Small Area Fair Market Rent Demonstration Evaluation

Final Report

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

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Prepared for

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Disclaimer

The contents of this report represent the views of the authors and do not necessarily reflect the views or policies of the U.S. Department of Housing and Urban Development or the U.S. government.

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Overview

This report documents the findings from the evaluation of the Small Area Fair Market Rent (SAFMR) demonstration of the U.S. Department of Housing and Urban Development (HUD) launched in 2012.

Demonstration. The Housing Choice Voucher (HCV) program, the largest rental housing assistance program administered by HUD, provides subsidies to households who rent units on the private market. In theory, HCV holders may locate in a wide variety of neighborhoods. In practice, however, they frequently concentrate in high-poverty neighborhoods with limited access to the amenities and services associated with social and economic opportunity. One likely factor contributing to this concentration is that the maximum subsidy traditionally available to each HCV holder is based on a single rent standard—the Fair Market Rent (FMR)—set for each metropolitan area. Under metropolitan area FMRs, voucher holders often cannot afford units in higher-opportunity neighborhoods where rents are much higher than the FMR. The demonstration tests the effects of replacing traditional metropolitan area FMRs with SAFMRs that vary with ZIP Code rent levels, intending to make it easier for voucher holders to afford units in higher-rent areas.

Evaluation. The evaluation focuses on the implementation beginning in 2012 of SAFMRs at five public housing agencies (PHAs) that participated in the demonstration—Chattanooga Housing Authority (TN), Housing Authority of Cook County (IL), Housing Authority of the City of Laredo (TX), Housing Authority of the City of Long Beach (CA), and Town of Mamaroneck Housing Authority (NY). The evaluation also includes two PHAs in the Dallas, Texas metropolitan area—the Housing Authority of the City of Dallas and the Plano Housing Authority—where SAFMRs were introduced in 2011. The evaluation compares results for these seven study PHAs to the results of a large group of comparison PHAs to isolate the effects of SAFMRs. Outcomes for HCV holders and the PHAs themselves are analyzed using both administrative data and primary interviews with HCV holder tenants, landlords in the respective rental markets, and PHA staff. The study uses ZIP Code poverty rate, school proficiency, job proximity, and environmental quality to measure the "opportunity" of specific neighborhoods. The evaluation analyzes HCV holder administrative data to compare 2010 as a pre-implementation year and 2015 and 2017 as post-implementation years in reporting our key findings.

Key Findings.

- SAFMRs increased the pool of rental units potentially available to HCV holders in high-opportunity neighborhoods and decreased the pool in low-opportunity neighborhoods.
- When a jurisdiction shifts from metropolitan area FMRs to SAFMRs, the net change in the number of units renting below the applicable FMR depends on how rental units are distributed across lower-, moderate-, and higher-rent ZIP Codes. In general, if fewer rental units are in higher-rent ZIP Codes than in lower-rent ZIP Codes, fewer units will

rent below SAFMRs than below the metropolitan area FMR. If the pattern is reversed, the net number of units renting below the applicable SAFMR would be greater.

- Among the sites we study, this trend results in an increased number of units renting below the applicable FMR at Chattanooga and Plano. At Long Beach and Dallas, the number of such units decreased. PHAs at Cook County, Laredo, and Mamaroneck experienced minimal changes.
- HCV holders in the SAFMR PHAs were more likely to live in higher-rent and higher-opportunity ZIP Codes than they had prior to the demonstration. Households in comparison PHAs saw no change, so we conclude that the shift was due to the SAFMRs.
- Among new HCV households and existing HCV households who moved to new units following the introduction of SAFMRs, a larger share moved to higher-rent and higher-opportunity ZIP Codes than did such households in the comparison PHAs. This effect was particularly strong for households with children. In interviews, HCV holders in SAFMR PHAs who considered moving reported that a desire for a neighborhood providing greater opportunity, such as a good school district, was the primary factor in their decision on where to move.
- HCV holders' awareness of SAFMRs varied based on move history. Households newly receiving a voucher after SAFMRs were introduced and existing voucher holders who moved were much more likely to be aware of—and understand—the policy than were existing voucher holders who did not move.
- Under both metropolitan area FMRs and SAFMRs, PHAs have discretion to set payment standards within a margin of 90 to 110 percent of the applicable FMR. At SAFMR PHAs, average per-unit payment standards decreased moderately (by 2 percent) between 2010 and 2017 in inflation-adjusted (real) terms over all the ZIP Code categories. This reduction is due to a decline in payment standards in the lower-rent and moderate-rent ZIP Codes that more than offset the increase in payment standards in the higher-rent ZIP Codes. At SAFMR PHAs, total payments to landlords decreased, again due to decreases in payments to landlords in lower-rent ZIP Codes that more than offset the increase in the higher-rent ZIP Codes. At comparison PHAs, payment standards and payments to landlords saw smaller changes over time with relatively little variation by ZIP Code rent levels. Thus, between 2010 and 2017, in SAFMR PHAs versus comparison PHAs, the pattern of differential changes was *relative decreases* in lower-rent neighborhoods and *relative increases* in higher-rent neighborhoods, which netted out to small and not statistically significant relative decreases in total landlord payments overall.
- Between 2010 and 2017, in the SAFMR PHAs, tenant contributions to average monthly rent increased following implementation of SAFMRs in all three ZIP Code categories (lower-rent, moderate-rent, and higher-rent). Contributions increased by more in the lower-rent ZIP Codes than in higher-rent ZIP Codes (by 14 percent compared with 11 percent). In the comparison PHAs, tenant contributions also increased, but by a smaller amount (about 7 percent) across all three categories. In lower-rent neighborhoods,

contributions increased by $30 more in SAFMR PHAs than in comparison PHAs. In moderate- and higher-rent ZIP Codes and overall, changes were small and not statistically significant.

- Most PHAs concluded that the administrative costs and burden of implementing and administering SAFMRs were justified by what they saw as the benefit to their HCV holders of better access to higher-opportunity neighborhoods.

Executive Summary

In 2015, the U.S. Department of Housing and Urban Development (HUD) contracted Abt Associates to conduct an evaluation of the Small Area Fair Market Rent (SAFMR) demonstration, launched in 2012. The demonstration tested a policy innovation whereby rent subsidies could be set higher in ZIP Codes where rents are higher and set lower in ZIP Codes where rents are lower. The evaluation study was to examine whether and to what extent such SAFMRs would give households receiving Housing Choice Vouchers (HCV) better access to areas of opportunity. The evaluation also examines how the switch to SAFMRs affects PHAs with respect to administrative burden and subsidy costs. This report documents the findings from that evaluation.

Study Background

Key Policy Issues Motivating the Study

HCVs allow residents to select rental units of their choice on the private market, so long as the units meet certain rent and quality parameters. HCVs theoretically offer HCV holders the chance to locate in neighborhoods with high-performing schools, low rates of poverty, and other characteristics associated with opportunity for neighborhood residents. In practice, however, HCV holders frequently concentrate in high-poverty neighborhoods with limited access to such amenities.

This study examines whether and to what extent changes in how subsidy levels are determined for the HCV program affect HCV holders' access to such "opportunity" neighborhoods. Ordinarily, the subsidy available to HCV holders is based on a single rent standard—the Fair Market Rent (FMR)—set for each metropolitan area (or nonmetropolitan county). The FMR is set by HUD, generally at the 40th percentile of rents of all units in that metropolitan area (or nonmetropolitan county) occupied by renter households who moved to the unit in the past 24 months. FMRs vary by unit size (number of bedrooms), but public housing agencies (PHAs) generally have only a limited ability to adjust the maximum subsidy level to reflect differences in rent levels among neighborhoods within their jurisdiction.

Rents tend to be higher in certain neighborhoods than in others, and neighborhoods with higher rents tend to have better access to amenities that provide opportunity. For this reason, using a single metropolitan-wide standard as the basis for setting the maximum subsidy available to HCV holders makes it difficult for HCV holders to access housing in areas of opportunity. Under a system based on metropolitan area FMRs, it is much easier for HCV holders to find units to rent with vouchers in lower-rent areas that generally also have fewer opportunities.

Consequently, one of the central questions that HUD faces in administering the HCV program is how to create a more effective means for HCV holders to move to higher-opportunity areas without significantly raising overall subsidy costs. This question is the primary motivation for the Small Area Fair Market Rent (SAFMR) demonstration. As the name implies, SAFMRs are FMRs set using geographic areas that are much smaller than a metropolitan area—specifically, by ZIP Codes.

HUD's SAFMR Demonstration

The SAFMR demonstration enables PHAs to increase HCV subsidies in ZIP Codes where rents are higher than the metropolitan-wide average and to decrease HCV subsidies in ZIP Codes where rents are lower.

To test how SAFMRs may potentially affect a range of PHA types, HUD selected five PHAs for the demonstration whose conditions differed across various characteristics. The five demonstration PHAs are the Chattanooga Housing Authority (TN), the Housing Authority of Cook County (IL), the Housing Authority of the City of Laredo (TX), the City of Long Beach Housing Authority (CA), and the Town of Mamaroneck Housing Authority (NY).

Evaluating the SAFMR Demonstration

In addition to these 5 PHAs that agreed to participate in the SAFMR demonstration, this evaluation study also includes 2 (of 12) PHAs in the Dallas, Texas metropolitan area. All metropolitan Dallas PHAs have been using SAFMRs since 2011 as a result of a legal settlement. The two PHAs included in the study are the Housing Authority of the City of Dallas, the largest PHA operating in that metropolitan area, and the Housing Authority of Plano, which serves a smaller number of HCV holders in a service area that has higher opportunities for HCV holders.

The SAFMR demonstration evaluation examines whether and to what extent this shift from metropolitan-wide FMRs to SAFMRs helps HCV holders to better access areas of higher opportunity. The evaluation also examines how this alternative approach affects HCV holders (tenants) and landlords, as well as HCV subsidy and administrative costs.

The evaluation study looks at the effects of SAFMRs on the following:

- **Potential access to opportunity**. The extent to which SAFMRs change the number of units with rents at levels affordable to HCV holders and the number and share of such units in higher-opportunity areas.
- **Actual access to opportunity**. The extent to which HCV holders in SAFMR PHAs are more likely to locate in or move to higher-opportunity areas after implementation of SAFMRs than before.
- **Costs and rents.** The extent to which subsidy expenditures, administrative expenses, total rent levels, and tenant contributions to rents change after implementation of SAFMRs.
- **Impacts on HCV holders and landlords.** Changes in HCV holders' housing search patterns and understanding of the program, as well as landlords' awareness of the change in the HCV program and responses to it.

SAFMRs were implemented in the Dallas metropolitan area in 2011 and in the five demonstration sites beginning in the fall of 2012. To understand how the introduction of SAFMRs may have affected outcomes over time, this report examines changes over time between 2010 (pre-demonstration) and two post-implementation periods, 2015 and 2017. To control for trends that may be unrelated to SAFMRs, the report broadly examines changes

over the same time period for a group of comparison PHAs that did not implement SAFMRs. The report also describes the results of a differences-in-differences regression analysis that examines the extent to which SAFMRs affected HCV holders' location outcomes after controlling for time trends and variation in household composition and other household characteristics.

Data collection for this report included both primary sources and secondary (including administrative) sources. To collect primary data, we conducted two site visits to each of the seven SAFMR PHAs. The first visits, conducted in May and June 2016, included one-on-one and group interviews with executive directors and multiple key staff at each PHA involved in implementing the transition to and administration of SAFMRs. The goal of these Phase 1 visits was to learn about the PHA experience with one-time, transitional, and ongoing administrative efforts and costs related to SAFMRs and to learn about PHA perceptions of the impacts of SAFMRs on HCV holders and landlords. The second site visits were conducted in November and December 2017 and focused on how HCV holders and landlords had experienced the change to SAFMRs. These 3- to 4-day Phase 2 site visits included in-person interviews with a sample of each PHA's HCV holders and local landlords to learn about their experiences with the shift in policy, and follow-up interviews with PHA executive directors or HCV program directors to update the implementation and cost information gathered during the first visits.

Secondary data used in the analysis include metropolitan area FMRs, SAFMRs, ZIP Code tabulations of rent distributions, and administrative Public and Indian Housing Information Center data maintained by HUD. Our analysis also includes two types of neighborhood-level indicators—opportunity measures of poverty rate, school proficiency, job proximity, and environmental quality, and neighborhood characteristics of racial/ethnic makeup, presence of children, and percent of residents with a college degree. Neighborhood-level indicators were drawn from the U.S. Census Bureau's American Community Survey, the National Center for Education Statistics, and the U.S. Environmental Protection Agency.

Key Findings

The following are the key findings.

Potential Access to Opportunity Following Introduction of SAFMRs

- SAFMRs increased the pool of rental units potentially available to HCV holders at rents below the applicable FMR in higher-rent ZIP Codes, and SAFMRs reduced the pool in lower-rent ZIP Codes.[1]
    - Under metropolitan area FMRs, nearly three-fourths of units in lower-rent ZIP Codes in the seven SAFMR PHAs' jurisdictions had gross rents (rent plus

[1] This report defines a "moderate-rent" ZIP Code as one in which the median rent falls between 90 and 110 percent of the median rent for the metropolitan area as a whole. The report defines ZIP Codes with median rents that are below 90 percent of the metropolitan area median rent as "lower-rent," and those with median rents that are above 110 percent of the metropolitan area median rent as "higher-rent."

utilities) below the FMR, as did slightly more than one-fourth of units in higher-rent ZIP Codes. Under SAFMRs, the availability of units was much more evenly distributed across different types of neighborhoods, leading to increased availability in higher-rent ZIP Codes and reduced availability in lower-rent ZIP Codes relative to metropolitan area FMRs.

    - Roughly one-half of units had rents below the SAFMR in each neighborhood type (higher-rent, lower-rent, and moderate-rent).
    - As expected, changes in the share of units with rents below the applicable FMR in moderate-rent ZIP Codes were fairly modest.

- Relative to lower-rent ZIP Codes, the higher-rent ZIP Codes offer higher opportunity to residents on all opportunity measures studied, namely lower poverty, higher school proficiency, higher job proximity, and higher environmental quality.
- Because SAFMRs increase access to higher-rent ZIP Codes and reduce access to lower-rent ZIP Codes, we found, not unexpectedly, that the transition to SAFMRs led to an increase in rental units potentially available to HCV holders in higher-opportunity areas under SAFMRs than under metropolitan area FMRs and a decrease in units in lower-opportunity areas.
- In shifting from metropolitan area FMRs to SAFMRs, a PHA could experience a net increase or a net decrease in the total number of units available to HCV holders, depending on how rental units are distributed across its lower-, moderate-, and higher-rent ZIP Codes.

    - For any individual PHA, the increase in the number of units with rents below the applicable FMR in higher-rent ZIP Codes may or may not fully offset the decrease in the number of units in the lower-rent ZIP Codes.
    - The level of net change in units below the applicable FMR in a given geography depends on how rental units are distributed across lower-, moderate-, and higher-rent ZIP Codes. In general, if fewer rental units are in higher-rent ZIP Codes than in lower-rent ZIP Codes, there will be fewer units with rents below SAFMRs than below the metropolitan area FMR (net decrease). If the pattern is reversed (more rental units are in higher-rent ZIP Codes than in lower-rent ZIP Codes), then there will be more units with rents below SAFMRs than below the metropolitan area FMR (net increase).
    - In two study sites, the shift from metropolitan area FMRs to SAFMRs led to a net decrease in the number of units with rents below the applicable FMR: more than 10 percent fewer in Long Beach and about 4 percent fewer in Dallas. In two other sites, the shift led to a net increase: in Chattanooga, slightly more than 3 percent more, and in Plano (with a service area in the higher-rent section of the Dallas HUD Metropolitan FMR Area), 26 percent more. The remaining sites (Cook County, Laredo, and Mamaroneck) experienced minimal changes.

- For the SAFMR PHAs as a whole, the increase in the number of units with rents below the applicable FMR in higher-rent ZIP Codes did not fully offset the decrease in the number of units in the lower-rent and moderate-rent ZIP Codes, resulting in a net loss of units potentially available to HCV holders: a loss of more than 22,000 units (3.4 percent) that previously might have been affordable to HCV holders.
    - It is important to note that the net effect across all seven study PHAs is sensitive to the nature and size of the rental markets of the PHAs included in the study. A study looking at a different sample of PHAs may well have reached a different conclusion, as the shift from metropolitan area FMRs to SAFMRs naturally leads to a net increase in the number of units renting below the applicable FMR in some PHAs and a net decrease in other PHAs, depending on the distribution of rental units, as noted above.
- One factor driving the variation across PHAs in the change in number of units renting below the applicable FMR is how the rent levels within a PHA's jurisdiction differ from rent levels within the broader metropolitan area on which its metropolitan area FMR is based.
    - For example, rent ratios in Long Beach are calculated using the median rent for the much larger Los Angeles-Long Beach HUD Metro FMR Area. Although 3 of the 13 ZIP Codes in that PHA's jurisdiction have higher rents (median more than 110 percent of the Metro FMR Area median), these ZIP Codes have few rental units (perhaps due to higher owner-occupancy rates). As such, there are more than nine times as many rental units in the five ZIP Codes with lower rents (median less than 90 percent of the Metro FMR Area median). Meanwhile, only 13 and 9 percent of rental units are in lower-rent ZIP Codes in Mamaroneck and Plano, respectively.
    - These examples illustrate that, particularly for PHAs that operate in a small portion of a metropolitan area, SAFMRs may be mostly above or mostly below metropolitan area FMRs.

Actual Locations of HCV Holders Following Implementation of SAFMRs

Although SAFMRs are hypothesized to improve HCV holders' access to units in higher-opportunity areas, the actual experience could be influenced by a number of factors. These factors include the decisions PHAs make in implementing the demonstration (such as their choice of payment standards) and the responses of both landlords and HCV holders to the changes in payment standards. HCV holders' current circumstances may also play a role, as moving to a higher-opportunity area may or may not fit with an HCV holder's situation at a given point in time.

- Following the implementation of SAFMRs, HCV holders in the SAFMR PHAs were more likely to live in higher-rent ZIP Codes than they had been prior to the demonstration (22 percent in 2017 compared with 17 percent in 2010). In the comparison PHAs, the percentage of households who lived in higher-rent ZIP

Codes did not change—approximately 14 percent in both periods. So, we conclude that the shift observed in the SAFMR PHAs was due to the introduction of SAFMRs.

    - The changes in locations among the SAFMR PHAs also translated into changes in access to opportunity (which is measured using poverty rate, school proficiency, job proximity, and environmental quality). By 2017, 14 percent of HCV holders in the SAFMR PHAs lived in higher-opportunity areas compared with 11 percent prior to implementation. In contrast, about 9 percent of HCV holders in the comparison PHAs lived in higher-opportunity areas in both periods.
    - Estimates from a differences-in-differences regression model indicate that HCV households were about 10 percent more likely to move to a neighborhood with a higher opportunity score as a result of the implementation of SAFMRs.

- An analysis of key subgroups finds that the overall findings are driven to a great extent by households with children. The share of households with children who lived in higher-rent ratio neighborhoods increased by 9 percentage points from 2010 to 2017.
    - Differences-in-differences regression results indicate that HCV households with children who move were 6.7 percentage points (from a baseline of about 30 percent) more likely to move following implementation of SAFMRs to a ZIP Code that is at least a decile higher in the metropolitan area opportunity index developed for this evaluation.
    - Households with a head or co-head with a disability and households that include a senior did not exhibit meaningful changes in the share living in higher-rent neighborhoods. No significant changes were found for households headed or co-headed by an adult with a disability or those with a senior household member, nor were significant changes found in the comparison PHAs.

The study looked separately at the location patterns of new HCV holders and HCV holders who were part of the program prior to SAFMR implementation and chose to move to a new ZIP Code.

- The share of new HCV holders across all the SAFMR sites who located in higher-rent ZIP Codes increased from 14 percent in 2010 to 19 percent in 2017. By contrast, there was no significant change among comparison PHAs over this time period.
    - The extent to which this share changed varied across SAFMR sites. Chattanooga, Cook County, and Laredo showed substantial increases, and the other sites showed little change over time.
    - The increase in new HCV holders locating in higher-rent ZIP Codes translated into greater access to opportunity. In 2010, of new HCV holders in the demonstration sites, 9 percent located in higher-opportunity ZIP Codes. This increased to 14 percent by 2017.
    - Differences-in-differences regression results did not provide conclusive evidence that new HCV holders following implementation of SAFMRs were more likely

to move to higher-opportunity ZIP Codes. (While the coefficient indicates a small increase, it is not statistically significant.)

- It does not appear that SAFMRs are linked to a higher likelihood of moving into a new ZIP Code. Overall, about 21 percent of HCV holders moved to new ZIP Codes in 2010, prior to the implementation of SAFMRs; 16 percent moved in 2017, after implementation. The decline in moving among comparison PHAs was similar, from 21 percent to 18 percent in the same time period.
- However, among existing HCV holders who moved to new ZIP Codes in SAFMR PHAs, the share moving to higher-rent ZIP Codes increased from 19 percent in 2010 to 31 percent in 2017, a statistically significant change. In other words, in 2017, almost one-third of voucher households in the SAFMR PHAs who moved to a new ZIP Code moved into a higher-rent ZIP Code. No similar trend was observed in the comparison PHAs.
    - The increased location to higher-rent ZIP Codes also translates into greater access to opportunity. The share of recent movers to new ZIP Codes locating in higher-opportunity neighborhoods increased from 10 percent in 2010 to 18 percent in 2017.
    - These findings are confirmed by differences-in-differences multivariate regression results. Adjusting for other factors, existing HCV holders who move following implementation of SAFMRs were 5.8 percent more likely (from a baseline of about 30 percent) to move to a ZIP Code that is at least a decile higher in the metropolitan area opportunity index.

Program Costs and Rents

- Average per-unit payment standards at SAFMR PHAs decreased moderately (by 2 percent) between 2010 and 2017 in inflation-adjusted (real) terms. However, this is a result of a decline of 10 percent between 2010 and 2015 and an increase of 9 percent between 2015 and 2017.
    - The declines in payment standards in the 2010-to-2015 period were a result of a combination of an 18-percent decrease in the average payment standard of units in lower-rent ZIP Codes and a 7-percent decrease in moderate-rent ZIP Codes, which more than offset the 10-percent increase in higher-rent ZIP Codes. Between 2015 and 2017, some PHAs raised their payments standards as a percentage of the SAFMR, which moderated the overall decline in average per-unit payment standards.
    - Much smaller changes were observed in the comparison PHAs, where payment standards decreased by 2 percent across all rent categories between 2010 and 2015 and increased by 3 percent between 2015 and 2017, for an overall increase of 1 percent.
- SAFMRs appear to have had an impact on PHAs' average Housing Assistance Payments (HAP) to landlords. Similar to the changes described for payment standards, HAP

decreased substantially between 2010 and 2015 (by 13 percent across SAFMR PHAs) and recovered much of the decrease between 2015 and 2017 (increasing by 9 percent). These shifts resulted in an overall decrease of 6 percent in average HAP payments from 2010 to 2017 (from an average of $741 to $699, both expressed in 2017 dollars). In contrast, average payments to landlords decreased by about 4 percent in the comparison PHAs between 2010 and 2015 and remained flat between 2015 and 2017.

- The changes in average HAP payments to landlords in SAFMR PHAs between 2010 and 2015 resulted from a 21-percent decrease in payments in lower-rent ZIP Codes and an increase of about 6 percent in higher-rent ZIP Codes. The decrease in lower-rent ZIP Codes was slightly offset with an increase of 2 percent from 2015 to 2017 (but the increase is not statistically significant). Meanwhile, average HAP increased dramatically in higher-rent ZIP Codes, by 21 percent between 2015 and 2017.
    - A very different pattern was observed in the comparison PHAs, where the changes in HAP payments were similar across rent categories, with an overall average decline of 2 percent in the lower-rent ZIP Codes and 4 percent in the higher-rent ZIP Codes between 2010 and 2017.
- In the SAFMR PHAs, HCV holder contributions to average monthly rent increased an average of 18 percent (in real terms) between 2010 and 2015, then subsequently declined for an overall 11-percent average increase between 2010 and 2017.
    - Average HCV holder contributions to monthly rent increased the most in lower-rent ZIP Codes, from $368 to $448, or 22 percent. The increase in average HCV holder contributions to rent in higher-rent ZIP Codes was smaller, rising from $423 to $469, or an 11-percent increase. These changes were partially offset by subsequent declines in HCV holder rent contributions between 2015 and 2017 across all neighborhood types. However, average contributions remained $42 (11 percent) higher overall in 2017 than in 2010, after adjusting for inflation, and $51 (14 percent) higher in lower-rent neighborhoods.
    - A more muted pattern applied in the comparison PHAs, where HCV holder contributions rose by about 9 percent between 2010 and 2015, with roughly similar increases across all ZIP Code rent categories. These increases were also somewhat offset by slight declines between 2015 and 2017, with family contributions $26 (7 percent) higher in 2017 than in 2010.[2]

[2] A number of differences between the SAFMR demonstration we evaluate in this report and the SAFMR Rule that is currently being promulgated (as discussed in chapter 1) could cause additional PHA and HCV holder cost impacts. For example, under the SAFMR Rule, PHAs are given the option to establish an administrative policy that would hold harmless those families remaining in place from payment standard reductions that the demonstration required at the family's second annual recertification. In addition, in order to ensure that a suitable number of units remain available during the transition to SAFMRs, the SAFMR Rule limits the annual decrease in SAFMRs to no more than 10 percent of the area's FMR in the prior fiscal year.

Impacts on PHAs

- The largest expenditures related to SAFMR implementation for most PHAs were payments to vendors or information technology consultants to modify or adopt automated systems capable of handling ZIP Code-level payment standards. SAFMR implementation also required intensive staff efforts in several areas, including analyzing and setting ZIP Code-level payment standards and training staff on how to explain and apply the new payment standards.
- Modest efforts were also required to deal with an increased number of contract rent adjustments, communicating the SAFMR policy to landlords and HCV holders, and to travel longer distances to conduct housing quality standard inspections as units became more geographically dispersed.
- Most PHAs concluded that the administrative costs and burden of implementing and administering SAFMRs were justified by what they saw as the benefit to their HCV holders of better access to higher-opportunity neighborhoods.

Impacts on HCV Holders

- Interviews with HCV holders in the SAFMR demonstration sites found that the primary factors motivating HCV holders' decisions to move tended to be outside of their control—such as being forced to leave by landlords, their rental unit becoming too expensive (for example, because the landlord requested a rent increase or their voucher size changed, making the rent too expensive), or selecting a less desirable unit to avoid a newly issued voucher expiring—rather than factors reflecting an intentional decision to move.
    - Once the decision to move had been made, reasons for selecting specific units included desire to be near family and other established networks, as well as situations such as advanced age and/or disability.
    - We also found HCV holders who took advantage of SAFMRs to try to move to better neighborhoods. Among this group, the most commonly reported primary factors in their decision on where to move were related to a desire for a neighborhood providing greater opportunity, such as a good school district.
- Awareness of SAFMRs varied depending on move history. Based on interviews with HCV holders, households newly receiving a voucher after SAFMRs and existing voucher holders who moved were much more likely to be aware of, and understand, the policy than were existing voucher holders who did not move.

Impacts on Landlords

- Slightly more than half of landlords interviewed reported that they were aware of SAFMRs prior to the interview.
    - After the introduction of SAFMRs, PHAs (with the exception of Long Beach) generally did not make extensive additional efforts to recruit new landlords in higher-opportunity areas. Several PHAs held briefings for landlords during the

course of regular operations and one PHA reported specifically locating these briefings in higher-opportunity neighborhoods in an effort to attract those landlords.

    - About half the landlords we interviewed who knew about the policy learned about it from sources other than the PHA.

- In areas where payment standards decreased, about half the landlords we interviewed reported making a rent concession to reduce HCV holders' rent burden, mainly because they knew the HCV holders could not afford to pay more in rent and wanted to "help them out" or because the landlord wanted to avoid a vacancy. Other landlords in areas where the payment standard decreased reported making no rent concessions, and a small number of these said they stopped renting some or all of their properties through the HCV program due to the reduced payment standard.

1. About the Small Area Fair Market Rent Demonstration and Evaluation

1.1 Motivation for the Demonstration

HCVs theoretically offer HCV holders the chance to locate in neighborhoods with higher-performing schools, lower poverty rates, and other characteristics and services associated with opportunity for neighborhood residents. In practice, however, HCV holders frequently concentrate in higher-poverty neighborhoods with limited access to such amenities. This is particularly the case for HCV holders from racial and ethnic minority groups (Devine et al., 2003; Galvez, 2010; McClure, 2008, 2011; Owens, 2012; Pendall, 2000).

The use of a single rent standard as the basis for determining the HCV subsidy level throughout a metropolitan area is among the factors contributing to this concentration. That standard is the Fair Market Rent (FMR) set annually by the U.S. Department of Housing and Urban Development (HUD) for metropolitan areas (and nonmetropolitan counties), generally at the 40th percentile of rents of all units in that area occupied by renter households that moved to the unit in the past 2 years.[3]

Rents tend to be higher in certain neighborhoods than others, and neighborhoods with higher rents tend to have better access to amenities that provide opportunity. For this reason, using a single metropolitanwide standard as the basis for setting the maximum subsidy available to HCV holders makes it difficult for them to access housing in areas of opportunity. Under an FMR-based system, it is much easier for HCV holders to use vouchers in lower-rent areas that generally also have fewer opportunities. (DeLuca, Garboden, and Rosenblatt, 2013; Devine et al., 2003; Pendall, 2000).

Currently, the subsidy available to HCV holders is generally based on the FMR for each rental unit size (number of bedrooms) for each metropolitan area. HUD publishes the metropolitan area FMRs and provides public housing agencies (PHAs) with discretion to set the local *payment standard*, which is used to calculate the maximum available subsidy, between 90 and 110 percent of the FMR (unless HUD approves an exception). Policymakers have long been concerned that payment standards that are set too low could impede HCV holders' access to quality housing and neighborhoods. Even when a PHA sets the payment standard at the maximum of 110 percent of the FMR, generally many parts of the metropolitan area have *gross rents* (rent plus utilities) above the payment standard and it is thus difficult or impossible for HCV holders to access. At the same time, payment standards set too high could drive up subsidy costs and reduce the number of families served.

Consequently, one of the central questions that HUD faces in administering the HCV program is how to create a more effective means for HCV holders to move to higher-opportunity areas,

[3] HUD created a program in 2001 designed to reduce concentration of HCV tenants. The program enabled FMRs in some areas to be set at the 50th percentile of rents. With the promulgation of the SAFMR regulation, the use of 50th percentile FMRs is discontinued. There will be three areas finishing their 3-year use of 50th percentile FMRs in the FY 2019 FMRs.

without significantly raising overall subsidy costs. Answering that question is a primary motivation for HUD's Small Area Fair Market Rent (SAFMR) demonstration.

1.2 Design and Implementation of the Demonstration

HUD's SAFMR demonstration tests an alternative approach to setting FMRs. In this alternative approach, the metropolitan area FMRs are adjusted to account for differences in market rents using a geographic area that is much smaller than the metropolitan area—the ZIP Code level—to produce SAFMRs.

During the demonstration, HUD calculated SAFMRs by multiplying the metropolitan area FMR by the ratio of the ZIP Code median rent to the metropolitan area median rent.[4] Therefore, if the median rent in a ZIP Code is 25 percent higher (or lower) than the median in that metropolitan area, the SAFMR for that ZIP Code will be 25 percent higher (or lower) than the metropolitan area FMR. The more localized SAFMRs enable payment standards (which can now be set between 90 and 110 percent of the SAFMR rather than the metropolitan area FMR) to vary within a metropolitan area outside of the range currently permitted. HUD's hypothesis is that, because SAFMRs more accurately reflect the cost of rental housing in a given neighborhood, this alternative approach would increase the pool of neighborhoods HCV holders can access using vouchers relative to the pool defined by FMRs. SAFMRs are set by HUD once per year and are effective at the beginning of the fiscal year, October 1st.

SAFMRs could lead to a greater share of HCV holders locating in higher-opportunity and lower-poverty neighborhoods by providing them with subsidies adequate to make such areas accessible and thereby reduce the number of voucher families that reside in areas of high poverty concentration. A move to SAFMRs could also affect landlords' interest in and awareness of the HCV program. Higher payment standards in higher-cost ZIP Codes could attract landlords' interest, whereas lower payment standards in low-cost ZIP Codes could discourage engagement with the HCV program.

A move to SAFMRs would also affect the local PHAs that administer the HCV program. It ultimately could alter the average amount PHAs pay landlords for the units they administer. Households may respond to SAFMRs by more frequently moving to or selecting higher-cost areas. This could increase a PHA's per-unit voucher cost such that a PHA ultimately may not be able to fund as many vouchers as before [5]. However, average costs may not increase due to a corresponding reduction in costs associated with households renting in lower-cost areas. Moves

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[4] Since the demonstration ended, HUD has updated the calculation methods used in determining some ZIP Code SAFMRs. Please see the FY 2018 FMR Federal Register notice (82 FR 41637) available at huduser.gov/portal/datasets/fmr/fmr2018/FY2018-FMR-Preamble.pdf) for a complete description of the methods used to compute SAFMRs.

[5] Alternatively, the PHA may require additional funding from HUD to continue serving its baseline number of HCV holders.

to higher-opportunity neighborhoods could also lead to increases in HCV holders' incomes, increasing the amount the household pays in rent and mitigating increases in the subsidy amount.

In addition, a switch from voucher payment standards derived from FMRs to SAFMRs would likely require PHAs to change their administrative processes and systems, particularly at the initial stage.[6]

To test how SAFMRs may potentially affect a range of PHA types, HUD randomly selected five PHAs for the demonstration that differed across various characteristics:

- Chattanooga Housing Authority, Tennessee (CHA).
- Housing Authority of Cook County, Illinois (HACC).
- Housing Authority of the City of Laredo, Texas (LHA).
- Housing Authority of the City of Long Beach, California (HACLB).
- Town of Mamaroneck Housing Authority, New York.

These PHAs were from distinct clusters of eligible PHAs that met a size threshold and demonstrated administrative capacity to carry out the SAFMR program. The five PHAs in the demonstration were recruited at random from clusters of eligible PHAs and accepted the invitation to participate in the demonstration. The demonstration for the five PHA participants started at the end of 2012 and ended on September 30, 2016.

1.3 Evaluation of the Demonstration

In 2015, HUD contracted Abt Associates to conduct an evaluation of the SAFMR demonstration—examining whether and to what extent providing higher subsidies in ZIP Codes where rents are higher and lower subsidies in ZIP Codes where rents are lower helps HCV holders to better access areas of opportunity. HUD requested that the evaluation also examine how the switch to SAFMRs affects HCV holders and landlords, as well as HCV subsidy and administrative costs.

1.3.1 Study Sample

In addition to the 5 PHAs that agreed to participate in the SAFMR demonstration, this study includes 2 (of 12) PHAs from the Dallas, TX HUD Metropolitan Fair Market Rent Area (HMFA) that have used SAFMRs since 2011 as a result of a legal settlement:

- Housing Authority of the City of Dallas.
- Housing Authority of Plano.

[6] We note that in designing the SAFMR demonstration, HUD provided participating PHAs with additional funding intended to cover initial administrative costs.

Dallas is the largest of the PHAs in the Dallas metropolitan area. In contrast, the Plano PHA serves a smaller number of HCV holders, and a smaller share of Plano's HCV holders are members of a minority group.

Appendix A-1 presents the process by which HUD selected the seven PHAs for the study and the implication for interpreting our findings. In this report, we refer to this group of seven PHAs collectively as the *SAFMR PHAs*. Exhibit 1-1 describes this group. For each, the exhibit also presents selected PHA-level characteristics of its residents and the neighborhoods in which they live, drawn from the 2011 Picture of Subsidized Households data. As the exhibit reflects, the study includes a group of PHAs with a range of demographic and housing market characteristics.

Exhibit 1-1: Small Area Fair Market Rent Demonstration PHAs and Selected Characteristics

PHA Name (Cluster)	HCV Units	Two-Bedroom FMR 2012 ($)	Average HCV Income (Percent of Local Median)	Minority/ Hispanic (Percent)	62+ Years Old (Percent)	Tract Minority (Percent)	Tract Single-Family Owner (Percent)
Chattanooga Housing Authority (5)	3,183	628	21	82/2	15	54	48
Housing Authority of Cook County (6)	12,622	958	21	83/3	18	58	52
Laredo Housing Authority of the City of Laredo (2)	1,368	696	25	100/99	20	95	46
City of Long Beach Housing Authority (7)	6,556	1,447	20	88/11	23	83	17
Town of Mamaroneck Housing Authority (4)	647	1,580	21	54/22	32	39	32
Housing Authority of the City of Dallas (5/6)	18,525	868	21	94/5	17	67	44
Housing Authority of Plano	908	868	25	65/3	29	39	50

FMR = Fair Market Rent. HCV = Housing Choice Voucher. PHA = public housing agency.
Notes: Average HCV income (as a percent of local median), minority and Hispanic percent, and percent 62 years old plus are average characteristics of HCV holders. Tract minority percent is defined as "minorities as a percentage of total population in the census tract where HUD-assisted families reside." Tract single-family owner percent is defined as the "percentage of households that are owner and occupants of single-family detached homes in the census tract where HUD-assisted families live."
Sources: Clusters determined by HUD for Small Area Fair Market Rent demonstration, except Dallas and Plano, which are assigned to a cluster based on their characteristics; descriptive data from the 2011 Picture of Subsidized Households PHA-level data

To examine the effects of SAFMR on these seven PHAs in our quantitative analysis of HUD administrative data, we take advantage of HUD's approach to recruiting PHAs to participate in the demonstration. Specifically, we form a comparison group of the HCV holders in all of the PHAs who were both eligible to be recruited into the demonstration and in the same recruitment cluster as one of the five PHAs randomly included in the demonstration from the group. We refer to this set of 138 PHAs as c*omparison PHAs* in the analysis in chapters 5 and 8. Further details of this approach are included in chapter 3, which details the evaluation methods and data sources.

1.3.2 Research Questions

We organize the key policy questions prompting this study into two categories: (1) the impacts of SAFMRs on HCV holders, and (2) the fiscal and administrative impacts of SAFMRs on PHAs.

The effects of SAFMRs on HCV holders and on administering PHAs is the primary focus of this evaluation. Examining landlord awareness and perceptions of the change (research question 1d in the following) is also important, however, because it likely affects both HCV holders and PHAs. Landlords' willingness to accept HCVs affects HCV holders' ability to use vouchers. PHAs also have significant interactions with landlords in setting and negotiating rental contracts that may be affected by changing to SAFMRs. We interviewed landlords and residents in Phase 2 of our research.

1. **What are the impacts of SAFMRs on HCV holders?**
    a. What is the *potential* of SAFMRs to increase access to opportunity and integrated neighborhoods for HCV holders? That is, how does the number of units with rents below SAFMRs in higher-rent neighborhoods compare with the number below metropolitan area FMRs? How do differences in the number of units with rents below the SAFMR and with rents below the FMR relate to measures of neighborhood opportunity and other neighborhood characteristics? How does this potential vary across metropolitan areas with different housing markets?
    b. Did changing to SAFMRs increase existing HCV holders' likelihood of moving to higher-opportunity or more-integrated neighborhoods? Were new HCV holders more likely to locate in higher-opportunity neighborhoods under SAFMRs than under metropolitan area FMRs? How did the characteristics of HCV holders' neighborhoods change after adoption of SAFMRs?
    c. How did the change to SAFMRs affect HCV holders' experience with the HCV program? What effects did the change have on tenants' rent burdens? Did tenants understand how the change affected their housing options? What were tenants' perception of the change? Did the change to SAFMRs influence HCV holders' success in using vouchers to rent units?
    d. To what extent were landlords, both those participating in the HCV program and potential new participants, aware of the change in the HCV program? How did landlords perceive the change?
2. **What are the fiscal and administrative impacts of SAFMRs on PHAs?**
    a. What are the implications for subsidy costs and ongoing administrative expenses?
    b. What were the financial and human costs of the one-time transition from metropolitan area FMRs to SAFMRs? How did the change affect PHA interaction with HCV holders and potential holders? How did the change affect PHA interaction with landlords?

An interim report published in 2017 provided initial responses to these questions. Those responses have been extended and updated for this final report.

1.4 Differences between the Demonstration and SAFMR Rule

In November 2016, HUD issued a Final Rule (81 FR 80567) establishing the required use of SAFMRs in selected metropolitan areas. The Final Rule is in effect as of January 2018.

This evaluation examines the five PHAs in the SAFMR demonstration and two PHAs from the Dallas, TX metropolitan area for the period before the SAFMR rule was implemented. The criteria used to select SAFMR areas for the demonstration and the conditions under which SAFMRs are used differed in several key ways from the process for selecting areas required to use SAFMRs and the conditions imposed under the Final Rule.

Though participation in the SAFMR demonstration was voluntary, PHAs operating in areas selected through the Final Rule are required to use SAFMRs. Entire FMR areas, rather than individual PHAs, must use SAFMRs under the rule.

The criteria for selecting areas for mandatory SAFMR use were also stricter. Under the Demonstration, PHAs were grouped by demographic and economic factors into clusters and randomly selected. The PHA could refuse to participate, but only one PHA per cluster was allowed to participate. PHAs could not be a troubled agency and Moving to Work (MTW) agencies were specifically excluded. Under the SAFMR Rule, not only is every PHA in an FMR area required to participate, but the factors determining those areas required to use SAFMRs are generally stricter, and MTW agencies are not excluded from participation.

The requirements for the SAFMR areas under the Final Rule are listed below:

1. Small FMR areas, defined as those with fewer than 2,500 vouchers in use in the FMR area, were excluded from consideration.

2. To ensure that there are sufficient numbers of rental units available in neighborhoods with rents higher than the top of the payment standard "basic range" around the area FMR, at least 20 percent of a metropolitan area's rental units must be in ZIP Codes with SAFMRs greater than 110 percent of area FMR.

3. At least 25 percent of the voucher families in the FMR area, relative to all renters in the FMR area, live in concentrated low-income areas (CLIAs). A CLIA is defined as those census tracts in the metropolitan FMR area with a poverty rate of 25 percent or more; or any tract in the metropolitan FMR area where 50 percent or more of the households earn incomes at less than 60 percent of the area median income (AMI) and are designated as Qualified Census Tracts in accordance with section 42 of the Internal Revenue Code (26 USC 42).

4. Only areas where the concentration of voucher tenants in CLIAs exceeded national averages were considered for the SAFMR Rule. This means the percentage of voucher holders living in CLIAs relative to all renters within CLIAs over the entire metropolitan area exceeds 155 percent (or 1.55). This can be interpreted to mean that voucher holders are 55 percent more likely to live in CLIAs than renters in general.

5. In order for the rental housing market to function in an orderly manner, there needs to be an ample supply of available vacant units, so the Final Rule established a vacancy threshold of 4 percent.

As part of the rulemaking, HUD capitalized on provisions within section 107 of the recently enacted Housing Opportunity Through Modernization Act (HOTMA) to implement tenant protections that were not available to demonstration PHAs. Under the SAFMR Rule, PHAs are given the option to establish an administrative policy that would hold harmless those families remaining in place from payment standard reductions that were currently required at the family's second annual recertification if the family's payment standard falls outside of the basic range as the result of a decrease in FMRs (including a decrease in FMR attributable to the implementation of SAFMRs). This will be done without requiring individual exception payment standard requests.

