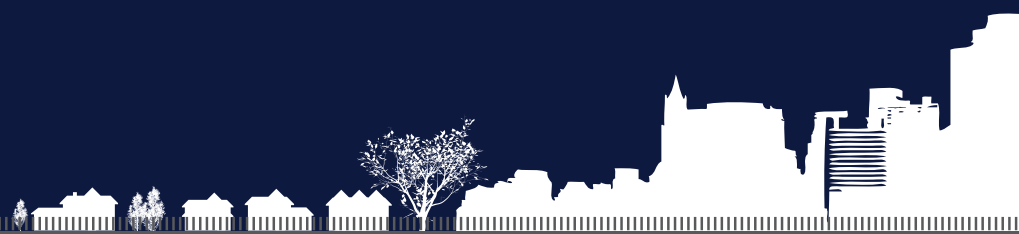
Opting In, Opting Out a Decade Later

Multi-Disciplinary Research Team



U.S. Department of Housing and Urban Development | Office of Policy Development and Research

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About MDRT

PD&R developed the Multidisciplinary Research Team (MDRT) vehicle to manage a team of qualified researchers. Researchers are selected for their expertise to produce an array of high quality, short-turnaround research. MDRT researchers use a variety of HUD and external data sources to answer research questions relating to HUD's priority policies and strategic goals.

Disclaimer

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Executive Summary

In 2006, HUD published *Multifamily Properties: Opting In, Opting Out and Remaining Affordable*, prepared by Econometrica and Abt Associates. The study assessed the risk of loss of affordable housing from HUD's Section 8 and Section 236/221(d)(3) multifamily portfolio between 1998 and 2004. The authors used descriptive cross-tabulations and multivariate analysis to identify property characteristics associated with loss of affordable housing due to owners' decisions to opt out of subsidy programs and HUD enforcement actions. The study found that properties with low rents compared to the surrounding Fair Market Rent, that serve a family population, and that are owned by for-profit corporations are particularly at risk for opt-outs.

This study updates the 2006 analysis by replicating the cross-tabulation and multivariate analyses for HUD's multifamily portfolio across the years 2005 through 2014. Both studies show a continuing transition from HUD's older mortgage programs toward greater reliance on Section 8 rental assistance to provide affordable units. The updated analysis shows that more owners made active decisions to opt in to Section 8 assistance in the latter period, alongside a shift away from enforcement and foreclosure actions by HUD.

For the updated study, HUD provided point-in-time property-level datasets for 2005 and 2014 listing all developments with active project-based rental assistance contracts, mortgages from the Section 236 and Section 221(d)(3) Below Market Interest Rate programs (referred to in the report as "Section 236/BMIR"), or both. The 2005 baseline dataset comprised over 18,000 developments with nearly 1.5 million housing units nationwide.

By comparing the 2005 baseline dataset to the 2014 snapshot, properties were placed in four classifications:

- Opt-ins, where the owner made an active decision to renew Section 8 assistance;
- Opt-outs, where the owner made an active decision to stop renewal of Section 8 assistance or prepay a subsidized mortgage;
- Foreclosure/abatement, where HUD took action to foreclose on an insured mortgage or terminate Section 8 assistance;
- "Other" status, largely mixed opt-out/prepayment decisions and continued assistance to properties without an active contract renewal between 2005 and 2014.

This report recreates the cross-tabulation and multivariate analyses of these outcomes across property, neighborhood, and tenant characteristics, with additional variables representing regional and local housing market characteristics. The report also describes characteristics and outcomes for two subsets of the HUD-assisted multifamily stock: developments funded by the Section 202 Direct Loan program and developments eligible for conversion from older types of rent subsidies to project-based Section 8 assistance under the Rental Assistance Demonstration (RAD) program.

The main findings are as follows:

Opt-in/opt-out analysis. The updated study finds a high degree of stability in the HUD Section 8 portfolio over the 2005-2014 study period. In 71 percent of cases, owners actively opted in to Section 8 assistance by renewing a contract, typically for either a five-year or 20-year term. Many of the other developments also continued to receive Section 8 assistance without needing a contract renewal during the study period.

In contrast, the Section 236/BMIR mortgage programs largely wound down during the study period. By 2014, most of these loans had terminated due to prepayment or maturity. Most

properties with both types of assistance in 2005 continued as Section 8 developments in 2014 even following prepayment or maturity of a subsidized mortgage.

The multivariate opt-in/opt-out analysis for 2005-2014 echoes many of the findings in the original study, but property characteristics explain less of the variation in owners' decisions. Opt-outs continued to be more likely among properties that had low rent-to-Fair Market Rent ratios, were owned by for-profits, and were designated for family occupancy. The rent-to-FMR and ownership type variables were much less influential in the current analysis than in the original report. Other factors associated with increased risk of opt-outs included partial rather than full coverage of units in the development by rental assistance contracts; lower physical inspection scores, implying that owners may opt out of Section 8 contracts when properties have extensive repair needs or are at risk of contract abatement by HUD; strong neighborhood rental housing markets; and strong regional home sales markets.

Section 202 program. 3,580 properties combined Section 8 rental assistance with loans from the Section 202 program, which provides housing for elderly residents and persons with disabilities. This segment of the affordable housing inventory proved to be especially stable. Owners of 96 percent of properties actively renewed Section 8 contracts during the study period. In approximately half of the properties where owners opted in to Section 8 assistance, the Section 202 loan itself was terminated during the study period. This suggests that a large portion of the Section 202 inventory is undergoing a transition to new forms of financing and recapitalization. The handful of Section 8 opt-outs and abatements were largely confined to a distinct subset of Section 202 properties: small, 1980s-era developments serving individuals with chronic mental illness or developmental disabilities.

RAD conversions. Most contracts from early HUD rental assistance programs, the Rent Supplement (Rent Supp) and Rental Assistance Program (RAP), cannot be renewed once they expire. RAD's "Component 2" allows owners of developments with expiring Rent Supp and RAP contracts to convert assisted units to project-based Section 8 vouchers to preserve affordability. The study dataset included 321 properties eligible for conversion under RAD. Of these, 63 were converted as of 2014.

Compared to other properties in the dataset, the RAD-eligible developments were older, larger, more likely to be located in suburbs, and less likely to be located outside of metropolitan areas. The properties were heavily concentrated in a few Northeastern and Midwestern states (New York, New Jersey, Massachusetts, Michigan and Illinois). The converted properties and those that are eligible for RAD but have not converted share similar characteristics. The main difference between the two is target occupancy. Most RAD-converted properties were designated for elderly residents, while most eligible, non-participating developments were designated for families. The analysis also showed that compared to the overall inventory, RAD-eligible developments were much more likely to be partially assisted at the 2005 baseline; that is, they had rental assistance for only some of their units. However, many of the RAD participants added assisted units in the conversion process, resulting in a net gain in deeply affordable units.

Introduction

This study updates the HUD report *Multifamily Properties: Opting In, Opting Out and Remaining Affordable*, prepared by Econometrica and Abt Associates in 2006. The original report examined the loss of affordable housing units associated with HUD's Section 8 project-based rental assistance and Section 236 and 221(d)(3) subsidized mortgage programs. The authors analyzed property-level data to identify the physical, financial, location, ownership and tenant characteristics associated with opt-outs from rental assistance programs, prepayment of subsidized mortgages, and enforcement actions by HUD.

The original study used cross-tabulation and multivariate regression analysis to identify characteristics associated with losses to the HUD-assisted inventory between 1998 and 2004. As requested, this update replicates the quantitative analyses over a 2005-2014 study period to address these research questions:

- Do basic characteristics such as location, ownership, physical attributes and neighborhood characteristics explain differences in the prevalence of opt-outs/prepayments and opt-ins?
- How have the patterns and trends in opt-outs and prepayments changed in recent years?

To answer these questions, we assessed the status of over 18,000 properties in HUD's multifamily portfolio. Together, these developments provide nearly 1.5 million housing units. We compared a baseline dataset of these properties from 2005 to the current 2014 inventory to determine whether properties have continued to operate as affordable housing. For properties that left the affordable inventory, we determined whether they exited the inventory through an owner's choice not to renew Section 8 contracts ("opt out"), prepayment or maturing of subsidized mortgages, HUD foreclosure and contract abatement actions, or a combination of these. For properties that continue to operate in the assisted inventory, we determined whether the owner made an active choice during the study period to renew assistance.

The HUD programs under analysis mirror those in the original study. Table 1 below is adapted from pages 1-3 of the original study, which provided detailed descriptions of the relevant HUD programs and classified them as "Older" or "Newer" assistance.

Table 1. HUD Multifamily Assistance Programs

	Rental Assistance	Mortgage
Older	Rent Supplement ("Rent Supp"), Rental Assistance Payment (RAP), and Loan Management Set-Aside (LMSA)	Section 221(d)(3), Section 236
Newer	Section 8 New Construction/Substantial Rehabilitation (NC/SR), Section 8 Moderate Rehabilitation ("Mod Rehab")[1]	-

[1] The original study noted that "(t)he Office of Public and Indian Housing manages most projects assisted with Section 8 moderate rehabilitation. These projects are not included in the Real Estate Management System (REMS) or a comparable database. The REMS database only includes the subset of such projects that are also associated with the Section 8 Property Disposition program. Consequently, our analysis of the Section 8 Moderate Rehabilitation projects in this study is limited to this part of the stock." (Finkel et al., 3). The same constraint applies to this report.

As in the original report, we constructed a series of variables that might explain differences in property outcomes. The variables are based on HUD administrative records of the physical, financial, owner, and tenant characteristics of the properties and U.S. Census data describing conditions in the surrounding neighborhoods. Because the updated 2005-2014 study takes place against a backdrop of extraordinary volatility in the U.S. housing market, we added a series of neighborhood and regional housing market characteristics as potential explanatory variables and experimented with segmenting the analysis into time periods representing the rise, fall and recovery of the housing market.

The updated study adds two new analyses: an examination of opt-outs and renewals in the housing supply for elderly residents and persons with disabilities funded through the Section 202 Direct Loan program, and a first look at conversion of older HUD-assisted developments to long-term Section 8 assistance under the Rental Assistance Demonstration (RAD) program.

The report is organized into five sections. The first section describes the HUD-assisted inventory in 2005 and the classification of properties into opt-in, opt-out/prepay, and foreclosure/abatement outcome categories based on their status in 2014. The second section contains the cross-tabulations of outcomes by property, owner, financing, and tenant characteristics. The third section contains the updated multivariate analysis determining the effect of selected characteristics on the owners' opt-in/opt-out decisions. The last two sections provide cross-tabulations of these same characteristics for the subsets of properties with Section 202 Direct Loans and that are eligible for conversion under the RAD program from expiring Rent Supp and RAP assistance to project-based Section 8 vouchers.

As noted in the original report (Finkel et al., 16), multivariate analysis adds depth to the initial findings of the descriptive statistics. The multivariate analysis isolates the influence of each variable on the opt-in/opt-out decision. The apparent relationships between some variables and property outcomes in the descriptive cross-tabulations may drop out when the other factors are controlled. The odds ratios produced in the multivariate analysis show the relative role each variable plays in predicting the likelihood of opt-outs, which can help policymakers target the properties with the most influential risk factors for loss of affordability.

The HUD task order request listed specific tables from the original study to be recreated in this study. We present a crosswalk between the tables in the original study and those in our study as follows:

Tables in Original Study	Tables in Our Study
2.1: Data Elements and Sources for the Quantitative Analysis	Table 7: Data Sources
2.2	Table 4: Properties and Units by Outcome, 2005-2014
2.3	Table 4: Properties and Units by Outcome, 2005-2014
3.1	Table 8: Property Characteristics and Owner Type, 2005 Baseline
3.2	Table 8: Property Characteristics and Owner Type, 2005 Baseline
3.3	Table included in footnote 6
3.4	Table 9: Financing Characteristics, 2005 Baseline
3.6	Table 10: Locational Characteristics, 2005 Baseline
3.7	Table 11: Tenant Characteristics, 2005 Baseline
3.8	Table 8: Property Characteristics and Owner Type, 2005 Baseline
3.1	Table 13: Odds Ratios for Opt-Out Decision Model, 2005-2014
3.10 (to include descriptions of data used in the current multivariate analysis and any differences from the data and model used in the 2006 multivariate analysis)	Table 12: Variables for Regression Model

I. Classifying Properties by Program Status

This section describes the process by which properties were classified by their program status in 2014 compared to 2005. For each property in the 2005 inventory, we determined which housing programs were initially in place, whether the property continued to operate under those programs in 2014; and, if the property exited the inventory, whether it did so because of an owner opt-out decision or a HUD decision to terminate assistance. For a full description of the HUD datasets and methodology used to construct the 2005/2014 property database, see Appendix 1.

The 2005 HUD multifamily inventory served as the baseline universe of properties. Properties with active subsidies from Section 8 and similar rental assistance programs in 2005, the Section 236 and 221(d)(3) BMIR programs, or both were included. For brevity, these sets of programs are referred to as "Section 8" and "236/BMIR" throughout the report.

The study universe excluded properties with other types of HUD funding unless they also had these specific types of rental assistance and mortgages. Most notably, HUD's Project Assistance Contract (PAC) and Project Rental Assistance Contract (PRAC) programs, associated with the Section 202 and 811 Capital Advance programs, were excluded. Similarly, the analysis of subsidized mortgages is limited to the 236/BMIR loans and does not include market-rate FHA insured loans. Properties with financing from other subsidized loan programs such as Section 202 Direct Loans or USDA Rural Development mortgages were included only if they also receive Section 8 assistance.

In all, 18,887 developments had active funding from Section 8, 236/BMIR or both in 2005. Of these, sufficient data were available for 18,107 properties (96 percent) to allow them to be included in the study.[2] These developments provided 1.49 million housing units. This compares to a universe of 22,471 properties with 1.57 million units in the dataset for the original study.

In both studies, Section 8 only housing made up the vast majority of properties and units. In the 2006 study, these properties made up 75 percent of the dataset, rising to 84 percent for the current study (see Table 2). Properties with both Section 8 and 236/BMIR were the next largest group. Only eight percent of properties in the original study had 236/BMIR and no Section 8, with that proportion dropping to just four percent for the current study.

[2] The dataset excluded 780 properties that had active Section 8 or 236/BMIR subsidies in 2005. Most were Section 8 developments that were excluded because their status in 2014 was ambiguous. They did not appear in HUD's database of active Section 8 contracts but also were not listed as opt-outs or abated contracts. Spot-checks of state and local preservation databases indicate that most of these likely continue as active properties, possibly that have merged with other properties or undergone financing or ownership changes. An additional 104 properties had Rent Supp or RAP contracts that expired during the study period. These owners did not have an opt-in choice to renew assistance other than participation in the RAD program. In other cases, properties were excluded from the dataset because property records contained contradictory information or because their 236/BMIR status was unclear.

Table 2. Properties by 2005 Baseline HUD Assistance Type

Subsidy Type	Properties	% of Properties	Units	% of Units	% of Properties in Original Study (1998 Baseline)
Section 8 only	15,280	84%	1,147,165	77%	75%
236/BMIR only	522	3%	53,542	4%	8%
Section 8 & 236/BMIR	2,305	13%	286,309	19%	17%
Total	18,107	100%	1,487,016	100%	100%

Source: HUD, 2005 Active Properties and Active Financing Files, iREMS.

We compared the 2005 baseline property dataset to property data from 2014 to determine whether each property continued as subsidized housing ("stayers") or left the subsidized inventory between 2005 and 2014 ("leavers"). This analysis is summarized in Table 3. It shows considerably more stability in the inventory between 2005 and 2014 compared to the original 1998-2004 study period. In total, only eight percent of properties (1,452 properties with 125,629 units) were lost during the 2005 through 2014 period, compared to 19 percent of properties in the original study. This reflects a greater predominance of Section 8 only properties, the most stable set of properties in both studies. It also reflects greater stability among properties with both Section 8 and 236/BMIR assistance. Of the Section 8/236/BMIR inventory in 2005, 88 percent remained in the affordable inventory in 2014, although the next step in the analysis will show that most of these had terminated 236/BMIR and continued with only Section 8 assistance.

Table 3. Property Inventory Changes by Subsidy Type, 2005-2014

	Remained in 2014 Inventory (Stayers)		Left Inventory by 2014 (Leavers)		Leavers As % of Subsidy Type, 2006 Study
Subsidy Type	#	% of Subsidy Type	#	% of Subsidy Type	
Section 8 only	14,543	95%	737	5%	9%
236/BMIR only	79	15%	443	85%	82%
Section 8 & 236/BMIR	2,033	88%	272	12%	32%
Total	16,655	92%	1,452	8%	19%

Source: HUD, 2005 and 2014 Active Properties and Active Financing Files, iREMS.

