian	8,077
Black/African-American	52,276
Hawaiian/Pacific Islander	3,785
White	893,252
Ethnicity—Hispanic	85,969
Properties	
Median value of average living area (square feet) by county	1,445
Planned unit development	115,885
Condominiums	11,921
Cooperatives	316
Detached homes	876,137
Attached homes	36,149
Manufactured homes	370

USDA = U.S. Department of Agriculture.

Challenges and Limitations

The release of these data is a significant step forward in public access to USDA rural housing data, and it occurred despite a variety of procedural and substantive challenges. In this section, we detail some of these challenges to provide context for this initial release, and we describe areas for future investment and improvement in RHS capacity for data management and public release.

First, RHS does not have a research mandate and accompanying comprehensive research division or dedicated research staff. The agency therefore lacks inhouse experts who (1) understand all substantive program areas, (2) are familiar with the various systems for inputting and storing program data, and (3) can properly clean and reliably extract quality program data from these systems. Before this release, the process for extracting and releasing public data within USDA Rural Development was not widely documented or understood. As a result of this effort, during which

extra resources were available to strengthen inhouse expertise, this process has been expanded and more formally institutionalized to facilitate the standardized and regular release of multiple data sets.

Second, RHS data and data systems are challenging to navigate. Such old and diverse portfolios—in terms of types of borrowers, property types, and financial products and servicing requirements—mean multiple information technology systems that track varied types of data collected and input by multiple sources at different times in the loan process, from application through closing and servicing. To complicate matters, systems are structured to track and service individual loans and grants, not multiple loans and awards to the same borrower or property. Significant effort is therefore required to avoid duplicate reporting when loan-level data are aggregated. It also means that less attention is paid to the quality of data not directly needed to monitor RHS's statutory and financial obligations.

Third, the presence of personally identifiable information related to individual borrowers and tenants provides a further obstacle for data extraction and aggregation. The government has an obligation to protect individual-level data—a particular challenge in small rural communities where individuals are more likely to be identified by their personal characteristics. For example, loan-level data similar to Home Mortgage Disclosure Act data may be useful for research on the RHS Section 502 Direct and Guaranteed loan portfolios, but the possibility for individual identification makes such data difficult, if not impossible, to provide.

Finally, internal divisions within the USDA Rural Development agency between the information technology, accounting, and servicing divisions and the program staff in national and field offices complicate data quality, management, and utilization. When taken together with the lack of research staff, complex data systems, and presence of extensive personally identifiable information, these divisions cause RHS continuing challenges in data management and public release. One result of these challenges is the lack of data cleaning before the first public release of the data sets described in this article, with some desired data elements omitted from the release due to concerns about error. Additional investment in this area could improve future data releases.

Uses for New Data

The release of these data sets on USDA housing investments across rural America provides new opportunities to assess the impact of federal investments on expanding opportunities for affordable homeownership and rental housing. These data can be used for a variety of planning, policymaking, and evaluation purposes. A variety of recent and current planning efforts can immediately tap into these new data to provide a more comprehensive analysis of housing needs and futures for rural communities. A partnership with PolicyMap allows for data to be freely mapped along with a variety of additional data points and layers highlighting community assets and needs.⁷ This mapping improves public access and the usefulness of the data for community-driven analysis. For example, RHS data can bolster analyses of public investments and resources in housing, particularly for plans that cover rural communities, such as HUD's required Assessment of Fair Housing

⁷ Data can be freely viewed via PolicyMap under the Housing category at <https://www.policymap.com/maps>.

plans.⁸ Other regional planning activities, such as USDA Rural Development's Stronger Economies Together⁹ and HUD's Sustainable Communities Initiative,¹⁰ also include an assessment of housing opportunities and challenges that can be improved through the use of new RHS data. Rural and Tribal Promise Zones¹¹ can also make use of the new data in identifying housing investments and needs in their communities.

For the first time, USDA housing data are available for evidence-based research on rural housing. These data can be combined with other data on housing markets and consumers to pose critical questions about the past, present, and future of federal rural housing policy. Researchers can pursue answers to general questions about USDA's overall effect on rural housing markets and to program-specific questions such as how to improve access to single-family mortgage credit for certain populations and geographies, and where and how to preserve existing and produce new affordable rental housing. This increased research attention and evidence on rural housing can help improve the effectiveness of rural housing policies and programs and increase federal responsiveness to rural community needs.

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⁸ Details on HUD's new Assessment of Fair Housing tool are available at huduser.gov/portal/affht_pt.html.

⁹ Overviews of USDA Rural Development's Stronger Economies Together program are available at <http://www.rd.usda.gov/about-rd/initiatives/stronger-economies-together> and <http://srdc.msstate.edu/set/home>.

¹⁰ A program description and details on HUD's Sustainable Communities Initiative are available at <https://www.hudexchange.info/programs/sci/>.

¹¹ A program description and details on rural Enterprise Zones—jointly coordinated by HUD and USDA Rural Development—are available at <https://www.hudexchange.info/programs/promise-zones/>.