The SAFMR rule provides PHAs with the option to establish a new payment standard for families under Housing Assistance Payment (HAP) contract between the full hold harmless option provided under HOTMA and the new payment standard based on SAFMR values. Under this option, the PHA would have greater flexibility than what is afforded under HOTMA (which essentially requires the PHA to either hold the in-place families completely harmless or transition them to the new payment standard). This policy allows the PHA to still achieve some budgetary flexibility by reducing the payment standard for families under HAP at the second reexamination, while ensuring the reduction in subsidy is modest and does not place families at risk of displacement.

Finally, in order to ensure that a suitable number of units remain available during the transition to SAFMRs, the SAFMR Rule limits the annual decrease in SAFMRs to no more than 10 percent of the area's FMR in the prior fiscal year (FY). That is, the current FMR may be no less than 90 percent of the area's FMR in the previous fiscal year. This 10 percent floor, which was first implemented in the FY 2017 FMRs, was not in place for demonstration PHAs.

1.5 Structure of This Report and Introduction to Key Methodology

The following is an overview of the structure of this report, along with introductory notes about some of the principal methodological approaches used.

Chapter 2. Hypothesized Impacts on Housing Choice Voucher Holders and Public Housing Agencies. This chapter presents a discussion of the hypothesized impacts of the move to SAFMRs.

Chapter 3. Evaluation Data and Methodology. This chapter describes the data and methodology used in this evaluation. The data collection and analysis for this study occurred in two phases. The first phase, which was the source of information for the interim report, included an initial analysis of secondary data for the years 2009 through 2015, as well as information collected during one site visit to each of the seven SAFMR PHAs in May and June 2016 to gather data for the analysis of implementation and administrative costs.

For this final report, we updated the analysis of secondary data with 2016 and 2017 data. We also conducted a second round of site visits in November and December 2016 to each of the seven SAFMR PHAs. The second round of site visits focused on how HCV holders and landlords had experienced the change to SAFMRs and included in-person interviews with a sample of 59 HCV holders and 34 landlords. As part of the site visits, we conducted follow-up discussions with PHA executive directors and/or HCV program directors to update the information gathered during Phase 1 site visits about PHAs' experience with implementation and administration of SAFMRs, including costs. This final report combines and synthesizes data from both phases of the project.

Chapter 3 also provides additional detail on the data we use and aspects of our analysis approach. Notably, to inform a determination of the extent to which neighborhoods provide opportunity, we have separately included measures of poverty rates, school quality, access to jobs, and environmental quality. We have created an overall composite index of opportunity using these neighborhood characteristics. We did not factor in crime rates because we were unable to find a comprehensive metric.[7] We have relied on a combination of census and administrative data and, where possible, on the nationally available metrics that HUD includes in its Affirmatively Furthering Fair Housing Assessment Tool.

Chapter 4. Changes in Housing Choice Voucher Holders' Potential Access to Higher-Opportunity Neighborhoods. This chapter assesses the *potential* of SAFMRs to increase access to opportunity by comparing the share of all units renting below SAFMRs with the share renting below FMRs across characteristics of neighborhoods in the service areas of the SAFMR PHAs and comparison PHAs. In this analysis, we examine the extent to which shifting to SAFMRs would increase the share of rental units available to HCV holders in higher-rent areas—finding that they do in fact have the potential to achieve this outcome.

To classify neighborhoods, we use the ZIP Code *rent ratio*—the ratio of the ZIP Code median rent to the metropolitan area median rent. HUD uses this ratio in calculating SAFMRs, which are each ZIP Code's rent ratio multiplied by the metropolitan area FMR (subject to a maximum cap of 150 percent of the metropolitan area FMR and a minimum floor of the state nonmetropolitan-area minimum).[8] For clarity of presentation, we group ZIP Codes into three categories, reported in percentage terms: lower-rent ZIP Codes with rent ratios below 90; moderate-rent ZIP Codes with rent ratios between 90 and 110; and higher-rent ZIP Codes with rent ratios greater than 110.

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[7] We explored the possibility of using data on property and violent crime rates for the analysis. As anticipated, crime data are not available for all the SAFMR PHAs or across all the PHA service areas. In reviewing draft analyses, we determined that this pattern of available data was confounding results for the crime measures. Additionally, within-city neighborhood comparisons using crime data sources available across geographies may not be reliable (see https://ucr.fbi.gov/a-word-about-ucr-data). As such, we do not include the analysis of crime data in our evaluation report.

[8] In our data analysis, we do not repeat HUD's analysis of the special tabulations of American Community Survey data needed to calculate the ratio of the ZIP Code median rent to the metropolitan area median rent. Rather, we calculate rent ratios by inverting the formula used to calculate SAFMRs. That is, we determine a ZIP Code's rent ratio as the two-bedroom SAFMR divided by the two-bedroom metropolitan area FMR.

We then show that the rent ratio is strongly correlated with measures of neighborhood opportunity—poverty rate, school quality, access to jobs, environmental quality—and the overall composite index of opportunity combining the four measures.

We complete our analysis of the potential of SAFMRs to increase access to opportunity by examining the extent to which SAFMRs lead to increases in the number of units affordable to HCV holders in higher-opportunity areas. To measure whether SAFMRs increase the number of units affordable to HCV holders in higher-opportunity areas, we compare the share of units renting below SAFMRs with the share renting below FMRs for neighborhoods with lower and higher levels of the neighborhood opportunity measures.

Chapter 5. Impacts of Small Area Fair Market Rents on Housing Choice Voucher Holder Locations. This chapter provides an assessment of the *observed* effect of adoption of SAFMRs on location and relocation outcomes of both new and existing HCV holders. In this section, we follow the same structure of analysis used for the potential effect of adoption of SAFMRs. Now, instead of reporting the share of *all* rental units with rents below SAFMRs and FMRs, we report the *actual* shares of HCV holders using vouchers across neighborhoods with different neighborhood rent ratios, neighborhood opportunity measures, and neighborhood characteristics.

Chapter 6. HCV Holder and Landlord Experience with SAFMRs. This chapter discusses how the shift to SAFMRs affected both HCV holders and landlords based on the interviews conducted during the second phase of site visits, as well as information from PHAs regarding their perceptions of the impacts on HCV holders and landlords.

Chapter 7. Administrative Impacts of Small Area Fair Market Rents on Public Housing Agencies. This chapter focuses on the impacts of the transition to SAFMRs on affected PHAs—in particular, the time and expenses associated with implementing the demonstration and effects on workloads and processes. It also discusses the impacts on PHAs' administrative costs, including one-time transition costs and any ongoing costs.

Chapter 8. Fiscal Effects of Small Area Fair Market Rents on Public Housing Agencies, Housing Choice Voucher Holders, and Landlords. In this chapter, we summarize the observed changes in rents following introduction of SAFMRs, including HAP costs, rents to landlords, and tenant contributions to rents. To answer the questions relating to costs, we use both existing data and data collected specifically for the study. We compare the change in HAP costs over time for SAFMR sites with the change for comparison sites, using HUD's Public and Indian Housing Information Center (PIC) data. We also use qualitative data collected during site visits to provide context for changes in HAP costs, including events other than the introduction of SAFMRs that could have affected HAP costs.

2. Hypothesized Impacts on Housing Choice Voucher Holders and Public Housing Agencies

This section presents hypothesized impacts on HCV holders of moving to SAFMRs. This is followed by a discussion of potential impacts on PHAs.

2.1 Hypothesized Impacts of SAFMRs on HCV Holders

This section presents hypothesized impacts on HCV holders of using SAFMRs, organized by the research questions introduced in the section titled **Evaluation of the Demonstration**. First, we review the potential for SAFMRs to affect where HCV holders live, looking at the difference in affordability of units across neighborhoods with differing levels of opportunity under SAFMRs versus metropolitan area FMRs. Then we discuss how SAFMRs may affect where HCV holders actually live. We consider how this response might directly affect rents and access to opportunity. Finally, we discuss how HCV holders may perceive and experience the shift to SAFMRs. This includes a discussion of the role of landlords in the HCV program, and it considers how their possible reactions to the shift to SAFMRs might affect HCV holders.

2.1.1 Potential for SAFMRs to Affect Location and Relocation of HCV Holders

SAFMRs are expected to change the permissible range for payment standards across ZIP Codes within a metropolitan area.[9] This change is the primary mechanism through which SAFMRs might alter HCV holders' access to and locating in higher-opportunity neighborhoods. However, the extent of this change depends on the variation in rents across a metropolitan area and how a PHA establishes payment standards—for both metropolitan area FMRs and SAFMRs. Our first hypothesis is that using SAFMRs instead of metropolitan area FMRs to determine payment standards will substantively increase HCV holders' ability to rent units in higher-opportunity neighborhoods.

Research Question 1a

- *What is the potential of SAFMRs to increase access to opportunity and integrated neighborhoods for HCV holders? That is, how does the number of units with rents below SAFMRs in higher-rent neighborhoods compare with the number below metropolitan area FMRs? How do differences in the number of units with rents below the SAFMR and with rents below the FMR relate to measures of neighborhood opportunity and other neighborhood characteristics? How does this potential vary across metropolitan areas with different housing markets?*

Two factors affect whether HCV holders can successfully use vouchers in a particular neighborhood. The first is the supply of rental units in the neighborhood renting at or below the SAFMR payment standard. The second is the willingness of neighborhood landlords to

[9] Collinson and Ganong (2015) and Geyer (2017) provide helpful, more formal analyses of the potential for SAFMRs (or the calculation of FMRs at other small geographies) to change tenant location outcomes. Collison and Ganong's indepth analysis includes a finding that "tilting" the rent ceiling in a geography, by such means as introducing SAFMRs, may be effective in increasing the quality of neighborhoods in which HCV holders live. Geyer estimates an empirical housing demand model and, through a simulation, determines that a shift to tract-level FMRs would substantially increase the quality of neighborhoods chosen by HCV holders.

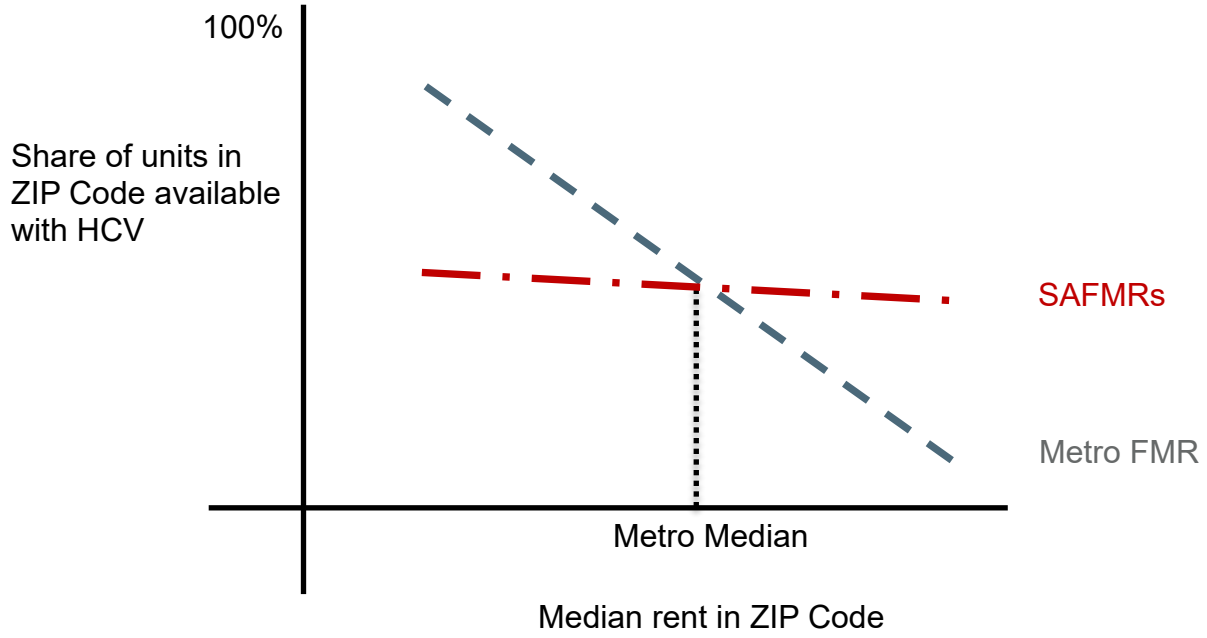
participate in the HCV program. We address the first factor here and the second factor in a subsequent discussion on landlords.

In general, the basic rule PHAs use to set payment standards is the same under metropolitan area FMRs and SAFMRs—payment standards must fall between 90 and 110 percent of them, *except* that the starting FMR is at the metropolitan area geography under FMRs and at the ZIP Code under SAFMRs. Exhibit 2-1 depicts the hypothesis that under SAFMRs, fewer units should be available to HCV holders in lower-rent neighborhoods, and more units should be available in higher-rent neighborhoods than with metropolitan area FMRs. Exhibit 2-1 is a graph of the expected relationship between the share of units in a ZIP Code that are available with an HCV and the median rent in the ZIP Code under both SAFMRs and a metropolitan area FMR.[10] The line showing the relationship between the share of units available and ZIP Code rents is steeper under a metropolitan area FMR and flatter under SAFMRs (because SAFMRs vary based on the ZIP Code median rent). A greater share of units within a ZIP Code are available in ZIP Codes with lower rents under metropolitan area FMRs than under SAFMRs, and a smaller share of units within a ZIP Code are available in ZIP Codes with higher rents under metropolitan area FMRs than under SAFMRs. The lines cross where the rent ratio equals 1, and the SAFMR equals the metropolitan area FMR. This *flattening* of the share of units that are available under SAFMRs should influence where HCV holders can live in multiple ways. It changes the composition of units that are available to new HCV holders or existing holders who move. Also, some units (in areas where SAFMRs are lower than metropolitan area FMRs) will no longer be available to existing HCV holders after the full phase in of SAFMRs. Some units where HCV holders already live could be among those that are no longer available.[11]

[10] A number of factors combine to determine the share of units which HCV holders could rent in a ZIP Code under FMRs and SAFMRs. These include how PHAs set payment standards between 90 and 110 percent of SAFMR and FMR, and whether households choose to spend more than 30 percent of income to rent a particular unit. We use the share of units with rents below the FMR and SAFMR as a proxy for the share of units available to an HCV holder in our analysis.

[11] The exhibit shows a linear approximation of the relationship between the metro median and share of units available with an HCV. The actual relationship will include nonlinear features, especially for very low and very high values of ZIP Code median rent. This is because SAFMRs are set to at least the state nonmetropolitan minimum and are capped at 150 percent of the HUD Metro Area FMR. Therefore, all units in the lowest-rent ZIP Codes (where rents are below this floor) would rent for less than the SAFMR, and ZIP Codes with very high rents could exist where no units rented below the SAFMR.

Exhibit 2-1: Hypothesized Neighborhood Share of Units Available Under SAFMRs and Metropolitan Area FMRs



FMR = Fair Market Rent. HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.

The exhibit also highlights that the expected effect of SAFMRs within a given neighborhood will depend on the ZIP Code rent level. Where the ZIP Code median rent is lower than the metropolitan area median rent, the rent ratio will be less than one, and SAFMRs will reduce the share of units available to HCV holders. Where the ZIP Code median rent is similar to the metropolitan area median rent, SAFMRs do not change the number of units that are available. Where the ZIP Code median rent is higher than the metropolitan area median rent, a larger share of units will be available under SAFMRs.

Another factor that will determine whether a good selection of rental units is available in neighborhoods under SAFMRs is the relative number of rental units in ZIP Codes with median rents below and above the metropolitan area median rent. If fewer rental units are in higher-rent ratio ZIP Codes than in lower-rent ratio ZIP Codes, the total number of units with rents falling below the SAFMR-based payment standards will be lower than the total number falling below the FMR-based standards. The correlation between opportunity and neighborhood rent levels determines the extent to which this change in the share of units available to HCV holders increases the potential for HCV holders to access higher-opportunity neighborhoods. The assumption that areas with higher rents also have greater access to opportunity is the basis of the SAFMR demonstration and HUD's interest in moving to SAFMRs.

HUD defined opportunity areas as places with greater access to employment and transportation and better educational opportunities (Federal Register, 2010). This evaluation uses the following quantitative measures of neighborhood opportunity: poverty rate, school proficiency, employment access, and environmental quality. We explored the possibility of including access to transportation in our neighborhood opportunity index. Data on this indicator are not

available across all the SAFMR PHAs. Where data are available, they are highly correlated with employment access. We did not factor in crime rates because we were unable to find a comprehensive metric. We, therefore, omitted these indicators from our analysis. Chapter 3 details the included measures.

In light of the factors previously noted, some PHAs (more than others) may experience a greater potential impact of a shift to SAFMRs on the ability of HCV holders to access higher-rent and higher-opportunity areas. The change in the share of units available to HCV holders will depend on the existing rent dispersion across ZIP Codes. In general, areas with greater dispersion in rents across neighborhoods within a PHA's jurisdiction will have a greater potential for SAFMRs to affect access to higher-opportunity neighborhoods. By contrast, if most ZIP Codes have a median rent that is close to the metropolitan area median rent, rent ratios will be close to 1, so SAFMRs (calculated as rent ratio multiplied by FMR) will be close to metropolitan area FMRs. In this case, the number of units available to HCV holders will be similar under SAFMRs and metropolitan area FMRs.

Additionally, how PHAs exercise the latitude they have to set payment standards within 90 and 110 percent of the FMR and the extent to which HUD grants them exceptions under FMRs for payment standards outside the basic range may also create differences in the impacts of moving to SAFMRs.

Our analysis of the potential impact of a shift to SAFMRs will document variation in how SAFMRs affect the share of units affordable across all PHAs in our analysis sample.[12]

2.1.2 Observed HCV Holders' Locations and Relocations

Research Question 1.b

- *Did changing to SAFMRs increase existing HCV holders' likelihood of moving to higher-opportunity or more integrated neighborhoods? Were new HCV holders more likely to locate in higher-opportunity neighborhoods under SAFMRs than under metropolitan area FMRs? How did the characteristics of HCV holders' neighborhoods change after adoption of SAFMRs?*

Our next hypotheses are about how SAFMRs will actually affect HCV holders' decisions about where to live. We anticipate that some HCV holders, including both new HCV holders and existing holders, will respond to the option of higher payment standards in higher-opportunity, higher-cost neighborhoods and lower payment standards in areas with lower median rents by opting to use their vouchers in higher-opportunity neighborhoods. Chapter 4 examines the following specific hypotheses:

- The introduction of SAFMRs will increase existing HCV holders' likelihood of moving both to take advantage of higher subsidies in higher-opportunity

[12] Each of the five demonstration PHAs was selected from a different PHA cluster. These clusters were determined prior to selection based on the number of vouchers, FMR levels, and share of working-age heads of household among HCV holders. As such, we do not anticipate having variation across SAFMR metro areas in preexisting rental patterns to empirically test how differences in potential impact across SAFMR metro areas are related to observed HCV holders' location and relocation decisions.

areas and to leave units where subsidies are decreased as a result of the lower payment standards.

- Due to the introduction of SAFMRs, HCV holders who move will be more likely to move to higher-opportunity neighborhoods.
- Due to the introduction of SAFMRs, new HCV holders will be more likely to initially locate in higher-opportunity neighborhoods.
- Fewer HCV holders will live in areas with lower opportunity measures as a result of SAFMRs.

Ultimately, we also anticipate that living in higher-opportunity neighborhoods will result in longer-term improvements in outcomes for HCV holders and particularly for their young children. We note these potential longer-term effects here, although these longer-term effects are beyond the data and timing limits of this evaluation.

- Adult HCV holders may see improvements in education outcomes, employment, and earnings from exposure to neighborhoods with better access to jobs and higher levels of education. (This evaluation will not examine these outcomes.)
- Recent research determined that young children in families that were in the treatment group in the Moving to Opportunity demonstration had significantly improved college attendance rates and earnings in young adulthood (Chetty, Hendren, and Katz, 2016). Children in families who move to higher-opportunity neighborhoods because of SAFMRs could experience similar benefits. (This evaluation will not examine these outcomes.)
- Long-term health outcomes improved for households that moved to lower-poverty neighborhoods in the Moving to Opportunity experiment (Ludwig et al., 2011). HCV holders induced to live in higher-opportunity neighborhoods through SAFMRs may also experience these benefits. (This evaluation will not examine these outcomes.)

Other factors exist beyond the financial incentives of varying payment standards that influence the extent to which these hypotheses will hold. For example, HCV holders' preferences for neighborhoods may or may not align with neighborhoods that have higher levels of opportunity as defined by HUD and this study. In addition, some key determinants of household location choices might work against locating in higher-opportunity neighborhoods. These include landlords' willingness to participate in the HCV program and accept vouchers and HCV holders' ties to extended family and community in neighborhoods where they currently reside.

Analysis of Key Subgroups

As noted above, the potential for improved long-term benefits to children of living in higher-opportunity neighborhoods is one of the motivations for implementing SAFMRs. However, reducing the amount of subsidy available to households in lower-rent ZIP Codes may have disproportionately adverse impacts on HCV-holder households that either include seniors or with a head or co-head of household with a disability. These households likely would have more difficulty moving and have fixed sources of income. Because of the possibility of differences in the impact of SAFMRs for these groups, we focus on HCV holders in three key subgroups—

households with children, households with seniors (age 62 and older), and households with a head or co-head with a disability. We include separate analyses for these groups in chapters 4, 5, and 8, and we focused our tenant recruitment efforts to collect data from these households as part of the primary data we analyze in chapters 6 and 7.

2.1.3 HCV Holders' Experience with the Program

A successful move to a higher-opportunity area requires a motivated HCV holder who is able to find a qualifying unit with affordable rent, a willing landlord, and a PHA that is able to complete unit approval and rental activities promptly and effectively. HCV holders' experience with the program also will depend on landlords' responses. Therefore, an HCV holder's experience with the program and the subsequent perceptions will be affected by a combination of personal circumstances and priorities, the ability of the PHA to execute, and the landlord's behavior.

Research Question 1.c

- *How did the change to SAFMRs affect HCV holders' experience with the HCV program? What effects did it have on tenants' rent burdens? Did they understand how the change affected their housing options? What were their perceptions of the change? Did the change to SAFMRs influence HCV holders' success in using vouchers to rent units?*

Personal Circumstances and Priorities

The goal of SAFMRs is to make more units in higher-opportunity areas available to HCV holders. Access to units in neighborhoods that were previously out of reach may be attractive to HCV holders who are dissatisfied with their current neighborhoods or units but were unable to find alternative affordable housing.

At the same time, the goal of moving to a higher-opportunity area may or may not be in sync with an HCV holder's situation at a given point in time. Although affordability is a primary concern, tenant behavior is often driven by other social, emotional, or logistical factors, including hesitation to switch their children's schools (DeLuca and Rosenblatt, 2010), fear of the unknown (for example, not knowing the area or fearing rejection) (Charles, 2006), or lack of information about the benefits of opportunity neighborhoods (Darrah and DeLuca, 2014).

Even for HCV holders who are eager to move, issues such as the cost of moving, including security deposits and first and last month's rent, can be significant barriers. Many lower-income families also understand the bang-for-the-buck trade-off they face when searching for housing. They can find cheaper units with more bedrooms or more amenities in higher-poverty areas, which may accommodate their families' needs for space and amenities (Rosenblatt and DeLuca, 2012; Wood, 2014). To assess the impact of SAFMRs, it is important to understand these additional influences on HCV holders' decision making.

PHA Execution

PHA actions can have large impact on an HCV holder's overall success with the program and particularly with mobility initiatives. The concept of payment standards is difficult for some HCV holders to grasp, even when only one payment standard exists per bedroom size. The PHA's success in explaining the opportunities presented by SAFMR, the impact that multiple

payment standard areas have on the HCV holder's options, and how much an HCV holder will pay could have a significant influence on outcomes.

The PHA's decisions regarding payment standards also could factor into HCV holder success rates. If PHAs are concerned about having sufficient funding and use flexibility to keep payment standards lower than the market, HCV holders may not be able to access some higher-opportunity areas. In addition, SAFMRs may attract landlords in higher-opportunity areas who have higher expectations for the PHA's customer service and timeliness in inspecting and approving units or negotiating rent based on the PHA's exercise of the rent reasonableness standard. The PHA's ability to respond will be an important factor in HCV holders' success.

Landlords' Response

The market response likely will be based, in part, on the extent to which the SAFMRs and the resulting payment standards actually provide sufficient funding that will make it possible for HCV holders to rent units in higher-opportunity areas. Although landlords in lower-cost neighborhoods may consider lowering (or not increasing) rent to retain a good tenant, it is less likely that landlords in higher-opportunity areas will make rent concessions.

However, landlords are not required to participate in the HCV program in most jurisdictions, so the success of SAFMRs in enabling HCV holders to access higher-opportunity areas will depend on landlords' willingness to participate in the program. Discrimination, actual and perceived, will also affect whether HCV holders seek, find units, and remain in higher-opportunity areas, particularly because landlord discrimination is common in higher-rent neighborhoods (Galiani, Murphy, and Pantano, 2012). Also, evidence shows that some landlords more aggressively market units to HCV holders when the units are in higher-poverty neighborhoods (Rosen, 2014).

The combination of these forces—HCV holders' personal circumstances and priorities, PHAs' ability to execute, and landlords' responses—will interact to shape the impacts on HCV holders. In the interim report, we described aspects of HCV holder experiences with the program based on interviews with the PHAs and an analysis of administrative data. In this final report, we include additional qualitative measures of impact based on interviews with HCV holders and landlords and additional analysis exploring the quantitative findings.

2.2 Hypothesized Impacts of SAFMRs on PHAs

The switch to SAFMRs will affect both HAP contract costs (the level of rent subsidy) and administrative costs.

SAFMRs are likely to affect PHAs in several ways. First, they will likely cause impacts on the subsidy costs per voucher. PHAs have fixed budgets for vouchers during any particular year, so increases in subsidy costs will reduce the number of households that can be served (or require additional funding from HUD to serve the same number of households). Decreases in subsidy

costs will increase the number of households (or require less funding). We hypothesize that per-unit subsidy costs will decline in some neighborhoods and increase in others. The net effect on per-unit subsidy costs will depend on how successful SAFMRs are in deconcentrating HCV holders from higher-poverty, lower-rent neighborhoods.

Research Question 2

- *a. What are the fiscal and administrative impacts of SAFMRs on public housing authorities?*
- *b. What are the implications for subsidy costs and ongoing administrative expenses?*
- *c. What were the financial and human costs of the one-time transition from metropolitan area FMRs to SAFMRs? How did the change affect PHA interaction with HCV holders and potential holders? How did the change affect PHA interaction with landlords?*

SAFMRs will also alter some administrative responsibilities of PHAs. Some changes are one-time costs associated with implementing SAFMRs, such as adapting the PHAs' *systems of record* (the set of automated tools that that maintain HCV program and participant information) to take multiple payment standards into account. Other changes may be recurring, such as answering HCV holder questions about applicable rents in multiple locations. The net effects are unclear, although we anticipate that at least short-term costs will increase. For example, determining payment standards that reflect ZIP Code-level SAFMRs may be a more complex process than determining payment standards using a single metropolitan area FMR. The demands on PHAs of this added complexity might be partially offset for a PHA that previously designated multiple payment standard areas through exception requests to HUD, as the flexibility of SAFMRs reduces the administrative complexity of setting payment standards above 110 percent of the metro-area FMR.

In this section, we first discuss the hypothesized impacts of SAFMRs on subsidy costs. Then we consider the potential impacts on PHAs in terms of ongoing administrative expenses and the one-time transition from metropolitan area FMRs to SAFMRs.

2.2.1 Implications for Subsidy Costs

In some ZIP Codes, SAFMRs are lower than metropolitan area FMRs. In others, SAFMRs are higher. The formula for SAFMRs adjusts FMRs to the ZIP Code level, based on how the median rent in each ZIP Code compares with the metropolitan area median rent. The motivation for the SAFMR demonstration is that currently a disproportionate share of HCV holders live in ZIP Codes where median rents are below the metropolitan-wide median. With a decline in payment standards in these ZIP Codes that is of similar magnitude to increases in ZIP Codes with median rents greater than the metropolitan-wide medians, subsidy costs will be lower under SAFMRs if HCV holders remain in the same units or ZIP Codes. With enough moves to higher median rent ZIP Codes, however, increased subsidy costs in higher-rent ZIP Codes will outweigh the decreases in lower-rent ZIP Codes, and per-voucher subsidy costs will increase, unless the moves result in offsetting increases in HCV holder income (and thus, increases in an HCV holder's rent contribution of 30 percent of income).

One analysis of 2014 HUD voucher administrative data and 2015 FMRs and SAFMRs indicates that voucher costs would drop by about 6 percent if SAFMRs were implemented nationally and HCV holders continued to live in the same neighborhoods (Sard and Rice, 2015). In practice,

as discussed previously, this result is unlikely, because the change in policy will prompt a behavioral response (Collinson and Ganong, 2015).

Ultimately, the change in HAP costs will depend on how many HCV holders choose higher-rent neighborhoods. If few HCV holders move to higher-rent neighborhoods, we expect per-unit voucher HAP costs to decrease on average, because the HAP cost in lower-rent neighborhoods decrease without any offsetting increase by moves to higher-rent neighborhoods. If enough HCV holders move to higher-rent neighborhoods, we expect per-unit voucher HAP costs to increase on average.

The net effect could vary over time, as existing HCV holders and landlords may not fully adjust to SAFMRs for many years. Under HUD policy, there is a transition phase when payment standards decline in which families in lower-cost areas are held harmless for 2 years. As a result, there could be increases in subsidy costs as some families move to higher-cost areas, but others stay in lower-cost areas at higher subsidy levels (due to the transition period), leading to increases in subsidy costs. After this transition period, lower payment standards in some neighborhoods may eventually offset initial subsidy increases for units in other neighborhoods.

Also, landlords in higher-cost neighborhoods may initially be unwilling to accept vouchers, limiting the number of HCV holders who locate in higher-cost neighborhoods. Over time, with increased familiarity with the program, more landlords in higher-cost neighborhoods may decide to participate. This increased participation could lead to gradually increasing subsidy costs.

Chapter 6 details our approach to measuring changes in subsidy costs.

2.2.2 Operational Impacts on PHAs

Recognizing that PHAs participating in the demonstration would incur costs to transition from metropolitan area FMRs to SAFMRs, HUD provided supplemental administrative fees to upgrade the computer software to administer the Section 8 voucher program and other necessary expenses. The increase varied by the number of vouchers the PHA administered to a maximum of $300,000 (Kahn and Newton, 2013). Increased expenses associated with introduction of SAFMRs include additional outreach and briefings for families and landlords on the SAFMRs, assistance with relocation issues resulting from the use of SAFMRs, changes to rent reasonableness determinations, and additional training and hiring of staff.

Like HUD, we expect that implementation of SAFMR will alter some PHA administrative responsibilities. It may also increase the volume of transactions the PHA must process or the level of effort required to complete certain activities. In the short term, as PHAs change policies and procedures and staff, HCV holders, and landlords adjust to them, the net effect is likely to be an increase in administrative costs. It is unclear how long the adjustment may take and what the net effect will be on costs and PHA level of effort over time. This section describes the potential impacts on PHAs that should be considered and, to the extent possible, measured during the study.

The hypothetical operational impacts on PHAs fall into three categories.

- **One-time impacts** are the actions and costs required initially to establish SAFMRs. We hypothesize these initial actions and costs will be completed within the first year of SAFMR implementation and, once done, are not repeated.
- **Transitional impacts** are activities and costs that represent a learning curve for the PHA, HCV holders, and landlords. We hypothesize that these activities will generally occur during the first year of SAFMR implementation.
- **Continuing impacts** are program activities or costs that have fundamentally changed as a result of SAFMRs, and we hypothesize that they will continue for the life of the program.

Potential One-Time Impacts

Modifications to PHA policies and plans. We expect modifications to both administrative plans and PHA plans to implement SAFMRs. Administrative and PHA plans typically contain language related to establishing payment standards, determining rent reasonableness and HCV holder payments, and encouraging the participation of landlords outside poverty or minority concentration areas. Some PHAs include extensive procedural documentation in administrative plans, which may require more expansive modifications.

Modification to PHA systems. PHAs' systems of record that maintain participant information and other automated tools may require modifications. Systems of record generally contain payment standards and utility allowances. Systems of records may require changes to accommodate the necessary number of payment standards, as well as changes to business logic to permit the selection of different payment standards for the same unit size (number of bedrooms) in each payment standard area. The different payment standards within each payment standard area stem from the transition period that applies to existing HCV holders (but not new HCV holders) in areas where payment standards decline. New recipients of HCVs will use the new SAFMR payment standards. Families already in areas where payment standards go down under SAFMRs will maintain HAP levels regardless of the new payment standard for the first 2 years; however, families who move into this area will have HAPs capped by the new payment standard immediately.

Modifications similar to those required for the system of record may also be needed on the rent reasonableness tool a PHA uses, depending on its functionality. In addition, most PHAs have some kind of tool to help HCV holders calculate whether units in which they are interested are affordable. That tool also will likely need adjustments. In addition, the transition from metropolitan area FMRs to SAFMRs will have human or intangible impacts. For example, during the short term, PHA staff may experience some confusion during the transition and additional stress as they learn new procedures and skills. It is also possible that this additional stress will lead to some staff turnover.

Potential Transitional Impacts

Transitional impacts are activities and costs that begin with the initial implementation of SAFMRs but are likely to continue for multiple years to make the necessary adjustments

for SAFMRs. This category includes changes in activity volume (particularly related to setting payment standards) and the level of effort required to complete activities.

Establishing payment standard areas and amounts. PHAs go through the process of establishing payment standards whenever FMRs change, but the process becomes more complex with SAFMRs. All PHAs have to balance the need to set payment standards so that total payments are within their available funds, at the same time ensuring full utilization of funds. They must also balance the competing goals of providing fewer tenants with more subsidy assistance or helping more tenants with smaller subsidies. These balancing acts can become more challenging when a PHA has multiple payment standard areas to consider and adjust. Some PHAs subject to metropolitan-area FMRs have already adopted multiple payment standard areas to make it easier for families to find housing in areas with relatively higher rents without causing rents to increase in lower-rent areas. Other PHAs, however, may not have experience setting multiple payment standard areas. Few if any PHAs have previously adopted as many payment standard areas as they are likely to adopt under SAFMRs.

The task of setting payment standards is more challenging with an increased number of FMRs to consider and the greater emphasis on using payment standards to encourage moves to higher-opportunity areas. One set of questions faced by SAFMR PHAs is simply how to define the number of payment standard areas. Should a separate payment standard exist for every ZIP Code? Or is it better to combine multiple ZIP Codes into a more limited number of payment standard areas? In addition, setting payment standards in a rational way under SAFMRs may require more knowledge of market conditions in sub-areas of a PHA's jurisdiction (although to a significant extent, the SAFMR analysis already provides the PHA with key information on varying rents by area).

We hypothesize that the first year of the transition to SAFMRs will be the most challenging but learning how best to administer multiple FMRs and payment standards and to assess their impact on access to higher-opportunity neighborhoods likely will be a multiyear effort.

Rent reasonableness data and protocols. PHAs are required to determine the reasonableness of the rent for each unit a family seeks to lease under the HCV program. One question is whether the shift to SAFMRs will simplify or complicate this determination. By definition, any FMR area (large or small) will contain units that should rent for amounts both higher and lower than the FMR based on the rents of other comparable units in that area. One possibility is that the determination of rent reasonableness under SAFMRs may need fewer comparative data, as local area baseline rents will largely be embedded in the SAFMR. At the same time, staff may not be as familiar with the housing stock in higher-opportunity areas where few, if any, HCV holders currently live, which could make the rent reasonableness determination more challenging. Landlords also may negotiate more aggressively under the new policy—for example, by objecting to (or advocating for) using a comparable unit rent that is in another payment standard area.

Contract rent adjustments. SAFMR payment standards may cause changes in the behaviors of some current landlords and, thereby, increase the number of requests for contract rent adjustments or extend contract rent negotiations. In areas where payment standards have

increased, landlords who initially made rent concessions to accommodate specific HCV holders may be motivated to request contract rent adjustments to raise rents if they understand that adjustments will not affect the HCV holder. Similarly, landlords in those areas that have not requested contract rent adjustments on a regular basis (because they knew any additional increase would be the burden of the HCV holder) may be more likely to request rent adjustments under SAFMRs.

Housing Quality Inspections. If SAFMRs are successful in making accessible previously unavailable neighborhoods, HCV holders will become dispersed over larger areas. This dispersal may affect the productivity of housing quality inspectors, increasing time per inspection and also travel costs to inspection sites.

In some locations, inspectors are part of the rent reasonableness process. Such inspectors may need to become familiar with housing stock and rents in additional areas.

Communication and outreach strategy and materials. PHAs have multiple audiences that may need different messages about SAFMRs. Current program participants (landlords and HCV holders) will have somewhat different concerns than will applicants on waiting lists and landlords not yet participating. This variety of concerns will require revisions to written and electronic materials such as landlord brochures, briefing packets, reexamination packets, web pages, and briefing videos. Although the biggest impact of this material revision process will be in the first year of the program, it is likely that PHAs will learn from initial efforts and will continue to make modifications to outreach approaches and educational materials over time.

Procedures changes and staff training. Detailed procedures and policies will need to be developed and will require staff training and retraining at all levels. Experience with the program will both enable and require PHAs to make improvements in procedures and policies over time.

Support for tenants. Unless a PHA is already administering a mobility program to help HCV holders access areas of opportunity, the extra effort associated with encouraging and assisting households to consider moving to higher-opportunity areas is likely to increase workloads. HCV holders currently living in areas where payment standards decrease will need additional attention in order to understand both the timing and impact of changes on individual situations, as well as housing search assistance and counseling on the benefits of moving to potentially unfamiliar neighborhoods. Some PHAs do not currently bring in existing HCV holders that wish to move for briefings. With SAFMRs, they likely will have to schedule such briefings.

Support for landlords. Working with new landlords in higher-opportunity areas initially may require higher levels of effort for PHA staff until landlords become familiar with the program. This increased effort may include more or specialized briefings. HAP contract and rent negotiations may be more protracted as well. Outreach and education will be required for current landlords to help with understanding the impact on current HCV holders. Landlord behaviors and questions will differ for those where payment standards decrease versus those where payment standards increase.

Potential Continuing Impacts

SAFMRs may create fundamental and permanent changes in program operations and costs after the transition period.

Housing Quality Inspections. If SAFMR accomplishes its purpose and HCV holders become more dispersed over larger areas, this dispersal may have long-lasting effects on inspector productivity and travel costs.

Support for HCV holders and landlords. Permanently increased levels of support for HCV holders and landlords may be needed because of the additional complexities and continued changes of multiple payment standards and the challenges associated with mobility moves.

Quality assurance. For each transaction involving a resident (for example, lease-up, move, etc.), PHAs are required to submit the data to HUD specified on the HUD 50058 form. Data errors stemming from selection of the incorrect payment standard are not unusual even with metropolitan area FMRs and may increase with the shift to SAFMRs. Even without SAFMRs, staff may confuse the voucher size for which a family qualifies with the family-selected unit size when selecting a payment standard. The need for staff to select among multiple payment standard schedules will increase dramatically under SAFMR, and the ability to manage this challenge depends on the set up of a PHA's system of record. The increased risk of input error may require new and vigilant quality assurance processes.

3. Evaluation Data and Methodology

This chapter describes the combination of primary and secondary data we used to estimate the impacts of SAFMRs on PHAs, HCV holders, and landlords. We begin with a description of the primary data collection we conducted with PHAs, HCV holders, and landlords at the seven SAFMR PHAs in our evaluation that serves as the basis for our analysis in chapters 6 and 7 of this report. We also review our methodology for the qualitative analysis of this data. We then provide an overview of the secondary data we use in the quantitative analyses presented in chapters 4, 5, and 8. We introduce the neighborhood opportunity indicators we use in our analysis and how we combine them into an overall opportunity index. We also review our approach to constructing the quantitative analysis counterfactual group of comparison PHAs. We conclude the chapter with a description of the statistical model we estimate to assess how SAFMRs affected HCV holder location outcomes.

3.1 Primary Data Collection and Analysis

To collect primary data, we made two site visits to each of the seven SAFMR PHAs. The first site visits were in May–June 2016 as part of Phase 1 of the evaluation and focused on how the PHAs had experienced the change to SAFMRs. Phase 1 culminated with publication of the interim report in 2017. The second site visits were in November–December 2017 and focused on how HCV holders and landlords had experienced the change to SAFMRs. This report presents the combined results of both research phases, so we provide further details on each phase below.

3.1.1 Phase 1 Data Collection—PHA's Experience Implementing SAFMRs

Senior project staff conducted 1- to 2-day site visits at each PHA. Site visits included one-on-one and group interviews with executive directors and the key staff members that were involved in the transition to and administration of SAFMRs.

These site visits focused on PHA experience with one-time, transitional, and ongoing administrative efforts and the costs related to SAFMRs in 11 different PHA work areas, in three categories:

One-time (expected to be completed within the first year of transitioning to SAFMRs)—

- Modifications to PHA policies and plans.
- Modifications to PHA systems.

Transitional (expected to extend beyond the first year of the transition)—

- Contract rent adjustments.
- Communication and outreach strategy and materials for tenants and landlords.
- Procedures changes and staff training.
- Support for tenants, including additional tenant briefings and search assistance.
- Support for landlords.

Ongoing—

- HCV budgeting and planning, including setting payment standards.
- Rent reasonableness determinations.
- Inspections.
- Quality assurance.

Site visitors also requested other information, including documentation of costs, voucher success rates over time, examples of outreach and training materials, and tenant and landlord briefing materials. Not all PHAs were able to provide complete documentation of the costs related to SAFMRs; therefore, the discussion in chapter 7 is based in part on the recollections and descriptions of direct expenditures and staff hours spent implementing and administering SAFMRs.

Site visitors also asked PHA executive directors and staff to provide context for SAFMR implementation. As discussed in chapter 7, local and national factors such as federal budget sequestration, local market conditions, and source of income discrimination legislation appear to have influenced how SAFMRs were implemented by each PHA.

Site visitors also asked PHAs for their perspectives on the experience of HCV holders and landlords with SAFMRs. Our analysis of household-level impacts described in chapter 6 incorporates this PHA staff insight into tenant experiences. The data collection protocol for Phase 1 site visits is in appendix A-4.

3.1.2 Phase 2 Data Collection—Landlord and Tenant Experiences after SAFMRs were Implemented

We conducted Phase 2 site visits to each of the seven SAFMR PHAs in November–December 2017. The 3- to 4-day site visits included in-person interviews with a sample of the PHA's HCV holders and local landlords and follow-up interviews with PHA executive directors or HCV program directors. The goal of the interviews with HCV holders was to learn qualitatively whether HCV holders are aware of the change in payment standards and how these changes have affected (or could affect) their decisions about housing and neighborhood choice.

Similarly, the purpose of the landlord interviews was to learn about whether landlords are aware of the change in payment standards and how these changes have affected (or could affect) decisions about participation in the HCV program.

Interviews with HCV holders and landlords were conducted in person, with a few exceptions for tenants who unexpectedly could not attend an in-person interview or landlords who were not located near the evaluation sites. We held discussions with these HCV holders and landlords by phone.