The comparison also reflects the loss of the 236/BMIR only inventory during both periods. Most of the small inventory of these properties left the affordable stock during the original study period, and most of the remaining properties exited the program between 2005 and 2014.

Finally, we categorized each property based the reason for its retention or removal from the subsidized inventory between 2005 and 2014. The categories are based on the subsidy type, whether the property stayed in or left the inventory, and the nature of the owner's or HUD's decision to terminate or continue each type of subsidy.

For the Section 8 properties, removal from the inventory might come through an owner's decision to opt out of an expiring contract ("Opt-out") or HUD's abatement of an ongoing contract due to poor physical or financial condition of the property ("Contract Abatement"). Properties that stayed in the inventory because an owner actively renewed a Section 8 contract between 2005 and 2014 were characterized as "Opt-in," while properties where all Section 8 contracts continued from 2005 through 2014 with no need for the owner to renew a contract were characterized as "No Choice."

For the 236/BMIR properties, reasons for leaving the inventory included an owner's decision to prepay a mortgage ("Prepayment") or HUD's decision to foreclose on the mortgage ("Foreclosure"). The new analysis adds "Maturity" as an outcome category for 236/BMIR mortgages. Very few 236/BMIR mortgages were scheduled to mature during the original 1998-2004 study period, but most were scheduled to mature during the 2005-2014 period. Some properties did continue to show active 236/BMIR mortgages in 2014 ("Active"), although most of these were scheduled to mature by the end of 2017.

Table 4 shows the breakdown of properties and units by subsidy type and outcome. The "Outcome, Detail" column shows the outcomes specific to each type of assistance. Properties with both types of Section 8 and 236/BMIR in 2005 are categorized by the combination of outcomes.

The "Outcome, Summary" column shows four larger outcome categories that are used in the descriptive cross-tabulations:

- "Opt-in" refers to properties with a Section 8 opt-in and either no 236/BMIR mortgage or a 236/BMIR mortgage that is still active or has matured.
- "Opt-out" refers to properties with a Section 8 opt-out, 236/BMIR prepayment or both. Properties with both types of assistance were included if the owner actively terminated both subsidies or if the property had a Section 8 opt-out and a maturing mortgage.
- "Foreclosure/abatement" refers to properties where HUD abated a Section 8 contract due to property conditions, foreclosed upon a 236/BMIR mortgage, or both. A small number of these properties were "stayers" in 2014 but were undergoing the contract abatement process.
- The "Other" category covers a number of situations without a clear opt-in, opt-out or foreclosure and abatement action. These include properties where the owner has not had to make a Section 8 renewal choice and a small number of properties where 236/BMIR mortgages were terminated for reasons other than prepayment, maturity or foreclosure. It also includes properties where the owner made a mixed decision to continue one type of assistance but not the other. Most notably, hundreds of properties have prepaid 236/BMIR mortgages but continue to have active Section 8 assistance.

The rightmost three columns of Table 4 show the breakdown of properties by outcome found in Table 2.2 in the original 2006 study (Table 2.2, page 14) for comparison purposes. The "Original Study Status Category" refers to letter/number combinations used to code properties by outcome in Table 2.2 of the 2006 study.

Table 4. Properties and Units by Outcome, 2005-2014

2005 Subsidy Type	Outcome, Detail	Outcome, Summary	Properties	% of Properties	Units	% of Units	Original Study Status Category	Original Study # of properties	Original Study % of Properties
Section 8 only	Opt in	Opt-ins	11,677	64%	840,686	57%	1A1	9,268	41%
	No choice	Other	2,866	16%	254,912	17%	1A2	6,056	27%
	Opt out	Opt-Outs/ Prepays	514	3%	35,544	2%	1B	894	4%
	Contract Abatement	Foreclosure/ Abatement	223	1%	16,023	1%	1C	582	3%
236/ BMIR only	Active	Other	79	0.44%	8,724	0.59%	2A	348	2%
	Prepaid	Opt-Outs/Prepays	122	0.67%	13,156	0.88%	2B	429	2%
	Foreclosure	Foreclosure/ Abatement	11	0.06%	1,623	0.11%	2C1	1,018	4%
	Maturity	Other	199	1%	19,109	1%	N/A	N/A	N/A
	Other Termination	Other	111	0.61%	10,930	0.74%	2C2	93	0.41%
Section 8 & 236/ BMIR	Section 8 opt in; 236/BMIR active	Opt-ins	450	2%	63,284	4%	3A1	1,858	8%
	Section 8 no choice; 236/BMIR active	Other	208	1%	28,746	2%	3A2	49	0.22%
	Section 8 opt out; 236/BMIR active	Other	2	0.01%	134	0.01%	3D	77	0.34%
	Section 8 opt in; 236/BMIR prepaid	Other	667	4%	79,809	5%	3C1	588	3%
	Section 8 opt out; 236/BMIR prepaid	Opt-Outs/Prepays	61	0.34%	4,391	0.30%	3B	392	2%
	Section 8 no choice; 236/BMIR prepaid	Other	13	0.07%	1,534	0.10%	3C2	3	0.01%
	Contract Abatement and Foreclosure	Foreclosure/ Abatement	59	0.33%	6,043	0.26%	3E1	785	3%
	Section 8 opt in; 236/BMIR matured	Opt-ins	463	3%	50,202	3%	N/A	N/A	N/A
	Section 8 no choice; 236/BMIR matured	Other	5	0.03%	456	0.03%	N/A	N/A	N/A
	Section 8 opt out; 236/BMIR matured	Opt-Outs/Prepays	51	0.28%	5,828	0.39%	N/A	N/A	N/A
	Section 8 opt in; 236/BMIR termination (unknown/other)	Opt-ins	196	1%	29,041	1.95%	N/A	N/A	N/A
	Section 8 no choice; 236/BMIR termination (unknown/other)	Other	29	0.16%	3,859	0.26%	N/A	N/A	N/A
	Other Termination	Other	101	0.56%	12,982	0.87%	3E2	31	0.14%
Total			18,107		1,487,016			22,741	

Source: HUD, 2005 and 2014 Active Properties, Active Financing and Active Contracts Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database

Table 5 shows the distribution of properties by the four summary outcome categories for the current study.

Table 5. Properties by Summary Outcome Categories, 2005-2014

	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	Other	Total
Number of properties	12,786	748	293	4,280	18,107
Percent of properties	71%	4%	2%	24%	100%

Source: HUD, 2005 and 2014 Active Properties, Active Financing and Active Contracts Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database

In the original report, the most common outcome (68 percent of cases) was continued affordability in a Section 8 only property, either through an opt-in contract renewal or a "no choice" continuation of an existing contract. This pattern was even stronger in the new analysis, with 80 percent of properties in the Section 8 only opt-in and no choice categories. The balance shifted more heavily toward opt-ins in the current analysis, as there were fewer properties that had not reached their first opt-in decision point than in the earlier study period. Less than four percent of the Section 8 only properties left the inventory during the study period. Most did so through owner opt-outs, with a smaller number of HUD-abated contracts.

For properties with both types of assistance, the most common outcome was a Section 8 opt-in combined with an end to the 236/BMIR mortgage through prepayment, maturity, or other termination reasons. Most of the other Section 8/236/BMIR properties had a Section 8 opt-in and an active 236/BMIR mortgage, although most of these mortgages will also be maturing in the next 2-3 years. Conversely, Section 8 opt-outs upon mortgage termination did not appear to be a threat to the inventory. Owners of properties with prepaid or maturing mortgages opted out of Section 8 assistance in only 112 cases.

Within the small stock of 236/BMIR properties without Section 8 that remained in 2005, most left the subsidized inventory through mortgage maturity, prepayment, or another termination reason by 2014.

A key difference in results between the original and current studies is the role of foreclosure and enforcement actions. In the original study, 582 Section 8 only properties, 1,018 236/BMIR only properties, and 785 Section 8/236/BMIR properties were lost to HUD enforcement actions. In contrast, in the current analysis, only 293 properties were lost to the inventory through foreclosure and abatement actions, mostly through abatement of contracts in Section 8 only properties.[3] It may be that failing properties were cleared from the inventory in the earlier study period, leaving a stronger inventory to persist throughout the 2005-2014 period. In particular, it is unlikely that a mortgage would be foreclosed upon only a few years before maturity compared to earlier in the life of the loan.

[3] Some of this may reflect differences in definition. This category in the original report includes properties that were "referred to [HUD's] Enforcement Center" (p. 10), while the category in the current analysis only includes properties listed as having Section 8 contracts terminated due to troubled status (default, demolished, failed Housing Quality Standards, foreclosure, and fraud) and a small number of properties whose termination type in HUD's Terminated Mortgage database is "Assigned."

Overall, the 2005-2014 analysis reflects two trends: the continuation of most Section 8 assistance and the winding down of the 236/BMIR program. First, of properties with Section 8 assistance in 2005, 94 percent still had Section 8 assistance in 2014. Seventy-seven percent of these involved an active opt-in decision at least once during the study period. As Table 6 shows, the contracts renewed between 2005 and 2014 range from short to long term, with five-year and 20-year renewals the most common.

Table 6. Renewal Terms for Section 8 Contracts in 2005-2014 Opt-In Properties[4]

Contract Term in Years	Percentage of Contracts
1	7%
5	37%
10	3%
20	43%
All other (less than 5 years)	7%
All other (more than 20 years)	2%

Source: HUD, 2014 Active Contracts File, iREMS

Second, only 26 percent of properties with active 236/BMIR mortgages in 2005 still had active mortgages in 2014. Thirty-one percent of the 236/BMIR mortgages were prepaid during the study period, 25 percent matured, and the rest were terminated due to foreclosure or other reasons.

Note that mortgage prepayment does not necessarily signal an opt-out decision, as most properties with prepaid mortgages also were Section 8 opt-ins. The distinction between prepayment and maturity may not have been as meaningful during the 2005-2014 period as in the earlier study, since most mortgages were due to mature by 2014. Of prepaid mortgages in the dataset, 57 percent were prepaid five years or less before their maturity date, including 24 percent that prepaid within two years of the maturity date. In fact, HUD and advocates have encouraged owners to prepay maturing 236/BMIR mortgages in properties where some or all units do not have Section 8 assistance so that unassisted tenants can receive Section 8 tenant protection vouchers (HUD, 2012a).

Finally, subsets of the 2005 baseline dataset were classified as participants in the Section 202 Direct Loan program and RAD-eligible properties. Properties were included in the analysis only if they were part of the original Section 8 and 236/BMIR dataset; for example, developments with Section 202 Direct Loans but no rental assistance in any units would not be included. In total, 3,580 developments in the study dataset had active Section 202 Direct Loans in 2005, amounting to 20 percent of the total study dataset. For RAD, 321 developments in the study dataset had Rent Supp or RAP assistance and were designated as eligible for conversion by HUD. These properties are referred to as “RAD-eligible” in the report. Of the RAD-eligible developments, 63 underwent conversion to project-based Section 8 vouchers between 2012 and 2014 (referred to as “RAD participants”).

[4] Includes Section 8 Housing Assistance Payments (HAP) contract terms for 2014 active properties with contracts renewed between 2005 and 2014. Does not include “no choice” properties where the same contracts continued throughout the entire period without renewal. Does not include other Section 8 contract types, such as PAC or PRAC. Note that some properties have more than one Section 8 contract, including some that may be of different lengths or renewed on different schedules. Values do not add up to 100% due to rounding.

II. Opt-in/Opt-Out Analysis: Descriptive Cross-Tabulations

The original *Opting In, Opting Out* study provided a series of cross-tabulations to describe the property, owner, tenant, and location characteristics associated with heightened risk of loss of properties through opt-outs and foreclosure. The report emphasized heightened risk to for-profit owned, family developments where rents were lower than the Fair Market Rent for the surrounding region. In this chapter, we provide updates of the cross-tabulations covering the 2005-2014 study period.

As the previous chapter showed, the balance of property outcomes shifted between the two study periods. Fewer properties left the inventory; more properties reached Section 8 decision dates and owners actively opted in to assistance; and the Section 236/BMIR programs largely wound down and had less effect on the balance of opt-outs and HUD foreclosure actions. Nevertheless, where there were property losses, the updated cross-tabulations show similar patterns of property characteristics as in the earlier study.

Unless otherwise noted, properties are placed in the descriptive categories that fit their 2005 baseline characteristics rather than their current 2014 conditions. This is consistent with the approach taken in the original report, which used 1998 as a baseline. For example, a property owned by a for-profit corporation in 2005 but sold to a non-profit by 2014 would still be classified as having for-profit ownership. Using baseline characteristics provides several advantages. It focuses the analysis on the question of how property conditions at a moment in time affect future opt-in/opt-out decisions. It is also necessary in order to provide a consistent comparison across the entire study dataset, as no 2014 characteristics would be available for properties that left the assisted inventory during the study period. Moreover, many characteristics are likely to remain largely the same during the nine-year period, particularly physical characteristics (e.g., unit mix and building type) and tenant characteristics (e.g., average household size and income).

The characteristics most likely to change during the study period are related to ownership and financing. In particular, some properties underwent preservation transactions that kept them in the inventory, where without the transaction the owner might have chosen to opt out of a Section 8 contract. Those transactions often involve a change of ownership from a for-profit to a non-profit entity, changes in financing programs and contract rents, and improved conditions leading to higher physical inspection scores. Therefore, classifying these properties by their baseline conditions may underestimate the opt-out risk that would have been present had the same owner been in place throughout the entire 2005-2014 study period. We note the study of properties' year-over-year histories and the effects of preservation initiatives on opt-in/opt-out as areas for further research in the conclusion.

Table 7 shows the sources of data for HUD property outcomes and the characteristics for the cross-tabulation analyses (analogous to Table 2.1 in the original report).

Table 7. Data Sources

Variables	Data Source
Section 8 and 236/BMIR program status	2005 and 2014 Active Properties; 2005 and 2014 Active Financing; 2005 and 2014 Active Contracts (datasets generated from HUD iREMS)
236/BMIR termination date and reason	Terminated Mortgages database
Section 8 termination date and reason	HUD Terminated Contracts database
Section 8 contract renewal start dates and terms	2014 Active Contracts database
Property geocoding (Census Tract, MSA, Census Division, metropolitan location)	Generated from HUD iREMS
Property characteristics (size, occupancy type, building type, program type, % assisted, building age based on occupancy date, REAC score)	2005 Active Properties, Multifamily Building Type (generated from HUD iREMS)
Units by number of bedrooms	2005 Active Properties
Ownership type	2005 Active Participants database (generated from HUD iREMS)
Neighborhood characteristics (median household income, median gross rent, median value of owner-occupied housing, homeownership rate, poverty rate, homeowner and renter vacancy rate, racial/ethnic composition)	U.S. Census Bureau, 2005-2009 American Community Survey. Summary files constructed by Minnesota Population Center. *National Historical Geographic Information System: Version 2.0*. Minneapolis, MN: University of Minnesota, 2011.
Home sales market (change in Housing Price Index)	Federal Housing Finance Agency Housing Price Index
Rental market (change in HUD Fair Market Rent)	HUD annual FMR datasets, 2005-2014
Tenant characteristics (length of residence, household size, percent minority-headed, percent elderly, percent with children, household income as percentage of AMI)	HUD Picture of Subsidized Households, 2005

Property and Owner Characteristics

Table 8 below includes the property and owner characteristics similar to those found in Tables 3.1, 3.2 and 3.8 in the original report.[5]

Table 8. Property Characteristics and Owner Type, 2005 Baseline

Property Characteristics	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Number of Properties	12,786	748	293	4,280	18,107
Percent of Properties	71%	4%	2%	24%	100%
Development Size					
1-49	44%	46%	51%	28%	40%
50-99	27%	23%	22%	32%	28%
100-199	23%	22%	18%	30%	25%
200 or more	6%	8%	9%	10%	7%
Average number of units	77	79	81	98	82
Unit Size					
0-bedroom units	7%	5%	4%	5%	7%
1-bedroom units	55%	37%	29%	46%	52%
2-bedroom units	25%	43%	43%	31%	27%
3-bedroom units	11%	14%	20%	15%	12%
4+-bedroom units	2%	1%	3%	2%	2%
Average number of bedrooms	1.6	1.8	2	1.7	1.6
Occupancy Type					
Elderly/Disabled	59%	25%	30%	38%	52%
Family	41%	75%	70%	62%	48%
Building Type					
Rowhouse	10%	6%	8%	8%	9%
Townhouse	3%	5%	2%	4%	3%
Semi-Detached	5%	3%	3%	4%	5%
Detached	5%	4%	7%	1%	4%
Walk-up/Garden	36%	56%	55%	37%	37%
Mid-Rise	3%	1%	2%	3%	3%
Mixed	12%	13%	15%	18%	14%
High-Rise/Elevator	28%	11%	9%	25%	26%
HUD Program Type					
Newer	80%	57%	55%	58%	73%
Older	20%	43%	45%	42%	27%

[5] Table 8 includes owner type and REAC inspection scores, which were placed in Tables 3.2 and 3.8 separate from other property characteristics in the original report. Table 3.2 in the original report included management review scores for owners, which were unavailable for this report. Table 3.8 included detailed financial information for the properties that was also unavailable in the datasets provided for this report.

Table 8. Property Characteristics and Owner Type, 2005 Baseline (continued)

Property Characteristics	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Detailed HUD Program Type					
Sec. 8 NC/SR	25%	25%	16%	25%	25%
Sec. 202	29%	4%	15%	3%	21%
Sec. 8/LMSA	19%	25%	41%	25%	21%
Sec. 8/515	10%	7%	8%	2%	8%
Sec. 8/HFDA	12%	11%	7%	27%	15%
Sec. 8/Preservation	2%	3%	1%	2%	2%
Sec. 8/PD	3%	10%	9%	1%	3%
Rent Supp/RAP	1%	0%	0%	6%	2%
No Rental Subsidy	0%	16%	4%	9%	3%
Average Percentage of Assisted Units	94%	60%	82%	83%	90%
Categories of Rent-to-FMR Ratio					
Below 80% FMR	11%	28%	21%	16%	13%
Between 80% & 100%	24%	37%	41%	30%	26%
Between 101% & 120%	27%	20%	22%	30%	27%
Between 121% & 130%	11%	6%	5%	8%	10%
Between 131% & 140%	8%	3%	5%	6%	7%
Between 141% & 160%	10%	4%	2%	6%	9%
Over 160% FMR	9%	3%	3%	4%	7%
Building Age Categories					
Before 1975	17%	38%	33%	30%	21%
1975 - 1979	20%	19%	21%	30%	22%
1980 - 1985	46%	35%	31%	37%	43%
After 1985	17%	8%	15%	3%	13%
Ownership Type					
Non-Profit	49%	25%	36%	26%	43%
For-profit	33%	40%	32%	39%	35%
Limited Dividend	15%	27%	28%	30%	19%
Other	2%	8%	4%	4%	3%
Missing data	14%	16%	12%	21%	15%
REAC Physical Inspection Score (1-100)					
Median	91	88	79	89	90
1-59	2%	5%	24%	4%	3%
60-69	6%	9%	12%	6%	6%
70-89	36%	42%	36%	41%	37%
90-100	56%	44%	28%	50%	54%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, Active Contracts and Multifamily Building Type Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database

The original report emphasized the loss of affordability in properties with family occupancy type, low rent-to-Fair Market Rent (FMR) ratios, financing through HUD's older assistance programs, and for-profit ownership. These patterns are also present in the current cross-tabulations, although the associations are not as strong as in the original report.

First, family properties continued to make up 75 percent of opt-outs and 70 percent of foreclosure/abatements, even though more than half of the total inventory in 2005 consisted of properties for the elderly and persons with disabilities. In the original report, approximately 90 percent of opt-outs and foreclosures took place in family properties. The new cross-tabulation also shifts more properties with elderly or disabled occupants to the opt-in category from the "all other" category, indicating that more of these properties required an active renewal choice during the 2005-2014 study period.

Second, properties with low rent-FMR ratios continued to be overrepresented among opt-outs. Only 13 percent of all properties in the study had rent-FMR below 80 percent, but they represented 28 percent of all opt-outs. Properties with rents at 80-100 percent of FMR made up 26 percent of the total inventory but 37 percent of opt-outs. Properties with lower rents also were more heavily represented among the foreclosure/abatement properties. Again, this pattern was similar to the original report but of weaker magnitude. In the original report, 59 percent of opt-outs and 49 percent of foreclosure/abatements took place in properties with rents below 80 percent of FMR, and most of the remaining losses were among properties with rents at 80-100 percent of FMR.

Third, the original study emphasized property losses among the Older Assisted HUD properties, which made up 37 percent of the total inventory but 70 percent of opt-outs and 89 percent of foreclosure/abatement properties. By the second study period, more of the Older Assisted properties had already left the inventory, particularly those originally funded by the Section 236 and 221(d)(3) BMIR programs. In the current dataset, 27 percent of properties were in the Older Assisted category. These properties were still overrepresented in the property loss categories in the second period, with 43 percent of opt-outs and 42 percent of foreclosure/abatements, but clearly more of the property loss problem had shifted to the Newer Assisted inventory.

Finally, properties owned by profit-motivated companies, including for-profit and limited dividend corporations, continued to be at higher risk of opt-out and foreclosure/abatement. Nevertheless, the current analysis shows some increase in opt-outs by non-profits. While the share of non-profit properties in the overall inventory was the same in the two study periods, non-profits made up 25 percent of opt-outs in the later study, compared to just nine percent in the earlier study. The prevalence of non-profit-owned properties in the opt-in category also increased, from 36 percent of opt-ins in the original study to 49 percent in the current study. The combined opt-in/opt-out prevalence indicates that more non-profits faced a renewal choice during the second study period than the first.[6]

[6] To delve deeper into the lack of opt-outs among non-profit owned properties, the original study included a breakdown of opt-in/opt-out outcomes by the Older/Newer HUD assistance categories for non-profit owned properties only (Table 3.3, page 25). The comparison is less relevant in the current study as non-profit ownership became more prevalent among opt-out properties. Nevertheless, the analogous results for the 2005-2014 analysis are presented here for comparison purposes.

	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Newer Assisted, Non-Profit Owned	89%	2%	1%	8%	100%
Older Assisted, Non-Profit Owned	64%	4%	2%	30%	100%

Other findings from the current property characteristics cross-tabulations are as follows:

- *Property and unit size.* Foreclosure/abatement was more common among developments with fewer than 50 units than in larger properties. It was also more common among properties with higher shares of two and three bedroom units. This is likely associated with these properties' family occupancy type.
- *Building type.* Opt-outs and foreclosure/abatement were more common among low-rise multifamily building types (walkups, garden apartments) and less common among high-rises. This pattern held during both study periods. Again, this appears to be associated with occupancy type. High-rises are predominantly occupied by elderly households, while walkups are largely occupied by families.
- *Detailed HUD programs.* In the original study, properties with no rental subsidies (i.e., 236/BMIR) made up substantial shares of opt-outs and foreclosures (25 percent and 48 percent, respectively). During the current study period, however, the remaining properties with 236/BMIR mortgages either approached or reached their mortgage maturity dates; therefore, opt-outs and particularly foreclosures were less common. The original study also showed a disproportionate rate of opt-out and foreclosure among properties with Section 8 LMSA funding. In the current study, these properties showed lower opt-out rates but higher foreclosure rates. Finally, Section 202 properties made up less than two percent of abatements in the original study but 15 percent in the current study, despite similar prevalence in the overall study dataset.
- *Percent assisted units*. In the original study, opt-out properties had a lower percentage of units with rental assistance than other properties (72 percent of units assisted on average for opt-outs versus 85 percent for the overall study dataset). This tendency was even stronger during the current study period, with an average of 60 percent assisted units in opt-out properties versus 90 percent in the overall dataset. This reflects the prevalence of 236/BMIR prepayment in properties that either had no Section 8 assistance or were only partially assisted.
- *Building age*. In both datasets, opt-outs and foreclosure/abatement were more common in properties built or occupied before 1975.
- *REAC scores*. HUD's Real Estate Assessment Center (REAC) conducts physical inspections of assisted units. Properties are scored on a scale of 0-100, with 60 as a passing score. The median REAC score for properties in the current dataset was 91, much higher than the median score of 73 in the original study. As would be expected, in both studies the median score for properties facing foreclosure/abatement were lower (79 in the current dataset, 69 in the earlier study).

Financing Characteristics

Table 9 provides more detail about federal and state financing involved in the properties, similar to Table 3.4 in the original report.

Table 9. Financing Characteristics, 2005 Baseline

Financing Characteristics	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Number of Properties	12,786	748	293	4,280	18,107
Percent of Properties	71%	4%	2%	24%	100%
Primary Form of Financing					
FHA Insured	27%	39%	23%	51%	33%
Section 202/811	27%	4%	12%	2%	20%
Section 515	10%	7%	8%	2%	8%
All Other	36%	51%	57%	45%	39%
Total	100%	100%	100%	100%	100%
HFA Related Properties					
Number of HFA related	1,553	82	21	1,140	2,796
Percent of HFA related	56%	3%	1%	41%	100%
FHA-insured	24%	21%	19%	24%	24%
Non-insured	76%	79%	81%	76%	76%
Total	100%	100%	100%	100%	100%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, Active Contracts and Multifamily Building Type Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database

Table 9 shows the decline in the presence of FHA-insured properties (with either 236/BMIR or market-rate loans) in the assisted inventory. These properties made up over half of properties in the original dataset but just a third in the current dataset. As in the earlier study, opt-outs were rare among Section 202/811 developments. However, opt-outs by properties with financing from USDA's Section 515 program increased since the last study period. In the original study, properties with USDA Section 515 mortgages made up a large proportion of opt-ins and a very small proportion of opt-outs compared to their presence in the overall inventory. In this dataset, their share of opt-ins (10 percent) and opt-outs (7 percent) closely mirrors their eight percent share of the overall inventory.

Table 9 also shows a shift in the status of properties financed by mortgage revenue bonds from state housing finance agencies ("HFA Related"). In both studies, few of these properties were lost to the inventory through opt-out or foreclosure during the study period, although that small rate of opt-out did increase (from 1.4 percent in the original study to 3 percent of HFA properties in the current dataset). More importantly, in the first study, many of the HFA-financed properties had not yet reached their first Section 8 contract renewal date, with 75 percent of the properties concentrated in the "All Other" category and only 23 percent classified as opt-ins. In the current study period, the majority of these properties met their contract renewal dates. Only 41 percent were classified in the "All Other" category. Table 9 shows that the owners of most of these properties chose to renew rental assistance, with 56 percent of HFA-related properties now classified as opt-ins and only three percent classified as opt-outs.

Location Characteristics

Table 10 shows the cross-tabulation of property outcomes by location, corresponding to Table 3.6 in the original report. It tabulates properties by region of the country ("Census Division"), placement in a city, suburb, or non-metropolitan area ("Metropolitan Location"), and the average housing market and demographic characteristics of the Census tracts surrounding the properties. For the current report, we included additional characteristics to round out the picture of the

neighborhood housing market: median value of owner-occupied housing, owner-occupied housing vacancy rate, and rental vacancy rate. We also added Hispanic households to the race/ethnicity neighborhood analysis.

In addition to neighborhood market characteristics, the new analysis includes regional home sale and rental market indicators with average conditions in the Metropolitan Statistical Area (MSA). For properties outside of an MSA, we use the statewide non-MSA value. For sales, we show the average change in the FHFA Housing Price Index (HPI) in regions surrounding the properties over the 2005-2014 study period. For additional information about volatility in the regional housing markets, we also provide the change over three housing market phases: "strong" (2005-2007), "weak" (2007-2012) and "recovering" (2012-2014). All changes are measured from the first quarter of the first year to the first quarter of the last year in the period. For rents, we use the average change in HUD Fair Market Rent (FMR) for a two-bedroom apartment in the regions surrounding the properties. Because average FMRs continued to rise throughout 2005-2014, we do not separate the study period into shorter phases as we do with sale prices.

Table 10. Locational Characteristics, 2005 Baseline

Locational Characteristics	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Number of properties	12,770	742	293	4,264	18,069[7]
Percent of properties	71%	4%	2%	24%	100%
Census Division					
New England	10%	4%	3%	14%	10%
Mid Atlantic	13%	10%	9%	15%	13%
East North Central	18%	12%	20%	20%	18%
West North Central	11%	19%	16%	11%	11%
South Atlantic	16%	16%	22%	14%	15%
East South Central	7%	6%	8%	9%	8%
West South Central	7%	10%	15%	6%	7%
Mountain	5%	7%	3%	5%	5%
Pacific	13%	16%	4%	8%	12%
Metropolitan Location					
Suburb	31%	28%	22%	33%	31%
Principal city	51%	60%	61%	53%	52%
Non-metropolitan	18%	12%	18%	15%	17%
Neighborhood Characteristics					
Median household income	$39,831	$41,937	$35,371	$38,363	$39,498
Median gross rent	$693	$741	$652	$675	$690
Median value of owner	$197,022	$200,939	$146,169	$191,037	$194,958
Homeownership rate	52%	51%	51%	50%	52%
Poverty rate	22%	20%	26%	23%	22%
Homeowner vacancy rate	3%	3%	4%	4%	3%
Renter vacancy rate	7%	8%	10%	8%	8%

[7] Four properties in the Northern Mariana Islands, 12 properties in the U.S. Virgin Islands, and 22 properties with insufficient geocoding information are excluded.

Table 10. Locational Characteristics, 2005 Baseline (continued)

Locational Characteristics	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Racial/ethnic composition					
White	60%	59%	48%	58%	59%
African American	19%	19%	36%	22%	20%
Hispanic	15%	15%	11%	14%	15%
Asian	3%	3%	2%	3%	3%
Other	3%	3%	3%	3%	3%
Minority	40%	41%	52%	42%	41%
Regional Housing Market					
Home sales market					
Average percent change in Housing Price Index (HPI), full study period (2005 Q1-2014 Q1)	3%	6%	5%	1%	3%
Average percent change in HPI, strong market period (2005 Q1 -2007 Q1)	14%	16%	14%	12%	14%
Average percent change in HPI, weak market period (2007 Q1-2012 Q1)	-13%	-14%	-11%	-13%	-13%
Average percent change in HPI, recovering market period (2012 Q1 -2014 Q1)	6%	8%	4%	6%	6%
Rental market					
Average percent change in FMR, 2005-2014	27%	27%	29%	26%	27%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, and Active Contracts Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database; 2005 and 2014 Fair Market Rents; U.S. Census Bureau, 2005-2009 American Community Survey; Federal Housing Finance Agency Housing Price Index

The analysis shows some similarities and some changes in the geographic locations of opt-outs. The greatest change was the status of the West North Central region, ranging from the Dakotas, Minnesota and Iowa down through Missouri, Kansas and Nebraska. In the original study, this area had a relatively low share of opt-outs. In the current study it made up 19 percent of opt-outs, even though it only represented 11 percent of total properties. This is largely due to a high opt-out rate for properties in North Dakota, which has experienced a boom in oil production in recent years. Nearly 17 percent of North Dakota's 133 properties underwent an opt-out, compared to an opt-out rate of just four percent nationwide.

The Pacific region, in contrast, was overrepresented among opt-outs in both periods. In the original study, it had 13 percent of total properties but 21 percent of opt-outs; in the latter period, it had 16 percent of opt-outs but still just 12 percent of total properties. The Mountain and West South Central regions also had relatively high proportions of opt-outs in the original study and, to a lesser extent, in the current study.

The analysis also shows some shifts in the metropolitan location of property losses. In both studies, central city locations had a high share of opt-outs. In the earlier study, suburban locations also showed a relatively high share of opt-outs, but in the current analysis, suburban locations were underrepresented among opt-outs. Foreclosure/abatements were concentrated in

city locations and were underrepresented in suburban locations in both studies. However, in the second study, foreclosures/abatements also became more prevalent in non-metropolitan locations.

As in the previous study, properties in neighborhoods with stronger markets were more prone to opt-outs, while those in weaker markets were more prone to foreclosure/abatement. Among opt-out properties, median household income, median rent, and home values were higher, while the poverty rate was lower. For the foreclosure/abatement properties, these patterns were reversed, with lower than average incomes, rents and prices, and higher poverty and vacancy. In the neighborhoods surrounding the opt-in properties, poverty and vacancy rates were similar to opt-out neighborhoods, but average rents, incomes, and sales prices were somewhat lower. The neighborhoods surrounding the opt-in and opt-out properties also had similar racial and ethnic composition, while the areas around the foreclosure/abatement properties had a higher average minority population.

While all of the property categories showed rising regional home prices in the 2005-2007 period, falling prices in the 2007-2012 years, and new growth in prices in the 2012-2014 period, there were modest differences between the categories. The properties lost to the inventory through both opt-outs and foreclosure/abatement tended to be located in regions with stronger home sales price growth over the full 2005-2014 period. For opt-out properties, average sales price growth was particularly strong during the 2005-2007 housing boom and 2012-2014 recovery. The foreclosure/abatement properties were located in regions where growth was strong during the 2005-2007 period and where price falls during the 2007-2012 were not quite as steep.