The goal of discussions with PHA executive directors and/or HCV program directors was primarily to update the information gathered during Phase 1 site visits conducted in 2016 about PHAs' experience with implementation and administration of SAFMRs, including costs.

The next section describes our approach to selecting and recruiting HCV holders and landlords for interviews and summarizes the characteristics of the people interviewed for the study.

Interviews with Tenants and Landlords

Our goal was to interview 10 HCV holders and 5 landlords at each of the 7 SAFMR PHAs. We interviewed a range of HCV holders—new and existing voucher recipients, those who moved post-SAFMR and those who did not, and people who leased in a variety of neighborhood types. We also interviewed landlords with a range of experiences—those with properties in neighborhoods where payment standards declined, those with units in opportunity areas with rents affordable to HCV holders who either do or do not rent to HCV holders, those who started to rent to HCV holders following the implementation of SAFMRs and those who left the HCV program.

Tenant Recruitment and Interviews

The sample of voucher holders was drawn to target voucher holders with specific household characteristics and moving histories. In particular, we wanted to include households that stayed in lower-rent ZIP Codes as well as those that moved into higher- and lower-rent ZIP Codes. Because children may have a greater potential to benefit from moves to higher-opportunity neighborhoods, we specifically recruited families with young children for interviews. Because there is concern about relocation difficulties households that are headed or co-headed by adults with disabilities and households with seniors face, we also sought to include at least two such households at each site, including one that stayed in a pre-SAFMR unit in a lower-rent ZIP Code and one that moved.[13]

We used HUD administrative data to generate a sample of households that met these household characteristics, neighborhood, and mover criteria. We supplemented this list with voucher holder contact information (mailing addresses, phone numbers, and email addresses, where available) provided by the PHAs, and recruited participants via letter and phone contact. Additional recruiting was conducted on-site at PHA offices during site visits with higher numbers of no-shows.

We scheduled 10–12 HCV holders for interviews at all PHA sites. Interviews lasted approximately 45 minutes and were conducted as open-ended discussions (the discussion guide is in Appendix A-2).

We ultimately interviewed a total of 59 HCV holders across the 7 SAFMR evaluation sites. A handful of no-shows at some sites and adverse weather in Laredo that resulted in several canceled interviews affected the final number of interviews. Exhibit 3-1 shows the number and type of tenant interviews completed at each site. About two-fifths (23 people) of the tenants we interviewed first received vouchers after SAFMR implementation (first two rows of the table). A little more than half of these (13 people) rented units in lower-rent neighborhoods after receiving their voucher, and the remainder rented units in higher-rent neighborhoods.

[13] We drew a purposive sample from within each set of voucher holders who met the criteria for each category we hoped to represent in the interviews.

About two-fifths (24 people) had vouchers prior to SAFMR implementation and moved at least once sometime after implementation. Another roughly one-fifth (12 people) were prior voucher holders who did not move.

As shown in Exhibit 3-2, the vast majority of interviewees are women (88 percent). More than one-half live with family members (53 percent). About two-fifths are a parent with minor children, and another two-fifths are households that are headed or co-headed by adults with disabilities and/or households with seniors (3 percent are both). In terms of race, the majority are Black/African American (54 percent) or White (22 percent), and the majority are non-Hispanic (68 percent).

Landlord Recruitment and Interviews

As with the HCV holders, our goal for landlord interviews was to maximize the diversity of landlord experience. We worked with the PHAs to obtain listings of landlords from which to sample, requesting at least five times as many names as interviewees to ensure a sufficient sample. PHA staff primarily provided contact information for participating landlords, but also helped us identify a small number of non-participating landlords from which we sampled interviewees.

Interviews lasted approximately 30 minutes and were conducted as open-ended discussions (the discussion guide is in Appendix A-3). A handful of interviews with landlords were conducted by phone; the remainder were conducted in person at their offices or at another convenient place.

As shown in Exhibit 3-3, we interviewed landlords who owned properties in a range of neighborhood types. About 38 percent (13) owned property in more than one type of neighborhood. Twenty percent owned property only in moderate-opportunity neighborhoods, and about 18 percent owned property only in higher-opportunity neighborhoods. Only three landlords in our sample owned property exclusively in lower-opportunity neighborhoods. Neighborhood designations of lower-, moderate- or higher-opportunity were determined in the quantitative analysis as detailed in the ZIP Code Opportunity Index Categories section in this chapter.

Of the 34 landlords, all but 3 currently had tenants who were HCV holders. Two of the landlords without HCV holder tenants were in Laredo (one with properties in moderate-opportunity neighborhoods, one with properties in a mix of neighborhood types), the other was in Chattanooga (with properties in moderate-opportunity neighborhoods).

Follow-up Interviews with PHA Staff

Interviews with PHAs included the executive director and other relevant staff and focused primarily on changes since our conversations during the Phase 1 site visit. These included changes such as the PHA's approach to setting payment standards, determining rent reasonableness, and providing support to landlords and tenants. These interviews were conducted in person and lasted about 90 minutes (the discussion guide is included in Appendix A-5).

Exhibit 3-1: Tenant Interviews

Type	Chattanooga	Cook County	Dallas	Laredo	Long Beach	Mamaroneck	Plano	Total
First received a voucher after SAFMR implementation								
Lives in higher-rent ZIP code	3	1	2	0	1	1	2	10
Lives in lower-rent ZIP code	2	1	3	0	3	1	3	13
First received a voucher before SAFMR implementation								
Lives in a lower-rent ZIP code, no move	1	3	0	2	1	4	1	12
Moved from lower- to higher-rent ZIP code	0	1	0	1	0	1	2	5
Moved from one lower-rent ZIP code to another	3	1	3	0	4	0	2	13
Multiple moves	0	1	2	1	1	1	0	6
Total	9	8	10	4	10	8	10	59

SAFMR = Small Area Fair Market Rent.

Exhibit 3-2: Characteristics of HCV Holders Interviewed

Household Characteristic	Number of Interviewees
Total number of HCV holders interviewed	59
Gender	
Male	7
Female	52
Employment status	
Employed	15
Retired	7
Unemployed	28
Unknown/did not answer	9
Household makeup	
Lives alone	19
Lives with family	31
Unknown/did not answer	9
Evaluation subgroup	
Parent(s) with minor child(ren)	24
Households headed or co-headed by an adult with a disability and/or that include a senior	25
Households headed or co-headed by an adult with a disability and/or that include a senior *and* have a parent with a minor child	2
Unknown/did not answer	8
Race	
American Indian/Alaska native	1
Asian and White	1
Black/African American and White	1
Black/African American	32
Native Hawaiian/Other Pacific islander	1
White	13
Unknown/did not answer	10
Ethnicity	
Hispanic	9
Non-Hispanic	40
Unknown/did not answer	10

Notes: Unknown/did not answer responses in in-person interviews are because the respondent chose not to respond to the question or the interview discussion did not include the characteristic as a topic. For the evaluation subgroup category, interview respondents recruited on site contributed to the number of unknown/did not answer responses.

Exhibit 3-3: Landlords Interviewed by Site and Neighborhood Type

	Chattanooga	Cook County	Dallas	Laredo	Long Beach	Mamaroneck	Plano	Total
Landlords Interviewed	5	5	5	5	5	5	4	34
Owns or Manages Rental Property(ies) in:								
Higher-opportunity neighborhood	3	3	0	0	1	4	3	14
Lower-opportunity neighborhood	2	1	1	3	5	0	0	12
Moderate-opportunity neighborhood	2	4	1	4	5	1	2	19
Unknown	0	0	3	0	0	0	1	4

Notes: Some landlords did not provide ZIP Codes for properties they own/manage. The areas in Dallas and Plano the referenced include predominately higher- and moderate-opportunity ZIP Codes, but we report their neighborhood types as "unknown." Columns for neighborhood types do not sum to the number of landlords interviewed because some landlords own or manage units in multiple neighborhood types.

Analysis of Primary Data

Site visitors submitted comprehensive notes from their tenant and landlord interviews, with information organized by interview protocol questions. These notes were coded and analyzed and served as the primary qualitative data sources from the site visits. They were used in conjunction with the study's other data sources to conduct the final analysis and complete the final report.

Notes were used to compare findings across sites and coded into nodes using NVivo.[14] For example, HCV holder notes included, among other things, tenant awareness and understanding of SAFMR policy, factors in considering a move or searching for a unit, housing search process, sources of information about SAFMR policy, and perspectives on SAFMR policy. Interview notes were also coded for the demographic characteristics of each respondent, so that responses from different types of households could be compared (for example, households with children and households that are head or co-headed by adults with disabilities).

3.2 Secondary Data and Quantitative Analysis Methodology

In this section, we introduce the secondary and administrative data we use in the analysis and provide details relevant to our analysis methodology for each data source. We then provide details about our quantitative analysis methodology, including how we categorize ZIP Codes for analysis and presentation, how we define and use comparison PHAs that serve as a counterfactual for SAFMR PHAs, and how we construct our multivariate differences-in-differences statistical model.

3.2.1 Secondary and Administrative Data

Secondary and administrative data used in the analysis include metropolitan area FMRs, SAFMRs, ZIP Code tabulations of rent distributions, and administrative Public and Indian Housing Information Center (PIC) data maintained by HUD.[15] Our analysis also includes two types of neighborhood-level indicators—opportunity measures and neighborhood characteristics. Neighborhood-level indicators drew from the U.S. Census Bureau's American Community Survey (ACS), the National Center for Education Statistics, and the U.S. Environmental Protection Agency.

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[14] NVivo is a qualitative software package designed for the management and analysis of qualitative data. We uploaded interview notes and transcripts into this software and used it to code the data to facilitate efficient, systematic, reliable, and replicable analyses. We also used NVivo to identify prevalent themes from the interviews and to understand patterns in how PHA and respondent characteristics relate to the themes.

[15] Data from the U.S. Census Bureau were at the level of ZIP Code Tabulation Area (ZCTA), which are the Census Bureau's representation of ZIP Code service areas defined by the U.S. Postal Service. Although USPS ZIP Code service area definitions may change, ZIP Code service areas and ZCTAs are nearly always identical. Our analysis required the standard translation of ZCTAs to postal ZIP Codes and reverse that is necessary to link census measures to a set of addresses.

ZIP Code Rent Distributions, SAFMRs, and FMRs

To improve the usability of SAFMRs for HCV holders and PHAs, HUD chose to define SAFMRs by ZIP Codes rather than by alternative small geography concepts such as a census tract. ZIP Codes are commonly known and available to HCV holders considering a particular unit, whereas census geographies are not. To facilitate our analysis, HUD provided special ZIP Code-level tabulations of the ACS 2008–2012 and ACS 2009–2013 data files that include counts of units by number of bedrooms and rent range for ZIP Codes. The ranges start small, in increments of $50.[16] These fine increments for ZIP Code-level rent distributions enabled us to analyze the effects of SAFMRs on the potential access to higher-opportunity neighborhoods at the ZIP Code corresponding to the geography at which SAFMRs are defined.

The Census Bureau provides HUD special tabulations of ACS data on which FMRs are updated annually. Currently, FMRs for the HCV program are determined for metropolitan areas, nonmetropolitan counties, and areas known as HUD Metro FMR Areas. HUD also computes SAFMRs for each jurisdiction as certain PHAs are required to use SAFMRs and other PHAs have the option of doing so. SAFMRs are based on ZIP Codes, approximated by ZIP Code Tabulation Area. The most recent SAFMRs available are for fiscal year 2018.[17]

PIC Data

PIC is the repository of HUD's administrative data on the HCV and public housing programs. PIC has individual-level detail on household characteristics and income and rent information that determines both the amount a HCV holder pays and the amount of the voucher subsidy. We received HCV program PIC data from HUD for each of the seven SAFMR public housing agencies as well as for an additional 138 PHAs as a comparison group in the study.[18] The additional 138 PHAs were from the same HUD-defined clusters as the 5 PHAs in the SAFMR demonstration and eligible to participate in the SAFMR demonstration, but were not invited or did not accept the invitation. We use the additional 138 PHAs to provide a comparative analysis for the HCV program under Fair Market Rents.

We requested PIC data at the HCV household level for our primary outcomes of interest and analysis variables:

- ZIP Code and census tract where a voucher is used.
- Whether a household moves from one ZIP Code to another (determined by comparing the ZIP Code and census tract in which a household lives in successive data extracts).

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[16] The 5-year ACS reports the number of units in 21 categories, where rent is less than $100, then with cutoffs increasing by $50 up to $799, then $800–$899, $900–$999, $1,000–$1,249, $1,250–$1,499, $1,500–$1,999, and $2,000 and up.

[17] Small Area FMRs are available at https://www.huduser.gov/portal/datasets/fmr/smallarea/index.html.

[18] HUD provided quarterly extracts of PIC data for both Phase 1 and Phase 2. Our analysis is based on quarterly PIC extracts as of January 2018.

- Tenant income and rent payments.
- Total HAP.
- Household demographics.

These measures were collapsed to an annual basis (using the ZIP Code and census tract combination where a household spent most of the year), beginning in the fourth quarter of 2009 and extending through the end of 2017.[19] For greater presentation clarity, we focused on 3 years of data in much of our analysis:

- 2010—before SAFMRs were implemented.
- 2015—after all HCV holders in SAFMR PHAs were subject to SAFMR-based payment standards.
- 2017—after all HCV holders in SAFMR PHAs were subject to SAFMR-based payment standards and sufficient time had passed for household location outcomes to respond to the SAFMR-based payment standards and the hold harmless periods to be over.

The multivariate regression analysis presented in chapter 5 (with methodology detailed below in this chapter) is based on annual observations from 2010 through 2017 for all households in SAFMR and comparison PHAs.

Chapter 8 reports on how the implementation of SAFMRs affected fiscal outcomes. The dollar amounts for these outcomes are recorded in PIC data. We adjust these dollar amounts for inflation. To do so, we calculate the average total housing cost (total rent to owner plus utility allowance) for each cluster of the comparison PHAs for each year. We then inflate data for 2010 and 2015 to 2017 dollars by multiplying each dollar-denominated outcome by the total cost in that cluster in 2017 divided by the total cost in the cluster in 2010 and 2015, respectively. This results in fiscal outcomes measured in dollar units that are comparable across measures and across time after accounting for cluster-level cost inflation. As robustness checks (not included in this report), we also adjusted for inflation using the same Consumer Price Index (CPI) inflation adjustments for each geography that HUD uses to calculate FMRs. Conclusions and qualitative findings are unchanged when using CPI adjustments.

To limit the amount of personally identifiable information in the data transferred from HUD to the research team, we used household identifiers unique to the study and reported household location at the ZIP Code and census tract level, rather than individual addresses. This protection

[19] For most households, this results in the information available for the household in the fourth quarter extract each year. We used extracts from earlier quarters in each year to fill in any missing information for households observed earlier in the year but not in the fourth quarter. Fourth quarter 2009 data was used primarily to determine whether a household moved in 2010.

of personal data affected the extent to which we were able to observe households moving within a neighborhood.[20]

PHA Service Areas

For analysis of the potential for SAFMRs to affect neighborhood access, we determined the full set of ZIP Codes within a PHA's service area to know where HCV holders could use a voucher under SAFMR payment standards. Because SAFMRs are defined for ZIP Codes, we identified a list of ZIP Codes for each PHA in our analysis that constituted the PHA's service area.[21] For the SAFMR PHAs, we reviewed the PHA administrative plans for the descriptions of each PHA's service area, then used geographic crosswalks and geographic information system, or GIS, analysis to determine ZIP Codes defining that PHA service area.[22] For the relevant analyses of the 138 comparison PHAs, we relied on PIC data to identify ZIP Codes where HCV holders actually reside. To capture ZIP Codes that might be more affordable under SAFMRs where HCV holders could live, we used GIS analysis to identify all ZIP Codes within the same county that were geographically adjacent to residences of some HCV holders.

Opportunity Measures

Exhibit 3-4 presents the opportunity measures used for this evaluation. The opportunity measures designed for this study are all initially derived from census tract-level measures. To facilitate analysis corresponding to the ZIP Code-based SAFMRs, we used population-weighted crosswalks to translate the indexes to the ZIP Code level.

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[20] We used the limited characteristics available in the data extract about the unit in which a household resided to construct a proxy for whether a household moved without changing census tract or ZIP Code. These characteristics are the construction year of the unit, the number of bedrooms in the unit, and the property type (for example, higher-rise apartment versus townhome). If these characteristics changed from one year to the next, but the census tract and ZIP Code did not, we inferred that a household had moved within its census tract and ZIP Code. The caveat is that this proxy will not capture a move between two units in the same ZIP Code and census tract that commonly share all three characteristics.

[21] No known data source currently exists that provides definitions of PHA service areas.

[22] The Mamaroneck HCV program is one of 17 distinct HCV programs serving parts of Westchester County, NY, a county of nearly 1 million people. Although the PHA's original service area was Mamaroneck village, the Town of Mamaroneck, and Larchmont village, the PHA merged with another PHA in 2008 and now has HCV holders throughout Westchester County. Although the PHA has a relatively small HCV program of between 600 and 700 units, after reviewing the PHA's payment standard schedules and conferring with the housing authority staff on what they consider to be the service area, our analysis of the Mamaroneck PHA's rental market was expanded to include all of Westchester County. For Dallas, we included ZIP Codes that were subject to SAFMRs (approximately 2 percent of HCV holders in Dallas live outside the Dallas HMFA). For Plano, we included ZIP Codes in Collin County plus additional ZIP Codes close to the county border in Dallas and Denton counties based on the number of Plano HCV holders that lived in those ZIP Codes.

Exhibit 3-4: Opportunity Indicators

Opportunity Indicator (Data Source)	Description
Overall opportunity index • (Composite of the other opportunity indicators)	The overall opportunity index was created specifically for this evaluation. It is the percentile rank by renters in the metropolitan area of the simple average of the percentile rank indexes for the share of nonpoor, public school quality, employment access, and environmental hazards.
Percent nonpoor • (American Community Survey [ACS] 5-year estimate, 2010–2014)	ACS 5-year estimates provide the percent nonpoor for each census tract. The percent nonpoor is the ratio of the population above the poverty level to the total population for whom we determined poverty status. Note that we use the rate nonpoor (1 minus poverty rate) rather than the more traditional poverty rate, so that the index can be consistent with the other indexes and combined into a single composite measure.
Public school quality • (School Proficiency Index, 2011–2012)	School-level data on state examinations for 4th grade students approximate the quality of local public schools. We base the measure on the public school(s) nearest to each block group and school zone from the School Attendance Boundary Information System. We weighted block group data by numbers of households to create census tract-level data. The higher the score, the higher the school system quality is in a neighborhood.
Employment access • (Jobs Proximity Index, 2010)	This index measures the access a neighborhood has to employment opportunities as measured by the distance between block groups and job locations weighted by employment size. We weighted block group data by numbers of households to create census tract-level data. The higher the index value, the better the access to employment opportunities for residents in a neighborhood.
Environmental hazards • (Environmental Health Hazard Index, 2005)	The Environmental Health Hazard Index is a tract-level index of potential exposure to toxins based on National Air Toxic Assessment data from the U.S. Environmental Protection Agency. The higher the value, the better the environmental quality of a neighborhood.

To facilitate comparisons across the opportunity measures and across geographies, we normalized the percent nonpoor, public school quality, employment access, and environmental hazard indexes to be the percentile of the raw index within the population of renters in the metropolitan area. For example, a public school quality percentile score of 50 for a ZIP Code indicates that one-half of the renters in a metropolitan area live in ZIP Codes with a school quality measure lower than that of the ZIP Code, and one-half live in ZIP Codes with a school quality measure higher than that of the ZIP Code. To create the overall opportunity index, we average these component index percentile scores and calculate the percentile of the average score within the metropolitan area.

Neighborhood Characteristics

In addition to opportunity measures, we conducted an additional analysis of how SAFMRs change where HCV holders reside in terms of key socioeconomic and demographic characteristics of the community. The most prominent was the ZIP Code rent ratio. The other measures we included are racial and ethnic composition, the share of families with children, and percent of adults with college degrees. These characteristics are not included in our

composite measure of opportunity, but they are important for understanding the effects of SAFMRs on neighborhood composition where HCV holders reside.

ACS data are collected on a rolling basis, and we use the neighborhood estimates reported for a time period spanning 5 years. As such, ACS waves are not suited to measuring year-to-year differences, as each year's data includes multiple years. It is also not anticipated that neighborhood characteristics will change as a result of implementing SAFMRs, particularly during the time frame studied in the evaluation. Therefore, for this evaluation, we focus our analysis on comparing SAFMRs with metropolitan area FMRs based on a single snapshot of neighborhood characteristics at around the time the SAFMR demonstration began. We used 5-year ACS estimates for 2010–2014 for these characteristics.

3.2.2 Quantitative Analysis Methodology

We now provide details on how we defined neighborhood rent ratios, categorized ZIP Codes, determined a set of comparison PHAs, and statistically modeled location outcomes.

ZIP Code Rent Ratio

To describe how the effects of SAFMRs vary by different neighborhood rent levels, we use the ZIP Code rent ratio, a concept developed by HUD to define SAFMRs, which is comparable across metropolitan areas and ZIP Codes. The rent ratio is the ratio of the median rent in each ZIP Code to the median rent for the metropolitan area. HUD uses rent ratio to calculate SAFMRs (Federal Register, 2010).

Definition:
$$\text{Rent Ratio} = \frac{\text{Median Gross Rent for ZIP Code}}{\text{Median Gross Rent for the CBSA (metropolitan area)}}$$

The two-bedroom SAFMR for a ZIP Code equals the two-bedroom metro-area FMR multiplied by the rent ratio for the ZIP Code (and then rounded to the nearest $10). HUD calculated the rent ratios for each ZIP Code using special tabulations of ACS data. With rent ratios already calculated and used to calculate SAFMRs by HUD, we were able to identify rent ratios for each ZIP Code as the ratio of the two-bedroom SAFMR (or hypothetical SAFMR) to the two-bedroom metropolitan area FMR, avoiding the need to repeat HUD's analysis of the special tabulations of rent ratio:

Calculation for analysis:
$$\text{Rent Ratio} = \frac{\text{SAFMR (2 bed)}}{\text{FMR (2 bed)}}$$

In the report, we express rent ratio in percentage terms that represent the two-bedroom SAFMR as a percent of the two-bedroom metropolitan area FMR. For analysis in chapters 4, 5, and 8, we calculate rent ratios using FY 2015 FMRs and SAFMRs. HUD calculated FY 2015 FMRs and SAFMRs using 2012 ACS 5-year data (which is inflated to 2015 using available consumer price index data and inflation forecasts). As such, this analysis represents the potential impacts of SAFMRs with ZIP Code and metropolitan area rent distributions fixed prior to the implementation of SAFMRs.[23]

Using this ratio—

- If the rent ratio > 100, it means that the median rent in the ZIP Code is greater than the median rent of its metropolitan area. For example, a rent ratio of 125 means that the ZIP Code median rent is 25 percent higher than the metropolitan area median rent.
- A rent ratio of 100 means that the median rent in the ZIP Code is equal to the median rent of its metropolitan area.
- If the rent ratio < 100, it means that the median rent in the ZIP Code is lower than the median rent of its metropolitan area. For example, a rent ratio of 75 means that the ZIP Code median rent is 25 percent lower than the metropolitan area median rent.

Across all ZIP Codes with published SAFMRs and available counts of rental units (from ACS data), one-half of rental units are in ZIP Codes with a rent ratio between 90 and 108. These are the 25th and 75th percentile, respectively, of the distribution of ZIP Code rent ratios for all rental units.

ZIP Code Rent Ratio Categories

For clarity of presentation, we categorized ZIP Codes using both the rent ratio measure (neighborhood rent levels relative to metropolitan area rent levels) and the overall opportunity index.

For the rent ratio, we created three groups using cutoffs of 90 and 110 to identify lower-, moderate-, and higher-rent ratio neighborhoods.

- Below 90—the median rent in a ZIP Code is less than 90 percent of the metropolitan area median rent. These are defined as lower-rent ZIP Codes.
- Between 90 and 110—the ZIP Code median rent is within 10 percent of the metropolitan area median rent. These are defined as moderate-rent Zip Codes.

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[23] The question of whether SAFMRs themselves change local and metropolitan-wide rent distributions is beyond the scope of our evaluation, and if so, is likely to be a longer-term impact. ZIP Code median rents relative to metropolitan area medians can change for a variety of external reasons as well. A dynamic analysis of how and why neighborhoods where HCV holders live change and how HCV holders respond to these changes—with or without SAFMRs—is an interesting avenue for further research. Similarly, additional research on how FMRs and SAFMRs change over time and the impacts this has on HCV holders would be valuable.

- Above 110—the ZIP Code median rent is more than 110 percent of the metropolitan area median rent. These are defined as higher-rent ZIP Codes.

ZIP Code Opportunity Index Categories

For each individual opportunity measure (and for the composite index of opportunity measures), we use cutoffs of the 25th and 75th percentiles within the applicable metropolitan area to again create three groups.

- ZIP Codes with opportunity values below 25 contain the one-fourth of renters in the metropolitan area with the lowest score for that opportunity measure or for the index as a whole. These are defined as lower opportunity ZIP Codes.
- ZIP Codes with opportunity values between 25 and 75 contain the one-half of renters in the metropolitan areas with intermediate opportunity scores. These are defined as moderate-opportunity ZIP Codes.
- ZIP Codes with opportunity values above 75 contain the one-fourth of renters in the metropolitan area with the highest score for that opportunity measure or for the index as a whole. These are defined as higher-opportunity ZIP Codes.

Comparison PHAs

In addition to analyzing the seven SAFMR PHAs, we used a set of comparison PHAs that continued to use metropolitan-area based FMRs (that is, these PHAs did not use SAFMRs) for the duration of the demonstration. The comparison PHAs included all PHAs in the clusters from which the five SAFMR demonstration PHAs were drawn. As described in appendix A-1, all PHAs deemed eligible to participate in the demonstration were assigned to the clusters based on size and the percentage of the working age population.

HUD conducted the analysis that assigned PHAs to clusters and recruited PHAs to participate in the demonstration in a random order within clusters as part of HUD's implementation of the demonstration. The evaluation of the SAFMR demonstration began after the demonstration began, but HUD's approach to recruiting PHAs allows us to use the PHAs that were eligible for the demonstration but not recruited to participate as a counterfactual group for the SAFMR PHAs. We assume that HCV holders in SAFMR PHAs would have experienced the average outcomes of HCV holders in comparison PHAs if SAFMRs had not been implemented.

Our comparison group includes all PHAs in clusters that include demonstration PHAs: clusters 2, 4, 5, 6, and 7. This comparison group represents 138 PHAs and slightly more than 550,000 HCV holder households (in 2015).[24] This number of households provides a broad base that enables comparisons for different types of neighborhoods—notably those for which SAFMRs would increase and decrease payment standards. Because the two Dallas-area PHAs were not selected into the SAFMR demonstration, they were not part of any cluster. However, Dallas would have

[24] Note that the 138 comparison PHAs included the four PHAs within three of these clusters that declined the invitation to participate in the SAFMR demonstration. We are not aware of any evidence that these PHAs differ from demonstration PHAs in a way that would make them unsuitable for inclusion in the set of analysis PHAs.

fallen on the border of clusters 5 and 6, and Plano would have been classified in cluster 2. Therefore, the comparison PHAs in clusters 2, 5, and 6, nonetheless, provide a viable comparison for the two PHAs.

In the analyses in chapters 4, 5, and 8, we present side-by-side comparisons of average outcomes in all SAFMR PHAs to average outcomes in comparison PHAs. SAFMR PHAs represent a relatively small (5) number of the 143 PHAs that were eligible to participate in the demonstration from their same clusters (plus the two Dallas PHAs). Because of this, we do not expect the average levels of outcomes in 2010 (pre-implementation of SAFMRs) to be the same for SAFMR PHAs and comparison PHAs. And indeed, our analysis typically finds that these baseline averages are different. Our focus, rather, is on differences in how outcomes change between 2010 and our two follow-up time periods in 2015 and 2017. At issue is whether outcomes would have changed in SAFMR PHAs for reasons not related to SAFMRs (for example, changes in housing markets and employment opportunities driven by factors external to the HCV program). We present trends in comparison PHAs which demonstrate that there are not observable changes over our evaluation period in outcomes for HCV holders more broadly, which leads us to conclude that changes observed in SAFMR PHAs are the result of the implementation of SAFMRs.

We present outcomes broken out across the seven SAFMR PHAs in chapters 4, 5, and 8. We present analyses comparing each SAFMR PHA to the cluster from which it was drawn in Appendix B.

Share of Units Renting under Metropolitan Area FMRs and SAFMRs by ZIP Code

As a measure of how SAFMRs might change an HCV holder's ability to use a voucher, we calculated the percentage of housing units in each ZIP Code that rent below the metropolitan area FMR and below the SAFMR using the special tabulations of 2012 ACS 5-year estimates data.[25] To calculate the share of units in each ZIP Code accessible to an HCV holder under each SAFMRs and metropolitan area FMRs, we divided the total number of units that rented below

[25] This measure does not account for the fact that PHAs may set their payment standards above or below the applicable FMR or may request exception payment standards. It thus may overstate or understate to HCV holders the actual affordability of units in a particular ZIP Code. Actual affordability may also be affected by PHAs' rent reasonableness determinations.

The measure takes into account rent data and unit counts and FMRs and SAFMRs for all different unit sizes (number of bedrooms). The rent data were in bands, so we had unit counts for different levels of rent for each unit size. We compared those rents with the FMR and SAFMR for the unit size to determine the number of units that rented below the FMR and SAFMR.

the FMR or SAFMR by the total number of units in the ZIP Code (also from 2012 ACS 5-year estimates data).[26]

Multivariate Differences-in-Differences Regression Model

To determine the effect of the implementation of SAFMRs on household's location outcomes, we estimate differences-in-differences regressions on the data described above—individual HCV holder administrative records combined with neighborhood indicator data. We examine three location outcomes: whether a household moves neighborhoods (ZIP Code or census tract) from one year to the next, the share of households that move to a neighborhood that has an opportunity index score that at is at least 10 points (one decile) higher than their starting neighborhood, and levels (for new households) and changes (for movers) in the opportunity index score itself. The first two outcomes are binary variables—either a household moves or does not, and either a household moves up in opportunity, or does not. We model these variables using an ordinary least squares (OLS) linear probability model. The third outcome is a continuous measure, which we also model using an OLS model.

We estimate models for three samples: all HCV holders, HCV holders that move, and new HCV holders. Observations are at the household-year level.[27] Models estimated for all HCV holders show the average effect for all households, whether or not they move as a result of SAFMRs. Focusing on HCV holders that move separates out the effect of how SAFMRs alter the location outcomes for households, conditional on their moving. And estimating models for new HCV holders provides information unique to this group—how the initial use of a voucher is affected by SAFMRs.

Our basic statistical model is a multivariate differences-in-differences linear regression, which takes the following mathematical form, expressed for the outcome of whether a household moves.

$$Move_{ist} = \alpha + \lambda D_t + \delta(SAPHA_s * D_t) + \beta X_{ist} + \gamma PHA_s + \varepsilon_{ist}$$

$Move_{ist}$ is the binary outcome variable indicating if household i in PHA type s (SAFMR or comparison) moved neighborhoods or moved to a higher-opportunity neighborhood in time period t. The term D_t is indicator of whether period t is after SAFMR implementation (2013–2017 for all SAFMR PHAs, with an additional 2011–2012 indicator term added for the Dallas PHAs that implemented SAFMRs a year earlier). The term $SAPHA_s * D_t$ indicates that an

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[26] The process by which PHAs set payment standards is often complex and has many inputs and contributing factors. As such, we did not develop an empirical model of this process to predict payment standards for the comparison analysis PHAs in this evaluation. Rather, we used the difference between SAFMRs and metropolitan area FMRs as a proxy for the difference between payment standards set based on SAFMRs and payment standards set based on metropolitan area FMRs.

[27] Although a single household is typically included in multiple years in our data, because our research questions focus on the overall population of HCV holders within SAFMR PHAs, we treat the data as a repeated cross-section (including fixed effects for each PHA) rather than modelling the data for individual household as an unbalanced panel of individual households.

observation is for a household in a Small Area FMR PHA in the periods after SAFMRs are implemented. The estimate for the parameter δ is our difference-in-differences effect of interest. It measures the additional percentage point likelihood that a household in the SAFMR PHAs will move as a result of the policy change. Our identifying assumption is that no other factors are changing differentially in SAFMRs relative to comparison PHAs that are correlated with the $Move_{ist}$ outcome. Our model includes a set of household-level characteristics X_{ist} observable in HUD's tenant-level data. We include PHA-level fixed effects. The model has an individual, time, PHA error term, ε_{ist}.

Our hypotheses are that estimates of the parameter δ will be positive—that the introduction of SAFMRs will increase the likelihood that households move, that they move to higher opportunity neighborhoods, and that new households locate to neighborhoods with higher opportunity scores. We take a conservative approach to statistical hypothesis testing by clustering standard errors by PHA—the level of aggregation at which the policy is implemented. A less conservative approach would be to cluster standard errors at the ZIP Code level, the level at which SAFMRs vary. Robustness checks (not included in the report) indicate that ZIP Code-clustered standard errors are indeed much smaller than PHA-clustered standard errors. So using the less conservative ZIP Code clusters would lead to stronger conclusions about the statistical significance of the findings (and additional statistically significant coefficient estimates).

To capture the possibility that rent rules affect households in lower-rent neighborhoods differently than those in higher-rent neighborhoods, we interact the $SAPHA_s$ term with indicators for whether the household lives in a higher-, medium-, or lower-rent neighborhood at the start of the period, as well as including the indicators separately in the model and interacted with D_t. This allows us to estimate different δ coefficients for each neighborhood type.

As discussed in chapter 2, SAFMRs may have differing effects for households with children, households that are headed or co-headed by adults with disabilities, and households with seniors. To allow for this possibility in our analysis, we estimate models for each of these subgroups by additionally interact $SAPHA_s$ term with indicators for whether the household belongs to the subgroup. (For parsimony, we interact one subgroup variable at a time in separate regression models.) Again, indicators for the subgroups are also interacted with D_t, allowing us to estimate different δ coefficients for each subgroup. Finally, we interact two-way interactions of subgroup of interest and starting rent ratio category to determine whether households in the subgroup in lower-rent ratio neighborhoods have different outcomes.

4. Changes in Housing Choice Voucher Holders' Potential Access to Higher-Opportunity Neighborhoods

This chapter uses the distribution of rents in each of the SAFMR PHA jurisdictions from special tabulations of the 2012 American Community Survey (ACS) 5-year estimates to describe the ***potential*** impacts of the switch to SAFMRs on HCV holders' ability to ***access*** lower-, moderate-, and higher-rent areas.[28] Key findings of this analysis follow, focusing on SAFMR PHAs as a group. The chapter also documents individual variation from PHA to PHA, which is considerable.

- SAFMRs increase the number of units with rents below the applicable FMR in higher-rent ZIP Codes and reduce the number in lower-rent ZIP Codes.
- However, in the seven PHAs in our analysis, the gain in units with rents below the applicable FMR in higher-rent ZIP Codes does not offset the loss in the number of units below the FMR in lower-rent ZIP Codes, resulting in a net loss of units with rents below the FMR.[29]
- The higher-rent ZIP Codes to which HCV holders gain access via SAFMRs offer higher opportunity to residents on all measures: lower poverty, higher school proficiency, higher job proximity, and higher environmental quality.

As described in the previous section on hypothesized impacts of SAFMRs on HCV holders, SAFMRs are expected to change the permissible range for payment standards across ZIP Codes within a metropolitan area. In general, with the implementation of SAFMRs, it is expected that payment standards increase in higher-rent ZIP Codes and decrease in lower-rent ZIP Codes, particularly in ZIP Codes with median rent much greater than or less than the metropolitan area median. In such ZIP Codes, the range of 90 to 110 percent of the SAFMR within which PHAs can set a SAFMR-based payment standard may be outside the 90 to 110 percent range of the metropolitan area FMRs.

Thus, compared with metropolitan area FMRs, a larger share of units in higher-rent ZIP Codes should be affordable to HCV holders in a SAFMR PHA, and a smaller share of units should be

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[28] ACS 5-year estimates are the most precise estimates of rent distributions available for small geographies (see https://www.census.gov/programs-surveys/acs/guidance/estimates.html), We use 2012 because these estimates are based on data collected over the 5 years prior to the implementation of SAFMRs (or as SAFMRs were implemented in Dallas). As such, this analysis represents the potential impacts of SAFMRs with ZIP Code and metropolitan area rent distributions fixed prior to the implementation of SAFMRs. The question of whether SAFMRs themselves change local and metropolitan-wide rent distributions is beyond the scope of our evaluation, and if so, is likely to be a longer-term impact. The results presented in this chapter differ from those in chapter 4 of the evaluation's interim report only in that we conduct additional modeling of the observed relationships between units renting below SAFMR and metropolitan area FMR and the ZIP Code rent ratio.

[29] This analysis is for the jurisdictions of the individual PHAs in our analysis only, which in most cases represents a fraction of a larger metropolitan area. Other research, discussed in the following, finds that a shift from metropolitan area FMRs to SAFMRs increases the number of units renting below the applicable FMR across the 24 metro areas in which HUD is now requiring SAFMRs to be used (NYU Furman Center, 2018).

affordable to HCV holders in lower-rent neighborhoods. This change is the primary mechanism through which SAFMRs might alter HCV holders' access to and location in higher-rent ZIP Codes. To the extent that rents correlate with access to opportunity, changes in the share of units affordable with vouchers in higher- and lower-rent neighborhoods will shift HCV holders' access to opportunity.

As introduced in chapter 3, we use the ZIP Code rent ratio, the ZIP Code median gross rent divided by the median gross rent for the metropolitan area (expressed as a percentage), to identify lower-, moderate-, and higher-rent ZIP Codes. The rent ratio used in this analysis is also based on 2012 ACS 5-year estimates.[30] For presentation, we categorize ZIP Codes as follows:

- Lower-rent neighborhoods are ZIP Codes with a rent ratio below 90.
- Moderate-rent neighborhoods are ZIP Codes with a rent ratio from 90 to 110.
- Higher-rent neighborhoods are ZIP Codes with a rent ratio above 110.

Exhibit 4-1 summarizes the SAFMR PHAs as a group and individually, reporting the number of rental units and ZIP Codes in the jurisdiction and in each rent ratio category from the 2012 ACS 5-year estimates. As shown, the PHAs are a diverse group in terms of size and rental unit distribution. Laredo is by far the smallest, with only five ZIP Codes and fewer than 26,000 rental units. Dallas is by far the largest with 168 ZIP Codes and more than 650,000 rental units. Note that the numbers of units and ZIP Codes in each PHA's jurisdiction do not sum to the "All SAFMR PHAs" values because all but one of the Plano PHA's ZIP Codes is also in the Dallas PHA jurisdiction.

As shown in Exhibit 4-1, the share of rental units in higher-rent and lower-rent ZIP Codes varies considerably by PHA. This variation has to do, in part, with how rent levels within a PHA's jurisdiction differ from rent levels within the broader metropolitan area on which its metropolitan area FMR is based. Rent ratios in Long Beach are calculated using the median rent for the much larger Los Angeles-Long Beach HUD Metro FMR Area. Although 3 of the 13 ZIP Codes in Long Beach's jurisdiction have median rents that are more than 110 percent of the Metro FMR Area median, these ZIP Codes have few rental units (for example, due to higher owner-occupancy rates). As such, there are more than nine times as many rental units in the five ZIP Codes that have rent ratios below 90 percent as in the three higher-rent ZIP Codes. Meanwhile, only 13 and 9 percent of rental units are in lower-rent ZIP Codes in Mamaroneck and Plano, respectively. These examples illustrate that, particularly for PHAs that operate in a small portion of a metropolitan area, SAFMRs may be mostly above or mostly below metropolitan area FMRs.

[30] As detailed in Chapter 3, we calculate rent ratio for each ZIP Code using the ratio of SAFMR to FMR. We use 2015 fiscal year SAFMR and FMRs, which are based on 2012 ACS 5-year estimates, to calculate the rent ratio used in this chapter and elsewhere to characterize ZIP Codes.

Exhibit 4-1: Rental Units and ZIP Codes by Rent Ratio Category

			Zip Code Rent Ratio Category					
		N	Lower Rent < 90%		Moderate Rent 90%–110%		Higher Rent > 110%	
All SAFMR PHAs	Units	1,290,864	380,598	(29%)	588,330	(46%)	321,936	(25%)
	ZIP Codes	411	87	(21%)	186	(45%)	138	(34%)
Laredo	Units	25,544	6,582	(26%)	15,228	(60%)	3,734	(15%)
	ZIP Codes	5	1	(20%)	3	(60%)	1	(20%)
Mamaroneck	Units	143,225	51,090	(36%)	64,066	(45%)	28,069	(20%)
	ZIP Codes	67	9	(13%)	32	(48%)	26	(39%)
Chattanooga	Units	53,390	8,638	(16%)	36,152	(68%)	8,600	(16%)
	ZIP Codes	30	6	(20%)	21	(70%)	3	(10%)
Cook County	Units	291,301	96,374	(33%)	130,023	(45%)	64,904	(22%)
	ZIP Codes	127	37	(29%)	53	(42%)	37	(29%)
Long Beach	Units	107,946	60,531	(56%)	35,990	(33%)	11,425	(11%)
	ZIP Codes	13	5	(38%)	5	(38%)	3	(23%)
Dallas	Units	668,981	157,382	(24%)	306,396	(46%)	205,203	(31%)
	ZIP Codes	168	29	(17%)	71	(42%)	68	(40%)
Plano	Units	236,040	21,549	(9%)	111,167	(47%)	103,324	(44%)
	ZIP Codes	52	1	(2%)	21	(40%)	30	(58%)

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Notes: Analysis data set includes all ZIP Codes in PHA service areas where SAFMRs are implemented. Percentage of total counts for each row in parentheses.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs; 2012 American Community Survey 5-year estimates (total rental units)

This variation is consistent with the motivation for SAFMRs. Under traditional FMRs, a small PHA in a large metropolitan area faces FMRs that may be too generous or too stingy for its particular jurisdiction because the FMRs are based on rents in the broader metropolitan area.