As to rental markets, increases in the average two-bedroom FMR were very similar across the property outcome categories, with somewhat higher average increases for foreclosure/abatement properties (close to 29 percent compared to 27 percent for other types of properties). The comparatively strong growth in both regional home prices and FMRs for the foreclosure/abatement properties shows that while failing properties may be located in weaker market neighborhoods, these neighborhoods are often situated within regions with strong housing markets.

Tenant Characteristics

Table 11 shows the average values for a variety of characteristics of tenant households living in the subsidized properties during the 2005 baseline year. It corresponds to Table 3.7 in the original report. Data come from HUD's 2005 *Picture of Subsidized Households* dataset. Two variables are specified in slightly different forms than in the original report due to the format of the *Picture* dataset: 1) we provide percentages of all persons with a disability in the units rather than just household heads, and 2) households with children are divided into those with two adults present and those with one adult.

Table 11. Tenant Characteristics, 2005 Baseline

Average Tenant Characteristics	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other	Total
Length of residence (years)	5.9	5.9	5.2	5.8	5.9
Household size	1.6	1.9	2.1	1.9	1.7
Percent minority-headed	40%	46%	66%	45%	41%
Percent of all persons with disability	22%	17%	17%	16%	20%
Percent elderly-headed households	49%	30%	20%	39%	46%
Percent households with 2+ adults and children	5%	9%	8%	8%	6%
Percent households with 1 adult and children	20%	30%	41%	28%	22%
Household income as a percentage of area median income (AMI)	23%	22%	17%	22%	22%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, and Active Contracts Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database; 2005 *Picture of Subsidized Households*

The tenant characteristics cross-tabulations from the two periods show many similarities. Both show higher levels of stability in the housing stock for elderly households, with a higher percentage of elderly households in the opt-in category and proportionately low percentages of elderly in the opt-out and foreclosure/abatement categories. Single-parent households with children were disproportionately present in the opt-out category and, in particular, foreclosure/abatement properties, as are minority-headed households. One difference between the two studies is the shorter average length of tenure in the current study for residents of the foreclosure/abatement properties. Poor property conditions may encourage tenants to move sooner; conversely, vacancies caused by tenant moves would contribute to further financial distress at the properties. The shorter tenure may also be an effect of having fewer elderly tenants, who tend to move less frequently than younger households.

Both studies show similar average incomes across the opt-in, opt-out, and “all other” properties, with expected lower average incomes in the failing foreclosure/abatement properties. However, average incomes in the overall stock fell substantially between the two study periods, with an average of 28 percent of area median income (AMI) in the original study period and 22 percent of AMI in the current study. At least in part, this reflects the lower proportion of Section 236/BMIR only properties in the second dataset. These properties do not have associated deep rental subsidies and tend to serve a more moderate income population.

III. Multivariate Analysis of Property Characteristics and Opt-in/Opt-out Status

The second type of quantitative analysis in the original report was a multivariate analysis to isolate the effects of property, financing, and location characteristics on owners' decisions to opt into or out of Section 8 assistance. The original analysis included the Section 8 only properties where the owner had to make an explicit decision to renew or opt out of a contract during the 1998-2004 study period. Properties that also had a 236/BMIR mortgage and those where the owner did not have to make a Section 8 renewal choice during the study period were excluded from the dataset.

In this report, we provide three versions of the updated multivariate analysis covering the Section 8 opt-in/opt-out decision during the 2005-2014 study period. All of the variables from the original analysis are included in the update, although some are expressed in slightly different categories. The first version replicates the model in the original study: an analysis of Section 8 only developments, using the same set of variables. The second version uses a larger study dataset that adds the Section 8 + 236/BMIR properties in addition to the Section 8 only properties. This model includes additional variables: REAC physical scores of the properties and the percentage minority and homeownership rate in the surrounding Census tract. We also added the presence of a maturing 236/BMIR mortgage as a potential opt-out risk factor, a variable that would not have been relevant during the previous study period. A third version of the model adds neighborhood housing market variables comparing median rent and median home values for the Census tracts surrounding the properties to county-level values, and regional housing market variables comparing MSA-level changes in the Housing Price Index and Fair Market Rents during the weaker market years in the middle of the study period.

Table 12 below shows the variables included in the updated analysis, comparable to Table 3.10 in the original report. The rightmost column describes the direction we anticipate for each variable. For variables repeated in both study periods, this is a description of the results from the previous analysis. For new variables, we suggest an expected direction.

Table 12. Variables for Regression Model

Variable Type	Variable	Categories	In Original Report?	Original Results or Expected Direction
Property	Property size (units)	Less than 50 units (ref.) 50-99 units 100-199 units 200+ units	Yes	Original study: reduced odds of opt-out as project size increases.
	Density	% of 3+ bedroom units	Yes	Original study: reduced odds of opt-out as number of larger units increase.
	Occupancy type	Family Elderly/Disabled (ref.)	Yes	Original study: increased odds of opt-out in family properties
	Building type	Detached /Semi-detached Other types (ref.)	Yes	Original study: slightly increased odds of opt-out in detached/semi-detached.
	Ownership type	Nonprofit For-profit/Limited Dividend (ref.)	Yes	Original study: increased odds of opt-out for non-profit owned properties.
	REAC	Physical REAC score (1 point increase)	No	Expected direction: Unknown. Higher REAC score may increase odds of opt-out because properties in good physical condition are more marketable to market-rate tenants. However, owners of properties in poor condition could opt out of subsidy programs to preempt a HUD decision to abate subsidies.
	Ratio of rent-to-FMR	Less than 80% 80-99.9% 100-119.9% (ref.) 120-129.9% 130-139.9% 140-159.9% 160% or more	Yes	Original study: strongly increased odds of opt-out for properties with lower rent-to-FMR, particularly less than 80 percent.
Financing	Older Assisted HUD programs	Older Assisted = 1 Newer Assisted=0	Yes	Original study: increased odds of opt-out for Older Assisted properties.
	100 percent assisted[8]	Projects with 100 percent of units with rental assistance =1 Other = 0	Yes	Original study: strongly increased odds of opt-out for 100 percent assisted properties.
	FHA insured	FHA insured =1 Other =0	No	Expected direction: Lower odds of opt-outs for properties with insured mortgages since some FHA mortgages impose affordability restrictions.
	HFA related	HFA related =1 Other =0	Yes[9]	Original results: Lower odds of opt-out for HFA-financed properties.
	Mortgage matured	Matured mortgage of Section 236/BMIR properties = 1 Other =0	No	Expected direction: Higher odds of opt-out for properties with maturing mortgages, since restrictions associated with the mortgage are ending.

[8] Developments were classified as “100 percent assisted” if total units exceeded assisted units by no more than two. The two-unit difference was allowed to account for developments where 1-2 units are used as offices for management, maintenance, security, and so forth.

[9] Expressed as "Not federally financed mortgage" as proxy for HFA-financed property. Current study uses direct measure of HFA funding.

Table 12. Variables for Regression Model (continued)

Variable Type	Variable	Categories	In Original Report?	Original Results or Expected Direction
Neighborhood	Poverty rate	% persons below poverty level in a Census tract	Yes	Original results: Lower odds of opt-out for properties in neighborhoods with higher poverty rate.
	Minority rate	% of minority (All races except non-Hispanic White) in a Census tract	No	Expected direction: Lower odds of opt-out because of difficulty marketing developments in racially segregated areas.
	Home ownership rate	% of owner occupied housing in a Census tract	No	Expected direction: Unknown. Higher homeownership rate may signal an overall stronger neighborhood housing market, but also may imply a smaller surrounding renter population, making it more difficult to attract tenants.
Location	Metropolitan location	Suburbs (ref.) Principal cities Non-metropolitan	Yes	Original study: increased odds of opt-out for central city and non-metropolitan locations
	Census division	New England Mid Atlantic East North Central West North Central South Atlantic(ref.) East South Central West South Central Mountain Pacific	Yes	Original study: increased odds of opt-out for Mid Atlantic, East North Central, West North Central, West South Central, Mountain and Pacific regions; decreased odds for New England and East South Central.
Housing Market	Neighborhood rent level	Ratio of median gross rent between a Census tract and a county	No	Expected direction: increased odds of opt-out for properties in neighborhoods with a high tract rent-county rent ratio.
	Neighborhood housing value	Ratio of median value of owner occupied housing between a Census tract and a county	No	Expected direction: increased odds of opt-out for properties in neighborhoods with a high tract value-county value ratio.
	Regional sale market	Percent change in Housing Price Index 2007 Q1-2012 Q1 25% or more 0-24.99% -25%~ 0.01% (ref.) -50%~ -25.01% Lower than -50%	No	Expected direction: increased odds of opt-out for properties in neighborhoods with positive change in HPI.
	Regional rental market	Percent change in FMR during the recession 2007 Q1- 2012 Q1 20% or more 10%-19.99% 0%-9.99% Less than 0% (ref.)	No	Expected direction: increased odds of opt-out for properties in neighborhoods with higher positive change in FMR.

Table 13 shows the results of the new regression analyses, corresponding to Table 3.11 in the original report. The leftmost set of odds ratios are the results for the Section 8 only model with the variables from the original report. The middle set shows the new model that includes Section 8 + 236/BMIR properties and some of the new variables, but excludes the four new neighborhood and regional housing market variables. The rightmost set of odds ratio includes the market variables.

Overall, the findings across the three models were very consistent. The direction and statistical significance of the common variables was similar, with slight changes in the magnitude of the odds ratios. The discussion following the table uses the results from the rightmost "Model with Housing Market Variables" columns unless otherwise noted.

Table 13. Odds Ratios for Opt-Out Decision Model, 2005-2014

		Replication of Original Model (Section 8 Only)		Model without Housing Market Variables (Section 8 Only and Section 8 + 236/BMIR)		Model with Housing Market Variables (Section 8 Only and Section 8 + 236/BMIR)	
Variable		**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**
Property size (ref. less than 50)	Property size 50-99	0.383	***	0.380	***	0.388	***
	Property size 100-199	0.389	***	0.324	***	0.339	***
	Property size 200+	0.291	***	0.231	***	0.232	***
Density	% of units with 3 or more bedrooms	0.239	***	0.352	***	0.332	***
Occupancy types	Family (ref.elderly/disabled)	2.413	***	2.249	***	2.207	***
Building types	Detached or semi-detached (ref. other)	1.009		1.064		1.044	
Ownership types	Non-profit (ref. for-profit/limited dividend)	0.498	***	0.482	***	0.472	***
REAC physical score	1 percentage point increase	N/A		0.983	***	0.982	***
Program	Older programs	0.471	***	0.540	***	0.552	***
	100% assisted units	0.145	***	0.127	***	0.132	***
	FHA insured	N/A		0.437	*	0.432	*
	HFA related	1.584	*	2.069	***	1.999	**
	Matured Section 236/BMIR	N/A		1.085		1.016	
Neighborhood	Poverty rate	0.245	**	0.169	***	0.356	
	Minority rate	N/A		0.656		0.869	
	Homeownership rate	N/A		0.427	**	0.359	**
Rent-to-FMR (ref. 100-119.9%)	Rent-to-FMR less than 80%	2.952	***	2.627	***	2.990	***
	Rent-to-FMR 80-99.9%	1.763	***	1.733	***	1.885	***
	Rent-to-FMR120-129.9%	0.792		0.717		0.730	
	Rent-to-FMR130-139.9%	0.459	**	0.430	**	0.455	**
	Rent-to-FMR140-159.9%	0.642		0.585		0.564	*
	Rent-to-FMR 160% or more	0.573		0.539		0.512	*
Metropolitan Location (Ref. suburbs)	Principal cities	1.540	***	1.356	**	1.213	
	Non-metropolitan	1.078		1.164		1.088	

Table 13. Odds Ratios for Opt-Out Decision Model, 2005-2014 (continued)

		Replication of Original Model (Section 8 Only)		Model without Housing Market Variables (Section 8 Only and Section 8 + 236/BMIR)		Model with Housing Market Variables (Section 8 Only and Section 8 + 236/BMIR)	
Variable		**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**
Census Division Ref. South Atlantic	New England	0.426	**	0.361	***	0.363	***
	Mid Atlantic	1.296		0.932		0.827	
	East North Central	0.858		0.659	*	0.612	**
	West North Central	1.841	***	1.433	*	1.233	
	East South Central	0.664		0.886		0.790	
	West South Central	1.267		1.219		0.780	
	Mountain	1.751	**	1.653	**	1.879	**
	Pacific	1.006		0.798		0.853	
Neighborhood market	Neighborhood rent	N/A		N/A		4.036	***
	Neighborhood housing value	N/A		N/A		1.365	**
Regional sale market during recession (2007-2012) (ref. moderate decline; -25% to 0% change)	Severe decline: change of -50% or more	N/A		N/A		0.929	
	Decline: -25% to -50 %	N/A		N/A		0.942	
	Growing: 0% to 25%	N/A		N/A		1.634	***
	Strongly growing: 25% or more	N/A		N/A		1.483	
Regional rental Market (2007-2012) (ref. FMR declining)	Stable: 0-10%	N/A		N/A		1.385	
	Growing: 10-20%	N/A		N/A		1.197	
	Strongly growing: 20% or more	N/A		N/A		1.218	
Total number of properties		9,085		10,120		10,023	
Opt-outs		278		364		361	
Pseudo R^2		0.1811		0.1969		0.2101	

Asterisks in the p-value columns denote level of significance. *** indicates p<0.01; ** indicates p<0.05; * indicates p<0.1. A blank cell in the p-value column indicates result was not statistically significant.

Source: HUD, 2005 and 2014 Active Properties, Active Financing, Active Contracts and Multifamily Building Type Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database; 2005 *Picture of Subsidized Households*; 2005 and 2014 Fair Market Rents; U.S. Census Bureau, 2005-2009 American Community Survey; Federal Housing Finance Agency Housing Price Index

As with the cross-tabulation analyses, the new analysis contains many findings similar in direction to the original analysis but with a different magnitude. The original report emphasized rent-to-FMR ratio and owner type as key explanatory variables. In the original model, properties with rent-to-FMR below 80 percent were almost 12 times more likely to opt out than those at 100-120 percent of FMR, the reference case. Properties sponsored by for-profits were more than six times more likely than those owned by non-profits to opt out.

In the new study, the direction of findings for rent-to-FMR and owner type was the same, but the effects were less strong. Properties with rent-to-FMR below 80 percent were 2.7 times more likely to opt out than the 100-120 percent of FMR reference case, while non-profit owned

properties were half as likely to opt out as those owned by for-profit or limited dividend corporations. The results were similar across the replication of the original model and both of the new models. These results suggest that the opportunity for higher rents in the private market continued to play a role in pushing for-profit owners of properties with below-market rents to opt out of subsidies, but that this factor was considerably less influential in 2005-2014 than during the original study period. HUD researchers have suggested that the new zip code-level Small Area FMRs could be used to measure the gap between neighborhood rents and property rents more accurately. We include an exploration of the effects of Small Area FMRs on the rent-FMR analysis as Appendix 3.

One variable where results were the same in both study periods is occupancy type. The original study found that that properties with a family population were more likely to opt out than those with elderly or disabled occupancy (odds ratio 2.3). All of the current models also showed a 2.2-2.4 odds ratio for this variable.

For another key variable, our results differed from the regression analysis in the original study. The cross-tabulation analysis in the original study showed that opt-out properties tended to have lower percentages of assisted units, but when regression analysis was used to control for other factors, the original study showed that properties with rental assistance in all units were nearly 14 times *more* likely to opt out than those with partial Section 8 assistance. In the current regression analyses, however, properties with all units assisted were 7-8 times less likely to opt out than partially assisted properties, consistent with the findings in the cross-tabulation analyses in both reports.

Results for physical property characteristics were similar to those in the original study. Opt-out risk was higher for properties with fewer than 50 units and with lower concentrations of large units. As in the original report, the effect of detached/semi-detached buildings versus other building types was not significant.[10]

A new finding in this study was the effect of REAC physical condition scores on opt-outs. Higher REAC scores were associated with slightly *lower* odds of opt out, a counterintuitive finding that is nevertheless consistent with cross-tabulation analyses in both the previous and current reports. A one-point increase in REAC score resulted in a decrease in odds of opt-out of approximately 1.6 percent. As noted earlier, it may be that owners chose to opt out of assistance for properties with lower REAC scores to preempt a potential HUD abatement of subsidies. Also, owners who were planning to opt out of subsidies and sell or convert properties to market-rate may have delayed investing in physical improvements until after the opt-out.

Characteristics related to financing programs also had significant effects. Properties with older HUD assistance were only half as likely to opt out as those funded under newer HUD programs (odds ratio .552). State HFA-related properties were more likely to opt out than other properties (odds ratio 1.999). Both of these results differed from the original study, which showed that Older Assisted properties were more likely opt out and showed no statistically significant effect from HFA financing. (Finkel et al., 37) A possible explanation for the current results is that that the Newer Assisted properties and the state-financed properties were more likely to be reaching their first opt-out decision during the study period than the Older Assisted or non-state-financed

[10] We tested different model specifications for multifamily building types, such as mid- and high-rise. The results showed that low-density building types were at higher risk for opt out. Compared to the high-rise reference category, properties with detached/semi-detached units were more likely to opt out, followed closely by properties with a mix of building types. Mid-rise properties were also more likely to opt out than high-rises.

properties. We speculate that owners of properties are more likely to take their first opportunity to opt out rather than to renew a contract initially and subsequently opt out.

Surprisingly, owners of properties with 236/BMIR mortgages maturing by 2014 were less likely to opt out of Section 8 assistance. While high levels of contract renewals among properties with expiring mortgage-related affordability restrictions seems counterintuitive, this result is consistent with the property outcomes summarized in Table 4. The table shows that owners renewed rental assistance contracts in over 90 percent of Section 8 properties that also had maturing 236/BMIR mortgages.

The analysis shows that metropolitan and neighborhood locations affect opt-out decisions. As in the original report, properties located in central cities were more likely to opt out than those in suburban locations. Properties in higher poverty neighborhoods were also less likely to opt out. The poverty effects were linked to the weak housing markets in high poverty neighborhoods; as the side-by-side models in Table 13 show, when neighborhood housing market variables were controlled, the effect of the poverty rate became both weaker and less statistically significant. Properties in neighborhoods with higher homeownership rates were also less likely to opt out. It may be that the lack of an active rental market in neighborhoods with high homeownership rates discourages market-rate conversion of properties. The percentage of minority residents was not a statistically significant variable.

The model with housing market variables shows that, as expected, properties in neighborhoods with higher median rents compared to their surrounding counties were more likely to opt out (odds ratio of 4.0 corresponding to a 100 percent increase in the ratio of tract to county rent). For rents, neighborhoods had more of an effect than regions. The regional rental market trends, measured as percentage change in the Fair Market Rent for the MSA or non-metropolitan area, did not show statistically significant effects. On the other hand, regional trends in the prices of for-sale homes did appear to have an effect. Properties in regions with moderate growth in the Housing Price Index (0-24.9 percent growth from 2007 to 2012) were more than 1.6 times more likely to opt out than in areas where home prices declined. The properties in regions with strongest HPI growth (25 percent or more growth from 2007 to 2012) also showed an increased tendency toward opt-out (1.5 odds ratio), but the result was not statistically significant.

To account for the volatility in the overall housing market during the study period, we also tested a regression model that segmented properties by the year of opt-in/opt-out decision into three market periods: strong (2005-2007), weak (2008-2011), and recovering (2012-2014). For opt-ins, the decision year refers to the last year in which the owner renewed a Section 8 contract. For opt-outs, the decision year refers to the year the contract was terminated according to HUD's Terminated Contracts database.[11] A table showing the odds ratio results in the segmented model is included as Appendix 2. Surprisingly, the odds ratio results did not vary greatly across the three market phases. Opt-outs were somewhat less likely among larger properties during the 2012-2014 recovering market phase, a volatile time when owners may have been reluctant to risk the large investment needed to bring a 100+ unit development to market. During the weak market period, the effect of family occupancy on the likelihood of opt-out was more pronounced. In general, however, the directions of increased or decreased likelihood of opt-out by property and neighborhood characteristics were consistent across the housing market time periods.

[11] Note that a limitation of this model is that it only counts the last opt-in decision by the owner. Because only 2005 and 2014 snapshots of the Section 8 contract databases were available, we do not know whether a contract was renewed more than once. This will minimize the count of opt-ins and exaggerate the impact of opt-ins in the earlier phases, particularly the 2005-2007 phase. This may result in an overestimate of the odds ratios during those periods.

In sum, the updated regression analysis shows that throughout the 2005-2014 period, many of the same factors identified as significant in the original report have an effect on owners' opt-in/opt-out decisions. In the current study period, however, those factors explain less of the variation in outcomes than in the original analysis. We discuss possible reasons for this finding in the conclusion.

IV. Section 202 Direct Loan Program

HUD's Section 202 program provides financing for affordable housing developments for elderly residents and persons with disabilities. The 202 program developed in two phases. The first phase, the Section 202 Direct Loan program, was established by the Housing Act of 1959. The program provided 40-50 year low-interest loans to non-profit organizations for construction, rehabilitation and acquisition costs for housing serving elderly or disabled residents. The loans can be prepaid or refinanced, although this does not extinguish affordability restrictions.

HUD launched the second phase of the program in 1990. Instead of loans, HUD provides capital advances for construction, acquisition and rehabilitation costs through the Section 202 program for elderly housing and the parallel Section 811 program serving persons with disabilities. The capital advances do not carry interest and do not need to be repaid as long as the property continues to serve low-income elderly or disabled residents for a 40-year term. Because the Section 202/811 Capital Advance program does not offer a meaningful opt-out choice to owners, the program is excluded from this analysis.

This section of the report focuses on the property characteristics and opt-in/opt-out decisions associated with the subset of Section 8 developments with Section 202 Direct Loan assistance. These properties made up a substantial portion of the 2005-2014 study dataset. In 2005, 3,580 properties combined Section 8 assistance with a Section 202 loan, amounting to 20 percent of the properties in the overall study dataset. As Table 14 shows, these properties were among the most stable in the Section 8 inventory. Of the Section 202 developments in the Section 8 inventory in 2005, fully 98 percent continued to receive Section 8 assistance in 2014. Nearly all of these involved an active opt-in by the property owner.

Table 14. Properties with Section 202 and Section 8 Assistance by Section 8 Outcome Categories, 2005-2014

	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	Other	Total
Number of properties	3,419	27	36	98	3,580
Percent of properties	95.5%	0.8%	1.0%	2.7%	100%
Number of units	192,036	502	830	5,720	199,088
Percent of units	96.5%	0.3%	0.4%	2.9%	100%

Source: HUD, 2005 and 2014 Active Properties, Active Financing and Active Contracts Files, iREMS; Terminated Contracts Database

In the following section, we examine the differences in property, location, and tenant characteristics between the Section 202 developments and the rest of the study dataset. Next, we look at the extent of Section 8 opt-outs, foreclosure/abatements, and loan termination within the Section 202 portfolio. Because the sample of Section 202 developments undergoing opt-outs was so small and opt-out does not end affordability restrictions, we do not include a multivariate regression model.

Section 202 Developments Compared to Other Section 8 Developments

Tables 15-17 compare the subset of Section 202 developments to developments without 202 loans and show the breakdown of the Section 202 developments by property characteristics and rental assistance opt-in/opt-out status. Again, the characteristics come from the 2005 baseline

dataset unless otherwise noted. The property characteristics table excludes the owner type and financing categories; by definition, the 202 developments share the same financing program and are owned by non-profits.

Table 15. Property Characteristics at 2005 Baseline, Section 202 Developments by Outcome Status

	Non-202	Section 202	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other
			Section 202 Developments Only			
Number of Properties	14,500	3,580	3,419	27	36	98
Percent of Properties	100%	100%	96%	0.8%	1%	3%
Development Size						
1-49	36%	57%	56%	93%	89%	59%
50-99	29%	24%	25%	7%	8%	19%
100-199	26%	17%	18%	0%	3%	18%
200 or more	8%	2%	2%	0%	0%	5%
Average number of units	89	56	56	19	23	58
Unit Size						
0-bedroom units	5%	16%	17%	1%	24%	9%
1-bedroom units	48%	81%	81%	95%	63%	88%
2-bedroom units	31%	3%	3%	4%	13%	3%
3-bedroom units	14%	0%	0.10%	0%	0%	0%
4+-bedroom units	2%	0%	0%	0%	0%	0%
Average number of bedrooms	1.6	1	1	1	1.2	1
Occupancy Type						
Family	59%	0%	0%	0%	0%	0%
Elderly	40%	67%	68%	11%	17%	62%
Disabled	3%	33%	32%	89%	83%	38%
Building Type						
Row house	8%	12%	12%	4%	0%	12%
Townhouse	4%	0%	1%	0%	0%	0%
Semi-Detached	4%	5%	5%	0%	0%	8%
Detached	3%	9%	9%	40%	29%	11%
Walk-up/Garden	41%	23%	23%	40%	49%	26%
Mid-Rise	3%	3%	3%	0%	0%	2%
Mixed	16%	6%	6%	12%	11%	4%
High-Rise/ Elevator	22%	41%	42%	4%	11%	36%
Average Percentage of Assisted Units	88%	96%	96%	89%	90%	91%

Table 15. Property Characteristics at 2005 Baseline, Section 202 Developments by Outcome Status (continued)

	Non-202	Section 202	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other
			Section 202 Developments Only			
Categories of Rent-to-FMR ratio						
Below 80% FMR	15%	6%	5%	23%	6%	11%
Between 80% & 100%	29%	14%	14%	27%	19%	13%
Between 101% & 120%	29%	22%	22%	4%	25%	20%
Between 121% & 130%	10%	11%	12%	8%	8%	9%
Between 131% & 140%	7%	11%	11%	8%	22%	11%
Between 141% & 160%	7%	17%	17%	15%	3%	14%
Over 160% FMR	4%	20%	20%	15%	17%	21%
Building Age Categories						
Before 1975	26%	4%	4%	7%	6%	8%
1975 - 1979	27%	5%	5%	0%	3%	4%
1980 - 1985	43%	44%	43%	74%	39%	84%
After 1985	5%	47%	49%	19%	53%	4%
REAC Physical Inspection Score (1-100)						
Median	90	93	93	93	93	94
1-59	4%	1%	0.50%	0%	8%	1%
60-69	7%	4%	4%	0%	3%	4%
70-89	39%	28%	29%	19%	14%	23%
90-100	50%	67%	67%	81%	75%	72%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, Active Contracts and Multifamily Building Type Files, iREMS; Terminated Contracts Database

Table 16. Location Characteristics at 2005 Baseline, Section 202 Developments by Outcome Status

	Non-202	Section 202	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other
			Section 202 Developments Only			
Number of Properties	14,492	3,577	3,416	27	36	98
Percent of Properties	100%	100%	95%	1.00%	1%	3%
Census Division						
New England	11%	8%	8%	0%	0%	33%
Mid Atlantic	12%	15%	16%	15%	0%	5%
East North Central	18%	18%	18%	11%	33%	11%
West North Central	12%	10%	10%	30%	6%	9%
South Atlantic	15%	15%	15%	11%	33%	16%
East South Central	7%	9%	9%	4%	14%	0%
West South Central	7%	8%	8%	4%	3%	13%
Mountain	5%	5%	5%	15%	6%	9%
Pacific	0.12	0.11	0.12	0.11	0.06	0.03

Table 16. Location Characteristics at 2005 Baseline, Section 202 Developments by Outcome Status (continued)

	Non-202	Section 202	Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other
			Section 202 Developments Only			
Metropolitan Location						
Suburb	31%	33%	33%	33%	19%	36%
Principal city	51%	54%	54%	56%	67%	50%
Non-metropolitan	18%	13%	13%	11%	14%	14%
Neighborhood Characteristics						
Median household income	$38,781	$42,395	$42,282	$40,340	$41,771	$47,150
Median gross rent	$680	$727	$728	$656	$655	$749
Median value of owner occupied housing	$192,346	$204,116	$203,723	$133,770	$162,397	$252,526
Homeownership rate	51%	53%	$53%	59%	58%	53%
Poverty rate	23%	20%	20%	17%	20%	20%
Homeowner vacancy rate	3%	3%	3%	2%	3%	3%
Renter vacancy rate	8%	7%	7%	9%	10%	6%
Racial/ethnic composition						
White	59%	61%	61%	68%	62%	69%
African American	21%	18%	18%	11%	24%	13%
Hispanic	15%	14%	14%	16%	6%	12%
Asian	3%	3%	3%	2%	2%	4%
Other	3%	3%	3%	3%	6%	3%
Minority	41%	39%	39%	32%	38%	31%
Regional Housing Market						
Average percent change in Housing Price Index (HPI), full study period (2005 Q1-2014 Q1)	3%	2%	2%	7%	5%	1%
Average percent change in HPI, strong market period (2005 Q1 - 2007 Q1)	13%	14%	14%	17%	14%	12%
Average percent change in HPI, weak market period (2007 Q1-2012 Q1)	-13%	-14%	-14%	-11%	-11%	-13%
Average percent change in HPI, recovering market period (2012 Q1 -2014 Q1)	6%	6%	6%	4%	4%	4%
Average percent change in FMR, 2005-2014	27%	26%	27%	27%	29%	26%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, and Active Contracts Files, iREMS; Terminated Contracts Database; 2005 and 2014 Fair Market Rents; U.S. Census Bureau, 2005-2009 American Community Survey; Federal Housing Finance Agency Housing Price Index

Table 17. Tenant Characteristics at 2005 Baseline, Section 202 Developments by Outcome Status

			Opt-ins	Opt-outs/ Prepays	Foreclosure/ Abatement	All Other
	Non-202	Section 202	Section 202 Developments Only			
Length of residence (years)	6	6	6	9	4.1	7.2
Household size	1.8	1.1	1.1	1	1.2	1.1
Percent minority-headed	44%	30%	30%	19%	33%	26%
Percent of all persons with disability	17%	35%	34%	82%	54%	36%
Percent elderly-headed households	40%	70%	70%	22%	39%	69%
Percent households with 2+ adults and children	7%	0.10%	0.10%	0%	1.20%	0%
Percent households with 1 adult and children	28%	0.30%	0.30%	0%	3.70%	0.20%
Household income as a percentage of area median income (AMI)	22%	25%	25%	24%	22%	25%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, and Active Contracts Files, iREMS; Terminated Contracts Database; 2005 *Picture of Subsidized Households*

As Table 15 shows, the Section 202 developments had some distinctive physical characteristics. They tended to be smaller than other Section 8 developments. More than half had fewer than 50 units, and three-quarters of Section 202 units were studios or one-bedroom apartments. However, the 202 developments also were more likely to be configured in high-rise buildings (41 percent) compared to the non-202 developments (22 percent). The 202 developments also tended to be newer, with 47 percent built after 1985, compared to just 5 percent of the non-202 developments. REAC physical inspection scores tended to be higher for the 202 developments, with two-thirds of properties scoring in the 90-100 range, compared to just over half for the overall inventory.

Tables 15 and 17 show that the Section 202 developments also served a distinct tenant population. By definition, these were projects for occupancy by elderly residents (two-thirds of the developments) and persons with disabilities (one-third of the 202 developments). In comparison, 40 percent of non-202 developments were senior developments and just three percent were reserved for persons with disabilities. The actual tenant characteristics also reflect these differences. In the 202 developments, 70 percent of households were elderly and 35 percent of units included at least one person with a disability, compared to 40 and 17 percent respectively in the non-202 developments. The households in 202 developments were less likely to be minority-headed (30 percent in 202 developments compared to 44 percent in the other developments). However, average household income was similar in both groups (25 percent of AMI in 202 developments compared to 22 percent in the non-202 developments).

The 202 developments also tended to have higher rents than other properties. Almost half of 202 developments had rent-FMR ratios of 130 percent or greater, compared to less than one-fifth of the other developments. This is likely related to the higher level and cost of supportive services associated with housing for elderly residents or persons with disabilities.

Location characteristics were very similar across the 202 and non-202 developments. The regional distributions throughout the U.S. were nearly identical. The 202 developments were somewhat more likely to be located in metropolitan areas, either in cities or suburbs. Median incomes, rents and home prices tended to be higher in the neighborhoods surrounding the 202 developments. Racial and ethnic composition of neighborhoods and regional housing market trends look very similar for the two sets of developments.

Opt-Outs in the Section 202 Portfolio

The small number of properties that did undergo a Section 8 opt-out or abatement action formed a distinct subset of the Section 202 inventory. As Table 15 shows, these developments were overwhelmingly small, composed of one-bedroom units, and targeted toward persons with disabilities. Although much of the 202 inventory is made up of high-rises, most of the opt-outs were made up of single family homes or multifamily walkups. For the opt-outs, average length of residency was particularly long (nine years) and the percentage of minority-headed households was particularly small (19 percent).