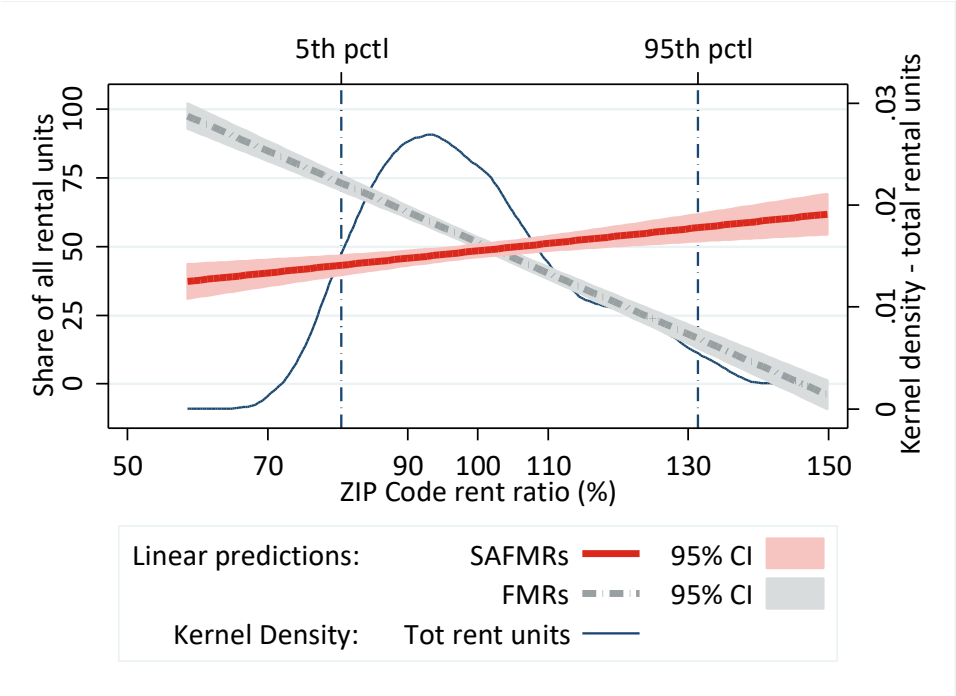
Thus, it is important to keep in mind when interpreting the analyses presented in this chapter that some SAFMR PHAs had SAFMRs that were mostly higher than the metropolitan area FMR in their area, while others had SAFMRs that were mostly lower. We categorize rent ratios, opportunity measures, and neighborhood characteristics based on how ZIP Codes compare with the metropolitan area in which they are located. This comparison is useful in interpreting results in light of opportunities available across a ZIP Code's larger community (metropolitan area). It is less useful for observing possible effects within a smaller geography that is mostly different (for example, with a consistently higher or lower rent ratio) from the encompassing larger geography.

4.1 SAFMRs Increase Access to Higher-Rent ZIP Codes across Sites

As expected, SAFMRs increase the share of rental units with rents below the SAFMR relative to the FMR in higher-rent neighborhoods and reduce the share in lower-rent neighborhoods. Exhibit 4-2 provides a data visualization of this difference for all Zip Codes in SAFMR PHAs. As detailed in chapter 3, the data visualizations include two elements. The first element is two linear prediction plots (with 95-percent confidence intervals) from regressions of the share of

units with rents below SAFMR (solid red line) and the share of units with rents below FMR (dashed grey line) on the ZIP Code rent ratio. This empirically estimates and confirms the hypothesized relationship introduced in chapter 2, Exhibit 2-1. The second plot element is a kernel density estimate of the total number of rental units in the sample over the ZIP Code rent ratio. The plot line is higher above ranges of rent ratio that include more ZIP Codes (weighted by the total number of rental units in the ZIP Code). An accompanying table summarizes the information in the figure for three categories of ZIP Codes—lower-rent ZIP Codes with rent ratios below 90, moderate-rent ZIP Codes with rent ratios between 90 and 110, and higher-rent ZIP Codes with rent ratios greater than 110.

Exhibit 4-2: Share of Rental Units with Rent Below SAFMR and Metropolitan Area FMR by ZIP Code Rent Ratio



	Zip Code Rent Ratio Categories						Total	
	Lower Rent		Moderate Rent		Higher Rent			
Zip Code Rent Ratio	< 90		90 – 110		> 110			
Share of	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Units affordable	73	46	49	47	26	54	50	49
All rental Units	29		46		25		100	

FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Notes: Analysis dataset includes all ZIP Codes in PHA service areas where SAFMRs have been implemented.
Units affordable is shorthand for units with rent below the SAFMR or metropolitan area FMR, respectively.Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Markets Rents; 2012 American Community Survey 5-Year Estimates (special tabulation for HUD of rent and rental units by ZCTA); 2012 American Community Survey 5-Year Estimates (total rental units)

Together, the two elements of the visualization and the table show two results. First, the fitted lines demonstrate that in higher-rent ZIP Codes a higher percentage of units rent below SAFMRs than rent below metropolitan area FMRs. This is the intent of introducing SAFMRs—with the hope that more HCV holders will be able to locate in these higher rent neighborhoods, which we will show have higher measures of opportunity. Meanwhile, in lower-rent ZIP Codes, a lower percentage of units rent below SAFMRs than rent below metropolitan area FMRs. As expected, there is little difference between the share of units renting below SAFMRs and metropolitan area FMRs for ZIP Codes with a rent ratio near 100 (where SAFMR equals FMR). The confidence intervals around our estimated relationship overlap in this area of the plot, but only for a relatively small range of rent ratios. For most rent ratios, the confidence intervals are non-overlapping, indicating a statistically significant difference between the predicted relationships over those ranges. Second, the kernel density plot confirms that many units are in ZIP Codes where the difference between the fitted lines has a relevant magnitude (10 percentage points or more).

The table in the data visualization provides summary measures of this how the availability of rental units below the applicable FMR differs for metropolitan area FMRs and SAFMRs. Under metropolitan area FMRs, nearly three-fourths of units in lower-rent ZIP Codes are below the FMR, as are slightly more than one-fourth of units in higher-rent ZIP Codes.

4.1.1 Access to Higher-Rent ZIP Codes under SAFMRs Varies across Sites

The pattern of rental units with rents below FMRs in each PHA is generally similar to the pattern for the SAFMR PHAs as a group, but important differences exist across PHAs. Exhibit 4-3 tabulates the share of units with rents below the applicable FMR by rent ratio for each of the SAFMR sites and reports the share of all rental units in the rent ratio category. Across all sites, a consistent pattern holds; in higher-rent ZIP Codes, the share of units with rents below SAFMR, and thus potentially available to HCV holders, increases. It decreases in lower-rent ZIP Codes. The largest changes in the share of units below the FMR in lower-rent ZIP Codes were in Dallas and Plano, where the share of rental units with rents below SAFMRs in lower-rent ZIP Codes dropped by slightly more than 30 percentage points compared with metropolitan area FMRs. The smallest change was in Chattanooga with a drop of 19 percentage points. In higher-rent ZIP Codes, the largest change was in Laredo, where the share of units with rents below the applicable FMR increased by 39 percentage points upon the shift to SAFMRs. The smallest change was again in Chattanooga, with an increase of only 11 percentage points compared with metropolitan area FMRs. In moderate-rent ZIP Codes, changes in the share of units with rents below the applicable FMR due to SAFMRs are mostly modest, falling at or below 5 percentage points in five of the seven PHAs. The share drops in comparison to metropolitan area FMR for four of the seven. The difference ranges from 1 percentage point in Cook County to 5 percentage points in Dallas. For three PHAs, Chattanooga, Long Beach, and Mamaroneck, the share of units in moderate-rent ZIP Codes with rents under SAFMR is higher than under metropolitan area FMRs. In Chattanooga, this difference is small (4 percentage points), but in Long Beach, the difference is 7 percentage points higher than under metropolitan area FMRs. In Mamaroneck, the difference is 6 percentage points. Exhibit B-1.1 in Appendix B-1 provides a plot of the fitted linear relationship between the share of units renting below SAFMR and metropolitan area FMR

and rent ratio together with kernel density estimates of all rental units over rent ratio broken out by the study PHAs. Exhibit B-1.2 in the appendix provides this data visualization by cluster for the 138 comparison PHAs that provides a benchmark for pre- to post-SAFMR implementation trends analyzed in subsequent chapters.

Exhibit 4-3: Share of Rental Units Below SAFMR and Metropolitan Area FMR by Site

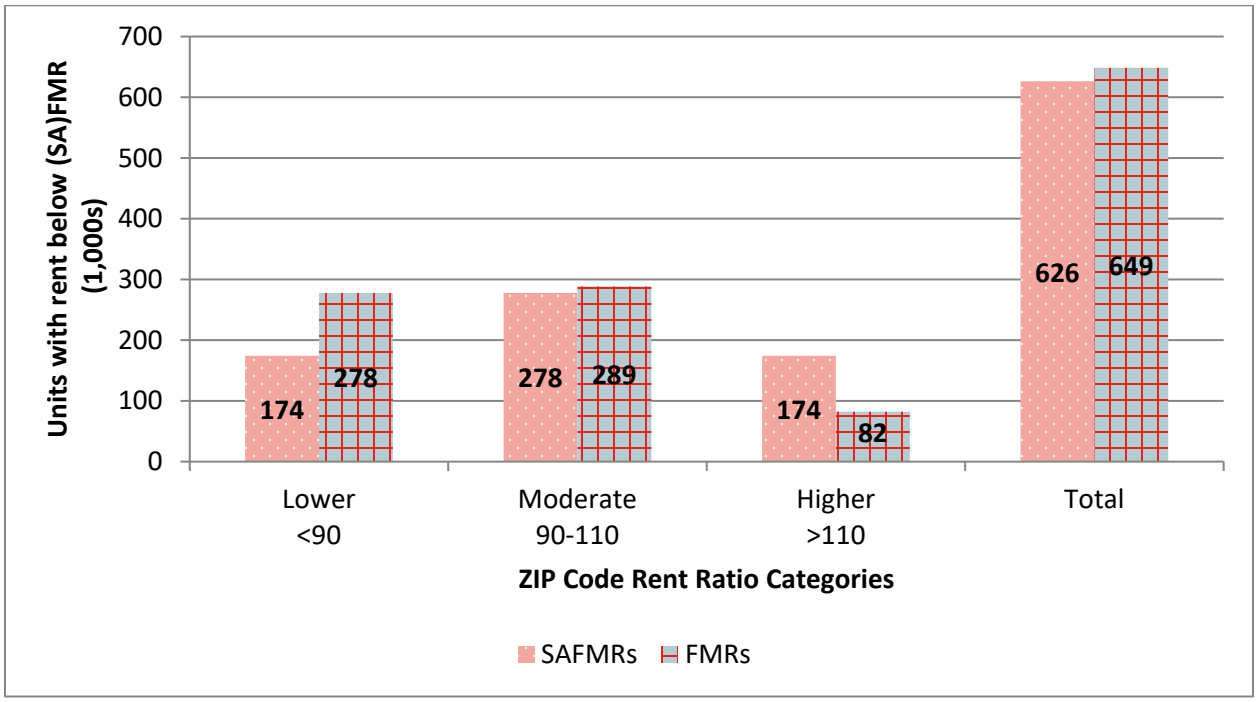
		Zip Code Rent Ratio Categories						Total	
		Lower rent		Moderate rent		Higher rent			
Zip Code rent ratio		< 90%		90%-110%		> 110%			
PHA	Share	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Laredo	*Units affordable*	80	58	57	55	14	53	56	55
	All rental units	26		60		15		100	
Mamaroneck	*Units affordable*	79	54	59	65	47	77	64	63
	All rental units	36		45		20		100	
Chattanooga	*Units affordable*	64	45	42	46	21	32	42	44
	All rental units	16		68		16		100	
Cook County	*Units affordable*	76	53	51	50	24	57	53	52
	All rental units	33		45		22		100	
Long Beach	*Units affordable*	70	46	45	52	37	69	58	50
	All rental units	56		33		11		100	
Dallas	*Units affordable*	70	38	47	42	23	50	45	44
	All rental units	24		46		31		100	
Plano	*Units affordable*	63	32	40	38	21	51	34	43
	All rental units	9		47		44		100	

FMR = Fair Market Rent. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: Analysis data set includes all ZIP Codes in PHA service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

4.2 SAFMRs Reduce the Overall Number of Units with Rents below the FMR

Importantly, for the SAFMR PHAs as a whole, and in five of the seven individual SAFMR PHAs, fewer units have rents below the SAFMR than the metropolitan area FMR (Exhibit 4-4). The exhibit shows that as intended, SAFMRs increase potential access to units in higher-rent neighborhoods, more than doubling the number of units with rents below the SAFMR in these areas. By the same token, SAFMRs decrease the number of units with rents below the SAFMR in lower-rent neighborhoods, reducing the number of units available to HCV holders by more than one-third. SAFMRs also slightly reduce units below the FMR in moderate-rent neighborhoods.

Exhibit 4-4: Count of Rental Units (1,000s) below Metropolitan Area FMR and SAFMR by Rent Ratio



FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis data set includes all ZIP Codes in public housing agency service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

The net effect is that across all site ZIP Codes, a total of slightly more than 648,500 units have rents below the metropolitan area FMR, compared with slightly less than 626,500 units with rents below the SAFMR. This difference is a loss of more than 22,000 units that have rents that indicate they might otherwise be available to HCV holders. With a total of more than 1,290,000 rental units in these ZIP Codes, this difference represents a potential loss of 1.7 percent of the total rental stock with rents that are accessible by HCV holders, or 3.4 percent of the stock that would have rents under metropolitan area FMRs.

The effective impact of the loss of these units to HCV holders could be similar to a decrease in the rental vacancy rate of the same magnitude in terms of the difficulty of finding units. HCV holders' challenge to finding units under SAFMRs could potentially be further compounded by other challenges, such as a lack of familiarity with many of the neighborhoods where a larger number of units become available.

Note that this discussion assumes that PHAs set payment standards equal to FMRs, which was not always the case. Because this discussion focuses on the potential availability of units to HCV holders under SAFMRs, and because PHAs in the future may make decisions about payment standards different from the SAFMR PHAs, we believe that a focus on 100 percent of the FMR and SAFMR was the most appropriate approach for this part of the analysis.

4.2.1 Declines in Units with Rents below SAFMR

The decline in units with rents below the applicable FMR due to the introduction of SAFMRs is not evenly distributed across the study sites. As shown in Exhibit 4-5, most of the drop in units with rents below the SAFMR is for the Dallas and Long Beach PHAs. Dallas is not surprising, because it is the largest PHA in terms of total rental units. Long Beach, however, is the fifth largest PHA, ahead of only Chattanooga and Laredo, but had the second largest decrease in units available. In Laredo and Mamaroneck, shifting to the SAFMR resulted in virtually no change in the overall number of units below the applicable FMR. These PHAs are unique among the SAFMR PHAs in that their jurisdictions are the same as the geographies for which their respective FMRs are calculated. Impacts in Chattanooga and Cook County were also fairly small. In percentage terms, Long Beach had by far the largest drop in units with rents below the applicable FMR. As reported in Exhibit 4-3, Long Beach has the smallest share among the SAFMR PHAs of rental units that are in higher-rent ZIP Codes (11 percent). So unlike other SAFMR PHAs, a far greater share (56 percent) of units are in lower-rent ZIP Codes than in moderate- or higher-rent ZIP Codes. This is possible because the Long Beach PHA's jurisdiction includes a relatively small portion of the larger Los Angeles-Long Beach-Glendale, CA HUD Metro FMR Area over which FMRs are calculated.

Exhibit 4-5: Comparison of Total Units with Rents below the SAFMR and Metropolitan Area FMR

	Total Units with Rents Below FMR, All ZIP Code Rent Ratios		Difference	Percentage Change, SAFMR Versus FMR
	SAFMR	FMR		
All SAFMR PHAs	626,483	648,607	– 22,125	– 3.4%
Laredo	14,163	14,317	– 208	– 1.4%
Mamaroneck	90,665	90,955	– 290	– 0.3%
Chattanooga	23,395	22,673	721	3.2%
Cook County	152,749	155,401	– 2,652	– 1.7%
Long Beach	54,140	62,575	– 8,435	– 13.5%
Dallas	291,066	302,246	– 11,180	– 3.7%
Plano	101,009	80,163	20,846	26.0%

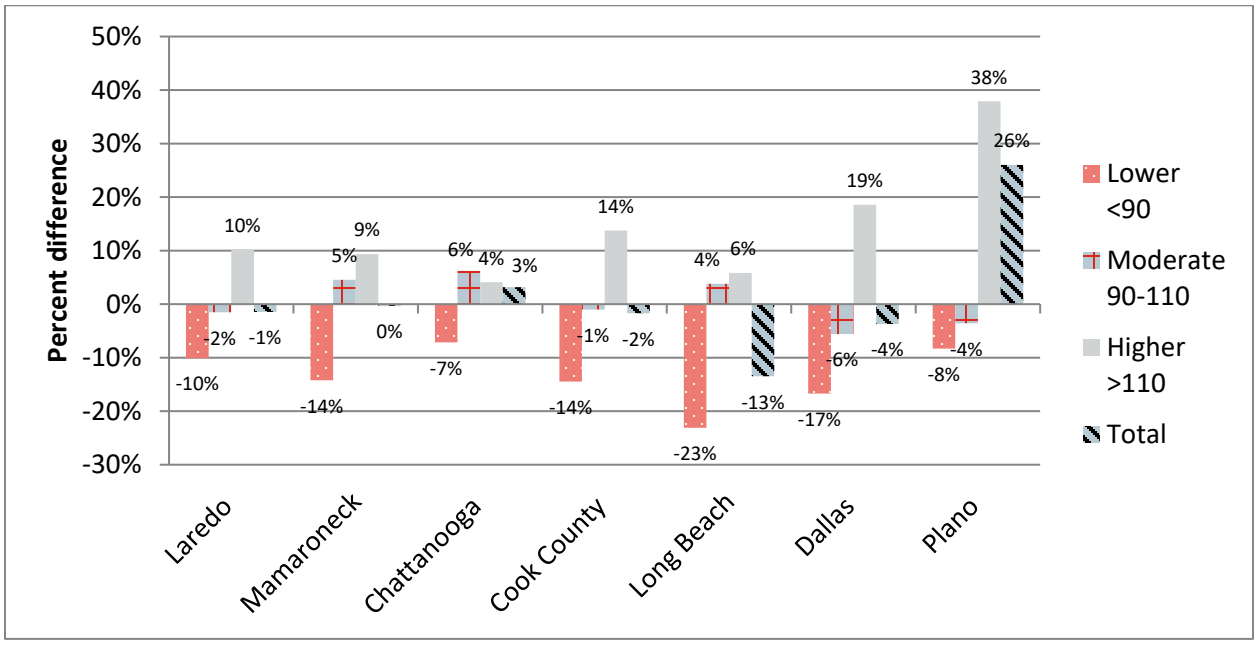
FMR = Fair Market Rent. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: Analysis data set includes all ZIP Codes in PHA service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

The size of the net change in units below the applicable FMR in a given geography depends on how rental units are distributed across lower-, moderate-, and higher-rent ZIP Codes. In general, if fewer rental units (that is, a higher rate of homeownership) are in higher-rent ZIP Codes than in lower-rent ZIP Codes (that is, a lower rate of homeownership), then the shift to SAFMRs will mean fewer units with rents below the SAFMR than with rents below the metropolitan area FMR. The cap on SAFMRs of 150 percent of the 40th percentile metropolitan area FMR may also contribute to this difference. If a given PHA has many very high-rent ZIP Codes (rents greater than 150 percent of the FMR) relative to the overall metropolitan area, the cap on

SAFMRs may result in few rental units renting below the SAFMR. Of course, these units would not rent below the FMR either. For both SAFMR PHAs and comparison PHAs, about two percent of rental units are in ZIP Codes that have an FY2015 SAFMR that is close to the 150-percent cap (that is, the ZIP Code has a rent ratio greater than 140). So it appears the cap is high enough to not be a driver of the results we find on the change in number of units renting below the respective FMR. However, the effect of SAFMRs on the availability of units to HCV holders could be affected by the cap if a PHA has a larger share of ZIP Codes with median rents that are much higher than the metro area median.

Exhibit 4-6 shows the difference in units with rents below SAFMR and FMR by rent ratio for each PHA as a share of units with rents below FMR. No consistently predictable pattern emerges. In some PHAs, including Dallas and Cook County, the loss of units renting below the applicable FMR in lower-rent neighborhoods roughly offsets the gain in units in higher-rent neighborhoods. In these PHAs' jurisdictions, the drop-in units with rents below SAFMRs is driven by the decline in units with rents below SAFMR in moderate-rent neighborhoods. In Chattanooga and Laredo, the net change in units in each neighborhood type is very small, therefore additions and subtractions essentially cancel each other out. In Mamaroneck, units in lower-rent neighborhoods declined significantly, but these changes roughly equal the combined increase in affordable units in moderate-rent and higher-rent neighborhoods. In Long Beach, large losses in lower-rent neighborhoods more than offset small gains in higher-rent and moderate-rent neighborhoods, leading to a substantial net decline. In Plano, a substantial (nearly 40 percent) increase in the higher-rent neighborhoods occurred, but the combined decrease in the lower- and moderate-rent neighborhoods is only 12 percent. Additionally, as shown in Exhibit 4-7, the share of units under the applicable FMR in each PHA's jurisdiction in each ZIP Code rent ratio category varies widely across the SAFMR sites.

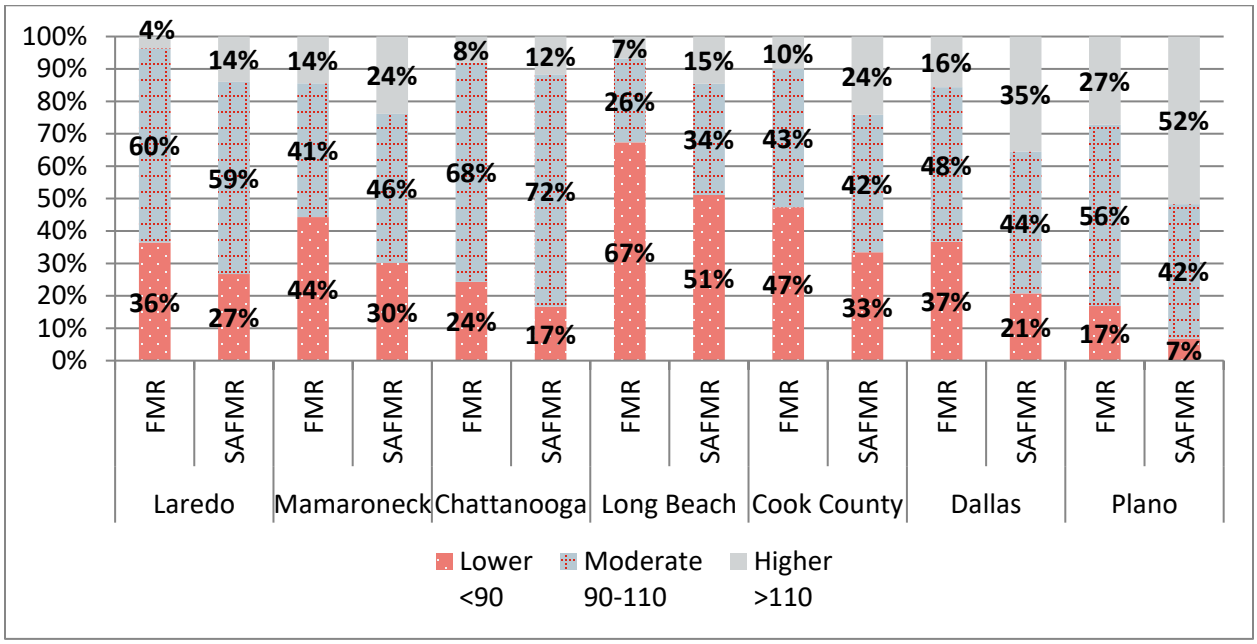
Exhibit 4-6: Difference in Units with Rents below SAFMR and Metropolitan Area FMR as a Percentage of Units with Rents below FMR by ZIP Code Rent Ratio Category



FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis data set includes all ZIP Codes in public housing agency service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

Exhibit 4-7 shows the share of all rental units with rents below the applicable FMR in each PHA's jurisdiction within each rent ratio category. Exhibit 4-7 depicts how SAFMRs result in a different distribution of the types of ZIP Codes where units are likely to be affordable to HCV holders. In Long Beach, for example, SAFMRs had the biggest effect on the availability of units in lower-rent ZIP Codes. As shown in Exhibit 4-7, nearly 70 percent of all units with rents under metropolitan area FMRs in Long Beach were in lower-rent ZIP Codes, whereas only about one-half of the units renting under SAFMRs in Long Beach fell within lower-rent ZIP Codes. In Long Beach, the loss in the share of units with rent below the applicable FMR in lower-rent ZIP Codes was offset by increases split between the shares in moderate- and higher-rent ZIP Codes. In Laredo, by contrast, the share of available units in moderate-rent ZIP Codes changed relatively little, so that declines in the share of units in lower-rent ZIP Codes were offset mostly by gains in higher-rent ZIP Codes.

Exhibit 4-7: Distribution of Units with Rents below Applicable FMR by ZIP Code Rent Ratio Categories

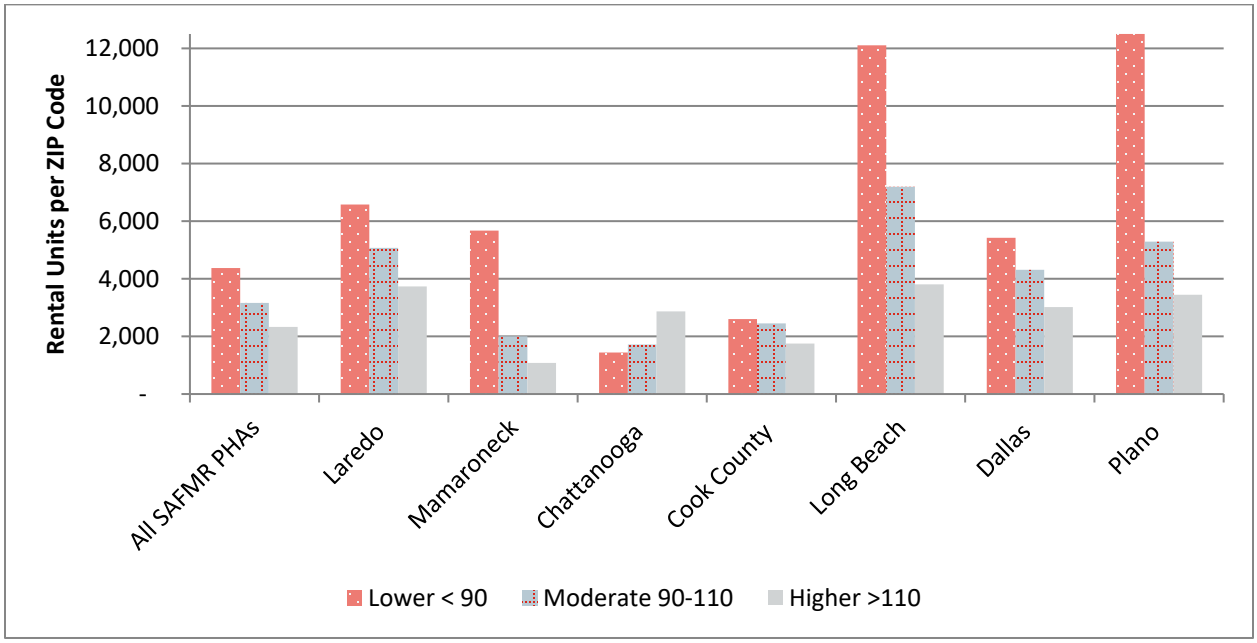


FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis data set includes all ZIP Codes in public housing agency service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

4.2.2 Declines in Units with Rents below SAFMR are a Consequence of the Concentration and Distribution of Rental Units across ZIP Code Types

A partial explanation for the loss of more than 22,000 units potentially available to HCV holders is shown in Exhibit 4-8, which summarizes the average number of rental units in lower-, moderate-, and higher-rent ratio ZIP Codes overall and in each PHA's jurisdiction. As shown, across the SAFMR ZIP Codes, fewer rental units of any kind—whether affordable to HCV holders or not—are in higher-rent ZIP Codes than in lower-rent ZIP Codes. This difference is also true in six of the seven PHAs' jurisdictions and dramatically so in Long Beach and Plano, with an average of more than 12,000 rental units per lower-rent ZIP Code but only about 4,000 per higher-rent ZIP Code. The one exception is Chattanooga, which has more rental units per higher-rent ZIP Code than per lower-rent ZIP Code. This distribution of rental units is to be expected, as lower-rent ZIP Codes tend to be densely populated urban neighborhoods, and higher-rent ZIP Codes tend to be lower-density suburban neighborhoods. Nevertheless, with declining FMRs in lower-rent ZIP Codes and increasing FMRs in higher-rent ZIP Codes, the net effect is an overall loss in units.

Exhibit 4-8: Average Number of Rental Units per ZIP Code by Rent Ratio Category



PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs; 2012 American Community Survey 5-year estimates

4.2.3 Declines in Units with Rents below SAFMR Do Not Necessarily Prevail in Other Geographies

It is important to note that SAFMRs do not necessarily result in a decrease in units affordable to HCV holders. That is, the formula for calculating SAFMRs—the metropolitan area FMR multiplied by the rent ratio—can result in a decrease or increase in the share of units renting below SAFMRs relative to metropolitan area FMRs, depending on how rents are distributed within the geography in question and within ZIP Codes within that geography. This is true even within the small number of PHAs in our sample, with the number of units increasing in Plano and Chattanooga and decreasing in the other SAFMR PHAs.

A recent analysis by the NYU Furman Center (2018) replicated our analysis approach for the 24 metro areas in which HUD is now requiring SAFMRs to be used. This analysis finds that "the number of units affordable to HCV holders would increase by more than nine percent under SAFMRs." This increase, however, is the result of variation across the 24 markets. "Twenty metros are likely to see an increase in the number of available units, while four metropolitan areas (Monmouth-Ocean, New Jersey; Gary, Indiana; Hartford-West Hartford-East Hartford, CT; and North Port-Sarasota-Bradenton, FL) may experience a small reduction—less than five percent—in the number of affordable units." Additionally, the Furman Center analysis intentionally uses the same methodology we use in this evaluation. As such, the findings do not reflect the additional strategies that HUD has made available to PHAs in the SAFMR Final Rule to mitigate the potential for a decline in the number of affordable units. These include a 10-percent floor on year-over-year changes in SAFMRs and the flexibility to raise payment standards to 110 percent of the SAFMR. (See Treat (2018) for a discussion of these strategies.)

4.3 SAFMRs Increase Access to ZIP Codes with Higher Opportunity Measures

We now turn to examining the extent to which the shift to SAFMRs increases the potential access of HCV holders to areas of opportunity. As noted in chapter 3, our measures of access to opportunity are poverty, school proficiency, job proximity, and environmental quality.

4.3.1 Opportunity Measures by Rent Ratio

The series of panels in Exhibit 4-9 show the relationship between opportunity measures and rent ratio, confirming the hypothesis that opportunities are greater in higher-rent ZIP Codes. The fitted regression line in the top panel shows the positive relationship between rent ratio and our overall index. The accompanying table provides averages for each ZIP Code rent ratio category. In lower-rent ZIP Codes, the average value (over all rental units) of our index of overall opportunity is 29, compared with 54 in moderate-rent ZIP Codes, and 78 in higher-rent ZIP Codes. Therefore, on average, lower-rent ZIP Codes have opportunity index values that are lower than 71 percent of all rental units in the metropolitan area, whereas rental units in the higher-rent ratio ZIP Codes have an index value that is greater than 78 percent of all rental units in the metropolitan area.

Findings observed for the component indexes are as follows.

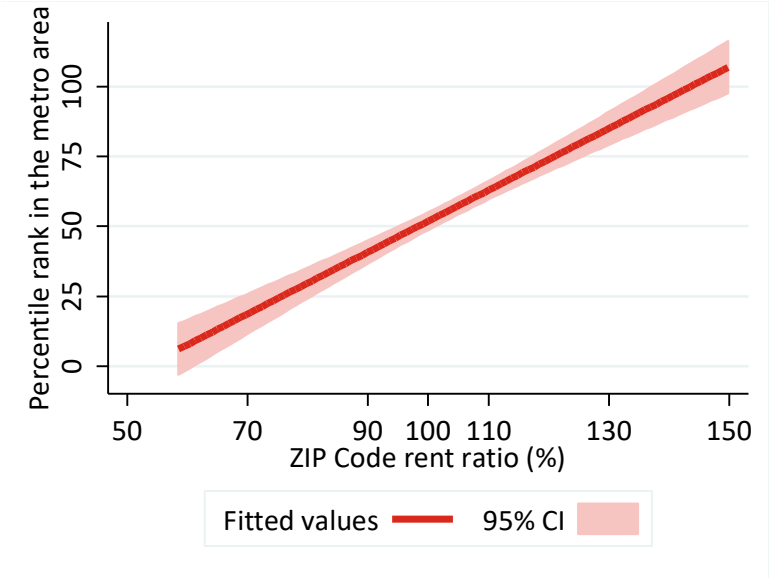
- A higher rate of nonpoverty indicates higher opportunity, and the exhibit shows higher rates of nonpoor in higher-rent ratio ZIP Codes.
- Higher rates of school proficiency indicate higher-quality schools, and the exhibit shows that higher-rent ZIP Codes have higher school proficiency indexes.
- A higher job proximity index indicates better access to jobs. The exhibit shows slightly higher measures of job access in higher-rent ZIP Codes.
- A higher environmental quality index indicates better quality, and the exhibit shows higher index values for higher-rent ZIP Codes.

Although we observe differences across rent ratio categories for all the component indexes, percent nonpoor and school proficiency vary the most across categories, followed by environmental quality. Job proximity has less variation, reflecting the fact that the distance between ZIP Codes and job locations (weighted by employment size) is less consistently positively correlated with rents than the other factors.

All indexes are normalized to be percentiles so that, for example, an index value that is 10 points higher than another indicates an additional 10 percent of all units in the metropolitan area have a lower value of the underlying opportunity measure. This normalization improves comparability of averages across metropolitan areas and enables the component measures to be combined into the overall opportunity index on a common scale.

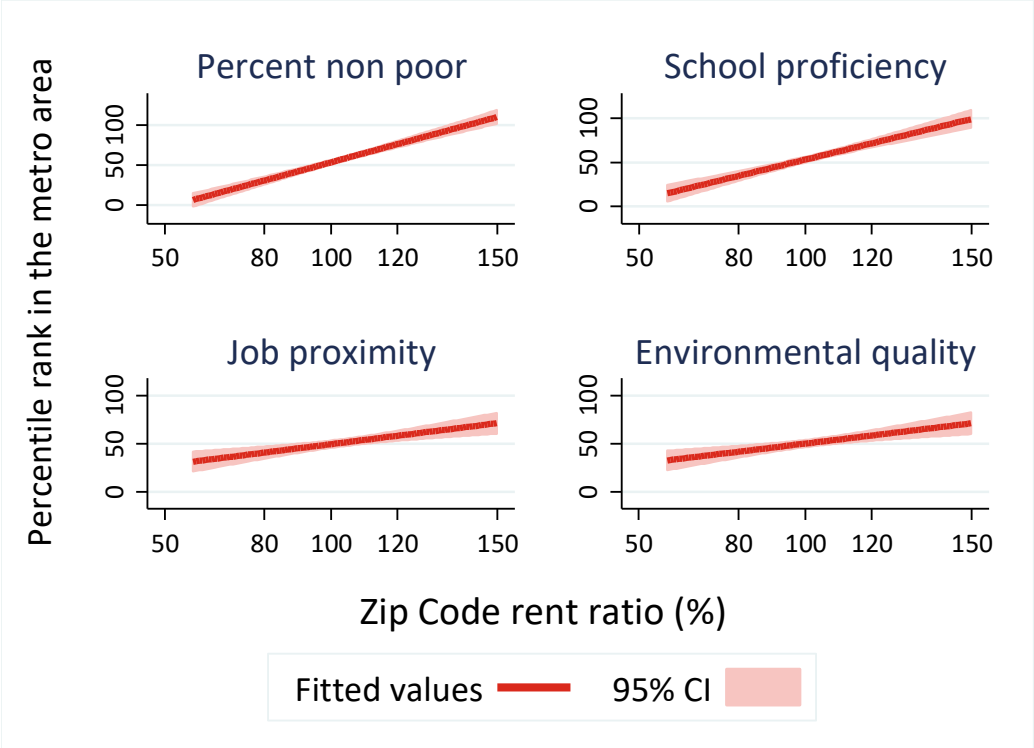
Exhibit 4-9: Opportunity Measures by Rent Ratio

Overall index



Zip Code Rent Ratio Category	Average Percentile Rank in Metro Area
Lower rent < 90	29
Moderate rent 90 – 110	54
Higher rent > 110	78

Component Indexes



Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); 2014 ACS 5-year estimates (percent nonpoor); School Proficiency Index, 2011–2012 (HUD Open Data); Job Proximity Index, 2010 (HUD Open Data); Environmental Health Hazard Index, 2005 (HUD Open Data)

4.3.2 HCV Holders' Potential Access to ZIP Codes across Measures of Opportunity, All PHAs

The previous exhibits show that, as expected, higher-rent ratio ZIP Codes tend to have higher measures of neighborhood opportunity than do lower-rent ratio ZIP Codes. We now turn to the *potential* for SAFMRs to change HCV holders' access to opportunity measures. To do so, we mirror the approach used for rent ratios above—measuring the share of units with rents below SAFMRs and metropolitan area FMRs across three categories of ZIP Codes. For this analysis, we categorize ZIP Codes based on relative values of the opportunity index within the respective metropolitan area. This categorization provides a measure of the relative access to opportunity provided by living in a housing unit in one ZIP Code versus other types of ZIP Codes in the metropolitan area.

For each individual opportunity index and for the composite index as a whole, we created three categories of ZIP Codes based on the index score.

- **Lower Opportunity.** ZIP Codes with index values below 25 (containing the 25 percent of units in the metropolitan area with the lowest values of the index).
- **Moderate Opportunity.** ZIP Codes with index values in the 25–75 range (containing the 50 percent of all units with index values that are both below at least 25 percent of the units with the highest index values and above the 25 percent of all units in the metropolitan area with the lowest index values).
- **Higher Opportunity.** ZIP Codes with index values greater than 75 (containing the 25 percent of the units in the metropolitan area with the highest index values).

The following exhibits provide data visualizations of the share of units renting below SAFMR and metropolitan area Fair Market Rent by the overall and the component opportunity indexes. We present fitted regression plots and averages within the three opportunity categories to examine the hypothesis that SAFMRs increase the potential for HCV holders to access higher-opportunity neighborhoods. We note that, although each index is measured as a percentile rank, the set of ZIP Codes in each category can be different from one index to the next since a ZIP Code may have a higher value relative to ZIP Codes in the metro area for one opportunity measure than another. To provide context for the estimates presented in the following exhibits, we first describe the analysis sample for the overall opportunity index (Exhibit 4-10). Because the numbers of ZIP Codes and units they contain in each category are similar across the different opportunity indexes, we report this detail for the overall opportunity index only.

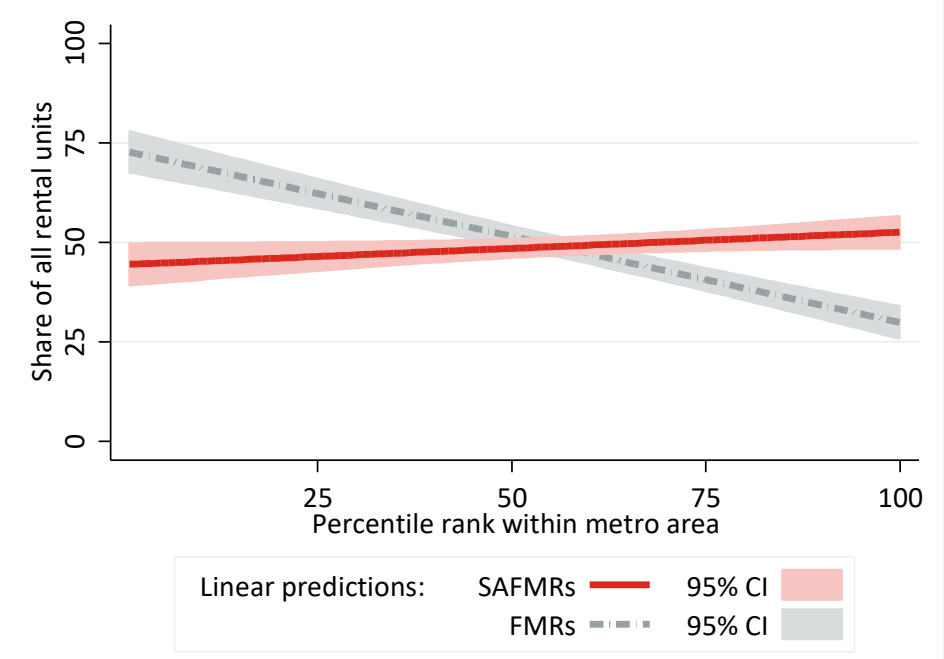
Exhibit 4-10: Analysis Sample for Determining Share of Units with Rents below SAFMR and Metropolitan Area FMR by Overall Index Category

			Overall Index Category		
		N	< 25	25–75	> 75
All SAFMR PHAs	Units	1,290,864	303,588	607,184	380,092
	ZIP Codes	411	45	177	189
Laredo	Units	25,544	8,598	13,212	3,734
	ZIP Codes	5	2	2	1
Mamaroneck	Units	143,225	0	67,404	75,821
	ZIP Codes	67	0	12	55
Chattanooga	Units	53,390	18,592	16,479	18,319
	ZIP Codes	30	7	14	9
Cook County	Units	291.301	28,353	138,119	124,829
	ZIP Codes	127	5	59	63
Long Beach	Units	107,946	60,531	34,030	13,385
	ZIP Codes	13	5	6	2
Dallas	Units	668,981	187,514	337,939	143,528
	ZIP Codes	168	26	84	58
Plano	Units	236,040	33,474	120,048	82,518
	ZIP Codes	52	2	23	27

FMR = Fair Market Rent. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); 2014 ACS 5-year estimates (poverty rate/percent nonpoor); School Proficiency Index, 2011–2012 (HUD Open Data); Job Proximity Index, 2010 (HUD Open Data); Environmental Health Hazard Index, 2005 (HUD Open Data)

Exhibit 4-11 shows the findings for the composite overall opportunity index. Similar to the findings for rent categories, the plot shows that SAFMRs increase access to units in areas with higher opportunity index values and reduce access to units in areas with lower opportunity index values. The fitted relationship for FMRs slopes down, with fewer units renting below the metro area FMR in ZIP Codes with higher opportunity measures. Meanwhile, the fitted relationship for SAFMRs has a slight positive slope, with a bit less than one-half of all units, on average, renting below the SAFMR across the range of opportunity index. The accompanying table reports average shares for the ZIP Code opportunity categories. Slightly more than two-thirds (68 percent) of units in the ZIP Codes in the lowest quartile of opportunity neighborhoods had rents below the metropolitan area FMR. In contrast, less than one-half (46 percent) of units in these ZIP Codes had rents below the SAFMR. At the higher end of the opportunity scale, slightly more than one-half (52 percent) of units had rents below the SAFMR, compared with about one-third (34 percent) that had rents below the metropolitan area FMR.

Exhibit 4-11: Access to Neighborhood Opportunity—Share of Units below Applicable FMR by Composite Overall Opportunity Index



	Zip Code Overall Opportunity Index categories					
	Lower Opportunity		Moderate Opportunity		Higher Opportunity	
	< 25		25 – 75		> 75	
	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Units below applicable FMR	68	46	52	48	34	52

FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: All ZIP Codes in public housing agency service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

This finding shows that SAFMRs are doing what they are intended to do. A larger share of units is potentially available to HCV holders in higher-opportunity areas under SAFMRs compared with metropolitan area FMRs, and fewer units are potentially available to HCV holders in lower-opportunity areas.

Exhibit 4-12 reports the average share of units below the applicable FMR in each neighborhood type (for lower, moderate, and higher values of the component index) for each of the component opportunity indexes separately and shows the same pattern. For each individual index, more units are potentially available to HCV holders in higher-opportunity areas under SAFMRs compared with metropolitan area FMRs, and fewer units are available in lower-opportunity areas.