Using more detailed occupancy categories, it becomes clear that most of the 202 properties with an opt-out or foreclosure/abatement action fit a specific profile. These were small properties with 20 units or less in single family homes or walkup apartments developed in the 1980s, largely serving persons with developmental disabilities or chronic mental illness. As Table 18 shows, most of the losses were concentrated in a few states that lost four or more of the properties. Nearly one-fifth of the properties were located in Wisconsin, including four foreclosure/abatement properties with similar names that appear to have been owned by the same organization.

Table 18. Section 202 Properties Exiting the Section 8 Inventory through Opt-Out and Foreclosure/Abatement by State and Population Served, 2005-2014

	Population Served			
State	Chronically Mentally Ill, Developmentally Disabled	Elderly	Physically Disabled	Total
AR	1	0	0	1
CA	0	1	0	1
FL	2	1	1	4
GA	2	1	0	3
HI	1	0	0	1
IA	3	1	0	4
IL	0	0	1	1
IN	1	0	0	1
KS	1	0	0	1
KY	0	1	0	1
MI	1	0	0	1
MN	1	0	0	1
MO	2	0	0	2
NC	6	0	0	6
NE	0	1	0	1
NM	5	0	0	5
NY	4	0	0	4
OR	1	0	1	2
SC	1	0	0	1
SD	0	1	0	1
TN	5	0	0	5
TX	0	1	0	1
WA	0	1	0	1
WI	8	0	4	12
WV	1	0	0	1
WY	1	0	0	1
Total	47	9	7	63

Source: HUD, 2005 and 2014 Active Properties, Active Financing and Active Contracts Files, iREMS; Terminated Contracts Database

Section 202 Refinancing and Preservation

While owners of properties with Section 202 loans overwhelmingly renewed Section 8 assistance between 2005 and 2014, many of the 202 mortgages themselves were terminated during this period. Of the 3,419 developments with a Section 8 opt-in, half (1,715) had Section 202 loans that were terminated by 2014. This was not due to a wave of maturing mortgages. Only 24 of these properties had Section 202 loans scheduled to mature by the end of 2014, with most of the others scheduled to mature between 2020 and 2030. Instead, most of the properties underwent Section 202 prepayment and refinancing. HUD provides the option of prepaying and refinancing these loans to enable owners to reduce interest rate and debt service and to make capital

improvements (HUD, 2013c). Most of the opt-in properties (1,238) used HUD financing options including FHA-insured financing and Green Retrofit grants. [12] Other options for refinancing 202 properties include private-market loans, Low-Income Housing Tax Credits, and tax-exempt bond financing (Dunaway and Morgan, 2014). Owners prepaying a Section 202 loan are required to extend affordability requirements for at least 20 years following the loan's original maturity date. Unlike Section 236 prepayments, therefore, prepayment of the Section 202 loan reflects a decision to preserve the development as affordable housing.

The length of Section 8 contracts shows that termination of Section 202 loans clearly has a stabilizing effect on combined Section 202/Section 8 properties. Among developments with terminated 202 loans and continuing Section 8 assistance, most (58 percent) currently have rental assistance contracts with a 20-year term, with about one-third (31 percent) renewing for just five years. These figures are reversed for the properties with continuing 202 loans: half are operating under five-year contracts and one-third under 20-year contracts.

Table 19. Renewal Terms for Section 8 Contracts in Developments with Section 202 Direct Loans, 2014

Section 8 Contract Term in Years	202 Loan Active in 2005 and 2014	202 Loan Inactive in 2014
1	4%	2%
2-4	2%	1%
5	52%	31%
10	5%	3%
15	1%	1%
16-19	1%	1%
20	34%	58%
Greater than 20	1%	2%

Source: HUD, 2005 Active Properties and Inactive Section 202 Loan Files, iREMS

In addition, eight developments from the study dataset with partial Section 8 assistance will be participating in HUD's Senior Preservation Rental Assistance Contracts (SPRAC) program (HUD, 2014b). The SPRAC program provides 20-year rental assistance contracts to Section 202 Direct Loan developments where some or all units did not previously have Section 8 assistance. The new contracts prevent the unassisted tenants from being displaced when the owner refinances or recapitalizes the property. [13]

In sum, housing developed under the Section 202 Direct Loan program remains a stable and reliable source of affordable housing for elderly residents and persons with disabilities—even as a large portion of the inventory transitions out of the Section 202 program itself.

[12] HUD programs used to refinance Section 202 developments include 221(d)3 and (d)4 mortgages, 223(a)(7) mortgages, and 542(c) risk sharing with state and local housing finance agencies.

[13] Four other properties also have been approved for SPRAC participation but were not part of the 2005 baseline dataset, presumably because they had no active Section 8 assistance in 2005.

V. HUD Rental Assistance Demonstration (RAD) Program

The Rental Assistance Demonstration (RAD) program enables the conversion of a variety of types of HUD-funded housing to long-term project-based Section 8 assistance. The first component of RAD allows public housing authorities to convert public housing and Section 8 Moderate Rehabilitation (Mod Rehab) developments to Section 8 project-based rental assistance. This section of the report focuses on the second component of RAD, which allows owners to convert developments from the Rent Supplement (Rent Supp) and Rental Assistance Payment (RAP) programs to the Section 8 program (HUD, 2013a). [14]

Rent Supp and RAP are 1960s-70s era precursors to the Section 8 program. Contracts from these programs are undergoing a wave of expirations. Unlike a Section 8 contract, Rent Supp and RAP contracts in FHA-insured developments cannot be renewed.[15] Tenants in developments with expiring contracts receive tenant protection vouchers (TPVs) that allow them to continue to pay rents based on their income level, either onsite or in another rental development. The RAD second component allows owners to preserve affordability at insured developments with expiring Rent Supp and RAP contracts by converting the tenant-based vouchers to 15-year project-based vouchers (PBVs), which stay with the specific housing development for current and future tenants. Thus, RAD conversion offers the opportunity to preserve Rent Supp and RAP developments as long-term affordable housing. It also offers owners the opportunity for owners to refinance and recapitalize aging properties, as the long-term project-based vouchers provide a steady stream of revenue to support debt service or leverage low-income housing tax credits (GAO, 2014).

In the study dataset, 321 developments were eligible for RAD Component 2 conversion. Between 2012 and 2014, 70 developments underwent RAD conversions, 63 of which appear in the study dataset.[16] In this section of the report, we compare the property, location and tenant characteristics from the 2005 baseline dataset for the RAD-eligible portion of the dataset to the overall inventory. Within the RAD-eligible inventory, we compare properties with completed RAD conversions ("RAD participants") with the remainder of the RAD-eligible developments ("Non-participants").

The analysis relies on descriptive cross-tabulations and does not include multivariate analysis. A test of a multivariate model showed few statistically significant differences between the two groups. Moreover, the decision to participate in RAD is not as clear-cut as an owner's decision to

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[14] Section 8 Mod Rehab developments may also be eligible for RAD Component 2. They are excluded from this analysis because Mod Rehab contracts are administered by public housing authorities and are not included in HUD's multifamily datasets.

[15] Rent Supp and RAP contracts in developments without FHA-insured mortgages could be amended and converted to project-based Section 8 contracts before the RAD program was launched. HUD's records indicate that 33 older contracts have been converted to project-based Section 8 outside of RAD in recent years.

[16] HUD published a list of active Rent Supp and RAP contracts in March 2012 (http://portal.hud.gov/hudportal/documents/huddoc?id=RS_RAP_Units_03092012.xlsx). The list included 316 developments that were eligible to apply for RAD conversion. HUD also provided us with datasets listing 70 developments that underwent RAD conversion from 2012 to 2014, including 63 from the study dataset. Ten of the converted properties had not been included in the March 2012 eligible properties list. Therefore, to identify the set of RAD-eligible properties, we combined 53 properties from the study dataset that were on both the conversion-eligible and conversion-complete lists, the 10 properties that were on the conversion-complete list but not on the conversion-eligible list, and 258 properties that were on the conversion-eligible list but had not undergone conversion, for a total of 321 properties.

opt into or out of a Section 8 contract renewal. In addition to the owner's choice, HUD must approve the conversion. Also, some "non-participants" may be developments where the owner has expressed interest in or applied for RAD conversion but the process is not complete.

Tables 20-22 show the property, location and tenant characteristics from the 2005 baseline data for RAD-converted developments, non-participants that are RAD-eligible, and the balance of the study datasets. The HUD financing programs categories are not included because by definition, the RAD-eligible properties were funded by the Rent Supp or RAP older HUD assistance programs.

Table 20. Property Characteristics at 2005 Baseline, Developments by RAD Eligibility and Participation

Property Characteristics	Not RAD-Eligible	RAD-Eligible	RAD Participant	RAD Non-Participant
Number of Properties	17,825	321	63	258
Percent of Properties	100%	100%	20%	80%
Development Size				
1-49	41%	19%	21%	18%
50-99	28%	19%	13%	20%
100-199	24%	38%	38%	38%
200 or more	7%	25%	29%	24%
Average number of units	81	161	156	162
Unit Size				
0-bedroom units	7%	10%	12%	10%
1-bedroom units	52%	47%	70%	45%
2-bedroom units	27%	27%	13%	29%
3-bedroom units	12%	12%	3%	13%
4+-bedroom units	2%	3%	2%	3%
Average number of bedrooms	1.6	1.7	1.3	1.7
Occupancy Type[1]				
Elderly/Disabled	53%	45%	61%	42%
Family	47%	55%	39%	58%
Building Type				
Rowhouse	9%	2%	7%	1%
Townhouse	3%	7%	7%	7%
Semi-Detached	5%	0%	0%	0%
Detached	4%	1%	0%	1%
Walk-up/Garden	37%	23%	24%	23%
Mid-Rise	3%	4%	3%	4%
Mixed	14%	20%	12%	22%
High-Rise/ Elevator	26%	44%	47%	43%
Average Percentage of Assisted Units	90%	53%	52%	53%

Table 20. Property Characteristics at 2005 Baseline, Developments by RAD Eligibility and Participation (continued)

Property Characteristics	Not RAD-Eligible	RAD-Eligible	RAD Participant	RAD Non-Participant
Categories of Rent-to-FMR ratio				
Below 80% FMR	12%	61%	51%	64%
Between 80% & 100%	26%	23%	25%	22%
Between 101% & 120%	28%	9%	13%	8%
Between 121% & 130%	10%	4%	7%	3%
Between 131% & 140%	8%	2%	0%	3%
Between 141% & 160%	9%	0%	0%	0%
Over 160% FMR	8%	2%	5%	1%
Building Age Categories				
Before 1975	21%	50%	73%	44%
1975 - 1979	22%	46%	20%	52%
1980 - 1985	44%	3%	5%	3%
After 1985	13%	1%	2%	1%
Ownership Type				
Non-Profit	43%	36%	41%	35%
For-profit	35%	15%	24%	13%
Limited Dividend	19%	45%	35%	48%
Other	3%	3%	0%	4%
Missing data	15%	42%	46%	41%
REAC Physical Inspection Score (1-100)				
Median	90	87	89	87
1-59	3%	6%	2%	7%
60-69	6%	10%	10%	10%
70-89	37%	41%	43%	40%
90-100	54%	43%	46%	42%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, Active Contracts and Multifamily Building Type Files, iREMS; Active Rent Supp and RAP Contracts, 2012; Approved RAD Conversions 2012-2014

Table 21. Locational Characteristics at 2005 Baseline, Developments by RAD Eligibility and Participation

Locational Characteristics	Not RAD-eligible	RAD-eligible	RAD Participant	Non-Participant
Number of properties	17,787	321	63	258
Percent of properties	100%	100%	20%	80%
Census Division				
New England	10%	17.4%	12.7%	18.6%
Mid Atlantic	12%	44.5%	49.2%	43.4%
East North Central	18%	18.7%	22.2%	17.8%
West North Central	11%	4.0%	1.6%	4.7%
South Atlantic	15%	8.1%	4.8%	8.9%
East South Central	8%	1.2%	3.2%	0.8%
West South Central	7%	0.3%	0.0%	0.4%
Mountain	5%	0.6%	0.0%	0.8%
Pacific	12%	5.0%	6.3%	4.7%
Metropolitan Location				
Suburb	31%	44%	46%	43%
Principal city	52%	51%	44%	53%
Non-metropolitan	17%	5%	10%	4%
Neighborhood Characteristics				
Median household income	$39,486	$40,096	$38,953	$40,375
Median gross rent	$689	757	709	768
Median value of owner occupied housing	$193,979	$252,431	$237,846	$256,092
Homeownership rate	52%	39%	44%	38%
Poverty rate	22%	23%	23%	23%
Homeowner vacancy rate	3%	4%	3%	4%
Renter vacancy rate	8%	7%	7%	7%
Racial/ethnic composition				
White	59%	50%	55%	49%
African American	20%	27%	25%	28%
Hispanic	15%	16%	15%	16%
Asian	3%	5%	2%	5%
Other	3%	2%	3%	2%
Minority	41%	50%	45%	51%

Table 21. Locational Characteristics at 2005 Baseline, Developments by RAD Eligibility and Participation (continued)

Locational Characteristics	Not RAD-eligible	RAD-eligible	RAD Participant	Non-Participant
Regional Housing Market				
Average percent change in Housing Price Index (HPI), full study period (2005 Q1-2014 Q1)	3%	-3%	-2%	-3%
Average percent change in HPI, strong market period (2005 Q1 -2007 Q1)	14%	11%	11%	11%
Average percent change in HPI, weak market period (2007 Q1-2012 Q1)	-13%	-16%	-14%	-16%
Average percent change in HPI, recovering market period (2012 Q1 -2014 Q1)	6%	4%	3%	5%
Rental market				
Average percent change in FMR, 2005-2014	27%	22%	22%	22%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, and Active Contracts, iREMS; Active Rent Supp and RAP Contracts, 2012; Approved RAD Conversions 2012-2014; U.S. Census Bureau, 2005-2009 American Community Survey; Federal Housing Finance Agency Housing Price Index

Table 22. Tenant Characteristics, Developments by RAD Eligibility and Participation

Tenant Characteristics	Not RAD-eligible	RAD-eligible	RAD Participant	Non-Participant
Number of Properties	17,825	321	63	258
Percent of Properties	100%	100%	20%	80%
Length of residence (years)	5.9	7.6	6.6	7.8
Household size	1.7	1.7	1.6	1.7
Percent minority-headed	41%	50%	43%	52%
Percent of all persons with disability	20%	11%	13%	11%
Percent elderly-headed households	46%	51%	56%	49%
Percent households with 2+ adults and children	6%	8%	7%	8%
Percent households with 1 adult and children	22%	18%	17%	18%
Household income as a percentage of area median income (AMI)	22%	25%	26%	25%

Source: HUD, 2005 and 2014 Active Properties, Active Financing, and Active Contracts Files, iREMS; Terminated Contracts Database; Active Rent Supp and RAP Contracts, 2012; Approved RAD Conversions 2012-2014; 2005 *Picture of Subsidized Households*

The most striking difference between the RAD-eligible developments and the other developments is their regional location. Nearly half of the RAD-eligible developments were located in the Mid-Atlantic region, and most of the rest were located in New England or the East North Central region (i.e., upper Midwest). As Table 23 below shows, this is because developments eligible for RAD conversion were heavily concentrated in just a few states. Three-fourths were located in New York, New Jersey, Massachusetts, Michigan, and Illinois. These states also accounted for the bulk of developments actually participating in RAD.

Table 23. RAD-Eligible Developments and RAD Participants by State

State	RAD-Eligible Developments	% of RAD Eligible Developments	RAD Participants	% of RAD Participants
NY	83	26%	19	30%
NJ	56	17%	11	17%
MA	50	16%	7	11%
MI	41	13%	9	14%
IL	15	5%	5	8%
MD	11	3%	1	2%
CA	10	3%	2	3%
VA	9	3%	0	0%
MN	8	2%	0	0%
WA	5	2%	2	3%
CT	4	1%	0	0%
PA	4	1%	1	2%
GA	3	1%	1	2%
TN	3	1%	2	3%
FL	2	1%	0	0%
KS	2	1%	1	2%
OH	2	1%	0	0%
SD	2	1%	0	0%
WI	2	1%	0	0%
AK	1	0.3%	0	0%
CO	1	0.3%	0	0%
DC	1	0.3%	1	2%
KY	1	0.3%	0	0%
LA	1	0.3%	0	0%
ME	1	0.3%	0	0%
MT	1	0.3%	0	0%
ND	1	0.3%	0	0%
VT	1	0.3%	1	2%
Total	321	100%	63	100%

Source: HUD, Active Rent Supp and RAP Contracts, 2012; Approved RAD Conversions 2012-2014

Half of the inventory was located in central cities, both for RAD-eligible developments and the other developments. With their concentration in densely populated Northeastern and Midwestern states, the RAD-eligible developments were more likely to be located in suburbs (44 percent of RAD-eligible developments versus 31 percent of the remainder of the inventory) and less likely to be located outside of metropolitan areas (five percent of RAD-eligible versus 17 percent of other developments). The properties actually participating in RAD were similarly likely to be located in suburbs (46 percent); more likely than non-participants to be in non-metropolitan locations, including rural counties in New York, Tennessee, Vermont, and Washington; and less likely than either non-participants or the remainder of the inventory to be located in central cities.