Exhibit 4-12: Access to Neighborhood Opportunity, Share of Units below Applicable FMR by Component Opportunity Indexes

	Zip Code Component Index categories					
	Lower		Moderate		Higher	
	< 25		25 – 75		> 75	
	Units affordable					
	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Percent nonpoor	70	47	52	47	33	53
School proficiency	70	55	52	44	35	52
Job proximity	61	56	44	50	52	38
Environmental quality	51	39	49	47	52	63

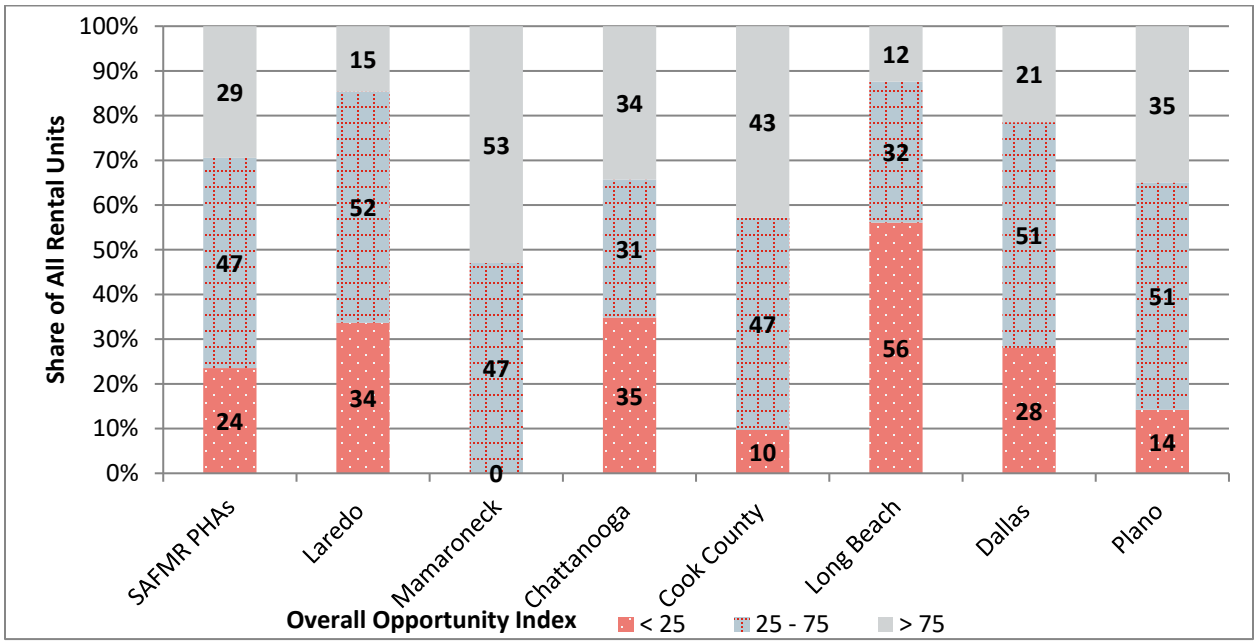
FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: All ZIP Codes in public housing agency service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); 2014 ACS 5-year estimates (poverty rate/percent nonpoor); School Proficiency Index, 2011–2012 (HUD Open Data); Job Proximity Index, 2010 (HUD Open Data); Environmental Health Hazard Index, 2005 (HUD Open Data)

- Seventy percent of units in ZIP Codes in which the percent of nonpoor households is lower (that is, with the highest concentration of poverty) had rents below the metropolitan area FMR, compared with 33 percent of units in ZIP Codes where the percent of nonpoor households is higher (that is, with the lowest concentration of poverty). In contrast, fewer than one-half of units in ZIP Codes in which the percent of nonpoor households is lower had rents below the SAFMR, although more than one-half of units in ZIP Codes where the percent of nonpoor households is lower had rents below the SAFMR. In other words, many more units in lower-poverty areas could potentially be affordable to HCV holders under SAFMRs compared with metropolitan area FMRs.
- Similarly, 70 percent of units in ZIP Codes with lower school proficiency had rents below the metropolitan area FMR, but only nearly 35 percent of units in ZIP Codes with higher school proficiency had rents below the metropolitan area FMR. In contrast, slightly more than one-half of units in both lower- and higher-proficiency school ZIP Codes had rents below the SAFMR. This difference means that access to ZIP Codes with more proficient schools is greater under SAFMRs compared with metropolitan area FMRs.
- A similar, but smaller, difference can be seen for environmental quality. Nearly one-half of all units in each environmental quality area have rents below the metropolitan area FMR. In contrast, 39 percent of units in lower-quality ZIP Codes have rents below the SAFMR, compared with 63 percent of units in higher environmental quality ZIP Codes.
- Improvements in job proximity are less pronounced than for other measures.

The prior exhibits indicate that a larger share of the units in higher-opportunity neighborhoods is affordable to HCV holders under SAFMRs compared with under metropolitan area FMRs. However, we showed earlier (in section 4.2) that, across the full sample of SAFMR PHAs, SAFMRs reduced the overall number of units with rents below the FMR. Therefore, although more of the units in ZIP Codes with higher opportunity measures may be available, we must also consider the distribution of rental units across opportunity categories.

To do so, Exhibit 4-13 summarizes the share of *all* rental units (whether or not the rent falls below SAFMRs or metropolitan area FMRs) that fall in each overall opportunity index category for SAFMR public housing agencies as a group and individually. As reflected in the exhibit, units in higher-opportunity ZIP Codes are not equally available across the PHAs. For example, in Mamaroneck, no ZIP Codes, and therefore no rental units, are in the lowest-opportunity category. HCV holders cannot use vouchers from Mamaroneck in a ZIP Code that is in the metropolitan area's bottom quartile (based on our overall opportunity index) without porting vouchers to another PHA's jurisdiction. Correspondingly, nearly 53 percent of units are in ZIP Codes in the highest opportunity index category.

Exhibit 4-13: Share of All Rental Units Across Overall Opportunity Index Categories, by PHA



PHA = public housing agency.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); overall opportunity index

At the other extreme, the shares in Long Beach almost perfectly reverse those in Mamaroneck: 56 percent of all rental units are in the lowest opportunity index category, and only 12 percent are in the top quartile of the overall opportunity index. Cook County follows Mamaroneck as among PHAs with the lowest number of rental units in the lowest overall opportunity index neighborhoods. Only 10 percent of all Cook County rental units are in ZIP Codes in this category, and 43 percent are in the highest opportunity index ZIP Codes.

The exhibit highlights some limits to the impacts that SAFMR can have on HCV holders' location in higher-opportunity neighborhoods. In Long Beach, a small portion of rental units—whether below FMR or not—are in higher-opportunity neighborhoods (in the Los Angeles metropolitan area). Therefore, far less potential exists for SAFMRs to improve access to these neighborhoods than in Cook County, Mamaroneck, or even Chattanooga. Regardless, as shown in Exhibit 4-13, SAFMRs do improve HCV holders' access to higher opportunity index ZIP Codes in every PHA jurisdiction. The exhibit compares the shares of units in each overall composite index category for each of the SAFMR sites.

Exhibit 4-14 shows the same pattern as previous exhibits. Across the SAFMR sites, SAFMRs reduce access to lower-opportunity ZIP Codes and increase access to higher-opportunity ZIP Codes. The differences in access to opportunity between FMRs and SAFMRs are much larger in some PHAs than in others, however. In Chattanooga and Laredo, shifting from the FMR to the SAFMR leads to only a modest reduction in the share of units in ZIP Codes in lower-opportunity areas renting below the applicable FMR—about 6 to 8 percentage points. The differences in Dallas, Long Beach, and Plano, in contrast, are quite large. SAFMRs appear to have a much larger impact in those places than in the other PHAs. Again in Mamaroneck, no ZIP Codes have an overall opportunity index in the bottom quartile.

Exhibit 4-14: Share of Units below FMR and SAFMR in ZIP Codes by Overall Opportunity Index

	Zip Code Rent Ratio Categories					
	Lower Opportunity		Moderate Opportunity		Higher Opportunity	
	< 25		25 – 75		> 75	
PHA	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Laredo	65	57	62	55	14	53
Mamaroneck	-	-	77	59	51	67
Chattanooga	55	49	40	39	32	43
Cook County	76	65	62	55	39	47
Long Beach	70	46	48	55	31	59
Dallas	67	42	44	42	21	48
Plano	53	29	40	43	17	47

FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: All ZIP Codes in public housing agency service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

In the middle, one-half of the overall opportunity index category, the differences are smaller. In general, the share of units in ZIP Codes with median rents below the SAFMR is smaller than the share below the FMR in this index level. However, in Long Beach, the share of units is slightly larger under SAFMRs than under FMRs.

The largest differences are generally in the top quartile of the opportunity index, which is in the right-most panel of Exhibit 4-14. In Laredo, the share of units renting below the SAFMR in ZIP Codes in the top quartile of the overall opportunity index is more than triple the share renting below FMRs, from 14 percent of units to more than one-half (53 percent). Note, however, that because this analysis is conducted at the ZIP Code level, and Laredo has only five ZIP Codes, it is mathematically prone to very large swings.

Likewise, in Plano and Dallas, potentially accessible units in the highest opportunity quartile are more than double under SAFMRs, and they are nearly double in Long Beach (although few rental units are in such ZIP Codes in Long Beach).

5. Impacts of Small Area Fair Market Rents on Housing Choice Voucher Holder Locations

In contrast to the prior chapter, which focused on the potential impact of SAFMRs on HCV holders' ability to access areas of opportunity, this chapter focuses on the *actual* effects. In brief, we found—

- Following the implementation of SAFMRs, HCV holders in the SAFMR PHAs more frequently live in higher-rent ZIP Codes. The change is a result of a large increase in the share of voucher holders that move into a higher-rent neighborhood as well as an increase in the share of new voucher holders locating to higher-rent neighborhoods.
- Following the implementation of SAFMRs, HCV holders in the SAFMR PHAs are slightly more likely to live in higher-opportunity ZIP Codes than before implementation of SAFMRs. This change is a result of a large increase in moves to higher-opportunity ZIP Codes among the HCV holders that move. A smaller increase in the share of new HCV holders locating to higher-opportunity ZIP Codes also contributes to the overall change. These changes were not observed in the comparison PHAs.
- HCV holders with children are more likely to live in both higher-rent and higher-opportunity ZIP Codes after implementation of SAFMRs. There is no change for households that include a senior or that have a household head or co-head with a disability. This finding is borne out both in the cross-tabulations and in the regressions that adjust for other household and PHA characteristics.
- HCV holders in SAFMR PHAs are slightly less likely to move after the implementation of SAFMRs as compared to HCV holders in comparison PHAs but are more likely to move to a higher-opportunity ZIP Code.
- Households moving to a different ZIP Code are more likely to locate in neighborhoods that have a lower share of minorities and a higher share of household heads with a college degree after the introduction of SAFMRs. These changes were not observed in the comparison PHAs.

Although SAFMRs are hypothesized to improve HCV holders' access to units in higher-opportunity areas, their actual experience could be influenced by a number of factors. These factors include the manner in which PHAs execute the demonstration, landlords' response to the changes in payment standards, and HCV holders' current circumstances. Moving to a higher-opportunity area may or may not be possible given an HCV holder's situation at the time. Although affordability is a primary concern, the behavior of HCV holders is often driven by other social, emotional, or logistical factors, including hesitation to switch their children's schools (DeLuca and Rosenblatt, 2010), fear of the unknown (for example, not knowing the area or fearing rejection) (Charles, 2006), or lack of information about the benefits of opportunity neighborhoods (Darrah and DeLuca, 2014).

Even for HCV holders who are eager to move, issues such as the cost of moving (including security deposits and first and last month's rent) can be a significant barrier. Many low-income families also understand the bang-for-the-buck trade-off they face when searching for housing. They can find cheaper units with more amenities in higher-poverty areas, which may accommodate their families' needs for space and amenities (Wood, 2014; Rosenblatt and DeLuca, 2012).

This chapter begins by reporting average trends in HCV holder locations. We first report the share of HCV holders living in different categories of neighborhoods, categorized by rent ratio and opportunity index. These averages establish the general trends in location outcomes for HCV holders before and after implementation of SAFMRs and contrasts the trends for SAFMR and comparison PHAs. This analysis shows both what the location outcomes are for HCV holders and also how they changed with the implementation of SAFMRs. We then present the findings from a more technical multivariate, differences-in-differences regression analysis. This analysis provides a robust statistical model that isolates the effect of SAFMRs on HCV holder location outcomes. Like the first analysis, the model compares trends in location outcomes for SAFMR PHAs to the trends for the set of comparison PHAs. But the formal statistical model also statistically controls for observable household characteristics, the PHA in which a household lives, and time trends.

5.1 Average Location Outcomes Before and After SAFMRs

This section analyzes where HCV holders live following the implementation of SAFMRs. Throughout this section, we compare HCV holder location outcomes in 2010—before SAFMRs went into effect—to two follow-up years, 2015 and 2017. As of 2015, SAFMR-based payment standards were in effect for all HCV holders. We reported on location outcomes in 2015 in the interim report. We now include newly available data through 2017, which allows us to study whether and how the effects of introducing SAFMRs may evolve over time. We first look at where HCV holders live in terms of ZIP Code rent ratios; we then turn to an analysis of where HCV holders live relative to opportunity measures.

A change in HCV holder location outcomes from before to after the implementation of SAFMRs is not necessarily the result of SAFMRs. This is because in addition to the introduction of SAFMRs, a number of factors that could influence HCV holders' location outcomes—notably a recovering economy and housing market—were also changing over this period. Therefore, we also compare the average location outcomes for HCV holders in the SAFMR PHAs to the average location outcomes of a large group of PHAs where SAFMRs were not in effect (the comparison group PHAs) over the same time period. This comparison provides a baseline scenario for what changes otherwise could have been expected in the SAFMR PHAs.
To analyze changes in HCV holder location outcomes, we use a static measure of neighborhood characteristics that ensures each neighborhood is characterized consistently over time. Our measures of neighborhood characteristics generally use data for a period coinciding with the beginning of the SAFMR demonstration. For example, measures (including the rent

ratio as well as some of the opportunity measures) based on ACS data use the 2008–2012-year ACS file. See chapter 3 for more details on how we measure neighborhood characteristics.[31]

This analysis of average location outcomes comparing changes in mean outcomes in SAFMR PHAs before and after SAFMRs to changes in comparison PHAs over the same time period previews the statistical regression model in section 5.2. The results we present here are confirmed in the more formal statistical model that adjusts for additional covariates and employs a more flexible definition of our location outcome.

We make comparisons for all HCV holder households as well as a number of subgroups for whom the effects of SAFMRs are of particular interest. As outlined in chapter 2, we consider HCV holders who are new to the program, who move, who have dependent children, who include an adult over the age of 62, or that have a household head or co-head with a self-reported disability.

The comparisons in this section are calculated using the ZIP Codes where HCV holders live as recorded in the last quarter of administrative data in which they are observed in the respective year. Exhibit 5-1 reports the sample size for the analyses that follow, broken out by ZIP Code rent ratio category. Our analysis is of the households in SAFMR PHAs (44,084 in 2010, 48,453 in 2015, and 47,842 in 2017) and the relatively large number of households we observe in the 138 comparison PHAs (over 550,000 in each year).

[31] It is possible that changes in HCV payment standard will ultimately indirectly influence neighborhood characteristics, including some opportunity measures. However, it is unlikely that these changes will be evident for multiple years, and examining such changes is beyond the scope of this study. It is similarly possible that we may be missing changes in the nature of opportunity within certain neighborhoods—either increasing or decreasing opportunity and unrelated to SAFMRs—that happen over the time frame of our analysis.

Exhibit 5-1: Number of HCV Holder Households in Analysis Sample by ZIP Code Rent Ratio

	Zip Code Rent Ratio Category									Total		
	Lower < 90			Moderate 90 – 110			Higher > 110					
Year	2010	2015	2017	2010	2015	2017	2010	2015	2017	2010	2015	2017
SAFMR PHAs	17,354	18,425	17,461	19,186	20,457	19,897	7,544	9,571	10,484	44,084	48,453	47,842
Laredo	514	315	294	980	1,084	1,119	56	193	221	1,550	1,592	1,634
Mamaroneck	90	83	88	131	117	116	387	340	313	608	540	517
Chattanooga	945	1,232	1,140	2,081	2,524	2,565	207	308	324	3,233	4,064	4,029
Cook County	4,051	4,903	4,935	5,866	6,175	6,166	2,758	3,285	4,016	12,675	14,363	15,117
Long Beach	5,487	5,709	5,602	1,264	1,321	1,270	57	74	80	6,808	7,104	6,952
Dallas	6,198	6,099	5,332	8,156	8,730	8,192	3,514	4,798	5,000	17,868	19,627	18,524
Plano	69	84	70	708	506	469	565	573	530	1,342	1,163	1,069
Comparison PHAs	143,552	137,729	141,303	341,318	339,823	338,372	76,821	75,004	73,899	561,691	552,556	553,574

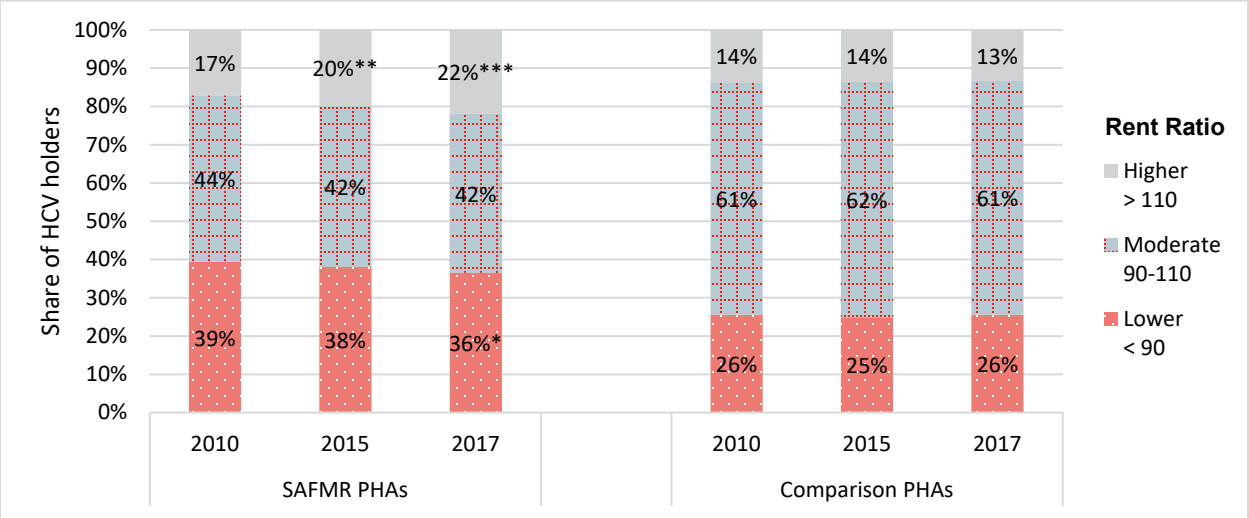
HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

5.1.1 Participant Locations in SAFMR PHAs by Rent Ratio

Exhibit 5-2 shows where HCV holders live in terms of the rent ratios of their units' ZIP Codes in 2010, 2015, and 2017 for the seven SAFMR PHAs and the comparison PHAs. The exhibit provides indications that SAFMRs are gradually changing where some HCV holders reside. Across all SAFMR PHAs, 17 percent of HCV households lived in higher-rent ratio ZIP Codes in 2010 prior to the implementation of SAFMRs. This percentage increased to 20 percent in 2015, and to 22 percent in 2017; the difference between 2017 and 2010 is statistically significantly at the 0.001 level. HCV holders moved to these higher-rent ratio ZIP Codes from both the moderate-rent ratio ZIP Codes, whose share decreased by 2 percentage points, and the lower-rent ratio ZIP Codes, whose share decreased by 3 percentage points. The difference between 2017 and 2010 in the lower-rent category is statistically significant at the 0.05 level.

In contrast, in the comparison PHAs, the percentage living in higher-rent ratio ZIP Codes stayed close to the baseline of 14 percent, with a decline of less than one percentage point (one percentage point after rounding) by 2017. In 2010, before the SAFMR demonstration began, a larger share of HCV holders in the SAFMR PHAs lived in ZIP Codes with rent ratios below 90 (about 39 percent) than in the comparison PHAs (26 percent). In other words, HCV holders in the SAFMR PHAs tend to have lower rents relative to their metropolitan areas compared with other PHAs in the selection universe. Given this baseline difference between the SAFMR PHAs and PHAs in the comparison group, it is not appropriate to directly compare the share of HCV holders in a particular category (that is, lower-rent) in SAFMR PHAs and comparison PHAs in a given year. Rather, we examine how the distribution of HCV holders change over time in SAFMR PHAs and compare this change to the change over the same time period among the comparison PHAs. The difference between (a) the change from 2010 to 2017 in the share in higher-rent ZIP Codes in the SAFMR PHAs and (b) the change in the share in higher-rent ZIP Codes in same period in the comparison PHAs is 5.1 percentage points, which is statistically significantly different from zero at the 0.001 level. This increase is the combined offset of the declines in the shares in both lower- and moderate-rent ZIP Codes in SAFMR PHAs relative to the fairly stable shares in comparison PHAs.

Exhibit 5-2: Rent Ratios of ZIP Codes Where HCV Holders Live before and After SAFMRs



2010 to 2017 difference in differences	Rent Ratio Category		
	Lower < 90	Moderate 90 – 110	Higher > 110
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-2.8%	-2.3%	5.1%***

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***,** For stacked bars, indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001 and 0.01, respectively. For difference in differences, indicates the statistic is significantly different from zero.
The table reports the difference between SAFMR and Comparison PHAs in the change between 2010 and 2017 in the share in each ZIP Code category.
Statistical tests of differences (and difference in differences) in proportions are calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (shares)

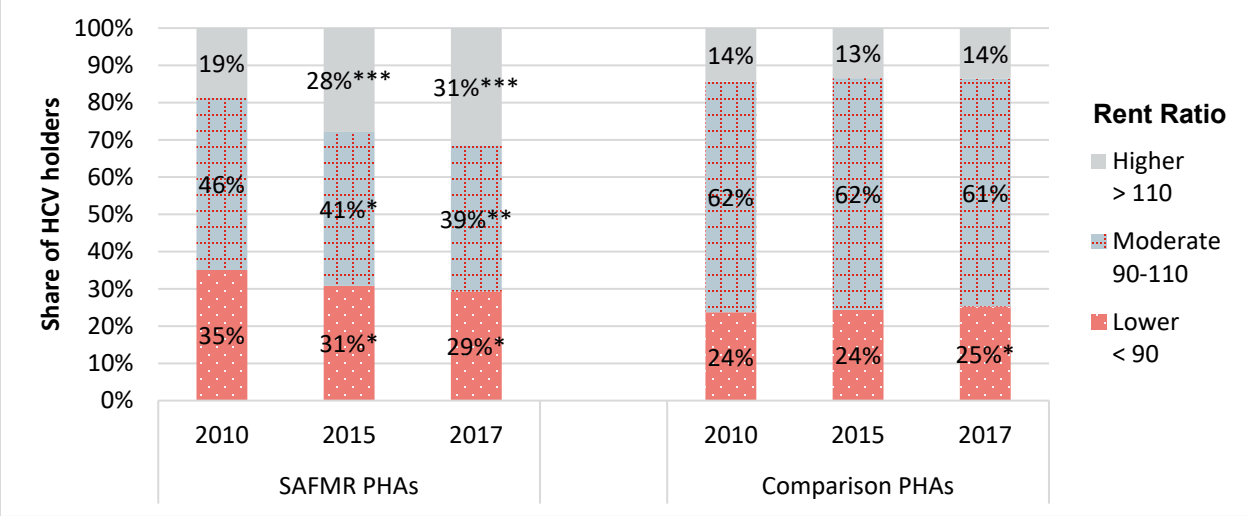
Although the changes in the number of HCV holders living in moderate- and lower-rent ratio ZIP Codes in SAFMR PHAs (2 and 3 percentage points respectively) represent a relatively small share of HCV holders living in these neighborhoods, the 5-percentage point change in the share living in higher-rent ratio neighborhoods is large considering the initial starting share.

Exhibits 5-3 and 5-4 show how the ZIP Code rent ratio location changes over time for existing HCV holders that move from one ZIP Code to another and for households that first use HCVs (new HCV holders). Because it can take multiple years for a household to contemplate and follow through with a move, it is helpful to separately analyze the subgroups actually move or that are new. We focus specifically on movers to new ZIP Codes in order to examine the potential of SAFMRs to facilitate moves to higher opportunity areas.

To increase the number of new and moving HCV holders in these analysis subgroups, we observe new voucher use and moves over a 2-year window. We count households that were new or moved in 2009 or 2010 in the 2010 bars, households that were new or that moved in 2014 and 2015 in the 2015 bars, and households that were new or moved in 2016 or 2017 in the 2017 bars.

Exhibit 5-3 shows the rent ratio of the new (destination) ZIP Code for the moving household. The same general pattern observed for all HCV holders is starker for those who move to new ZIP Codes. In the SAFMR PHAs, the share of ZIP Code mover households rose from 19 percent in 2010 to 31 percent in 2017. The change is statistically significant at the 0.001 level. In other words, in 2017, almost one-third of voucher households in the SAFMR PHAs that moved to a new ZIP Code moved into higher-rent ratio ZIP Codes. At the comparison PHAs, the share of movers to new ZIP Codes who live in higher-rent ratio ZIP Codes remained constant at about 14 percent. So the differential gain in SAFMR PHAs relative to comparison PHAs in the share of households moving to higher-rent ZIP Codes is 13 percentage points, which is statistically significant at the 0.001 level. This increase corresponds to a 7- and 6-percentage point reduction in the share that move to moderate- and lower-rent ratio neighborhoods, respectively, relative to the fairly stable shares in comparison PHAs.

Exhibit 5-3: Rent Ratios of ZIP Codes where Recent ZIP Code Mover HCV Holders Live before and After SAFMRs

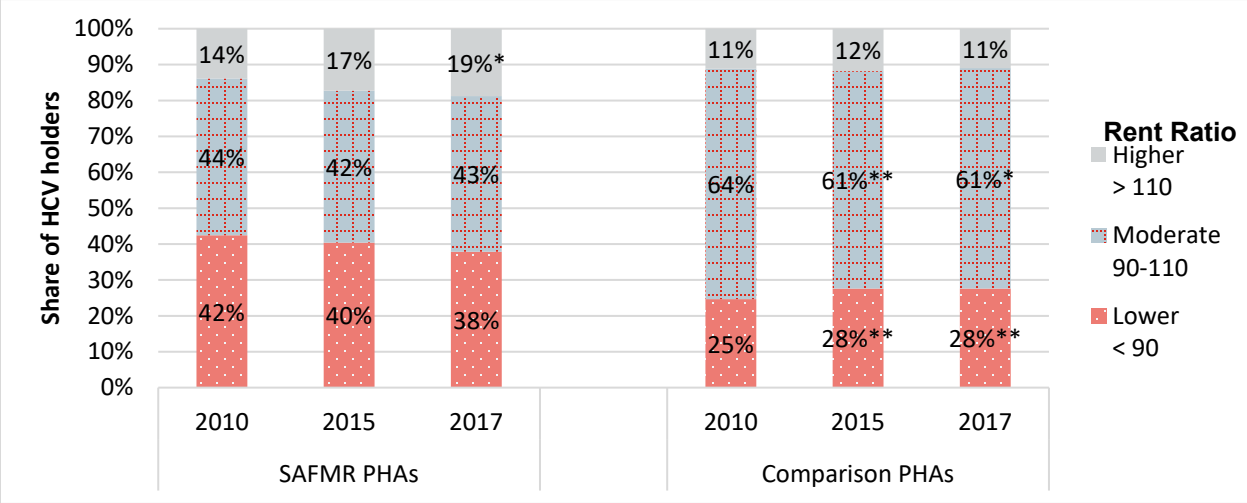


2010 to 2017 difference in differences	Rent Ratio Category		
	Lower < 90	Moderate 90 – 110	Higher > 110
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-7.3%**	-6.1%*	13.4%***

Notes: There were 8,982 recent mover households in 2010, 7,657 in 2015, and 7,255 in 2017 in the SAFMR PHAs. There were 109,466 recent mover households in 2010, 95,428 in 2015, and 95,010 in 2017 in the comparison PHAs. Recent mover is defined as having moved in a 2-year window (for example in 2009 or 2010).
HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
***,**,* indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero. Statistical tests of differences (and difference in differences) in proportions are calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

As shown in Exhibit 5-4, for new HCV holders, the share of HCV holders in SAFMR PHAs who leased up in higher-rent ratio ZIP Codes in 2017 increased to 19 percent relative to 14 percent in 2010. The increase is drawn from both moderate- and lower-rent ratio ZIP Codes (between 2 and 4 percentage points from each). Still, 38 percent of new HCV holders initially use vouchers in neighborhoods with median rents below 90 percent of the metropolitan area median in 2017. The differential change in SAFMR PHAs relative to comparison PHAs is 5 percentage points for the share leasing up in higher-rent ZIP Codes. Despite the relatively small sample of new HCV holders in SAFMR PHAs, this difference is statistically significant from zero at the 0.05 level.

Exhibit 5-4: Rent Ratios of ZIP Codes where New HCV Holders Live Before and After SAFMRs



2010 to 2017 difference in differences	Rent Ratio Category		
	Lower < 90	Moderate 90 – 110	Higher > 110
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-7.6%	2.5%	5.1%*

Notes: There were 2,539 new HCV holders in 2010, 5,153 in 2015, and 3,981 in 2017 in SAFMR PHAs. There were 71,588 new HCV holders in 2010, 61,919 in 2015, and 56,907 in 2017 in the comparison PHAs.
New HCV holder is defined as first using a voucher in a 2-year window (for example in 2009 or 2010).
HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
**,* indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.01 and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
Statistical tests of differences (and difference in differences) in proportions are calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

An analysis of key subgroups finds the overall findings are driven to a great extent by households with children, while households that include seniors and have heads or co-heads with disabilities do not exhibit meaningful changes in the share living in each of our rent ratio categories. As shown in Exhibit 5-5, the share of households with children in SAFMR PHAs that live in higher-rent ratio neighborhoods increases by 9 percentage points from 2010 to 2017. This change is highly statistically significant and corresponds to decreases in both of the other rent ratio categories. No such trend is observed for comparison PHAs, so the difference in differences measures (not reported separately in the exhibit) include a 9.6 percentage point larger increase in the share of households with children living in higher-rent neighborhoods SAFMR PHAs than in comparison PHAs from 2010 to 2017 that is statistically significant at the 0.001 level. The other two neighborhood types have relative changes in the shares of -4.6 percentage points (moderate) and -5.0 percentage points (lower) that are both statistically significantly different from zero.

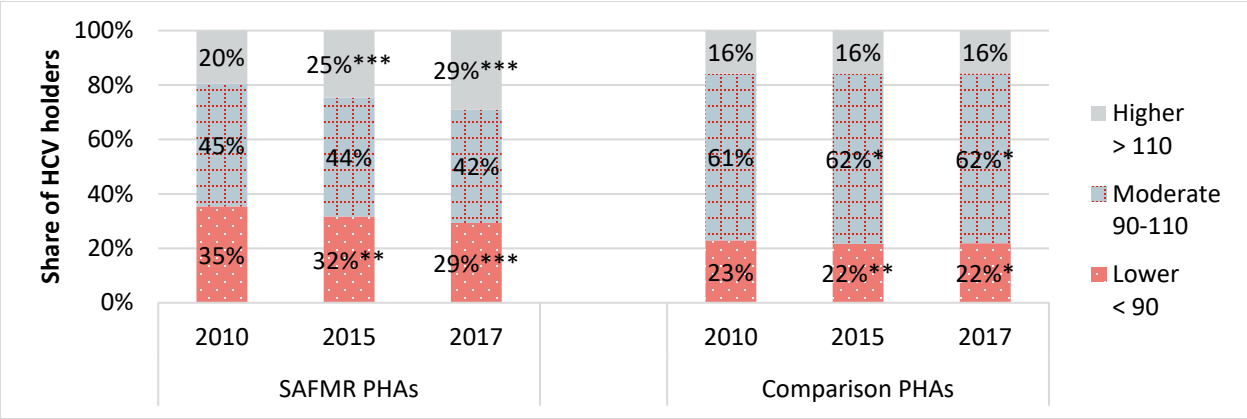
In contrast, the shares of households that include a senior or are headed or co-headed by an adult with a disability in SAFMR PHAs living in each of the ZIP Code rent ratio categories remains effectively unchanged over our study period, with the exception of a small increase in the share of households with a head or co-head with a disability that live in higher-rent neighborhoods. The two-percentage point increase in this category in SAFMR PHAs and the small decrease in this category in comparison PHAs result in a 2.3 percentage point differential increase in SAFMR PHAs that is statistically significantly different from zero at the 0.05 level.

Exhibit 5-6 presents the share of HCV holders living in ZIP Codes within each rent ratio category by SAFMR PHA site for all HCV holders in 2010 and 2017. The exhibit shows that overall increases in the percentages of voucher households in higher-rent ratio ZIP Codes were concentrated in Cook County, Dallas, and Plano. Laredo also has a large increase, but has a small number of ZIP Codes, making findings in Laredo less statistically robust. In Laredo, the share increased from 4 to 14 percent, in Cook County, from 22 to 27 percent, in Dallas, from 20 to 27 percent, and in Plano, from 42 to 50 percent. The changes over time in the share living in higher-rent ZIP Codes in Dallas and Plano are statistically significant, though the changes in Cook County and Laredo are not.[32]

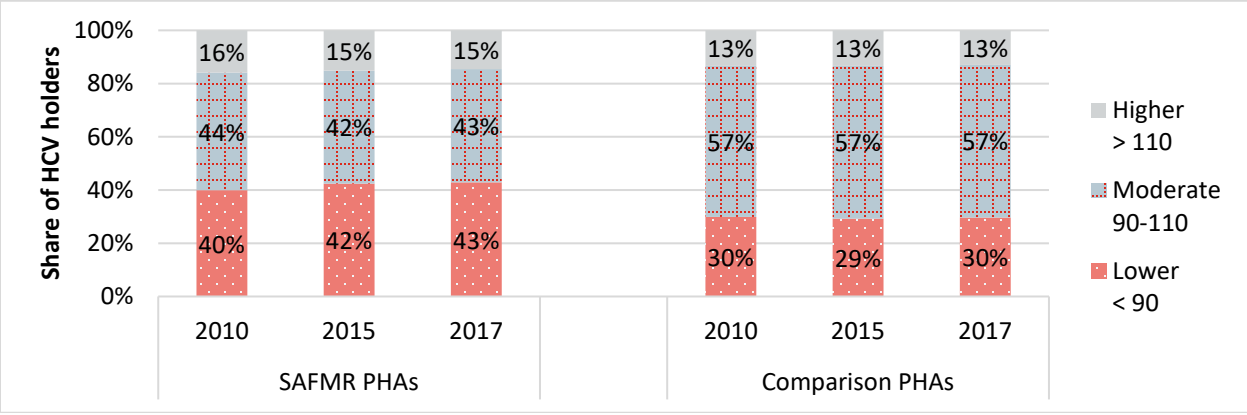
[32] The p-value for the changes in both moderate and higher rent categories in Cook County are 0.064 and 0.067, respectively.

Exhibit 5-5: Rent Ratios of ZIP Codes where HCV Holders Live—Households with Children, Seniors, or a Head or Co-head with a Disability

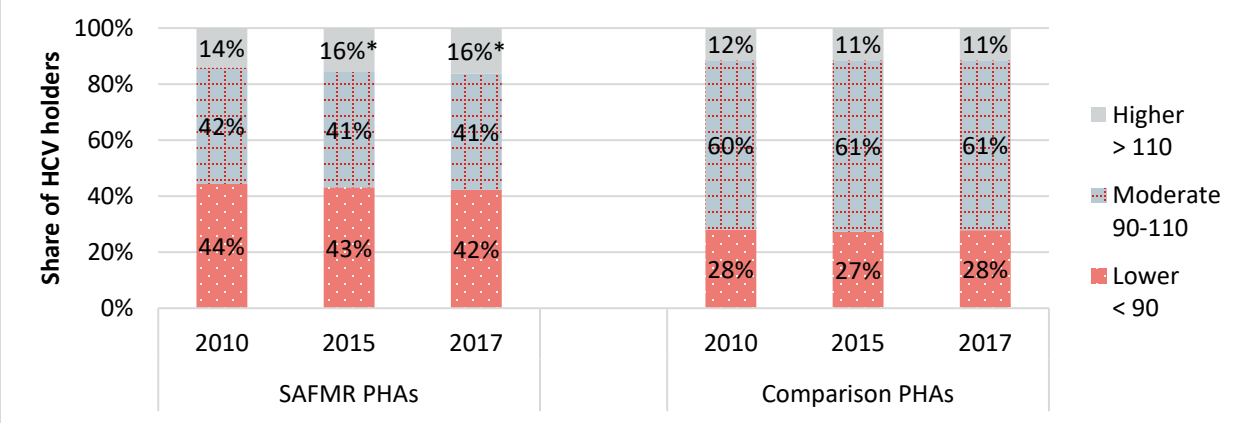
Households with Children



Seniors (Household Member over 62)

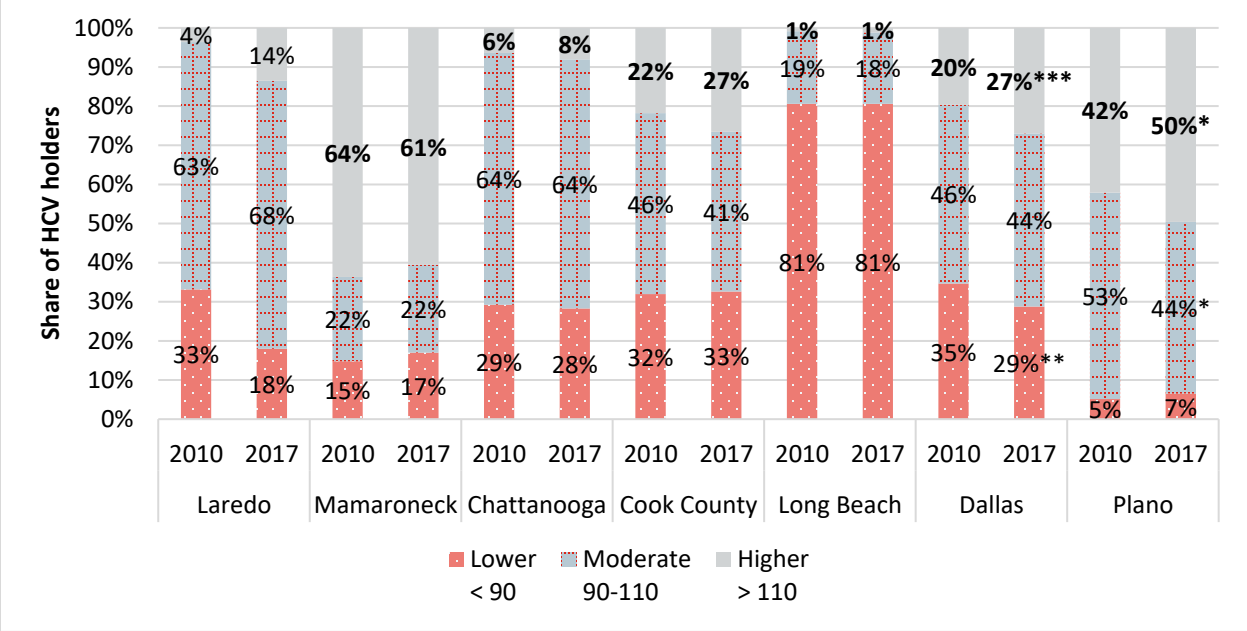


Household Head or Co-head with a Disability



HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05.
Statistical tests of differences (and difference in differences) in proportions are calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts and subgroups)

Exhibit 5-6: Share of HCV Holders by Rent Ratios in ZIP Codes where They Live Before and After SAFMRs

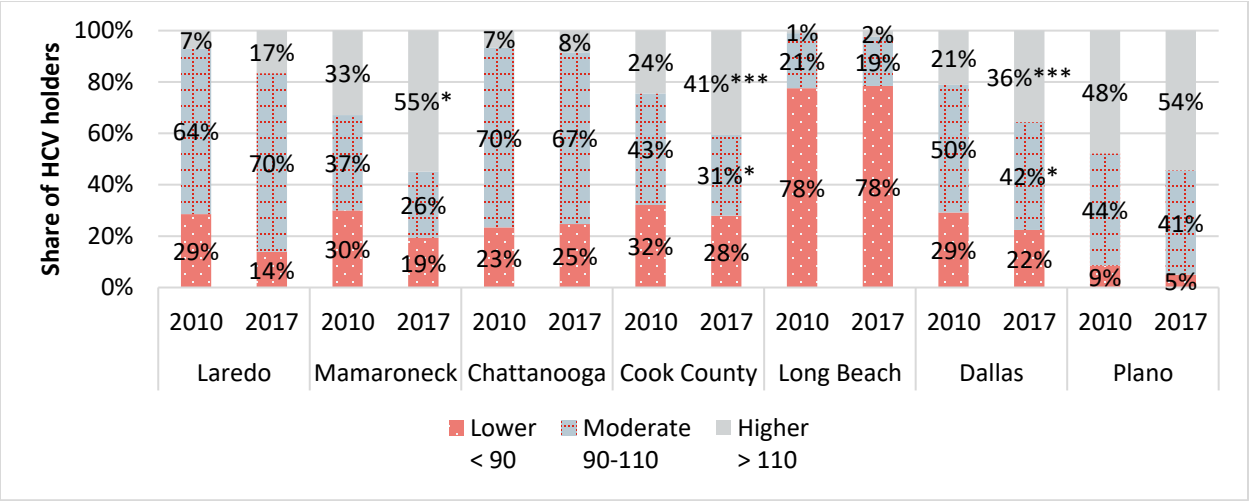


HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***,**,* indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05.
Statistical tests of differences (and difference in differences) in proportions are calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

Exhibit 5-7 shows the results for each SAFMR site for new HCV holders and for existing HCV holders that move to a new ZIP Code. The share of both new households and households that moved to new ZIP Code located in higher-rent ratio ZIP Codes increased between 2010 and 2017 in all sites except Mamaroneck. Only some of these increases were statistically significant, however. There were statistically significant increases in the share of ZIP Code movers that located in a higher-rent ZIP Code in Mamaroneck, Cook County, and Dallas. None of the increases for new HCV holders were statistically significant. In Mamaroneck, the share of new HCV holders that rented in higher-rent ratio ZIP Codes actually decreased from 83 percent to 38 percent following implementation of SAFMRs. While this change is statistically significant, there were only 18 new HCV holders in Mamaroneck in 2009 and 2010, so these numbers may reflect the idiosyncratic circumstances of a small number of households.

Exhibit 5-7: Distribution of Rent Ratios by Site for All SAFMR Public Housing Agencies—New HCV Holders and ZIP Code Movers

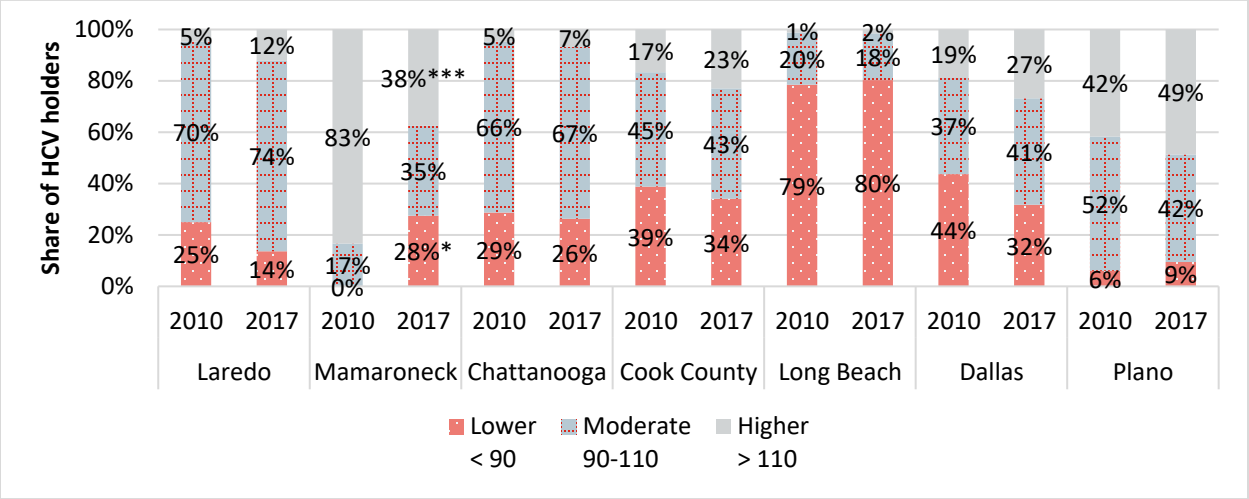
ZIP Code Movers



Note: The table reports the number of ZIP Code movers in the 2 years ending in the year listed in each site by year.

	Laredo	Mamaroneck	Chattanooga	Cook County	Long Beach	Dallas	Plano
2010	273	70	676	2,560	1,102	4,102	199
2017	151	31	676	2,234	710	3,293	160

New HCV Holders



Note: The table reports the number of new households (in the 2 years ending in the year listed) in each site by year.

	Laredo	Mamaroneck	Chattanooga	Cook County	Long Beach	Dallas	Plano
2010	168	18	456	366	414	985	132
2017	264	40	513	903	649	1,538	74

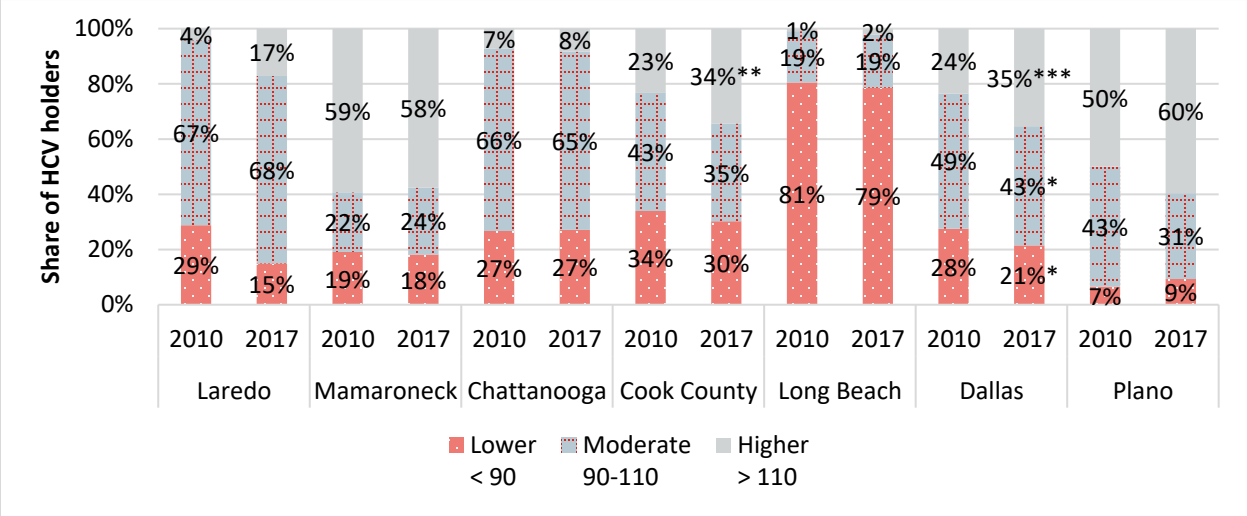
HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
Recent Mover and New HCV holder are defined as moving or first using a voucher in a 2-year window.
***,* indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.001 and 0.05. Differences in proportion calculated with standard errors clustered by ZIP Code.

Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (shares)

Turning to key subgroups of interest, Exhibit 5-8 shows the changes from 2010 to 2017 in the share of HCV holders living in each ZIP Code rent ratio category for each subgroup. Results for households with children in each site are similar in nature to the results for all households, except with slightly larger increases in the share of households locating in higher rent neighborhoods for sites that have increases. As with the combined results for all SAFMR PHAs, we observe no substantive changes for households with seniors or heads or co-heads with disabilities. One potential explanation is that seniors and persons with disabilities generally move less often than families with children.

Exhibit 5-8: Distribution of Rent Ratios by Site for All SAFMR Public Housing Agencies—Households with Children, Seniors, and Adults with Disabilities

Households with Children

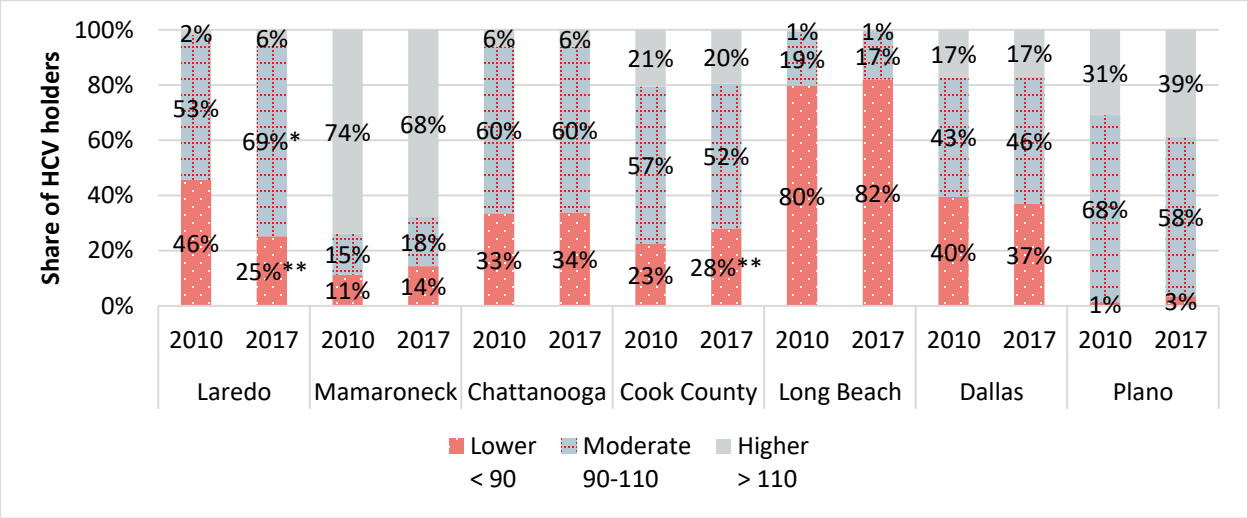


Note: The table reports the number of HCV holders with children in each site by year.

	Laredo	Mamaroneck	Chattanooga	Cook County	Long Beach	Dallas	Plano
2010	1,090	199	1,997	7,289	2,980	9,636	722
2017	1,116	132	2,316	7,355	1,998	9,172	483

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***, **, * indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05.
Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (shares)

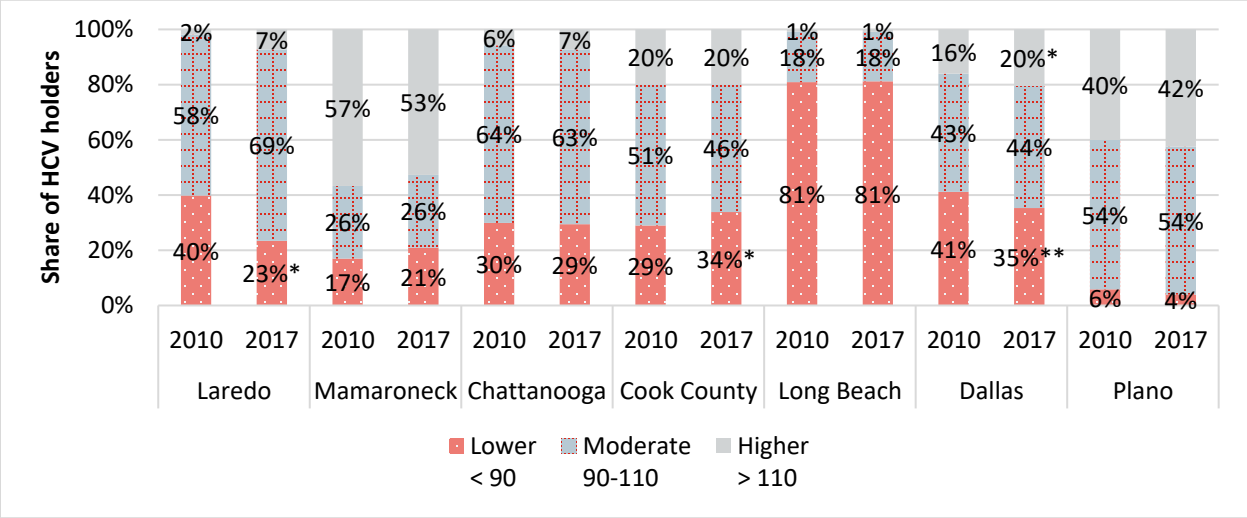
Seniors (household member over 62)



Note: The table reports the number of HCV holders with senior household member in each site by year.

	Laredo	Mamaroneck	Chattanooga	Cook County	Long Beach	Dallas	Plano
2010	320	195	415	2,421	1,626	2,878	401
2017	309	174	594	3,080	2,499	3,617	374

Household Head or Co-head with a Disability



Note: The table reports the number of HCV holders with household head or co-head with a disability in each site by year.

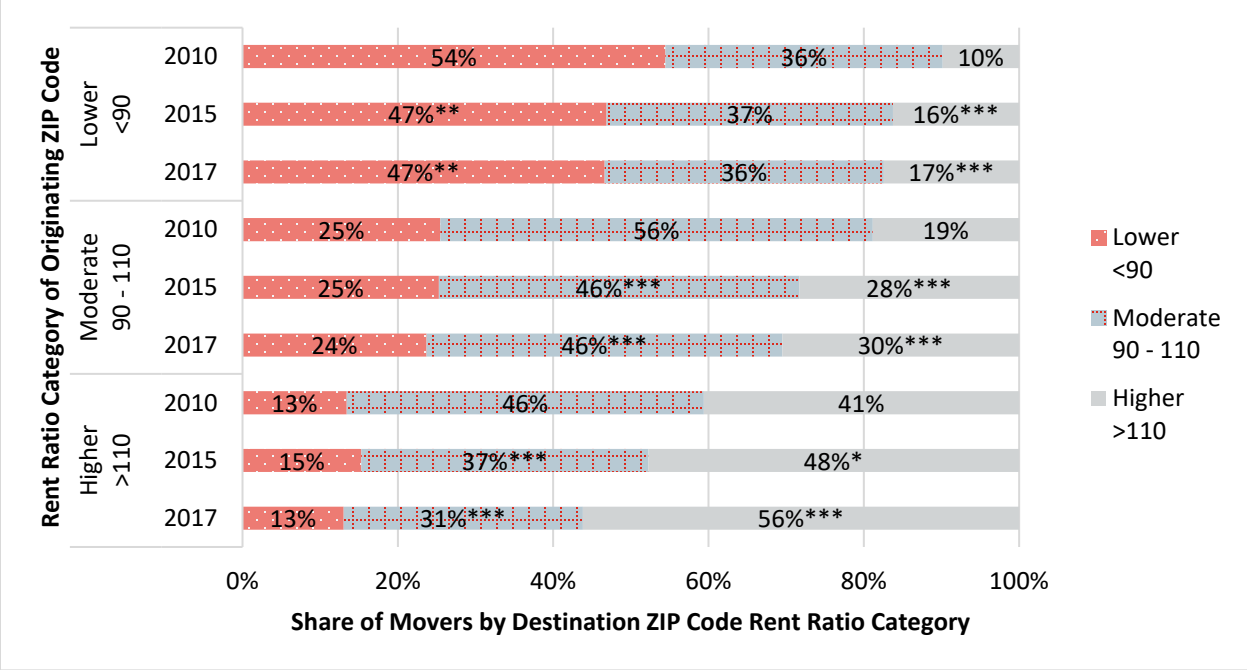
	Laredo	Mamaroneck	Chattanooga	Cook County	Long Beach	Dallas	Plano
2010	319	247	1077	4,573	3,521	6,596	360
2017	414	258	1291	5,281	3,702	7,458	483

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
**, * indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.01 and 0.05.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (shares)

Exhibits 5-9 and 5-10 provide greater detail on the HCV holders who moved ZIP Codes in SAFMR and comparison PHAs, comparing the rent ratio of each household's initial neighborhood with the rent ratio of the neighborhood to which the household moved. Exhibit 5-8 shows movers in SAFMR PHAs in 2010, 2015, and 2017. As reflected in the exhibit, between 2010 and 2017, there were increases in the share of movers who relocate to ZIP Codes with rent ratios greater than 110 from HCV holders among movers originating in each of the three types of rent ratio neighborhoods. For example, the share of mover households that move from a ZIP Code with a rent ratio less than 90 into a different ZIP Code with a rent ratio less than 90 falls from 54 percent in 2010 to 47 percent 2017, corresponding to a 7-percentage point increase in 2017 in the share of households that move into ZIP Codes with a rent ratio greater than 110. These shifts are statistically significant.

Exhibit 5-10 shows that these patterns of moves do not appear in the comparison PHAs. Rather, the patterns are consistent from 2010 to 2017 across all origination ZIP Code rent ratio categories, except for a decrease in households moving from higher-rent ZIP Codes to higher-rent ZIP Codes.

Exhibit 5-9: Rent Ratios in ZIP Code Movers' Destination ZIP Codes by Rent Ratio in Origination ZIP Code—SAFMR PHAs

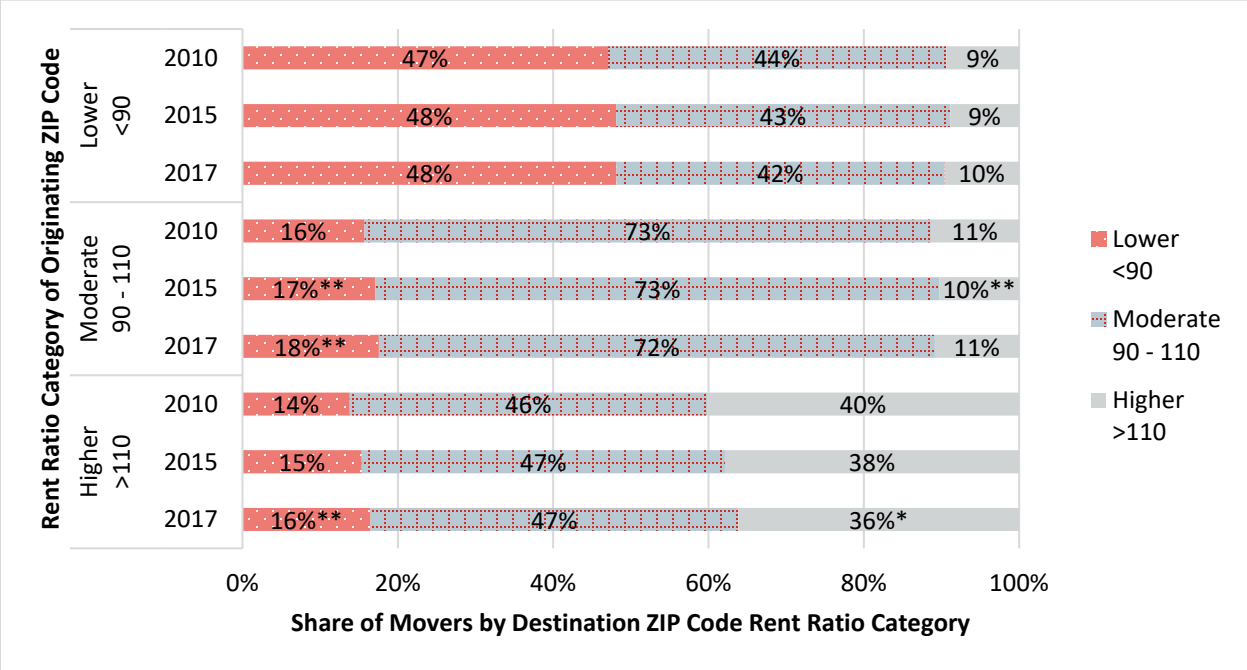


Notes: The following table reports the number of households (in the 2 years ending in the year listed) that moved from an originating ZIP Code in each rent ratio category. The number of households that moved but stayed in the same ZIP Code and the total number of households in the move analysis (including those that did not move) are included for context.

	Originating ZIP Code Type			Total	HCV Holders Moving Within Neighborhood (Not in Chart)	Total HCV Holders in Analysis (Including Nonmovers)
	Lower< 90	Moderate 90–110	Higher> 110			
2010	3,425	3,895	1,387	8,707	3,796	40,781
2015	2,645	3,430	1,458	7,533	2,444	42,478
2017	2,469	3,181	1,513	7,163	1,580	44,612

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05.
Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (shares)

Exhibit 5-10: Rent Ratios in ZIP Code Movers' Destination ZIP Codes by Rent Ratio in Origination ZIP Code—Comparison Public Housing Agencies



Notes: The following table reports the number of households (in the 2 years ending in the year listed) that moved from an origination ZIP Code in each rent ratio category. The number of households that moved but stayed in the same ZIP Code and the total number of households in the move analysis (including those that did not move) are included for context.

	Originating ZIP Code Type			Total	HCV Holders Moving Within Neighborhood (Not in Chart)	Total HCV Holders in Analysis (Including Nonmovers)
	Lower< 90	Moderate 90–110	Higher> 110			
2010	27,946	65,602	13,042	106,595	46,106	496,810
2015	22,731	58,826	12,055	93,612	30,669	503,259
2017	23,873	58,403	11,397	93,673	22,938	516,334

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
**, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.01, and 0.05.
Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (shares)

As reflected in the table at the bottom of Exhibit 5-9, the share of movers who moved ZIP Codes in SAFMR PHAs increases from 70 percent in 2010 to 82 percent in 2017. However, the share of all HCV holders who moved neighborhoods over a 2-year period decreases from 21 percent in 2010 to 16 percent in 2017. In other words, the overall incidence of moving declines among SAFMR PHAs, but those who moved are more likely to move ZIP Codes. Possible reasons for this decline include that SAFMRs add complexity to moving with a voucher or that considering a wider range of neighborhoods slows down the process of moving (and thus the annual move rate). As reflected in the table at the bottom of Exhibit 5-10, somewhat similar changes are seen in the comparison PHAs (though there was a slightly smaller reduction in the incidence of moving), suggesting the change observed in SAFMR PHAs may be due to factors besides the introduction of SAFMRs.

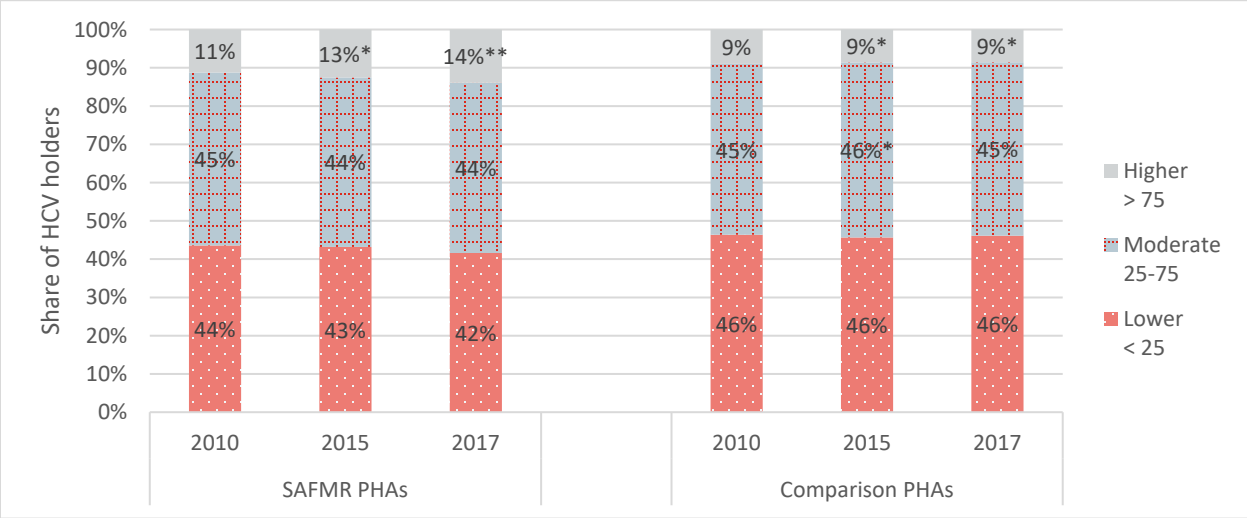
5.1.2 Opportunity Measures in ZIP Codes where SAFMR Holders Reside

We next turn to a comparison of the opportunity measures of locations where HCV holders live before and after introduction of SAFMRs.

Exhibit 5-11 shows that the share of HCV holders living in higher-opportunity areas increased following the implementation of SAFMRs. Prior to implementation of SAFMRs, 11 percent of HCV holders in SAFMR PHAs lived in ZIP Codes with the highest opportunity levels, whereas, following implementation, about 13 percent live in these ZIP Codes in 2015 and 14 percent in 2017. These differences between the share of HCV holders in higher-opportunity ZIP Codes in 2017 and both 2015 and 2010 are statistically significant at the 0.01 level. As was the case with rent ratios, effectively no change occurred in the comparison PHAs. Among comparison PHAs, a slight decrease in the share of HCV holders living in higher-opportunity neighborhoods in 2015 and 2017 rounds to the same 9 percent observed in 2010, though the change between 2010 and 2017 is statistically significant at the 0.05 level. (Recall that these shares are calculated for a disproportionately large number of ZIP Codes—we cluster standard errors by ZIP Code for

statistical testing—in comparison PHAs, so relatively small changes are nonetheless statistically significant). The difference in the change from 2010 to 2017 in the share in higher-opportunity index ZIP Codes in the SAFMR PHAs and the change in the share in higher-opportunity index ZIP Codes in the same period in the comparison PHAs is 3.1 percentage points, which is statistically significantly different from zero at the 0.001 level. This increase comes with declines in both lower- and moderate-opportunity index ZIP Codes in SAFMR PHAs relative to the fairly stable shares in comparison PHAs.

Exhibit 5-11: Share of All HCV Holders by Opportunity Categories Before and After SAFMRs



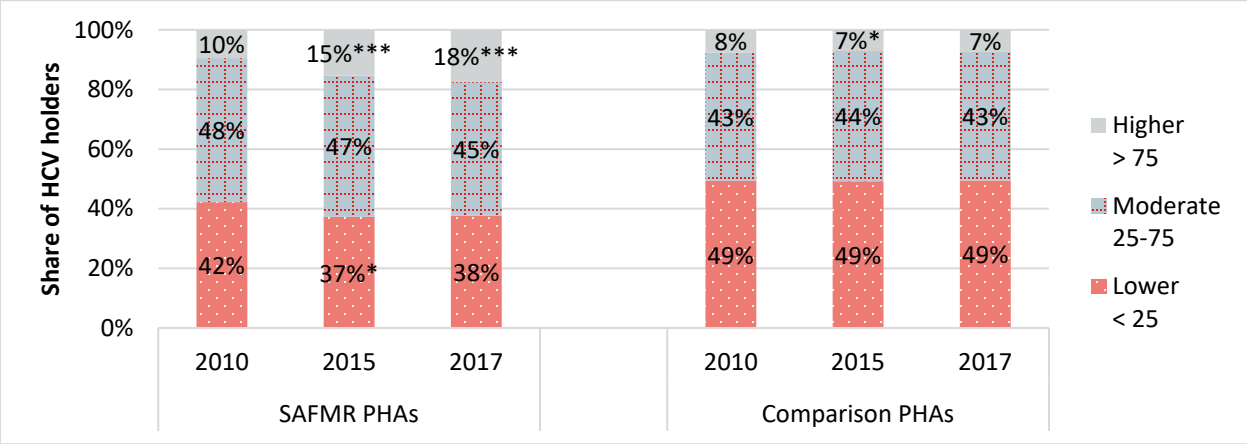
2010 to 2017 difference in differences	Opportunity Index Category		
	Lower < 25	Moderate 25 – 75	Higher > 75
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-1.7%	-1.4%	3.1%***

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
***, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

Exhibits 5-12 and 5-13 show that recent movers and new HCV holders in SAFMR PHAs are increasingly locating to higher opportunity ZIP Codes over time after the implementation of SAFMRs. Exhibit 5-12 shows that the share of recent movers to new ZIP Codes in SAFMR PHAs living in higher-opportunity neighborhoods increased by 8 percentage points from 2010 to 18 percent in 2017. As with neighborhood rent ratio categories presented in the prior section, we observe no substantial changes for comparison PHAs over the same time period. As a result, the differential increase in the share of ZIP Code movers in SAFMR PHAs locating to higher-opportunity index ZIP Codes is 8.3 percentage points, which is statistically significantly

different from zero at the 0.001 level. The differential increase is accompanied by declines that are similarly split between those living in lower- and moderate-opportunity index ZIP Codes.

Exhibit 5-12: Share of All HCV Holders by Opportunity Categories Before and After SAFMRs—ZIP Code Movers

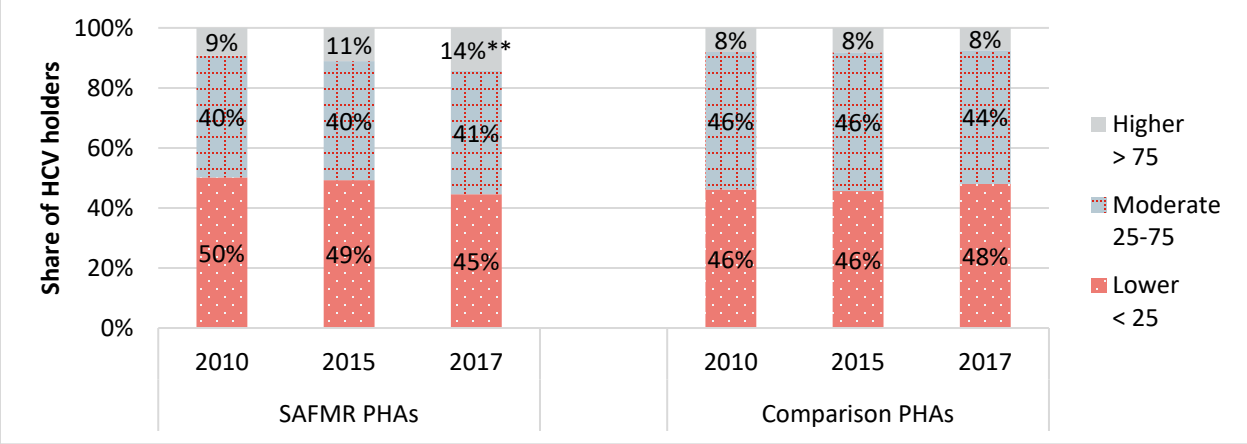


2010 to 2017 difference in differences	Opportunity Index Category		
	Lower < 25	Moderate 25 – 75	Higher > 75
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-4.8%	-3.5%	8.3%***

Recent mover is defined as having moved in a 2-year window (for example in 2009 or 2010).
***, * For stacked bars, indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001 and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
Table reports the difference between SAFMR and comparison PHAs in the change between 2010 and 2017 in the share in each ZIP Code category.
Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

Exhibit 5-13 shows that the share of new HCV holders using their voucher in ZIP Codes in the top quartile of the overall opportunity measure increased by 5 percentage points between 2010 and 2017 to 14 percent. As with all HCV holders and ZIP Code movers, the share of new households in comparison PHAs in ZIP Codes in each overall opportunity category remains nearly the same in all years. As a result, the differential increase in new voucher holders locating in higher-opportunity index ZIP Codes in SAFMR PHAs versus comparison PHAs is 5.5 percentage points and is statistically significantly different from zero at the 0.01 level. This differential increase is offset by a relative decrease in new voucher holders locating in lower-opportunity index neighborhoods and a slight increase in the differential change in the share locating in moderate-opportunity index ZIP Codes. Because of the relatively small sample size of new voucher holders (with standard errors clustered by ZIP Code), the differential changes in these categories are not statistically significantly different from zero.

Exhibit 5-13: Share of All HCV Holders by Opportunity Categories Before and After SAFMRs—New Households



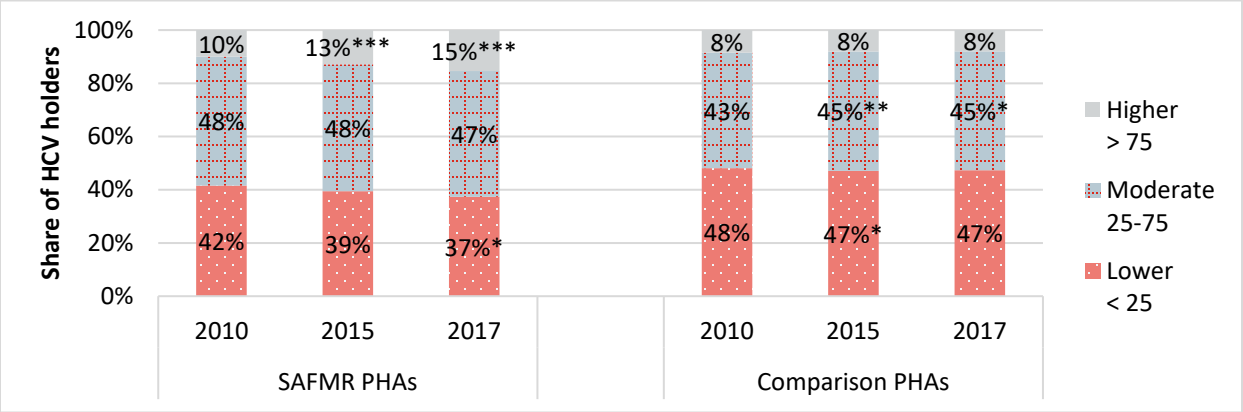
2010 to 2017 difference in differences	Opportunity Index Category		
	Lower < 25	Moderate 25 – 75	Higher > 75
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-7.4%	1.9%	5.5%**

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
New HCV holder is defined as first using a voucher in a 2-year window (for example in 2009 or 2010).
** indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.01. Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

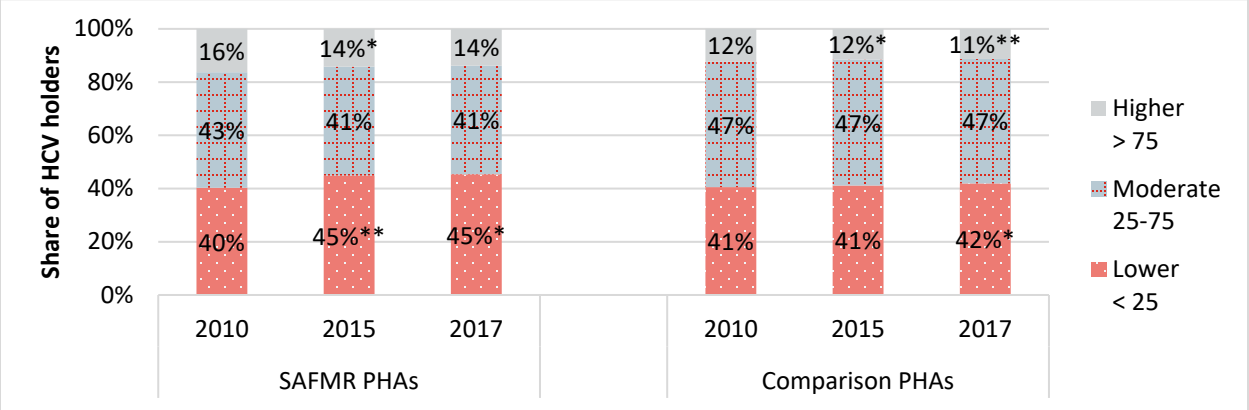
The share of households living in each ZIP Code opportunity index category for the subgroups of interest are shown in Exhibit 5-14. Patterns for households with children are similar in nature to that of the overall population—there was a 5-percentage point increase in households living in higher opportunity neighborhoods over time. A higher share of households with a senior live in neighborhoods with lower opportunity scores, a contrast to the consistent shares living in lower-rent ZIP Codes over time reported in Exhibit 5-4. HCV holder households with a head or co-head with a disability have a slight increase in the share living in higher-opportunity neighborhoods. Again, because the shares in each category are effectively stable over time in comparison PHAs, difference-in-difference calculations (not reported) are very close to the changes over time in each category in SAFMR PHAs.

Exhibit 5-14: Share of All HCV Holders by Opportunity Categories Before and After SAFMRs—Households with Children, Seniors, or a Head or Co-head with a Disability

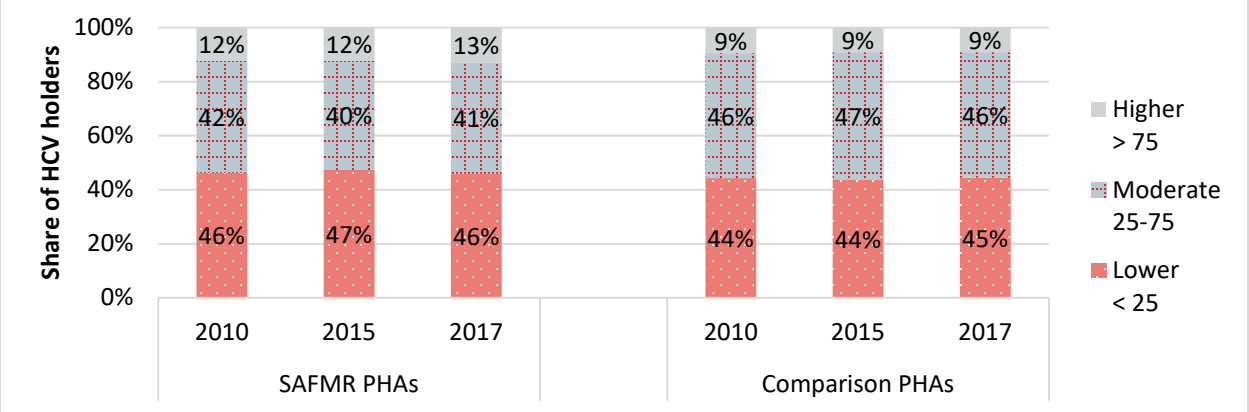
Households with Children



Seniors (Household Member over 62)



Household Head or Co-head with a Disability

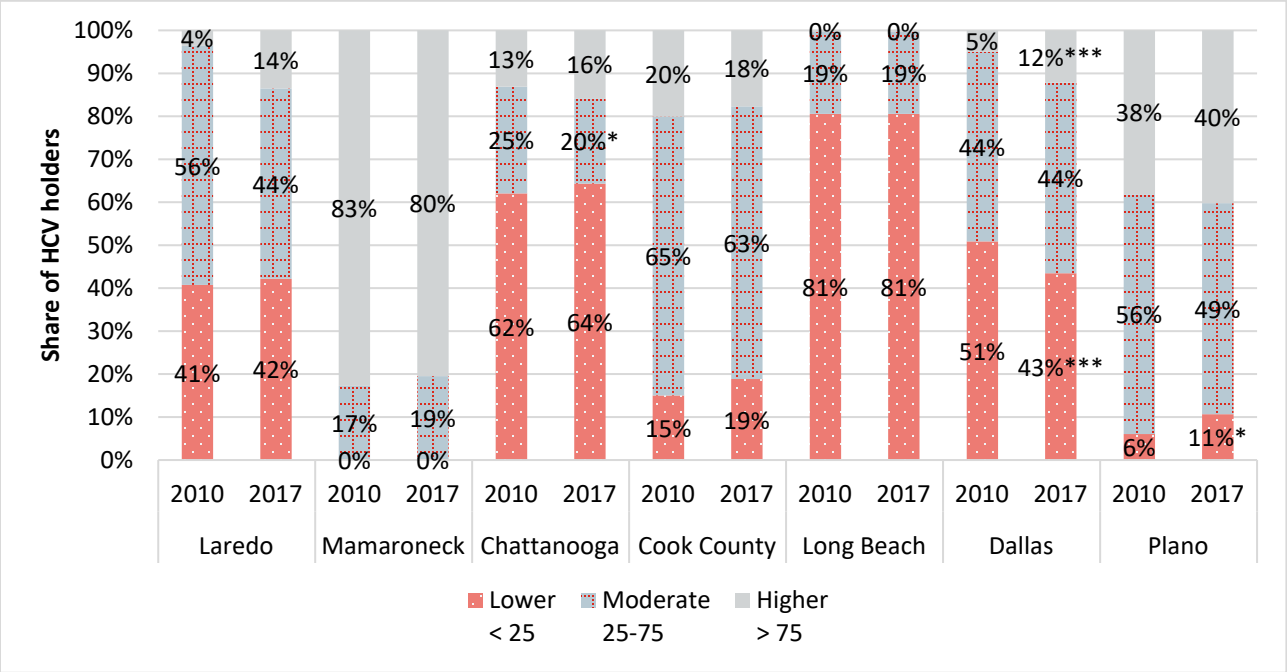


PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
*****, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05.**
Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (shares); overall opportunity index

Exhibit 5-15 shows how the changes in the share of households living in each category of the ZIP Code opportunity index varied across the SAFMR PHAs. The overall increase in the share of HCV holders living in higher-opportunity areas is driven nearly entirely by the same three PHAs that drove the rent changes shown above: Dallas, Laredo, and Plano. The share of all HCV holders living in higher-opportunity ZIP Codes does not change much between 2010 and 2017 in

the other four SAFMR PHAs (a 3-percentage point increase in Chattanooga is not statistically significant). At the same time, with the exception of Dallas and Mamaroneck, there was no change or were small increases in the share of HCV holders living in lower-opportunity ZIP Codes between 2010 and 2017, though these changes were statistically significant only in Plano.

Exhibit 5-15: Distribution of Opportunity Index for All HCV Holders—by SAFMR PHA



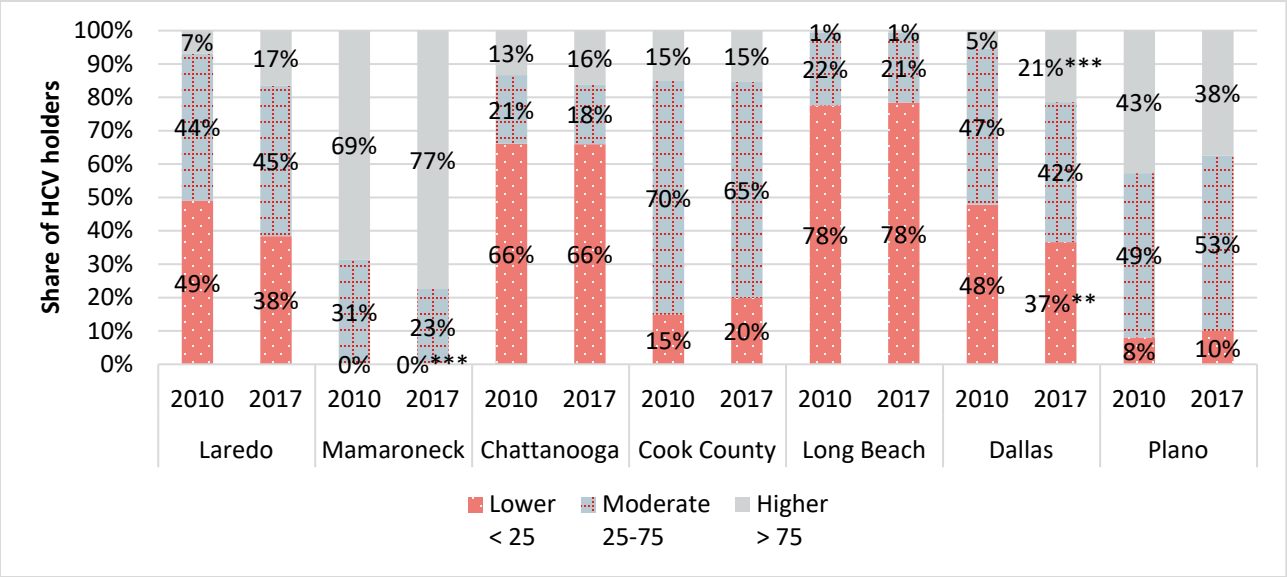
HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
***, * indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.001 and 0.05. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

Exhibit 5-16 shows the variation by SAFMR PHA among ZIP Code movers and new HCV holders. The trends for changes in access to higher opportunity areas are mostly similar to the trends for access to higher-rent ZIP Codes. One notable difference between the two measures, however, is in Cook County, where gains in access to higher-rent ZIP Codes do not translate into gains in access to higher-opportunity ZIP Codes. New households locate in moderate opportunity neighborhoods more frequently in Cook County (although the differences are not statistically significant). Another difference between the rent and opportunity findings is that, in four SAFMR PHAs, the share of new HCV holders leasing up in lower-opportunity areas increased between 2010 and 2017, although the differences are not statistically significant. Only a few SAFMR PHAs saw increases in the share of new HCV holders leasing up in lower-rent ZIP Codes. The share of ZIP Code movers locating in lower-opportunity ZIP Codes rose in only Cook County and Plano; by contrast, the share of ZIP Code movers locating in lower-rent ZIP Codes fell in these two PHAs and was essentially stable or fell in all other SAFMR PHAs.