Also in keeping with their location in older, densely populated states, the RAD-eligible developments tended to be located in neighborhoods with higher median rents and home values, lower homeownership rates, and higher minority populations than the other developments (Table 21). This was particularly true for the RAD non-participants. Other neighborhood characteristics were substantially the same across the inventory of RAD participants, RAD non-participants, and other developments.

The RAD-eligible developments also differed from the other developments in their physical characteristics. Because they were funded by early HUD programs, the RAD-eligible developments were considerably older than the overall study dataset. Table 20 shows that half of RAD-eligible developments were built before 1975, and nearly all of the others were built between 1975 and 1979. RAD-eligible developments also tended to be larger, with twice as many units on average compared to other developments, and were much more likely to be located in high-rises. These qualities were similar across the RAD participants and non-participants alike, with the RAD participants particularly concentrated in the pre-1975 stock (73 percent of RAD participants) and buildings with 200 or more units (29 percent).

Not surprisingly given the age of the stock, REAC physical inspection scores were slightly lower for the RAD-eligible developments. The vast majority still passed their inspections by scoring 60 or higher, but 51 percent of RAD-eligible developments fell into the lower passing levels (score of 60-89) compared to 43 percent of the other developments. Note that 98 percent of RAD participants had passing REAC scores, a threshold requirement for participation in the program.

In the overall dataset, slightly more than half of developments (53 percent) were designated for occupancy by elderly residents or persons with disabilities. In the RAD-eligible properties, the majority of developments served families (55 percent). Here, however, the RAD participants and non-participants diverge. Most developments participating in RAD were designated for elderly occupancy (61 percent), while most non-participants were designated for family occupancy (58 percent).

Table 22 shows that actual tenant characteristics were very similar across the development types. Tenants in RAD-eligible developments tended to stay in their units longer, particularly in the RAD non-participant properties. RAD participants had a somewhat higher average number of elderly residents compared to both the non-participants and the remainder of the study properties. The RAD-eligible developments had a higher percentage of minority residents than the non-eligible properties, but the actual RAD participants did not. This is likely linked to the lower percentage of minority households in elderly and disabled occupancy developments, which predominate among RAD participants.

Rents for assisted units tended to be lower in the RAD-eligible inventory compared to other developments. Sixty-one percent of RAD-eligible developments had average rent-to-FMR ratios below 80 percent in 2005, compared to just 12 percent of other developments. Most of the rest of the RAD-eligible developments had rent-to-FMR ratios of 80-100 percent. The RAD participants did have slightly higher rent-to-FMR ratios than the non-participants; 51 percent of participants had a rent-to-FMR ratio below 80 percent, compared to 64 percent of non-participants. To this extent, the decision to participate in RAD appears different from the decision to opt in to a Section 8 contract renewal, for which a low rent-to-FMR ratio signals elevated opt-out risk.

Finally, RAD-eligible developments were much more likely to be partially assisted than the other developments at the 2005 baseline. On average, half of units in the RAD-eligible developments were assisted. This holds for both the RAD participants and non-participants. However, this characteristic is subject to change because of the RAD program itself. Under RAD Component 2,

the number of assisted units in a converted property can change in either direction. The number may go down if there have been substantial numbers of vacant assisted units preceding the conversion, which would reduce the number of tenant protection vouchers eligible for conversion to project-based assistance. On the other hand, it may increase if the conversion also involves a mortgage prepayment that otherwise would have resulted in the issuing of tenant protection vouchers to residents in unassisted units. Table 24 tracks the changes in the number of assisted units in the 63 developments from the original study dataset participating in RAD.

Table 24. Net Change in Assisted Units from 2005 Baseline to Post-RAD Conversion, RAD Participants

Properties by change in assisted units			Net change in assisted units
Decrease >= 5 units	Change w/in 5 units	Increase >=5 units	
10	17	36	3,025

Source: HUD, 2005 Active Properties, iREMS; Approved RAD Conversions 2012-2014

As Table 24 shows, more than half of developments increased their total of assisted units by at least five, and most of the rest maintained similar levels of assistance (net change of five or fewer assisted units). Because the developments increasing their levels of assistance include a number of large properties, the RAD conversions result in a 3,025-unit increase in assisted units from the 2005 baseline for the 63 properties.

In sum, the small inventory of RAD-eligible developments represents a distinct niche in HUD's multifamily portfolio—older, larger developments clustered in a small group of Northeastern and Midwestern states. For the most part, the RAD-converted properties were similar to those that were eligible but had not yet undergone conversion. The main difference between the two was occupancy type: majority elderly occupancy type for RAD participants versus a majority of family developments for non-participants. The analysis also illustrates the potential of RAD Component 2 to preserve and increase the number of deeply affordable housing units in the project-based supply, as most converted developments increased their number of units with rental assistance above the original 2005 baseline.

Conclusion and Areas for Further Research

The updated quantitative analysis describes shifts in the HUD multifamily portfolio between the original 1998-2004 study period and the current 2005-2014 study period. Even as Section 236/BMIR assistance was largely phasing out, the Section 8 inventory showed more continuity. Fewer properties underwent opt-out, and far fewer were subject to foreclosure and contract abatement. At the same time, more owners actively opted to continue participation in the Section 8 program. These opt-ins took a variety of forms: traditional renewal of expiring Section 8 contracts over contract terms ranging from short-term (1-5 years) to long-term (typically 20 years); refinancing Section 202 loans with a continued commitment to the Section 8 program; and conversion of older HUD assistance to long-term project-based Section 8 through the RAD program.

The updated analysis shows that to the extent Section 8 opt-outs continued to occur, many properties were subject to similar risk factors to those identified in the original study, including family occupancy, for-profit ownership, low rent-FMR ratios, and location in less distressed neighborhoods. While these factors were present in the second study phase, most were less influential. The quantitative analysis showed more variability in these characteristics among the properties lost to the affordable inventory, and the regression analysis showed that together these characteristics explained less variation in the opt-in/opt-out decision than before. For example, of the 748 opt-outs, over one-third (271, or 36 percent) were owned by non-profit organizations, served elderly or disabled tenants, or both. While it will be important for preservation advocates to continue to focus on properties with traditional risk factors, it will also be important not to assume that other properties are immune from opt-out risk.

It may be that many of the properties most at risk of loss to the inventory, either weak properties in financial and physical distress or strong properties with potential to attract market-rate tenants, already left the assisted inventory during the earlier wave of opt-outs documented by the 1998-2004 analysis. The middle-of-the-road inventory that remained in the 2005-2014 study sample was more stable, particularly as an increasing number of owners made one or more active decisions to renew subsidy contracts. The study period also coincided with the volatility in the U.S. housing markets and economy. Once the heated housing markets of 2005-2007 that might have incentivized condominium conversion and other types of land redevelopment had passed, owners may have seen advantages in avoiding risky property status changes in an unsettled time.

Another reason that the 2005-2014 period may have generated a smaller, more variable field of opt-outs is the maturing of the affordable housing preservation infrastructure during this time. A wide variety of federal, state, local, and extra-governmental initiatives were put in place to preserve at-risk properties (HUD, 2013b):

- *HUD Mark-to-Market*. The “full restructuring” option in HUD’s Mark-to-Market program provides restructured, favorable mortgage terms to owners of Section 8 developments in exchange for reducing rents to market values and extending affordability restrictions. The majority of Mark-to-Market activity took place during the study period for the original report (closings at 1,239 properties from 2000 to 2004). However, the program continued to operate during the 2005-2014 study period, with closings on full restructuring of an additional 597 properties during this time. (HUD, 2015).
- *State allocations of Low Income Housing Tax Credits (LIHTC) for preservation*. According to the National Housing Trust, 45 states provide incentives for preservation through allocation of competitive (9%) tax credits, including 16 states with explicit set-

asides of competitive tax credits for preservation. Many states also devote bonds and 4% credits to preservation projects. (National Housing Trust, n.d.) The use of LIHTC to finance preservation of at-risk properties accelerated during the study period. From 2005 to 2013, LIHTC assistance was put into place for 994 Section 8 projects with 110,103 units, compared to 591 properties with 73,044 units during the earlier 1998-2004 study period.[17]

- *Section 202 refinancing*. As described earlier, the portfolio of developments with older Section 202 loans is undergoing a wave of refinancing resulting in physical improvements and preservation and extension of Section 8 assistance.
- *Preservation databases, including risk targeting data*. A number of states and cities have launched property databases or improved existing data tools to flag properties at risk of loss to the affordable inventory.[18] The databases track properties' subsidy expiration dates as a measure of opt-out risk. Many also track other risk variables such as owners' expressed intent to opt out, for-profit vs. nonprofit ownership, REAC scores or other measures of physical condition, and neighborhood market conditions.
- *Additional state, local, and nongovernmental initiatives*. Since 2001, the John D. and Catherine T. MacArthur Foundation's Window of Opportunity initiative has underwritten tremendous growth in the rental preservation infrastructure, including support for capacity building among national and local non-profit developers, building sources of private capital for preservation, local and state interagency preservation councils, legal assistance and organizing support for tenants, and policy advocacy and research. (MacArthur Foundation, 2009).

These initiatives targeted precisely the types of properties where risk factors indicated potential losses through failure or market-rate conversion. To the extent that preservation efforts have been successful, we would expect to see reduced property losses in general and among high-risk properties in particular.

We recommend several areas for further research to help us understand the new environment for preservation and risk to the assisted housing inventory. First, we recommend tracking the effects of the preservation initiatives described above on increasing opt-ins and stability within the assisted multifamily inventory. How many opt-in properties have benefited from preservation programs, and to what extent have the preserved properties been those with risk factors for failure or market-rate conversion? The first step would be to create a property-level preservation flag tracking refinancing of subsidized properties, ownership changes, and participation in formal federal, state, and local preservation initiatives. This will require data collection from state and local housing agencies and intermediaries with active preservation programs. A first

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[17] Public and Affordable Housing Research Corporation and National Low Income Housing Coalition, extract from *National Housing Preservation Database,* http://www.preservationdatabase.org. Includes developments with active Section 8 and LIHTC assistance, and where LIHTC start date is 1994 or later. Excludes developments where Section 8 assistance is coded as PAC, PRAC, or RAD public housing conversion.

[18] See, for example, the Shimberg Center's Florida Assisted Housing Inventory at http://flhousingdata.shimberg.ufl.edu/AHI_introduction.html; CEDAC's database for Massachusetts at http://cwc.cedac.org/Uploads/Files/CEDACExpUseReportDecember2014.pdf; and the NYU Furman Center's Subsidized Housing Inventory Project at http://datasearch.furmancenter.org. The National Housing Preservation Database website includes a page of links to additional state and local preservation databases, located at http://www.preservationdatabase.org/localpartners.php.

step could be to use HUD's mortgage databases and the recently launched national preservation database (http://www.preservationdatabase.org) to identify 1970s-80s era HUD properties that were refinanced via FHA-insured mortgages, underwent a Section 202 loan prepayment with extension of affordability requirements, or took on additional subsidies from LIHTC and HOME in recent years.

Second, we recommend detailed analysis of contract renewal histories to determine whether the proliferation of short-term renewals signals future risk to the inventory. While most property owners did make an active choice to opt in to assistance during the study period, half of the contracts were renewed for terms of five years or less. Tracking the year-over-year renewal histories allows us to test whether owners who renew a contract for 1-5 years tend to renew these contracts again upon expiration, or whether opt-outs are often preceded by a short-term contract renewal. Constructing full opt-in histories will require annual Section 8 contract datasets. The two point-in-time datasets available for this study provided a partial picture of renewals, but information was not available about short-term renewals in the intervening years between 2005 and 2014.

Third, given the weakened influence of the traditional opt-out risk factors, we recommend further examination of opt-outs in developments without these risk factors. These include developments serving elderly residents or persons with disabilities, non-profit-owned properties, and developments that do not appear to be especially vulnerable to market-rate conversion (e.g., those in distressed neighborhoods or whose contract rents are in line with or higher than the surrounding market rate). Case studies of these properties could help us understand the factors that lead to non-traditional opt-outs, such as changes in non-profits' interest and ability to maintain aging subsidized properties. This is particularly true for older developments whose owners have not taken advantage of preservation options such as Section 202 and RAD conversions. This understanding, in turn, could help practitioners prevent unnecessary opt-outs and facilitate preservation transactions through refinancing and ownership changes when needed.

Fourth, we recommend learning more about the neighborhoods surrounding the ongoing, opt-in properties by matching their locations to newly available datasets from HUD. The Location Affordability Index (http://www.locationaffordability.info/lai.aspx) can be used to assess transit accessibility and travel costs for the subsidized developments. Datasets developed for the Fair Housing and Equity Assessment (FHEA) and the Affirmatively Furthering Fair Housing tool can be used to assess properties' neighborhood locations in terms of racial and ethnic concentrations of poverty, school proficiency, jobs proximity, labor market engagement, transit proximity, and environmental health hazards exposure (HUD, n.d. and 2014a).

Fifth, we recommend building evaluation of property and neighborhood characteristics into the growing Section 8(bb) initiative, which enables HUD to transfer Section 8 budget authority from one contract to another. While transfer of Section 8 authority across properties has taken place on a case-by-case basis in the past, the issuing of a recent notice formalizing the process will accelerate these transfers. (HUD, 2014c). The notice calls for receiving properties to be located in neighborhoods with low or declining poverty or in Choice Neighborhood or otherwise revitalizing areas, and to pass REAC inspection requirements or have a plan in place for repairs. When a sufficient history of Section 8(bb) transfers is in place, we recommend a study comparing the characteristics of the sending and receiving properties. This will help us understand the extent to which transfers allow HUD to preserve deep affordability while improving property and neighborhood conditions within the assisted inventory.

Sixth, we recommend a parallel data effort to catalog the risk to the Department of Agriculture's Rural Development (RD) multifamily inventory from mortgage expirations in the coming years. The National Housing Law Project estimates that three-quarters of the current 440,000 rural and farmworker units will exit the assisted inventory in the next ten years as 40-50 year mortgages made in the 1960-70s begin to mature.(Anders, 2015). However, there is no publicly available dataset that provides mortgage maturity dates at the property level for the RD inventory. Obtaining and compiling information will be essential to preserving this stock of affordable rental units.

Finally, we recommend public release of the property-level dataset developed for this report with opt-in/opt-out status, property and tenant characteristics, and neighborhood conditions. A single, national source of this linked information for the active Section 8 portfolio would be very useful for preservation practitioners, advocates and researchers. Currently, the preservation community pulls together this information piecemeal at the state and local level. We recommend posting the integrated dataset to HUD's multifamily data web page and updating it annually with extracts from the active properties, active financing, terminated mortgages and FHA opt-out files. The catalogue of properties that have undergone opt-outs and foreclosure/abatement would be particularly helpful, as preservation actors do not currently have access to a single integrated list of developments lost to the affordable housing inventory.

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Appendix 1. Data Sources and Business Rules for Property Database

The basis for this analysis is the property-level dataset with information about programs and financing for HUD-assisted multifamily portfolio at two points in time: 2005 and 2014. Each record in the dataset is a property with active subsidy in 2005 from at least one of these programs: 1) a rental assistance contract under the Section 8, Rent Supplement or RAP programs (referred to generally as "Section 8" in the report, or 2) an insured mortgage under the Section 221(d)(3)BMIR or 236 programs (referred to as "236/BMIR" in the report. Properties that participated in these programs but exited before 2005 were not included. Property outcomes were determined based on which of these program types were active in 2005 and whether the properties still had active assistance in 2014. Properties that left the inventory between 2005 and 2014 were classified as opt-outs or foreclosure/abatement depending on their reasons for leaving. Properties that stayed in the inventory were classified based on whether the owner had a choice to opt in to assistance through contract renewal, or whether the assistance simply continued from 2005 or earlier without a decision.