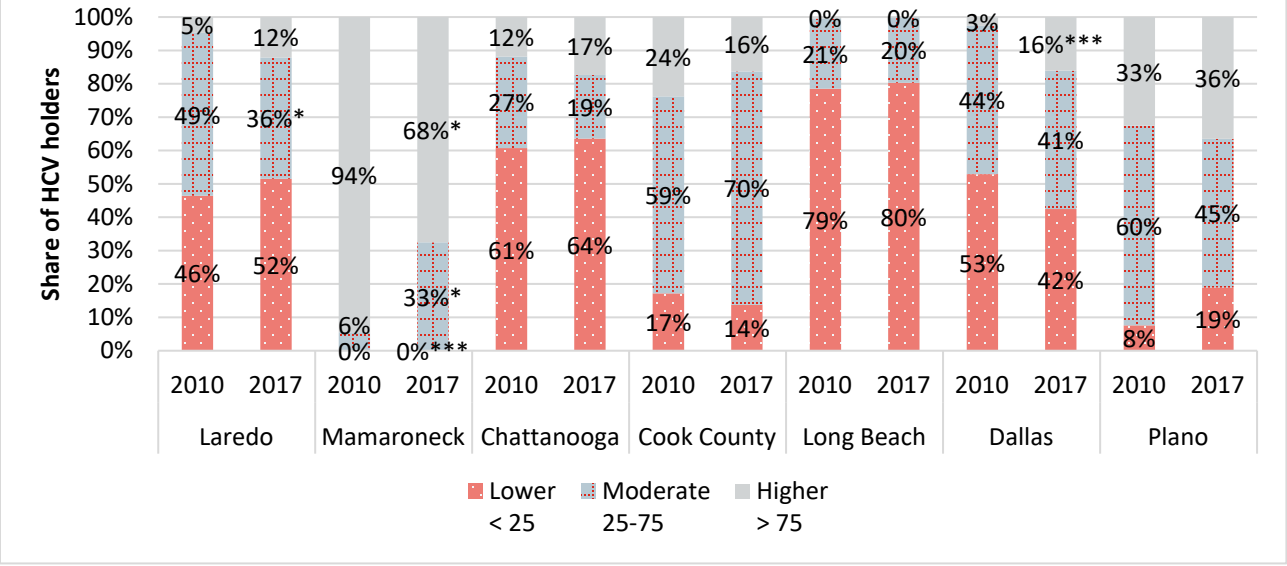
Variation across SAFMR PHAs in the share of households in key subgroups living in each ZIP Code opportunity index category is shown in Exhibit 5-17. Results for households with children in each site are similar in nature to the results for all households. For households with a senior or a household head or co-head with a disability, the decreases in the share living in higher-opportunity ZIP Codes and increases in the share living in lower-opportunity ZIP Codes in Cook County are statistically significant. The share of households headed/co-headed by adults with disabilities that live in the higher-opportunity ZIP Codes in Dallas more than doubles from 4 to 9 percent and the difference is statistically significant. In Chattanooga, fewer households with disabilities live in moderate-opportunity neighborhoods, with increases in both lower- and higher-opportunity neighborhoods.

Exhibit 5-16: Distribution of Opportunity Index by SAFMR PHAs—New and ZIP Code Mover Households

ZIP Code Movers



New Households



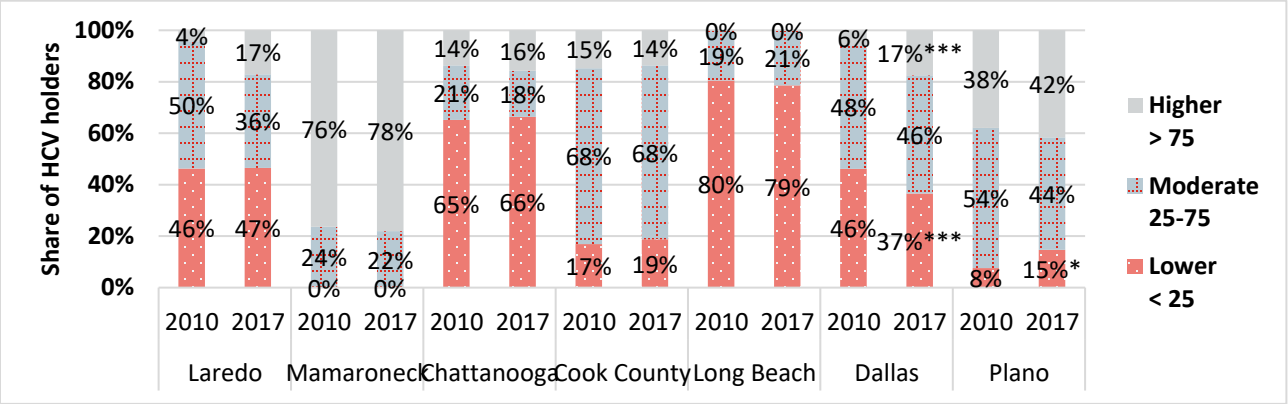
HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.Recent mover is defined as having moved in a 2-year window; New HCV holder is defined as first using a voucher in a 2-year window (for example in 2009 or 2010 for 2010 new mover data).

***,**,* indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.

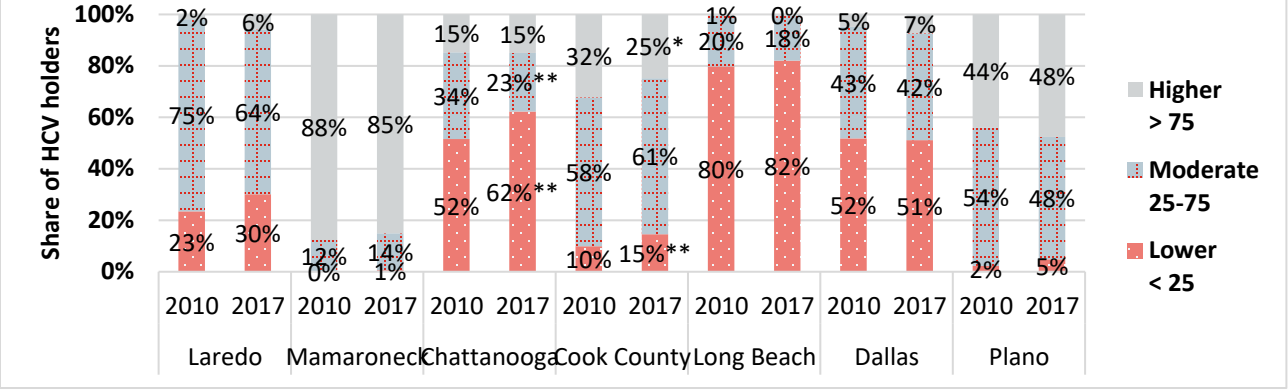
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

Exhibit 5-17: Distribution of Opportunity Index by SAFMR PHAs—Households with Children, Seniors, and a Head or Co-Head with a Disability

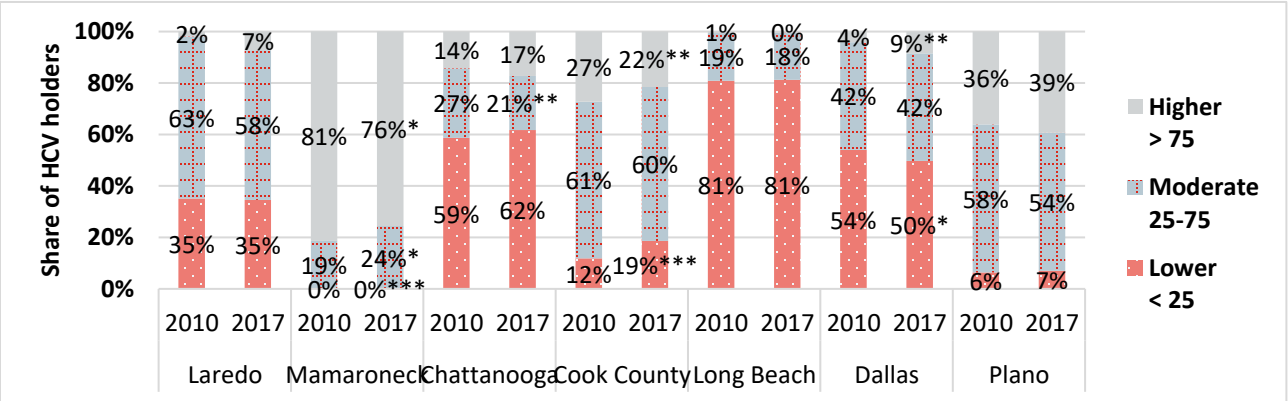
Households with Children



Seniors (Household Member over 62)



Household Head or Co-head with a Disability



HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
***, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

5.1.3 Additional Neighborhood Characteristics in ZIP Codes where HCV Holders Reside

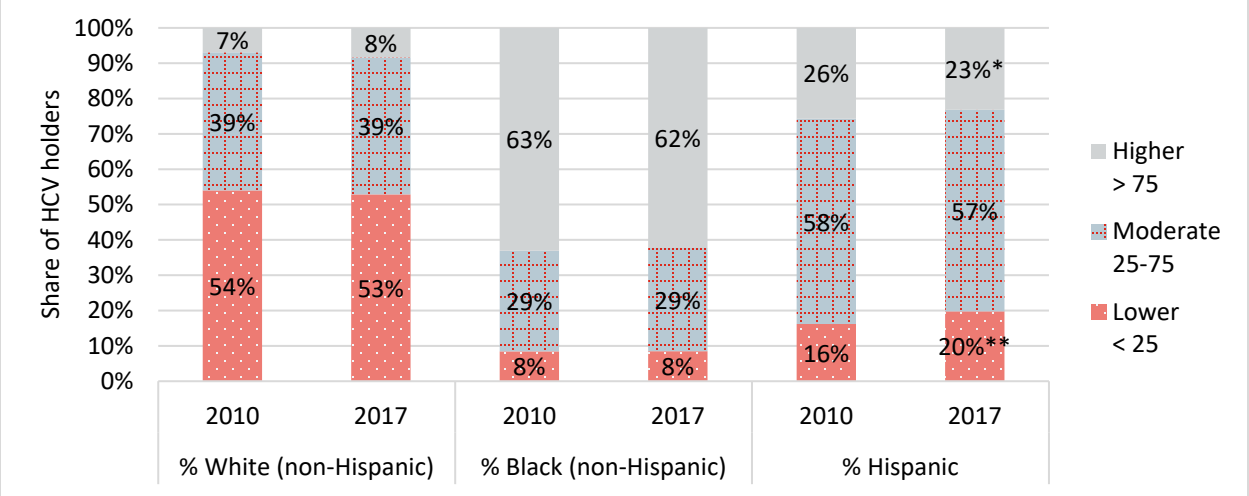
In addition to affecting the opportunity profile of the neighborhoods where HCV holders locate, implementing SAFMRs may result in HCV holders living in neighborhoods with a different demographic makeup. We examine a few examples of neighborhood demographic characteristics in this section—racial and ethnic composition of the neighborhood, share of households with children, and share of households where the head of household has a college degree. We stress that these characteristics are not measures of opportunity provided by the neighborhood. Rather, they provide insight into whether SAFMRs lead HCV holders to live in more racially and ethnically integrated neighborhoods and in neighborhoods with different household demographic profiles.

We examine these neighborhood characteristics using a methodology similar to the one we used to examine the opportunity measures. To enable us to draw comparisons for all SAFMR PHAs together, we normalize each characteristic as a percentile over all renters in the metropolitan area. We then report the share of HCV holders living in ZIP Codes in the bottom quartile, middle one-half, and top quartile of the metropolitan area for each characteristic for each year examined. This common categorization also enables us to present the information on different characteristics together in a common exhibit. However, we calculate the percentile normalization for each characteristic independently.

Exhibit 5-18 shows that in both 2010 and 2017 more than one-half of HCV holders in SAFMR PHAs live in neighborhoods that are in the bottom quartile of the share of households that are White (non-Hispanic), and more than one-half live in neighborhoods that are in the top quartile of the share of households that are Black (non-Hispanic). Slightly more than one-half of HCV holders live in ZIP Codes that are in the middle one-half of the metropolitan area distribution for Hispanic share. About one-fourth of HCV households live in the top quartile of the share that are Hispanic, although slightly less than a one-fourth live in the bottom quartile.

The exhibit shows essentially no change across all SAFMR PHAs combined between 2010 and 2017 in the share of HCV holders who live in neighborhoods in ZIP Codes in each percentile category of the share of households that are White, non-Hispanic, and Black. The share of households residing in neighborhoods in the bottom quartile of percent Hispanic increases from 16 percent to 20 percent between 2010 and 2017 and is statistically significant at the 0.01 level. This increase is likely related to our findings of larger effects in the Texas PHAs. Similarly, no change exists for the comparison PHAs (not shown) and no remarkable changes emerge across individual SAFMR PHAs (tabulations not shown).

Exhibit 5-18: Share of All HCV Holders by Racial and Ethnic Composition of Neighborhood—SAFMR PHAs

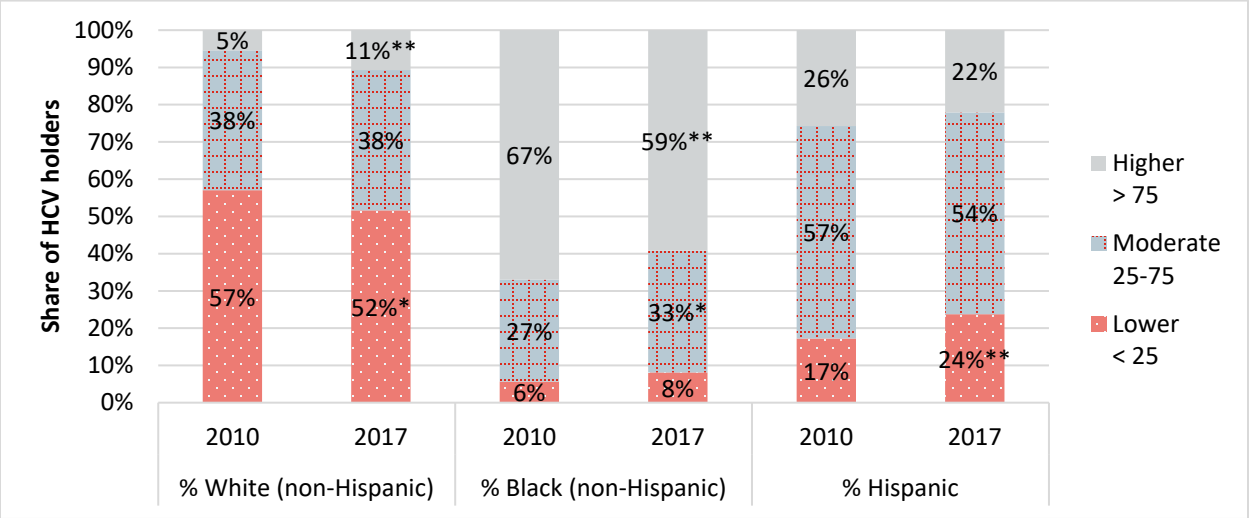


HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
**, * indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.01, and 0.05. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

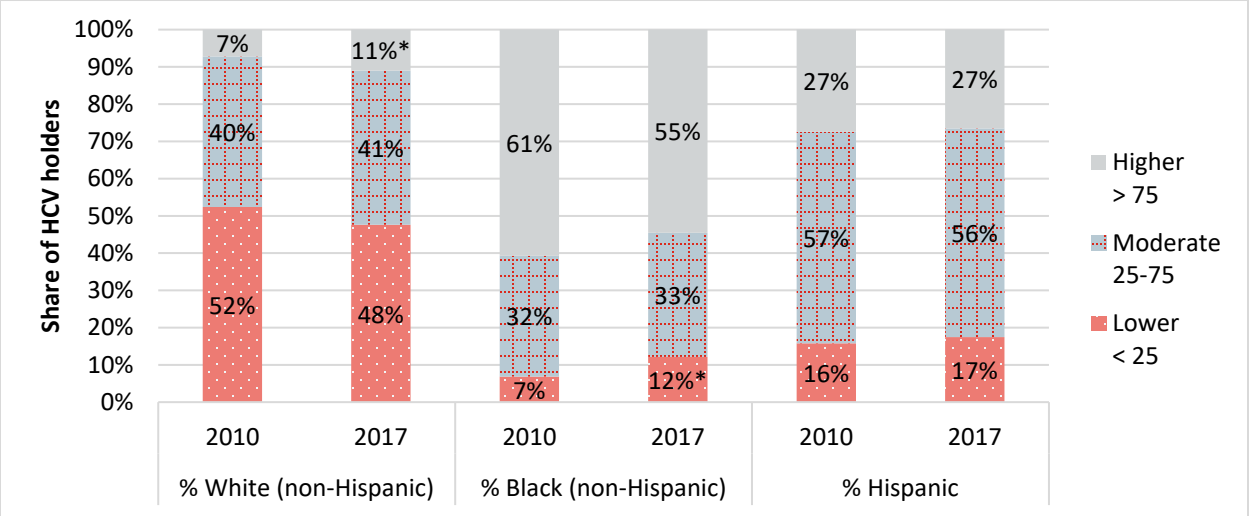
However, a closer look at households that newly receive a voucher and households that have recently moved to a new ZIP Code shows that SAFMRs may be starting to alter HCV holder location outcomes in terms of the racial and ethnic composition of the neighborhood in which they live. Exhibit 5-19 shows that HCV holders who move to new ZIP Codes are more often moving to neighborhoods in the top quartile of percentage White (non-Hispanic), with 11 percent of new movers locating in such areas in 2017 compared with 5 percent of new movers in 2010. The percentage moving into neighborhoods in the top quartile of percentage Black (non-Hispanic) is still the highest among all categories, at 59 percent in 2017, but this share is a decrease from the 67 percent observed in 2010. These changes are statistically significant at the 0.01 level. Also, a sizable increase occurred in the share locating in neighborhoods with comparatively low Hispanic shares, and the difference is statistically significant at the 0.01 level. We note that no such trends are present in comparison PHAs (tabulations not shown), as the percentages of new HCV holders and movers in each category for each race or ethnicity essentially stay the same between 2010 and 2017.

Exhibit 5-19: Share of All HCV Holders by Neighborhood Racial and Ethnic Composition—ZIP Code Movers and New HCV Holders

ZIP Code Movers



New HCV Holders



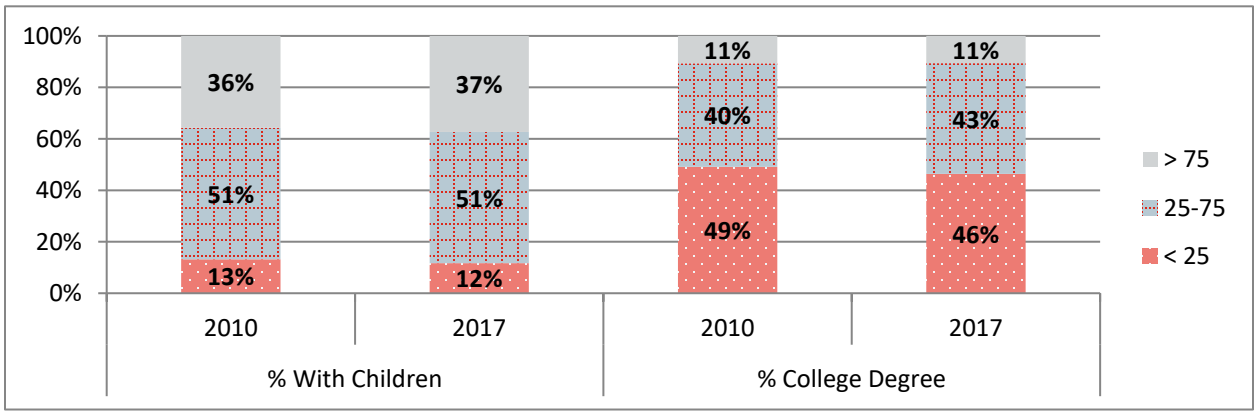
HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Recent mover is defined as having moved in a two-year window; New HCV holder is defined as first using a voucher in a two-year window (for example in 2009 or 2010).
**,* indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.01, and 0.05. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (shares); overall opportunity index

The bottom panel of Exhibit 5-19 shows that new HCV holders also locate less frequently in ZIP Codes in the lower one-fourth of the metropolitan area distribution of percentage White (non-Hispanic) in 2017 compared with in 2010, with the share living in these ZIP Codes falling from 52 to 48 percent, although the difference is not statistically significant. There is a corresponding increase in new HCV holders locating in neighborhoods in the top quartile of percent White (non-Hispanic), which is statistically significant at the 0.05 level. A similar change is also reflected in the share of new HCV holders locating in neighborhoods in the highest and lowest quartile of the percent of residents in each ZIP Code that are Black (non-Hispanic), with new HCV holders locating in neighborhoods where relatively fewer residents are Black. There is little change over time in the share in each neighborhood percent Hispanic category for new households.

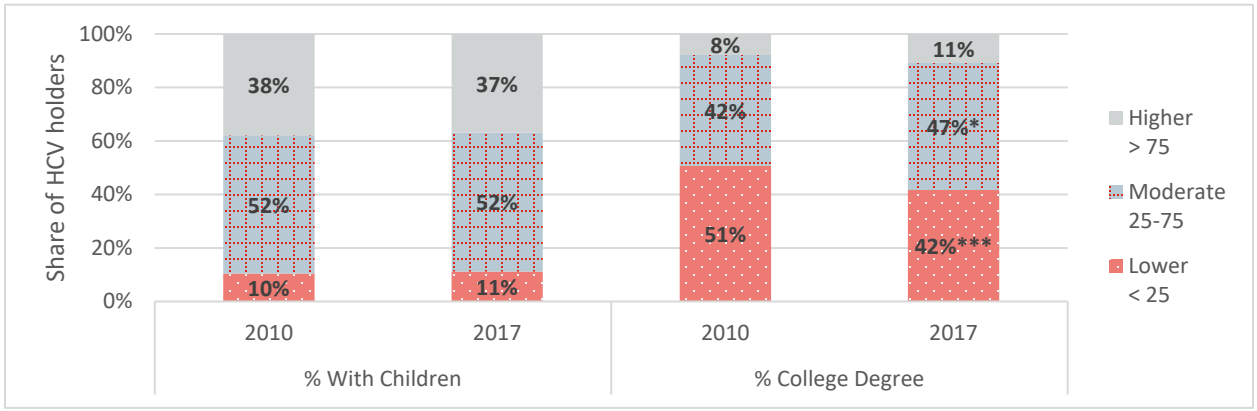
Exhibit 5-20 shows the location patterns observed for SAFMR households based on (a) the share of households in each neighborhood that have children and (b) the share of households that have a college degree. In general, there are similar patterns in these data as there were for race and ethnicity—no statistically significant changes for all HCV holders taken together (although there is a 3-percentage point decrease in the lowest category for the share with a college degree and a corresponding increase in the middle category), but some changes for new HCV holders and ZIP Code movers. Essentially no changes are observed over all HCV holders. However, smaller shares of new HCV holders locate in ZIP Codes in the bottom quartile of the metropolitan area in terms of households with children; the share locating in this bottom quarter of units in terms of ZIP Code share of children falls from 23 percent to 15 percent. We see no change in the share of new HCV holders living in the neighborhood categories based on the share of adults with college degrees. In contrast, for HCV holders that move, we see no change in the neighborhood share of households with children categories, but the share locating in ZIP Codes in the bottom quartile of the share of adults with a college degree falls from 51 percent to 42 percent, a statistically significant difference at the 0.001 level. Again, these trends are not observed for the comparison PHA sample (tabulations not shown).

Exhibit 5-20: Share of All HCV Holders by Neighborhood Percentage of Households with Children and with a College Degree—SAFMR PHAs

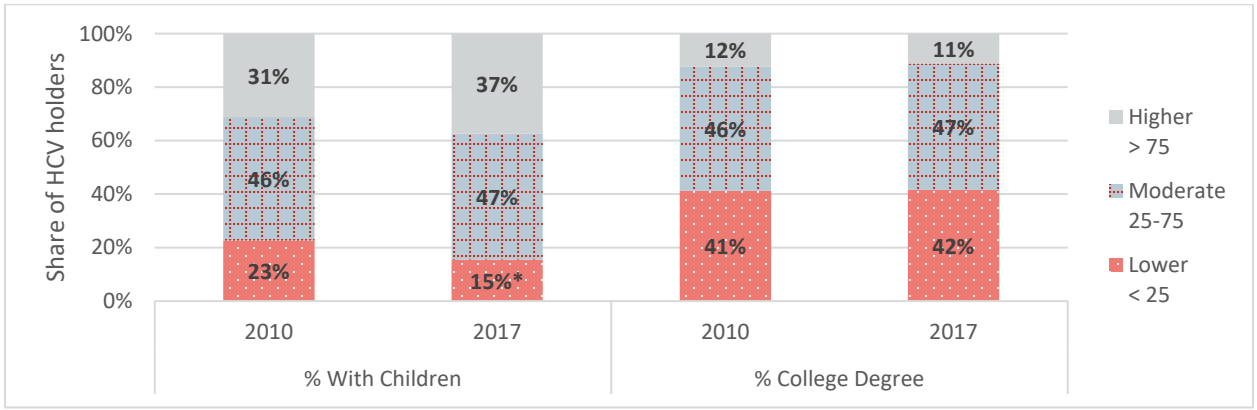
All HCV Holders



ZIP Code Movers



New HCV Holders



HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Recent mover is defined as having moved in a 2-year window; New HCV holder is defined as first using a voucher in a 2-year window (for example in 2009 or 2010).
***,* indicates that share in 2017 is statistically different from the share in same category in 2010 with p-value of less than 0.001 and 0.05. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); HUD Public and Indian Housing Information Center administrative data extract (counts); overall opportunity index

5.2 Differences-in-Differences Regression Model of HCV Holder Location Outcomes

This section presents the results of statistical models of HCV holder location outcomes that include controls for time trends and household characteristics. This analysis confirms and strengthens the findings presented in the prior section. Here, we show that the effects of SAFMR implementation that we described by examining simple proportions of households in various categories of ZIP Codes are confirmed when examining location outcomes with regression-based adjustments for observable household and unobservable, time-invariant PHA characteristics.

We analyze outcomes for two key subgroups in addition to all HCV holders by estimating models using separate analysis samples: HCV holders that move to a new ZIP Code, new HCV holders, and all HCV holders.

For HCV holders that move to a new ZIP Code, we model two location outcomes. First, we analyze the share of households that move to a neighborhood with an opportunity index score that is at least 10 (one decile) higher than their starting neighborhood, and second, we analyze the change in the opportunity index itself. Both of these outcomes address whether, conditional on moving, HCV holders on average move to higher-opportunity index neighborhoods as a result of SAFMRs.

For new HCV holders, we analyze a single location outcome, the level of the opportunity index. This analysis addresses whether new voucher holders are initially locating to higher-opportunity neighborhoods as a result of SAFMRs.

For the full sample of all HCV holders (including both households that move and new households), we analyze two location outcomes. First, we analyze the share of households that move to a new ZIP Code (whether it is in a different opportunity index category). Analysis of this outcome addresses whether the implementation of SAFMRs change the overall incidence of moving (regardless of whether the opportunity index is affected). Second, we analyze the share of all HCV holders that move to a neighborhood with an opportunity index score at least 10 (one decile) higher than their starting neighborhood. In a given year, the change in opportunity index is set to zero for HCV holders that do not move or are new.[33]

As outlined in chapter 3, the coefficient of interest from the statistical model is the difference between SAFMR PHAs and comparison PHAs in the change in average outcome between the period before and after implementation of SAFMRs. For each of the samples, we estimate a series of regressions using annual household-level data for all HCV holders in SAFMR and comparison PHAs from 2009 through 2017. As the analysis sample is a repeated cross-section of individuals within PHAs, the unit of observation is a household year. We use annual, household-level data to provide a large and robust data-set for the analysis that does not rely on any specific

[33] The analysis is robust to excluding new voucher holders from the analysis in their first year in the data from this sample.

year of data before or after SAFMRs. Recall that SAFMRs were implemented earlier in Dallas and Plano (and through a different process) than in the other SAFMR PHAs (where SAFMRs were implemented through the demonstration). Our statistical model accounts for the difference in initial implementation year by including separate coefficients for whether a household was in Dallas or Plano in 2011 or 2012. Observations in 2009–2012 are classified as being before the implementation of SAFMRs for all PHAs except in Dallas and Plano, where only 2009–2010 are before implementation. Observations in 2013–2017 are classified as being after the implementation of SAFMRs for all PHAs. Exhibit 5-21 tabulates the years in each before and after SAFMR implementation category.[34]

Exhibit 5-21: Summary of Classification of Regression Sample Observations by Time Period

	All PHAs except Dallas and Plano	Dallas and Plano
Before SAFMR implementation	2009–2012	2009–2010
After SAFMR implementation	2013–2017	2011–2012 (modeled separately in regression), 2013–2017

This section includes three subsections corresponding to the three samples analyzed. We begin each subsection with a table of summary statistics of the location outcomes modeled, the proportion of observations in the key analysis subgroups, and the household composition and other demographic variables that the regression model adjusts for. These summary statistics provide baseline levels of the outcome variables that supply necessary context for interpreting the regression coefficients and for understanding the characteristics of our estimation samples. Summary statistics are broken out into four categories:

- Results for HCV holders in SAFMR PHAs before implementation of SAFMRs (baseline).
- Results for HCV holders in SAFMR PHAs after implementation of SAFMRs (followup).
- Results for HCV holders in comparison PHAs in the time period before SAFMRs (2009–2012).
- Results for HCV holders in comparison PHAs in the time period after SAFMRs (2013–2017).

We report statistical tests for whether averages in SAFMR PHAs and in comparison PHAs, respectively, differ from pre- and post-SAFMRs on mean values of outcomes and our adjustment

[34] In the exhibits reporting regression results below, the "SAFMR PHA post SAFMR" variable is an indicator for all SAFMR PHAs in the years indicated in the after SAFMR implementation row of Exhibit 5-21, and as such isolates the difference in differences estimate that addresses our research hypotheses. The "Dallas and Plano 2011–2012" coefficient identifies all observations in the bottom-right cell of Exhibit 5-21 and measures the average effect of SAFMR implementation in these PHAs in these years only. The "Post-SAFMR (2013–2017)" includes all observations in this time period (including those in comparison PHAs) and is the adjustment for common trends over time in the difference in differences model.

variables. These tests show simply the extent to which values for outcomes and covariates are changing over time to provide context for interpreting the estimated coefficients. We also report tests for whether averages differ before the implementation of SAFMRs across SAFMR and comparison PHAs. These tests confirm the existence of pre-existing differences in the average characteristics of HCV holders in SAFMR and comparison PHAs, which in part motivates our difference in differences modeling approach.[35]

5.2.1 Findings for Participant Location Outcomes for HCV Holders that Move

We begin by analyzing the location outcomes of HCV holders that move to a new ZIP Code, because SAFMRs have the starkest impacts for this sample. Exhibit 5-22 provides summary statistics of the outcomes variables, analysis subgroups, and household characteristics covariates for this analysis subsample that are included in the regression models presented in subsequent exhibits. These summary statistics provide context for interpreting the subsequent regression results.

Summary Statistics

Exhibit 5-22 shows that before the SAFMR PHAs implemented SAFMRs, 31.2 percent of households that moved relocated to a ZIP Code with an opportunity index at least 10 points (one decile) higher than the ZIP Code where they previously lived. This is not statistically significantly different from the equivalent figure for comparison PHAs before the introduction of SAFMRs (30.5 percent). After the implementation of SAFMRs, 35.2 percent of households in SAFMRs made such moves, compared with only 29.5 percent for comparison PHA households. Among SAFMR PHAs, the increase from 31.2 percent to 35.2 percent is statistically significant at the 0.01 level. Among comparison PHAs, the decrease from 30.5 percent to 29.5 percent is also statistically significant at the 0.01 level.

Households in SAFMR PHAs that moved prior to the introduction of SAFMRs increased the overall opportunity index of the ZIP Code in which they moved by almost 3 points (percentiles) in our opportunity index. This is statistically different than HCV holders in SAFMR PHAs after SAFMRs at the 0.05 level, but not from the average change in opportunity index for movers in comparison PHAs before SAFMRs. Also, the average change in opportunity index for HCV holders in comparison PHAs is statistically significantly higher before SAFMRs than after (at the 0.001 level).

[35] In reviewing and interpreting these summary statistics, it is important to remember that the Dallas and Plano PHAs are included in the SAFMR Post SAFMRs sample in 2011 and 2012, whereas the other SAFMR PHAs are included in the SAFMR PHA pre-SAFMRs category in these years. As a result, differences between these two samples in the summary statistics are due both to the introduction of SAFMRs and to differences in the composition of the groups in these years. The regression models include terms that adjust for this artifact of the differences in the timing of the introduction of SAFMRs.

Exhibit 5-22: Summary Statistics of Regression Model Outcomes and Regression Covariates—HCV Holders that Move

	Sample			
	SAFMR PHAs		Comparison PHAs	
Pre- or Post-SAFMRs	Pre	Post	Pre	Post
N (household years)	18,886	20,293	252,832	269,859
Outcome variables				
Move up at least 10 points in opportunity index	31.2%	35.2%**	30.5%	29.5%**
Change in overall opportunity index	2.9	4.5*	1.5	0.4***
Analysis subgroups				
Household includes children	69.2%	63.5%***	71.0%	64.7%***
Includes adult(s) 62 or older	8.5%	10.5%***	7.8%	10.1%***
Includes head or co-head with disability	30.0%	31.9%**	31.3%	34.7%***
Other household characteristics regression covariates				
Single female head of household	92.3%	90.0%***	90.5%**	87.9%***
Adults in household				
Age 18-24				
1	20.0%	19.9%	19.3%	16.7%***
2 or more	5.6%	5.6%	3.6%***	3.4%***
Ages 25-61				
1	83.0%	80.3%***	79.6%***	80.0%*
2 or more	8.3%	8.7%	8.6%	9.2%***
Ages 62 plus				
1	8.0%	9.9%***	7.3%	9.5%***
2 or more	0.5%	0.6%	0.5%***	0.6%***
Presence of children				
Under 5	24.2%	23.0%*	32.1%***	26.6%***
5-12	48.4%	44.4%***	51.5%**	47.4%***
13-17	37.7%	34.9%***	32.3%***	32.0%
Race/ethnicity				
White (non-Hispanic)	11.8%	11.3%	27.5%***	25.6%***
Black	84.9%	86.1%	70.5%***	72.8%***
Hispanic	6.8%	6.6%	14.8%***	13.0%***
Other	3.3%	2.4%*	1.9%	1.7%***
Note: Statistical tests compare		SAFMR pre, SAFMR post	SAFMR pre, Comp pre	Comp pre, Comp post

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
*****, **, * indicates that the value is statistically different from the value in the same category with p-value of less than 0.001, 0.01, and 0.05 for the noted groups. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.**
Sources: HUD PIC administrative data extract (counts); Opportunity Index constructed for the evaluation

At 69.2 percent, a statistically significantly larger share of the SAFMR PHA pre SAFMRs observations include children (at 0.001 level), and a smaller share include seniors at 8.5 percent (at 0.001 level) and adults with disabilities at 30.0 percent (at 0.01 level) as compared to post-SAFMR PHA observations. SAFMR PHA pre-SAFMR observations have fewer households

with children, more households with adults age 62 or over, and fewer houses with a head or co-head with a disability than comparison PHA observations, but these differences are not statistically significant. The share of observations in these subgroups are also statistically significantly different within comparison PHA observations before and after SAFMRs at the 0.001 level.

A review of the averages of additional adjustment variables shows a number of statistically significantly differences. These differences confirm our modelling approach of adjusting for these characteristics using a multivariate regression, which we show below.

Regression results

In chapter 2, we hypothesize that HCV holders who move will be more likely to move to higher-opportunity neighborhoods as a result of SAFMRs. This is confirmed in our regression analysis. Recall that our overall index is the percentile rank, so it is on a 100-point scale where 50 means that one-half of all rental units have a lower opportunity score. After adjusting for the covariates included in Exhibit 5-23, SAFMRs result in a statistically significant 5.8-percentage point increase, among HCV holders that move to a new ZIP Code, in the share that move to a neighborhood that is at least 10 points (percentiles) higher in opportunity index. This finding is reported as the SAFMR PHA post-SAFMR coefficient in Model 1 in Exhibit 5-21. The pre-SAFMR share of mover households that make such a move is 31.2, so 5.8 percentage points is a substantial increase relative to the baseline share. Furthermore, as shown in Model 2, the estimated increase is 8.8 percentage points for households that move from lower-rent ratio neighborhoods. The increase for households starting in these lower-rent ratio neighborhoods is statistically significantly different from zero but is not statistically significantly different from the coefficient for those who start in moderate rent neighborhoods (p-value =0.38).

We report additional estimated coefficients for these models in Exhibit 5-23 and in Appendix B-2. These coefficients do not correspond to our research hypotheses, but the correlations they represent (adjusting for other variables in the model) may nonetheless be of interest. The Dallas and Plano 2011–2012 coefficient of 3.3 percentage points indicates that the experience in Dallas and Plano in these years where SAFMRs were implemented in the Dallas, TX HMFA only was of similar magnitude to the average effect in the subsequent years in both the Dallas, TX HMFA and in the additional demonstration PHAs. The post-SAFMR coefficient indicates a small (1.5 percentage point on a base of around 30 percent) average decline relative to the pre-SAFMR period among HCV holders that moved (whether subject to SAFMRs or not) in the share moving up a decile in opportunity index.[36] The robustness of this small decline and how factors external to SAFMRs relate to this broader decline in moves to opportunity are interesting avenues for additional research. Similarly, the conditional correlations reported in Appendix Exhibit B-2.5 between our outcomes and the other adjustment variables in are model do not inform this

[36] This is not in addition to the effect of the main coefficient of interest, which already "includes" this average decline in measuring the difference in differences. This coefficient is not a finding about SAFMRs, but rather an artifact of the period in which they were implemented.

evaluation's hypotheses but may suggest patterns of moving for different types of HCV holders that may be of interest for further research.

Models 3 and 4 reported in Exhibit 5-23 address whether HCV holders move to higher-opportunity neighborhoods as the result of SAMRs by examining the outcome of the change in the overall opportunity index. In Model 3, we find that SAFMRs result in a statistically significant increase of 3.34 points in the average change in overall index score for households that move from one ZIP Code to another. This is a relatively small shift in the average percentile rank of opportunity across all rental units in HCV holder's metropolitan areas. However, as reported in Exhibit 5-22 above, the baseline average for this change for HCV holders in SAFMR PHAs is 2.91. So introducing SAFMRs roughly doubles the gain in opportunity index experienced by HCV holders who move (from 2.91 to 6.25).

Exhibit 5-23: Differences-in-Differences Regression Results on Likelihood of Moving up, Conditional on Moving

		Model			
		1. Move up	2. Move up, by starting rent ratio	3. Change in overall index	4. Change in overall index by starting rent ratio
		Outcome			
Main variable	Interaction	Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
SAFMR PHA post-SAFMR		0.058** (0.018)		3.34** (1.140)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		0.088* (0.040) 0.057*** (0.015) 0.041 (0.022)		5.38 (3.31) 2.89* (1.45) 4.39* (2.01)
Dallas and Plano 2011–2012		0.033* (0.015)		2.22* (0.858)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		0.087*** (0.014) 0.022 (0.015) -0.030 (0.030)		5.50*** (1.00) 0.81 (1.04) 0.48 (1.69)
Post-SAFMR (2013–2017)		-0.015*** (0.003)		-1.78*** (0.24)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.024*** (0.006) -0.011* (0.004) -0.010 (0.009)		-1.92*** (0.40) -1.54*** (0.29) -2.08** (0.70)

Main variable	Interaction	Model			
		1. Move up	2. Move up, by starting rent ratio	3. Change in overall index	4. Change in overall index by starting rent ratio
		Outcome			
		Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
Year = 2011–2012		-0.006* (0.003)		-1.08*** (0.19)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.003 (0.005) -0.004 (0.004) -0.011 (0.008)		-0.77** (0.29) -0.91*** (0.22) -1.80** (0.50)
Starting rent ratio Lower (<90) Moderate (90–110) Higher (>110)			-- -0.055*** (0.015) -0.203*** (0.020)		-- -5.93*** (1.02) -22.22*** (1.61)
PHA fixed effects		Included	Included	Included	Included
Household characteristics		Appendix B-2.5	Appendix B-2.5	Appendix B-2.5	Appendix B-2.5
Intercept		0.326*** (0.007)	0.369*** (0.013)	1.49*** (0.32)	6.13*** (0.78)
Sample size (HH years)		561,870	561,870	561,870	561,870
Number of PHAs		151	151	151	151

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
*****, **, * indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of a distinct fixed effects linear regression with PHA fixed effects, with standard errors clustered by PHA.**

We next report findings from analyses that model effects of SAFMRs for key subgroups among households that move. Households with children that move are 6.7 percentage points more likely to move up at least 10 points in opportunity index as a result of SAFMRs, as reported in Exhibit 5-24, Regression A Model 5. This is statistically significantly greater than the 4.3 percentage point increase for households without children. At 9.1 percentage points, the point estimate for this coefficient is largest for households with children moving from lower-rent ZIP Codes (rent ratio <90). However, this coefficient is not statistically significantly different from the coefficients for households moving from other rent ratio categories. The change in overall index confirms this finding that families with children are more likely to relocate to higher opportunity neighborhoods under SAFMRs. Families with children move to neighborhoods that are on average 4.33 points higher in opportunity index as a result of SAFMRs, which is statistically significantly higher than the gain for households with no children.

Exhibit 5-24: Differences-in-Differences Regression Results on Likelihood of Moving up, Conditional on Moving—Key Subgroups

		Model			
		5. Move up	6. Move up, by starting rent ratio	7. Change in overall index	8. Change in overall index by starting rent ratio
		Outcome variable			
Main variable	Interaction	Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
Regression A: Families with children					
SAFMR PHA post-SAFMR with Children		0.067*** (0.019)		4.33*** (1.21)	
	Lower (<90) Moderate (90 -110) Higher (>110)		0.091* (0.046) 0.073*** (0.017) 0.048 (0.028)		5.75 (3.87) 4.61** (1.35) 5.00** (1.86)
SAFMR PHA post-SAFMR No Children		0.043** (0.015)		1.66 (1.02)	
Regression B: Seniors					
SAFMR PHA post-SAFMR with Seniors		0.034*** (0.010)		1.40 (0.95)	
	Lower (<90) Moderate (90 -110) Higher (>110)		0.045* (0.022) 0.042 (0.024) 0.035 (0.023)		2.97 (2.74) 0.64 (2.23) 4.36 (2.56)
SAFMR PHA post-SAFMR no Seniors		0.061** (0.019)		3.57** (1.16)	
Regression C: Head or co-head with disability					
SAFMR PHA post-SAFMR with Head or Co-head with Disability		0.045** (0.015)		2.25* (0.98)	
	Lower (<90) Moderate (90 -110) Higher (>110)		0.082* (0.033) 0.034* (0.015) 0.024 (0.020)		5.24* (2.55) 0.71 (1.60) 2.75 (2.61)
SAFMR PHA post-SAFMR no Head or Co-head with Disability		0.064** (0.020)		3.84** (1.25)	

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***,**,* indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and

0.05. Each column reports the results of three distinct fixed effects linear regressions—one for each subgroup interaction model—with PHA fixed effects, with standard errors clustered by PHA.

Our other two analysis subgroups, households with seniors and households with heads or co-heads with a disability, follow the same pattern of findings. These households are still more likely to move to a higher-opportunity neighborhood as a result of SAFMRs, but to a lesser extent than other households. Again, households starting in lower-rent ZIP Codes have larger coefficient estimates (but not statistically significantly different from other rent ratio categories).

5.2.2 Findings for Participant Location Outcomes for New HCV Holders

We next report findings for the location outcomes of HCV holders that first receive a voucher. One characteristic of this sample is that our analysis data does not include the ZIP Code in which these households live prior to receiving a voucher. As a result, we are unable to analyze the change in opportunity index as we did for the sample of movers in the prior section. Rather, our outcome variable here is the opportunity index of the ZIP Code of their initial HCV unit.