Datasets for Determining Property Outcomes

HUD provided several output files from its Integrated Real Estate Management System (iREMS), organized as follows:

1) Active Properties, 2005 and 2014

These files provided general property-level data and program information for each property in HUD's multifamily portfolio, including location, target population, and financing programs. The two files are snapshots of the portfolio in 2005 and in 2014.

2) Active Financing, 2005 and 2014

These files provided more detail on financing for each multifamily property at the two points in time, including detailed program types, loan amounts, balances, and start and end dates.

3) Active Rental Assistance Contracts, 2005 and 2014

These files provided information about active rental assistance contracts at the two points in time, including contract start and expiration dates, specific rental assistance program, rent-to-FMR ratio, and number of units by the number of bedrooms.

3) Contract Terminations, 2005-2014

This file lists Section 8 contracts that were terminated from January 1, 2005 to the present. It includes reasons for the termination such as opt-out or various statuses for failing properties (default, demolished, etc.).

4) Terminated Mortgages, 2014

This file lists HUD-insured multifamily mortgages that have been terminated and the reason for their termination, including maturity, assignment (foreclosure), or prepayment.

Step 1. Creating the 2005 Baseline Property Dataset

First, properties were classified by 2005 program type. Properties were identified as having active Section 8 assistance in 2005 if the Active Properties 2005 record for the property showed a "yes" in the "is_sec8_ind," " is_rent_supplement_ind" or " is_section_236_rap_ind" column. Properties were identified as having Section 236/221BMIR assistance if either program was active in 2005. The program was identified as active if the Active Properties 2005 record for the property showed a "yes" in the "is_236_ind" or "is_bmir_ind" column.

Based on these two steps, properties were classified as "Section 8 only," "Section 8 + 236/221BMIR," or "236/221BMIR" for their baseline 2005 status. Only properties with at least one of these types of active assistance in 2005 were retained in the study dataset.

Step 2. Classifying Properties by 2014 Status

Next, we identified the 2014 status of these same types of assistance for the properties in the 2005 baseline dataset. We used the same rules as above but with the Active Properties file from 2014 to assign Section 8 and Section 236/221BMIR status. We classified properties as "leavers" if they no longer appeared in the 2014 Active Properties dataset or if they appeared but did not have either Section 8 or Section 236/221BMIR assistance in place. We classified properties as "stayers" if they had at least one of these programs in place.

For properties with Section 8 in both years, we used the 2005 and 2014 Active Rental Assistance Contracts files to determine whether Section 8 assistance had been actively renewed or whether a contract from 2005 or earlier simply continued throughout the study period, with no owner choice to renew or opt out. Section 8 was considered to be renewed if a contract with the same contract number appeared in both the 2005 and 2014 files with a later TRACS expiration date for the 2014 version of the contract, or at least one new contract (with new contract number) appeared in the 2014 database that had not been listed for the property in 2005.

Step 3. Determining Reasons for Termination of Assistance

For properties with Section 8 in 2005 but no Section 8 in 2014, we classified the type of termination using the "Termination_Reason" column from the Contract Terminations file. Contracts with a Termination_Reason of "Opted out" were classified as owner opt-outs; properties with a Termination_Reason of "Default," "Demolished," "Failed HQS" (Housing Quality Standards inspection), "Foreclosure," or "Fraud" were considered to be HUD-abated contracts.

For properties with Section 236/BMIR mortgages in 2005 but not in 2014, we used HUD's Terminated Mortgages database to find the reason for termination. The field "TERM_TYPE" indicates if the mortgage ended due to maturity, prepayment, or assignment (foreclosure). As described below, we considered prepayment to be a form of owner opt-out, assignment to be a decision by HUD to cancel assistance to a troubled property, and mortgage maturity to be a neutral status that does not imply a decision by HUD or by the owner.

Step 4. Assigning Outcome Categories

We used the information above to assign each property in the 2005 baseline dataset to three definitive statuses (Opt-Ins, Opt-Outs/Prepays, and Foreclosure/Abatement) and a miscellaneous "All Other" category. Note that the All Other category includes all Section 8 + Section 236/BMIR properties where outcomes for the two types of assistance point in different directions. For example, a property where the owner prepaid the Section 236 mortgage (an "opt-out" decision) but renewed a Section 8 contract (an "opt-in" decision) would be placed in the All Other category. The exception is the combination of a mortgage that has matured—a neutral status—with a Section 8 contract where there has been a definitive opt-in, opt-out, or HUD abatement. In those cases, we use the Section 8 contract decision only to determine the outcome category.

Opt-ins: Properties were classified as "Opt-Ins" if they were stayers where the owner renewed a Section 8 contract between 2005 and 2014, plus either: 1) they were Section 8 only properties without active Section 236/BMIR in 2005, which made up a large majority of cases, or 2) they had an active 236/BMIR mortgage or one that matured between 2005 and 2014.

Opt-Outs/Prepays: Properties were classified as "Opt-Outs/Prepays" if they were leavers with Section 8 only in 2005 and a terminated Section 8 contract identified as an owner opt-out under Step 3, or if they were leavers with Section 236/BMIR only in 2005 and their mortgage was identified as prepaid under Step 3. Properties with Section 8 + Section 236/BMIR in 2005 were placed in this category if they had a Section 8 contract identified as an owner opt-out and the 236/BMIR mortgage either was prepaid (active decision by the owner) or matured (no active decision by owner or HUD).

Foreclosure/Abatement: This status refers to leavers where HUD took action to end subsidies to a troubled property. They include Section 8 only properties where the contract termination reason was default, fraud, or other reasons included in the definition of HUD-abated contracts from Step 3. They also include Section 236/BMIR properties where the termination reason for the mortgage was "assigned." While this status category would also include Section 8 + Section 236/BMIR properties with both a HUD-abated Section 8 contract and either a HUD-assigned mortgage (active decision by HUD) or matured mortgage (no active decision needed), in practice no properties had these combinations of characteristics.

All Other: This category includes a number of types of properties, both stayers and leavers. The largest subset is Section 8 properties with the same contract in 2005 and 2014, with no renewal decision needed during the study period. The All Other category also includes a number of Section 8 + Section 236/BMIR properties where the owner, HUD or both made mixed decisions regarding maintaining or terminating assistance. The most common combination was a renewed Section 8 contract (owner opt-in) plus a prepaid Section 236/BMIR mortgage (owner opt-out).

The study dataset excludes 780 properties that had Section 8 or 236/BMIR assistance in 2005 where the 2014 status of the programs is unknown or ambiguous. The largest subset of these were properties that appeared to have ended Section 8 assistance because they have dropped out of the 2014 Active Contracts file, but were not listed in the Contract Terminations ("FHA Opt-outs") file. Our review of state and local preservation datasets and HUD's review of its Section 8 database indicates that many of these contracts are in fact associated with active Section 8 projects. Others are RAP or Rent Supp properties where the contract expired with no option to renew. While these properties were not included in the overall opt-in/opt-out analysis, they were included in the analysis of RAD-eligible properties where appropriate.

Identifying Section 202 and RAD-Eligible Developments

Properties were identified as part of the Section 202 Direct Loan subset if they appeared in the original study dataset, the Active Properties 2005 file had a "yes" in either the "is_sec_202" or "is_202_811_ind" column, and the Active Financing 2005 file indicated a Section 202 Direct Loan in the Section of the Act column ("soa_description_text"). To determine whether the Section 202 Direct Loan itself was still active in 2014, the same rules were applied to the Active Properties and Active Financing 2014 files. The overall outcome status (Opt-in, Opt-Out, Foreclosure/Abatement, Other) was retained from the previous analysis and generally refers to the status of the Section 8 contract at the development over the 2005-2014 period, rather than the status of the 202 loan.

The RAD-eligible developments were identified using additional datasets from HUD. In March 2012, HUD released a dataset of properties with active Rent Supp and RAP contracts (http://portal.hud.gov/hudportal/documents/huddoc?id=RS_RAP_Units_03092012.xlsx) that were presumably eligible to apply for RAD conversion. HUD also provided lists of 70 developments where conversion of Rent Supp and RAP contracts to project-based vouchers was complete. Matching these datasets to the 2005 baseline dataset identified 321 developments that

were either listed in the 2012 active Rent Supp/RAP contracts database, included in the list of completed conversions, or both. These are identified as “RAD-eligible” in the report. Sixty-three of these developments were identified as “RAD participants” based on their inclusion in the completed conversion dataset. The remaining seven completed RAD conversions do not appear in the Active Properties 2005 file and thus are not included in the analysis.

Appendix 2. Multivariate Analysis by Market Phase

Table A2.1. Odds Ratio Results Segmented by Housing Market Strength, 2005-2014

Housing Market		Strong 2005-2007		Weak 2008-2011		Recovering 2012-2014	
Variable		**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**
Property size (ref.: less than 50)	Property size 50-99	0.136	***	0.460	***	0.448	***
	Property size 100-199	0.218	***	0.344	***	0.249	***
	Property size 200+	0.127	***	0.166	***	0.216	***
Density	% of units with 3 or more bedrooms	0.280	*	0.206	***	0.659	
Occupancy types	Family (ref. elderly/disabled)	2.956	***	3.278	***	1.232	
Building types	Detached or semi-detached (ref. other)	1.122		0.918		1.391	
Ownership types	Non-profit (ref. for-profit/limited dividend)	0.571		0.588	**	0.489	**
REAC physical score	1 percentage point increase	0.992		0.984	**	0.999	
Program	Older programs	0.593		0.409	***	0.905	
	100% assisted units	0.087	***	0.103	***	0.147	***
	FHA insured	0.324		0.415		0.294	
	HFA related	1.770		2.236	*	2.011	
	Matured Section 236/BMIR mortgage	0.301		0.810		2.872	***
Neighborhood	Poverty rate	0.020	***	0.653		0.106	
	Minority rate	0.698		0.492	*	0.809	
	Homeownership rate	0.201		0.503		0.618	
Rent-to-FMR (ref. 100-119.9%)	Rent-to-FMR less than 80%	3.628	***	3.276	***	1.518	
	Rent-to-FMR 80-99.9%	1.973	*	2.135	***	1.166	
	Rent-to-FMR120-129.9%	0.398		0.914		0.630	
	Rent-to-FMR130-139.9%	0.160	*	0.691		0.379	
	Rent-to-FMR 140-159.9%	0.375		0.550		0.867	
	Rent-to-FMR 160% or more	0.199	*	0.735		0.435	
Metropolitan Location (ref. suburbs)	Principal cities	1.788	*	1.301		1.159	
	Non-metropolitan	1.229		1.230		1.063	
Census Division (ref. South Atlantic)	New England	0.561		0.303	**	0.292	
	Mid Atlantic	0.483		0.921		1.264	
	East North Central	0.789		0.691		0.344	*
	West North Central	1.271		1.075		2.079	*
	East South Central	0.440		0.766		1.591	
	West South Central	0.712		1.771		0.587	
	Mountain	0.837		1.638		1.356	
	Pacific	0.600		0.835		1.022	
N		643		4684		4543	
Opt-outs		114		162		88	
Pseudo R^2		0.3385		0.2209		0.1875	

Asterisks in the p-value columns denote level of significance. *** indicates p<0.01; ** indicates p<0.05; * indicates p<0.1. A blank cell in the p-value column indicates result was not statistically significant.
Source: HUD, 2005 and 2014 Active Properties, Active Financing, Active Contracts and Multifamily Building Type Files, iREMS; Terminated Contracts Database; Terminated Multifamily Mortgages Database; 2005 *Picture of Subsidized Households*; 2005 and 2014 Fair Market Rents; U.S. Census Bureau, 2005-2009 American Community Survey; Federal Housing Finance Agency Housing Price Index

Appendix 3. Small Area FMR Exploratory Analysis

HUD's hypothetical Small Area Fair Market Rents (SAFMRs) provide zip code-level estimates of market rents for metropolitan areas. To the extent that the SAFMRs provide a more accurate estimate of the market-rate rents in a particular neighborhood than the metropolitan FMRs, a low rent-to-SAFMR value may be a better predictor of an owner's decisions to opt out of subsidies than a low rent-to-FMR ratio.

To test the potential use of SAFMRs in the opt-in/opt-out analysis, we created an adjustment factor to estimate property-level rent-to-SAFMR ratios from the original rent-to-FMR ratios provided by HUD. The adjustment factor is the ratio of the 2011 metropolitan two-bedroom FMR to the small area two-bedroom FMR.[19]

Estimated rent-to-SAFMR = rent-to-FMR * (2BR FMR/2BR SAFMR)

In this way, we calculated estimated rent-to-SAFMR for 7,907 properties with either Section 8 alone or Section 8 + 236/BMIR in 2005 and where the owner made an explicit opt-in or opt-out decision by 2014. The study set only includes properties in metropolitan areas, as small area FMRs are not calculated for non-metropolitan locations. The properties were placed in the same categories for rent-to-SAFMR as they were for regular rent-to-FMR in the regression analysis: less than 80 percent, 80-100 percent, 100-120 percent, 120-130 percent, 130-140 percent, 140-160 percent, and 160 percent or more. Table A3.1 shows the breakdown of the 7,907 properties by rent-to-SAFMR category.

Table A3.1. Properties by Rent-to-Small Area FMR Categories

Rent-to-Small Area FMR Ratio	% of Properties
Below 80% FMR	12%
Between 80% & 100%	27%
Between 101% & 120%	28%
Between 121% & 130%	10%
Between 131% & 140%	7%
Between 141% & 160%	9%
Over 160% FMR	7%

Using small area FMRs rather than the traditional MSA-level FMRs will change the analysis only if rents in the neighborhoods surrounding the subsidized properties are different from the overall metro-wide rents. If subsidized properties tend to be located in neighborhoods with relatively low rents compared to the surrounding region, the rent-to-SAFMR ratio should be higher than rent-to-FMR. Conversely, properties located in neighborhoods with stronger markets

[19] HUD published FY2011 Hypothetical Small Area FMRs at http://www.huduser.org/portal/datasets/fmr/smallarea/index.html. One limitation is the use of 2011 data to create the adjustment factor rather than 2005 baseline characteristics, as was used throughout the rest of the report. Small Area FMRs were not calculated before 2011.

than in the surrounding area should have lower rent-to-SAFMR ratios compared to the regular rent-to-FMR calculations.

In fact, most properties stay in the same category regardless of whether metropolitan or small area FMRs are used. Within the study set, 59 percent of properties remained in the same rent-to-SAFMR category as their original rent-to-FMR category. Nearly all others moved by one category. In 23 percent of cases, the property moved into a category one level higher, most commonly from a regular rent-to-FMR of 80-100 percent into the 100-120 percent category for rent-to-SAFMR. In those cases, therefore, the properties were located in surrounding neighborhoods with relatively low rents compared to the overall metropolitan area. In 12 percent of cases, the property moved down one category when converting from rent-to-FMR to rent-to-SAFMR. Again, the most common shift was between the two mid-range categories, in this case, properties moving from a rent-to-FMR category of 100-120 percent down to the 80-100 percent category for rent-to-SAFMR. Less than six percent of properties moved by two or more categories.

We then re-ran the regression models from Table 13 and calculated the odds ratios for the rent-to-SAFMR categories. The specification of the other variables in the model did not change. As Table A3.2 shows, the results were very similar to the rent-to-FMR results from Table 13, albeit with a smaller metropolitan-only dataset.

Table A3.2. Odds Ratios for Estimated Small Area Rent-to-FMR Categories

		Replication of original model (Section 8 Only)		Model without Housing Market Variables (Section 8 Only and Section 8 + 236/BMIR)		Model with Housing Market Variables (Section 8 Only and Section 8 + 236/BMIR)	
		Odds Ratio	P-value	Odds Ratio	P-value	Odds Ratio	P-value
Small Area Rent-to-FMR (ref. 100-119.9%)	Rent-to-FMR less than 80%	2.223	***	2.376	***	2.331	***
	Rent-to-FMR 80-99.9%	1.511	**	1.485	**	1.470	**
	Rent-to-FMR 120-129.9%	0.589		0.719		0.744	
	Rent-to-FMR 130-139.9%	0.578		0.584		0.605	
	Rent-to-FMR 140-159.9%	0.938		0.948		0.999	
	Rent-to-FMR 160% or more	0.364	*	0.355	*	0.363	*

In this preliminary experiment, therefore, use of the Small Area FMRs did not change the results substantially. Most properties did not change FMR category, and results of the regression analysis were similar. In a future study, we recommend calculating a more precise average Small Area Rent-to-FMR ratio for each property using adjustment factors for all unit sizes rather than just two-bedrooms, and using property datasets in the regression that are directly comparable (e.g., a metropolitan-only dataset for both the regular rent-to-FMR study and the SAFMR study).