Summary Statistics

Exhibit 5-25 provides summary statistics for this analysis subsample that are included in the regression models presented in subsequent exhibits. In SAFMR PHAs before SAFMRs, the average overall opportunity index was 32.1, meaning that on average, households initially used a new voucher in a ZIP Code where approximately two thirds of all units in the metro area are in ZIP Codes with higher opportunity index scores. This share is statistically significantly different at the 0.01 level from the 35.4 average score for new households in SAFMR PHAs after the introduction of SAFMRs but is not statistically significantly different from the 33.8 average score in comparison PHAs prior to the introduction of SAFMRs. The average opportunity index for the ZIP Code in which new HCV holders first used their voucher decreases slightly in comparison PHAs in the post-SAFMR period relative to the pre-SAFMR period, but the difference is not statistically significant.

About 52.2 percent of the new HCV holders in SAFMR PHAs in the pre-SAFMR period are households that include children, a share that is not statistically significantly different from the shares in the other analysis categories. The share of new HCV holders in SAFMR PHAs that include a senior in the pre-SAFMR period is smaller (at 10.6 percent) than the share for both post-SAFMR PHA and comparison PHA observations. The share (32.0 percent in the pre-SAFMR period) with a head or co-head with a disability is similar across all four categories.

A review of the averages of the additional adjustment variables shows a number of statistically significant differences. These differences confirm our modelling approach of adjusting for these characteristics using a multivariate regression.

Exhibit 5-25: Summary Statistics of Regression Model Outcomes and Covariates—New HCV Holders

	Sample			
	SAFMR PHAs		Comparison PHAs	
Pre- or Post-SAFMRs	Pre	Post	Pre	Post
N (household years)	7,022	11,088	144,531	150,542
Outcome variable				
Overall opportunity index	32.1	35.4**	33.8	33.1
Analysis subgroups				
Household includes children	52.2%	50.4%	53.6%	51.1%***
Includes adult(s) 62 or older	10.6%	13.4%	12.2%	13.6%***
Includes head or co-head with disability	32.0%	31.9%	34.3%	35.5%**
Other household characteristics regression covariates				
Single female head of household	72.6%	69.8%	74.7%	72.3%***
Adults in household				
Age 18–24				
1	17.5%	14.9%**	18.8%	15.1%***
2 or more	2.0%	1.4%**	1.7%	1.4%***
Ages 25–61				
1	74.0%	71.8%	69.0%***	70.5%***
2 or more	7.4%	7.3%	7.7%	8.0%*
Ages 62 plus				
1	10.0%	12.4%	11.2%	12.6%***
2 or more	0.6%	1.0%	1.0%***	1.0%
Presence of children				
Under 5	26.1%	26.4%	29.5%*	27.0%***
5–12	33.9%	34.4%	33.3%	34.1%*
13–17	18.5%	16.6%	16.7%	15.6%***
Race/ethnicity				
White (non-Hispanic)	22.4%	27.6%**	36.5%***	36.1%
Black	73.4%	69.9%	61.2%***	61.4%
Hispanic	12.2%	12.8%	14.5%	12.7%***
Other	3.3%	2.3%*	2.1%	2.5%***
Note: Statistical tests compare		SAFMR pre, SAFMR post	SAFMR pre, Comp pre	Comp pre, Comp post

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
*****, **, * indicates that the value is statistically different from the value in the same category with p-value of less than 0.001, 0.01, and 0.05 for the noted groups. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.**
Sources: HUD Public and Indian Housing Information Center administrative data extract (counts). Opportunity Index constructed for the evaluation.

Regression Results

In chapter 2, we hypothesize that new HCV holders will be more likely to move to higher-opportunity neighborhoods as a result of the introduction of SAFMRs. Our analysis results indicate a suggestive, but not definitive, evidence for this hypothesis. As reported in Exhibit 5-26, we estimate a 2.7-point increase as a result of SAFMRs in the opportunity index score of neighborhoods in which new HCV holders initially use their voucher. With a p-value of 0.066, the result is not statistically significant at the 0.05 level. Analysis for key subgroups estimates a larger coefficient for households with children and smaller coefficients (but not negative) for seniors and adults with disabilities. None of these are significant the .05 level, however.

Exhibit 5-26: Differences-in-Differences Regression Results Overall Opportunity Index for All New Households and for Key Subgroups

		Model			
		9. Overall opportunity index, New HCV Holders	10. Overall opportunity index, New HCV Holders by Families with Children	11. Overall opportunity index, New HCV Holders by Seniors	12. Overall opportunity index, New HCV Holders by Head or Co-Head with disability
		Outcome			
Main variable	Interaction	Opportunity Index	Opportunity Index	Opportunity Index	Opportunity Index
SAFMR PHA post-SAFMR		2.71 (1.46)			
	In Subgroup All others		4.33 (2.79) 1.08 (1.23)	0.13 (2.17) 3.14* (1.55)	0.60 (1.04) 3.71 (1.98)
Dallas and Plano 2011–2012		-1.18 (0.98)			
	In Subgroup All others		2.92** (0.89) -5.32*** (0.98)	-4.06** (1.55) -0.77 (0.92)	-4.54*** (0.98) 0.27 (0.93)
post-SAFMR (2013–2017)		-1.20*** (0.29)			
	In Subgroup All others		-1.18*** (0.34) -1.23*** (0.34)	-0.22 (0.66) -1.33*** (0.29)	-1.01** (0.35) -1.30*** (0.33)
Year = 2011–2012		-0.02 (0.27)			
	In Subgroup All others		-0.16 (0.29) 0.11 (0.39)	1.12 (0.90) -0.18 (0.26)	-0.02 (0.33) -0.02 (0.32)
PHA fixed effects		Included	Included	Included	Included
Household characteristics		Appendix B-2.6	Appendix B-2.6	Appendix B-2.6	Appendix B-2.6
Intercept		32.20*** (0.65)	32.30*** (0.64)	32.29*** (0.65)	32.21*** (0.66)
Sample size (HH years)		313,120	313,120	313,120	313,120
Number of PHAs		150	150	150	150

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***,**,* indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of three distinct fixed effects linear regressions—one for each subgroup interaction model—with PHA fixed effects, with standard errors clustered by PHA.

5.2.3 Findings for Participant Location Outcomes for All HCV Holders

We next report findings for the location outcomes of all HCV holders.

Summary Statistics

Exhibit 5-27 provides summary statistics for the sample used in the regression models presented in subsequent exhibits. Before the introduction of SAFMRs, an average of 10.5 percent of HCV holders in SAFMR PHAs move in a given year. This moving rate is statistically significantly different from that of HCV holders in SAFMR PHAs after SAFMRs, but not from the rate in comparison PHAs in the before period. About one third of these moves, 3.3 percent of all households, are a move to a ZIP Code that is at least 10 points higher in opportunity index.

About 53.8 percent of HCV holders in SAFMR PHAs in the pre-SAFMR period are households that include children, a share that is not statistically significantly different from the similar shares in the comparison PHAs in the period before SAFMRs. Among HCV holders in SAFMR PHAs in the pre-SAFMR period, 18.8 percent include a senior, and 38.0 percent have a head or co-head with disabilities, which is similar to the share for comparison PHAs in both the before and after period, but statistically significantly less than the SAFMR post-SAFMRs sample.

A review of the averages of additional adjustment variables shows a number of statistically significant differences. These differences confirm our modelling approach of adjusting for these characteristics using a multivariate regression.

Exhibit 5-27: Summary Statistics of Regression Model Outcomes and Covariates—All HCV Holders

	Sample			
	SAFMR PHAs		Comparison PHAs	
Pre- or Post-SAFMRs	Pre	Post	Pre	Post
N (household years)	180,584	236,669	2,300,476	2,820,158
Outcome variables				
Move to a new ZIP Code	10.5%	8.6%***	11.0%	9.6%***
Move up at least 10 points in opportunity index	3.3%	3.1%	3.4%	2.9%***
Analysis subgroups				
Household includes children	53.8%	48.5%***	55.4%	50.5%***
Includes adult(s) 62 or older	18.8%	21.0%***	17.2%	19.9%***
Includes head or co-head with disability	38.0%	39.4%**	37.8%	40.2%***
Other household characteristics regression covariates				
Single female head of household	86.2%	83.6%***	83.9%*	82.0%***
Adults in household				
Age 18–24				
1	18.8%	18.1%*	17.2%**	15.6%***
2 or more	5.2%	4.9%	3.4%***	3.4%**
Ages 25–61				
1	73.6%	71.2%***	71.9%	70.8%***
2 or more	8.5%	8.7%	9.0%	9.7%***
Ages 62 plus				
1	16.9%	19.1%***	15.8%	18.5%***
2 or more	1.9%	1.8%	1.3%	1.5%***
Presence of children				
Under 5	16.6%	15.1%***	21.8%***	17.7%***
5–12	35.4%	31.8%***	38.1%*	35.0%***
13–17	30.3%	26.8%***	26.5%***	25.9%***
Race/ethnicity				
White (non-Hispanic)	19.0%	19.0%	38.3%***	35.9%***
Black	75.4%	75.9%	58.7%***	61.3%***
Hispanic	8.4%	9.0%	16.1%***	14.8%***
Other	5.4%	4.8%**	3.0%	2.9%*
Note: Statistical tests compare		SAFMR pre, SAFMR post	SAFMR pre, Comp pre	Comp pre, Comp post

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
***,**,* indicates that the value is statistically different from the value in the same category with p-value of less than 0.001, 0.01, and 0.05 for the noted groups. Statistical tests of differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD Public and Indian Housing Information Center administrative data extract (counts). Opportunity Index constructed for the evaluation.

Regression Results

In chapter 2, we hypothesized that the introduction of SAFMRs may increase the likelihood that HCV holders move to a new neighborhood. Our statistical analysis finds that this is not the case. Rather, HCV holders are slightly less likely to move after the introduction of SAFMRs, though this change is not statistically significant. As we report in Model 13 in Exhibit 5-26, we estimate a coefficient indicating a 0.7-percentage point decline in the likelihood that a household will make any move. With a p-value of 0.073, the coefficient is not statistically significant at the 0.05 level.

However, HCV holders are statistically significantly more likely to move to a ZIP Code that is at least 10 points higher in opportunity index as a result of the introduction of SAFMRs. We estimate a coefficient that indicates a 0.3-percentage point increase in the likelihood of making such a move. The baseline rate among SAFMR PHAs in the pre-SAFMR period is 3.3 percent, so a 0.3-percentage point increase represents an approximately 10-percent increase relative to the baseline.

Returning to the decrease in overall moving rate, in Model 14, households in lower-rent ZIP Codes are statistically significantly less likely to move as a result of the introduction of SAFMRs. The moving rate in our sample is 10.5 percent. The 0.8-percentage point change represents a 7-percent decrease relative to the baseline move rate. A review of the structure of the SAFMR demonstration, and the HCV program suggests a few reasons why this might be the case. First, the demonstration included an approximately 2-year hold harmless period, where payment standards were not decreased for the two subsequent annual income reviews for households that remained in the same unit. As discussed in section 1.4, the HOTMA tenant protections continue to provide HCV holders *who stay in place* relief from payment standard reductions (whether or not they are subject to SAFMRs). This relief could provide an incentive for HCV holders to stay in place, particularly in lower-rent ZIP Codes.

Exhibit 5-28: Differences-in-Differences Regression Results on Likelihood of Moving and Moving up—All HCV Holders

		Model			
		13. Move	14. Move, by starting rent ratio	15. Move up	16. Move up, by starting rent ratio
		Outcome variable			
Main variable	Interaction	Moved (Yes=1)	Moved=1 (Yes=1)	Moved up (10 percentile)=1	Moved up (10 percentile)=1
SAFMR PHA post-SAFMR		-0.007 (0.004)		0.003** (0.001)	
Starting rent ratio	Lower (<90)		-0.008*** (0.002)		0.005 (0.003)
	Moderate (90 -110)		-0.005 (0.005)		0.003* (0.002)
	Higher (>110)		-0.005 (0.006)		0.002 (0.002)

Main variable	Interaction	Model			
		13. Move	14. Move, by starting rent ratio	15. Move up	16. Move up, by starting rent ratio
		Outcome variable			
		Moved (Yes=1)	Moved=1 (Yes=1)	Moved up (10 percentile)=1	Moved up (10 percentile)=1
Dallas and Plano 2011–2012		-0.010*** (0.003)		-0.001 (0.001)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		-0.015** (0.005) -0.008 (0.004) -0.018*** (0.004)		0.003 (0.002) 0.000 (0.001) -0.009*** (0.002)
Post-SAFMR (2013–2017)		-0.013** (0.004)		-0.004*** (0.001)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.012*** (0.003) -0.009*** (0.003) -0.009* (0.004)		-0.006*** (0.001) -0.004*** (0.001) -0.002 (0.001)
Year = 2011–2012		0.005 (0.003)		0.001 (0.001)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		0.002 (0.004) 0.006* (0.003) 0.006 (0.005)		0.001 (0.002) 0.002 (0.001) 0.000 (0.001)
Starting rent ratio Lower (<90) Moderate (90 -110) Higher (>110)			-- -0.004 (0.003) -0.014*** (0.003)		-- -0.007*** (0.002) -0.026*** (0.002)
PHA fixed effects		Included	Included	Included	Included
Household characteristics		Appendix B-2.7	Appendix B-2.7	Appendix B-2.7	Appendix B-2.7
Intercept		0.068*** (0.003)	0.071*** (0.004)	0.023*** (0.001)	0.029*** (0.001)
Sample size (HH years)		5,537,887	5,537,887	5,537,887	5,537,887
Number of PHAs		151	151	151	151

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
*****, **, * indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of a distinct fixed effects linear regression with PHA fixed effects, with standard errors clustered by PHA.**

We do not find meaningful differences in the propensity to move for families with children compared to those without, as reported in Exhibit 5-29. Both have similar, statistically insignificant, declines in the rate of moving. However, we see that families with children are significantly more likely to move to a higher opportunity neighborhood, with somewhat higher (but not statistically significantly different) coefficients for families originating in lower and moderate rent ZIP Codes. HCV holder households with a head or co-head with a disability are less likely to move as a result of SAFMRs, but the difference is not statistically significant as compared to the coefficient for other households. Both households that include a senior or that have a head or co-head with a disability have coefficients close to zero in models of whether households move up to a higher opportunity neighborhoods. They are neither more nor less likely to move up in the opportunity index as a result of SAFMRs.

Exhibit 5-29: Differences-in-Differences Regression Results on Likelihood of Moving up—Key Subgroups

		Model			
		17. Move	18. Move, by starting rent ratio	19. Move up	20. Move up, by starting rent ratio
		Outcome variable			
Main variable	Interaction	Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
Regression A: Families with children					
SAFMR PHA post-SAFMR with Children		-0.006 (0.005)		0.005* (0.002)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.009 (0.006) -0.002 (0.007) -0.005 (0.007)		0.007 (0.007) 0.008** (0.003) 0.004 (0.002)
SAFMR PHA post-SAFMR No Children		-0.007* (0.004)		0.000 (0.001)	
Regression B: Seniors					
SAFMR PHA post-SAFMR with Seniors		-0.008 (0.005)		-0.001 (0.003)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.008 (0.005) -0.009 (0.005) -0.007 (0.005)		0.002 (0.004) -0.001 (0.003) -0.001 (0.003)
SAFMR PHA post-SAFMR no Seniors		-0.006 (0.004)		0.004** (0.001)	

Main variable	Interaction	Model			
		17. Move	18. Move, by starting rent ratio	19. Move up	20. Move up, by starting rent ratio
		Outcome variable			
		Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
Regression C: Head or co-head with disability					
SAFMR PHA post-SAFMR with Head or Co-head with Disability		-0.009*** (0.003)		0.000 (0.001)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.009** (0.003) -0.009* (0.004) -0.006 (0.004)		0.003 (0.003) -0.001 (0.002) 0.000 (0.003)
SAFMR PHA post-SAFMR no Head or Co-head with Disability		-0.005 (0.005)		0.004*** (0.001)	

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.
*****,**,* indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of three distinct fixed effects linear regressions—one for each subgroup interaction model—with PHA fixed effects, with standard errors clustered by PHA.**

5.3 Summary

In summary, it appears that SAFMRs are working as intended—increasing *access* to units in higher-opportunity areas.

This finding that SAFMRs are working as intended is borne out when looking at both rents and at opportunity measures. In practice it also appears that as HCV holders move to new units (whether through new entry into the HCV program or existing voucher recipients moving to a new unit in a different ZIP Code), they are more likely to move to higher-opportunity areas compared with pre-SAFMR moves. No similar changes are observed in a broad group of comparison PHAs where SAFMRs were not implemented. This is borne out both in the cross-tabulations and in the regressions that adjust for other household and PHA characteristics.

The areas where new and moving HCV holders locate after the introduction of SAFMRs change in terms of other neighborhood characteristics, as well. In particular, households moving to a different ZIP Code after the introduction of SAFMRs are more likely to locate in neighborhoods that have a lower share of minority residents and a higher share of adults with a college degree.

6. HCV Holder and Landlord Experiences with SAFMRs

The Phase 2 site visits included interviews with 59 Housing Choice Voucher (HCV) holders and 34 landlords with rental properties within the jurisdiction of one of the SAFMR PHAs. Among the 59 HCV holders interviewed, 24 (41 percent) received a voucher before the shift to SAFMRs and reported moving after SAFMRs were implemented; 23 (39 percent) received a voucher after SAFMRs were implemented; and 12 (20 percent) had rented with a voucher before SAFMRs were implemented and did not move under the new policy.

As described in chapter 3, we used site visit interviews with landlords and HCV holders to address several of the study's research questions:

- How did the change to SAFMRs affect HCV holders' experience with the HCV program?
- What effects did it have on HCV holders' rent burdens?
- Did HCV holders understand how the change affected their housing options?
- What were HCV holders' perceptions of the change?
- Did the change to SAFMRs influence HCV holders' success in using their vouchers to rent a unit?
- Were HCV holders successful in using vouchers to move to higher-opportunity areas?
- To what extent were landlords aware of the change in the HCV program?
- How did landlords perceive this change?

During both the Phase 1 and Phase 2 site visits, we also held discussions with each of the SAFMR PHAs. During these interviews, we asked for their perspectives on SAFMRs' impact on HCV holders and landlords. Relevant insights from these interviews are discussed in this chapter. In addition, chapter 7 provides findings from Phase 1 and Phase 2 interviews with PHAs on factors that affected SAFMR implementation.

We begin this chapter by reporting on the cross-site findings from our conversations with HCV holders about their experiences with SAFMRs. In the second section, we report on landlords' experiences with the switch to SAFMRs. Section 6.3 documents PHA perspectives on SAFMRs' impact on HCV holders.

6.1 HCV Holders' Experience with SAFMRs

We conducted the interviews with 59 HCV holders to better understand how HCV holders experienced the shift to SAFMRs and how the shift influenced their decision-making. For purposes of understanding their experiences, we divided the interviewees into three groups.

- **Post-SAFMR movers:** We classify the 24 HCV holders who received a voucher before the shift to SAFMRs and reported moving after SAFMRs were implemented as "post-

SAFMR movers." These HCV holders experienced the HCV program both before and after SAFMRs were implemented and were able to describe their experience of searching for a new unit, often in higher-rent areas not previously accessible to them.

- **New HCV holders:** We classify the 23 HCV holders who received a voucher after SAFMRs were implemented as "new HCV holders." These HCV holders did not have experience with FMRs, but all have moved either at the time of or since receiving their voucher, and so were also able to report on their experience with searching for a unit under SAFMRs.
- **Stayers:** Last, we interviewed 12 HCV holders who had rented with a HCV before SAFMRs were implemented and did not move under the new policy, a group we classify as "stayers." These HCV holders described their satisfaction with their current neighborhood but also, in some cases, efforts to search for a unit that ultimately proved unsuccessful.

The majority of HCV holders interviewed lived in moderate- (26 of 59 HCV holders) or lower-opportunity neighborhoods (21 of 59 HCV holders) at the time of the interview, while 10 lived in higher-opportunity neighborhoods. However, this varied by group. Among new HCV holders interviewed (who received their HCV after SAFMRs were implemented), 7 of the 23 were renting a unit in a higher-opportunity neighborhood and 10 of the 23 in a moderate-opportunity neighborhood. Just 5 of the 23 chose to rent a unit in a lower-opportunity neighborhood. Post-SAFMR movers were able to access higher-opportunity neighborhoods once SAFMRs were implemented. Among post-SAFMR movers, 3 of the 24 HCV holders were able to move into higher-opportunity neighborhoods and 11 into moderate-opportunity neighborhoods. All the stayers who were interviewed lived in lower-opportunity neighborhoods (7 of 12 HCV holders) or moderate-opportunity neighborhoods (5 of 12); none were located in higher-opportunity neighborhoods.

Exhibit 6-1: Voucher Holders by Move Type and Neighborhood Type

	All Tenants Interviewed	Higher-Opportunity Neighborhood	Moderate-Opportunity Neighborhood	Lower-Opportunity Neighborhood	Neighborhood Type Unknown
Post-SAFMR Movers	24	3	11	9	1
New HCV Holders	23	7	10	5	1
Stayers	12	0	5	7	0
All Tenants Interviewed	**59**	**10**	**26**	**21**	**2**

Note: Location information was missing for two households, so we are unable to classify their neighborhood type.

Where we found differences between these post-SAFMR movers, new HCV holders, and stayers, we describe their experiences separately. We also report on PHAs' perceptions of the influence SAFMRs had on HCV holders. In general, we learned from both PHAs and HCV

holders themselves that, consistent with literature on household location decisions described in chapter 5, HCV holders select housing based on a variety of factors, most of which are unrelated to the factors used to define an opportunity neighborhood for this study: safety, quality of education, access to transportation, and access to employment. As in this literature, our findings suggest that proximity to family and other established networks are also important, as are personal situations such as advanced age and/or disability.

Importantly, our findings suggest that HCV holders have quite a bit less freedom in making housing choices than might be expected. HCV holders' moves were often involuntary, and their housing unit selection was often based on immediate practical concerns such as identifying a landlord who would accept a voucher or finding a unit within a deadline rather than loftier goals such as access to better opportunity. Despite this, we did find HCV holders who took advantage of SAFMRs to try to move to better neighborhoods. Not all of them succeeded, but some did.

6.1.1 What factors did HCV holders cite as influencing their decision to move or not to move? To what extent did the shift to SAFMRs influence their moving decisions?

To understand the role that SAFMRs may have played in influencing HCV holders' decision-making, it is important to first explore how and why they chose to move and how they selected the neighborhoods in which they live. We examined motivations for pre-SAFMR voucher holders and new HCV holders separately, to explore whether reasons for selecting housing varied between these two groups of participants.

In our interviews with HCV holders, we asked about the factors that contributed to the most recent decision to move and the reasons they chose their current neighborhood. SAFMRs were only one of the many factors that HCV holders considered in making these decisions. Among the HCV holders we interviewed, the shift to SAFMRs appears to have had a modest effect on HCV holders' moving decisions, which were influenced more heavily by other factors.

- ***While not the primary factor prompting most moves, SAFMRs appear to have had a range of effects on the moving decisions of some HCV holders.***

Only two HCV holders (one new HCV holder and one post-SAFMR mover) reported SAFMRs as the primary reason for their move. But other HCV holders (five new HCV holders and three post-SAFMR movers) recognized that SAFMRS had some influence in their decision to move, in both positive and negative ways. HCV holders reported that SAFMRs had one of three impacts on their decision to move. Among HCV holders who decided to move for a reason unrelated to SAFMRs, some took advantage of the higher payment standards under SAFMRs to expand their search area to include units in higher opportunity areas. Other HCV holders reported that once they became aware of SAFMRs they intentionally tried to move to an opportunity area. On the negative side, SAFMRs were reported as a contributing factor in involuntary moves, such as when the payment standard decreased and the HCV holder could no longer afford the unit (reported by two post-SAFMR movers).

- ***Most moves were prompted by factors outside of the HCV holders' control.***

Forty-four of the 47 HCV holders interviewed who were classified as either "new HCV holders" or "post-SAFMR movers" identified one or more primary reasons for selecting their new unit or moving. The primary factors for HCV holders' decisions to move tended to be outside of HCV holders' control rather than intentional decisions about moving. These external factors included circumstances such as being forced to leave by landlords, their rental unit becoming too expensive (for example, because the landlord requested a rent increase or their voucher size changed making the rent too expensive), or selecting a less desirable unit to avoid a newly issued voucher expiring. Overall, issues with landlords were the most commonly reported primary reason HCV holders moved, cited by 18 HCV holders. As noted previously, in 2 of these 18 cases, HCV holders reported that this was related to SAFMRs.

Among the 23 new HCV holders, 6 reported their primary reason for their most recent move was forced relocation imposed by the landlord. This was driven by landlords discontinuing their participation in the HCV program (reported by three), the HCV holder not being allowed to lease in place (reported by two), and landlords removing HCV holders from housing without explanation (reported by one). Similarly, among the 24 post-SAFMR movers, 5 cited landlords selling the property as the primary reason for their move, 3 cited landlords discontinuing their participation in the HCV program, and 2 reported landlords removing HCV holders from housing without explanation as the primary reason for their move. Only two HCV holders (one new HCV holder and one post-SAFMR mover) said they left voluntarily because they disliked the landlord.

The main difference between new HCV holders and post-SAFMR movers who cited landlord-related reasons for moving was related to affordability. Eight post-SAFMR movers moved because the landlord requested a rent increase or their voucher size changed, making their rent more expensive. In contrast, only one new HCV holder reported their landlord requesting a rent increase or their voucher size changing as the primary reason for moving. This difference may be a reflection of payment standards decreasing in lower-opportunity areas after SAFMRs were implemented: five of these eight post-SAFMR movers were in lower-opportunity areas.

- ***When moving, many HCV holders reported a desire to choose neighborhoods that provide greater opportunity.***

A number of HCV holders (23) who moved or received their first voucher after SAFMRs were implemented reported a desire to be in a neighborhood that provided them greater opportunity. In these cases, HCV holders reported a desire to be within a good school district (reported by 10), proximity to family members (reported by 9), and safety of the neighborhood (reported by 7) as the primary reasons for selecting where to move. While some HCV holders cited overall location (reported by one) and transportation (reported by two) as factors in their decision to move, these were not commonly reported as the primary factors considered when deciding to move. These findings differ slightly between new HCV holders and post-SAFMR movers for only one primary reason: the desire to be within a good school district. This was a more common reason

for moving among new HCV holders (reported by eight) than among post-SAFMR movers (reported by two).

Personal needs also impacted HCV holders' decisions to move. In these cases, the desire to move to a location that could accommodate a disability or was located close to a preferred medical provider was the primary consideration when deciding where to move (reported by two new HCV holders and two post-SAFMR movers).

> *"I moved to my current location because it is a nice neighborhood and I like the schools."*
> *—HCV holder in Dallas, moderate-opportunity neighborhood*

- ***The primary reason HCV holders offered for not moving was satisfaction with their current neighborhood.***

All 12 HCV holders who stayed in their rental units after SAFMRs were implemented provided one or more primary reasons for not moving. While most HCV holders who voluntarily moved (as opposed to moving for reasons outside of their control) did so because of their desire to live in a different neighborhood, most HCV holders who stayed in their rental units did so because they were satisfied with their current neighborhood (reported by 10). It is interesting to note that these stayers reported satisfaction with their neighborhood in all types of neighborhoods, including neighborhoods we classify as lower-opportunity in this study (5 of 12; the remaining 7 HCV holders were in moderate-opportunity areas). Other primary reasons that HCV holders reported for staying in their units included being satisfied with their overall location (reported by four), a desire for their children to stay in the same school(s) (reported by three), being close to transportation (reported by two), and proximity to family (reported by one).

> *"There's nothing I don't like about my neighborhood. It's in a great location! It's not too far from the city and the bus service runs well. The location is right off the expressway and… very convenient."*
> *—HCV holder in Cook County, medium-opportunity neighborhood*

- ***Reasons for staying varied for different types of households.***

Among households that had a voucher before introduction of SAFMRs and did not move thereafter, the primary reasons for staying varied depending on household composition. The desire to remain in the same school district was the primary factor for staying among parents with minor children (reported by three of four). On the other hand, among households that are headed or co-headed by adults with disabilities and households with seniors, satisfaction with their overall location within the city and convenient transportation were the primary reasons for not moving (reported by five of eight). Factors related to satisfaction with their current unit's quality or cost were the second most common reasons HCV holders reported staying in their rental units after SAFMRs were implemented (reported by three).

While personal needs were not reported as a primary reason for staying in a unit, about a third of HCV holders who did not move reported their advanced age or a disability as a factor in their decision to stay (reported by four).

Correspondingly, staff at most of the PHAs we visited noted that elderly HCV holders or those with disabilities were less likely to search for new units in higher-opportunity neighborhoods because their current units were in close proximity to medical providers and other resources. As a result, when payment standards declined in lower-rent ZIP Codes, those tenants sometimes were required to pay higher rents. At least two PHAs, Dallas and Long Beach, reported that some senior or HCV holders with disabilities left the program because of the increased HCV holder shares of rent for units in areas with declining payment standards.

One way of interpreting these data is that in some sense, what constitutes a higher-opportunity neighborhood is in the eye of the beholder. Senior HCV holders or those with disabilities may view the amenities available in current neighborhoods as more valuable than those offered by neighborhoods with higher rents and higher values for our definition of opportunities. It may also simply be that moving to different neighborhoods is more difficult for households headed or co-headed by adults with disabilities and households with seniors. Moving can also introduce a level of discontinuity (for example, with respect to service networks) and uncertainty (for example, about whether a new neighborhood would have the services residents are seeking), which could be a deterrent for those who feel their needs are already being met adequately where they are.

- ***Homelessness prior to receiving a voucher may be related to HCV holders' neighborhood selection.***

Among the HCV holders we interviewed, eight were homeless immediately prior to receiving their first HCV. Six of these were new HCV holders (26 percent of new HCV holders), and two were post-SAFMR movers or stayers (5 percent). In exploring the types of neighborhoods these previously homeless HCV holders selected, we found that six of the eight selected units in lower-opportunity neighborhoods. One of the new HCV holders was in a higher-opportunity neighborhood, and one post-SAFMR mover was residing in a moderate-opportunity area.

Virtually all the previously homeless HCV holders we interviewed described renting the first unit they could find. Among other potential explanations, challenges related to homelessness may make it more difficult to search for a unit, and landlords may be less receptive to accepting tenants without a previous rental history. One previously homeless HCV holder we interviewed didn't have a car, and primarily searched for a unit by walking around neighborhoods and calling landlords to find out whether they accepted vouchers. Another was referred to a website to find an apartment, but did not have access to a computer, so she took the only unit she could find that accepted HCV holders to avoid losing her voucher.

Some landlords advertise to people living in homeless shelters, and these landlords' properties are probably more likely to be in lower-opportunity areas. In addition, the consequence of letting a voucher expire may be higher for a homeless person than for someone housed, so a homeless person may be more willing to settle for a unit in a lower-opportunity area. For example, one

HCV holder we interviewed was living in a shelter and took the only unit she could afford because her voucher was expiring.

- ***Factors for considering a move and searching for a new rental unit differed from the primary reasons HCV holders initially decided to move.***

Sixteen HCV holders reported a desire to move—either as a subsequent move from the rental unit they selected after SAFMR was implemented or as an initial move from the rental unit selected before SAFMRs were implemented. Some of these were in the midst of the search process at the time of their interview; others had considered moving but ultimately decided against it. The primary factors prompting HCV holders to consider a move were dissatisfaction with their current rental unit (reported by seven), such as its size, cost, or quality, or their location (reported by six). This is in contrast to the primary reasons both new HCV holders and post-SAFMR movers reported moving after SAFMRs were implemented, which were predominantly related to the landlord. A small number of HCV holders reported their primary reason for considering a move was due to safety concerns or a desire to be closer to employment opportunities. Only two HCV holders reported that they were involuntarily searching for a new unit because their landlord did not plan to continue to accept their HCV.

Personal needs related to age or disability were not reported as a primary reason for considering a move by any HCV holders. However, two HCV holders reported that their disability or the disability of a family member, would influence their decision on where to move in the event they decided to move.

- ***HCV holders living in moderate- and higher-opportunity neighborhoods more frequently had positive perceptions of their neighborhoods compared to HCV holders living in lower opportunity areas.***

To explore how well the study definition of a higher-opportunity neighborhood matched with HCV holder perceptions of neighborhood quality, we compared the two. Not surprisingly, we found that HCV holders living in higher- or moderate-opportunity areas tended to have more positive perceptions of their neighborhoods than HCV holders living in lower opportunity neighborhoods. About four-fifths of HCV holders in moderate or higher-opportunity neighborhoods (25 of 31) viewed their neighborhoods positively while just over half of HCV holders in lower-opportunity neighborhoods did so (14 of 26).[37]

Regardless of whether their perception was positive or negative, HCV holders emphasized the quality of their units and safety as significant factors in their perception of their current living situation. For example, about one third of HCV holders who had negative perceptions of their unit cited safety as a reason for their perception (reported by 6 of 18). Conversely, about one-fifth of HCV holders with positive overall perceptions of their neighborhood cited feeling safe in their neighborhood as a reason for their positive assessment (reported by 8 of 41). Seven HCV

[37] The neighborhood type for two HCV holders in the sample could not be identified because of incomplete address information.

holders who had positive perceptions of their neighborhood appreciated that their neighborhood was "quiet," which may overlap with a feeling of safety. While positive perceptions of safety were reported across all neighborhood opportunity classifications, negative perceptions of safety were concentrated among lower- and moderate- opportunity areas.

Interestingly, HCV holders' perceptions of their neighborhood schools were not very closely aligned with the study definition of a higher-opportunity neighborhood. Of the 36 HCV holders who reported living in a family or being parents of a minor, 7 reported that they had a positive perception of their neighborhood because of the schools. Of these seven, only one was in a higher-opportunity area (three in lower, three in moderate). None of the nine HCV holders who reported living in a family or being parents of a minor who had a negative perception of their neighborhoods commented on the schools being a factor.

6.1.2 What effects did SAFMRs have on HCV holders' rent burdens?

- ***Very few HCV holders reported that SAFMRs had an impact on their rent burden. As would be expected, when SAFMRs were reported to have impacted rent burdens, the HCV holders affected lived in lower rent areas.***

Among the HCV holders we interviewed, very few reported that SAFMRs negatively impacted their rent burdens. Although 30 HCV holders reported a change in rent burden, only two noted that this was a result of decreasing payment standards for their ZIP Code. Both of these HCV holders were living in lower-rent and lower-opportunity neighborhoods and received their voucher before SAFMRs were implemented. Among the remainder of HCV holders who reported a change in their rent burden, these changes were due to factors unrelated to SAFMRs. For example, more than three-fourths of these HCV holders (23) reported that their rent changed for reasons such as changes in family composition, changes in household income, changes in voucher size, or annual rent increases.

6.1.3 Did HCV holders understand how SAFMRs affected their housing options?

- ***HCV holders who either received their initial voucher after SAFMR implementation, or moved after that occurred, were much more likely to be aware of and understand the policy than those who had not who received their vouchers earlier and did not move.***

In general, PHAs made fairly modest efforts to educate HCV holders about SAFMRs. Most of these efforts were concentrated in the first year of SAFMR implementation, and included creating new briefing materials, such as a chart of payment standards by unit size and ZIP Code, and a brief explanatory letter. These materials were either mailed to HCV holders as part of the reexamination packet or provided to tenants during their annual reexamination briefing. No PHA reported holding additional tenant briefings to explain SAFMRs beyond the briefings already planned. Long Beach and Mamaroneck noted that attendance at briefings was initially higher than usual because more households were requesting moves.

Despite these modest efforts, most HCV holders we interviewed were aware of the SAFMR policy and about one-half understood it. For the purpose of analysis, awareness was defined as having heard about the policy prior to the interview and understanding was defined as

comprehending that payment standards vary by ZIP Code.[38] Overall, about two-thirds of HCV holders interviewed (39 of 59) were aware of SAFMRs and about one-half (29 HCV holders) understood that payment standards varied based on ZIP Code. Several HCV holders commented on their understanding by stating that "nicer" areas cost more money to live in. Although the majority of HCV holders were aware of SAFMRs, none were able to explain why the change to SAFMRs occurred.

Awareness of SAFMRs varied depending on move history and family composition. As might be expected, new HCV holders and post-SAFMR movers were much more likely to be aware of and understand the policy than were HCV holders who received a voucher pre-SAFMR and did not move ("stayers"). While over four-fifths of new HCV holders (20 of 23 HCV holders) and over three-fifths of post-SAFMR movers (15 of 24 HCV holders) were aware of the policy, only one-third of stayers (4 of 12) were aware of the policy.

Understanding of the policy was most concentrated among new HCV holders: 90 percent of new HCV holders who were aware of the policy understood it (18 of 20 HCV holders) whereas 60 percent of post-SAFMR movers (9 of 15 HCV holders) and 50 percent of stayers (2 of 4 HCV holders) who were aware of the policy understood it.

PHAs also reported that new families generally found it easier to understand SAFMRs than did existing HCV holders, perhaps because new families did not have prior experience with a different payment standard process. Similarly, Plano noted that port-ins had difficulty understanding SAFMRs, because it was a change from the program to which they were accustomed.

- ***Most HCV holders depended on the PHA as their source of information about SAFMRs.***

Of the HCV holders who were aware of the SAFMR policy, almost all learned about the policy from the PHA (36 of 39) and about half reported they were satisfied with the PHA's quality of communication, such as answering questions and providing clear explanations about the policy. Most HCV holders reported learning about the SAFMR policy from in-person group or individual meetings with PHA staff members. HCV holders described getting a list of zip codes with payment standards or a map with this information to look at. A few other HCV holders (five total) reported learning about the policy from their annual recertification or receiving information about SAFMRs in the mail.

A few HCV holders reported learning about SAFMRs from sources other than the PHA. For less than one-half of these HCV holders (three of nine), a source other than the PHA was their only source of information about SAFMR.[39] The most common alternative source of information on the policy was other people who were familiar with the HCV program, such as friends and

[38] Understanding did not include comprehension of why the policy was implemented.

[39] Six HCV holders reported learning about the SAFMR policy from both the PHA and from alternative sources.

family, neighbors or community members, or individuals more directly related to the PHA such as landlords or a non-profit.

HCV holders who were not satisfied with the PHA's communication about the SAFMR policy often found the explanations provided about SAFMRs either confusing (reported by six) or not detailed enough (reported by five). Some HCV holders felt they could have benefited from more direct communication with PHA staff about the switch (reported by four), or additional information about landlords and properties that accept HCVs (reported by three). A few HCV holders acknowledged that information about the policy may have been in the information packets received from the PHA that they did not fully read, indicating that indirect communication included in large recertification packets may not be an effective means to distribute information about the policy for all tenants.

- ***Not all HCV holders had a positive opinion of SAFMRs; HCV holders with positive perceptions saw it as helping them search for housing in higher-rent neighborhoods.***

HCV holders were split in their opinions about SAFMRs. Half of those who expressed opinions had negative perceptions (8 of 16), while one-half had positive perceptions of the policy. In line with the intended purpose of SAFMRs, HCV holders who had a positive perception of SAFMR viewed the policy as offering them the opportunity to search for and find units in better neighborhoods.

HCV holders who had negative opinions of the policy had one or both of two main concerns. Some believed that the new payment standards do not accurately represent the local housing market, a perception that is not necessarily a consequence of SAFMRs. Other HCV holders were concerned that the SAFMR policy made it more expensive for lower-income families to continue to live in the areas where they had been living. HCV holders sometimes also noted that moving to higher-opportunity areas, when possible, also meant moving to smaller or lower-quality units than they could rent in other areas.

- ***Many HCV holders searched for units in higher-rent areas, although this was not always related to SAFMRs. There were several reasons why HCV holders said the SAFMR policy did not affect where they searched.***

While SAFMRs rarely prompted HCV holders to consider a move as noted above, SAFMRs did influence where a few voucher holders searched. Five HCV holders reported that they searched for a new unit in a higher-opportunity area as a direct result of SAFMRs, using a list of ZIP codes provided by the PHA, saying that SAFMRs helped them decide where to live. Two of these three HCV holders ultimately moved to a higher-opportunity area; one could not find a landlord in higher-rent neighborhoods who would rent to them. The remaining two searched in higher-rent neighborhoods but decided not to move. One HCV holder could not find an available unit; the other decided not to move because he believed his share of the rent would be higher if he moved.

There are a number of potential reasons why SAFMRs may not have influenced the search area of more HCV holders. As noted above, not all HCV holders interviewed were aware of SAFMRs

(one-third were unaware), and fewer understood that SAFMRs meant that payment standards now vary based on ZIP code (about one-half understood this). Presumably, SAFMRs did not affect the search process or experience of HCV holders who did not understand the policy.

Other HCV holders had specific target locations that were unrelated to SAFMRs and confined their search to these areas. Among other reasons, they wanted to live near family who helped with childcare or transportation; they wanted to avoid forcing their children to change schools; and they were simply more comfortable looking in areas they were familiar with.

Access to public transportation not only affected HCV holders' choice of neighborhoods; for some, it also affected their search process. Two HCV holders reported that higher-rent areas were not accessible by public transportation, and that lack of access to a car prevented them from searching in these areas. PHAs shared the perception that access to transportation was important to some HCV holders. For example, Chattanooga reported that HCV holders initially searched in higher-rent areas. However, because those areas lack public transportation, ultimately HCV holders without transportation chose to live in mid-range neighborhoods that had good access to bus transportation. Mamaroneck reported that other costs in addition to transportation, such as higher childcare costs, were a barrier to families moving to higher-opportunity neighborhoods.

PHAs reported other reasons why SAFMRs did not affect where HCV holders chose to live. For example, PHAs noted that many HCV holders searched in higher-opportunity areas but that some ultimately stayed in the same areas because of established networks.

Some HCV holders reported that they searched for their unit in a broad area that included a variety of neighborhood types, but this was sometimes driven by challenges finding a unit generally, and not an intention to search in higher-rent areas. Some HCV holders reported being rejected from so many units because of their use of a voucher that they found they had to first select a landlord or building that would accept vouchers, and then choose a unit based on what was available from that landlord or building.

- ***Whether the decision to search for units in higher-rent areas was affected by their knowledge of the SAFMR policy or not, HCV holders tended to struggle to find units in higher-rent areas.***

Although SAFMRs did not dictate the search area for many HCV holders we interviewed, it did enable a number of them to search for units in higher-rent neighborhoods. Although some of these HCV holders found units in higher-rent neighborhoods, they almost universally reported challenges with the search process in these types of neighborhoods.

From the HCV holder perspective, encountering landlords who refused to accept HCV holders was a common experience – more than two-thirds of post-SAFMR movers and new HCV holders reported this. Some HCV holders singled out landlords in higher-rent areas for their refusal to accept vouchers, but HCV holders also had this experience in lower-rent areas. This was less common in Mamaroneck and Cook County, where discrimination based on the use of a voucher is illegal, but not unknown.

Often HCV holders reported that landlords rejected vouchers as a matter of policy, in some cases because of poor prior experience with the local PHA; in other cases, HCV holders reported that the payment standard was too low to cover the rent. One HCV holder even reported that a landlord got upset about people with vouchers calling to inquire about available units, believing that HCV holders couldn't cover the rent. Other tenants reported that they were rejected by landlords in higher-rent areas because their income was too low, or because their credit and/or rental histories were deemed unsatisfactory.

In some cases, the challenges they encountered meant that HCV holders who searched for new units eventually decided not to move.

PHAs generally provided limited assistance to HCV holders interested in moving to higher-opportunity neighborhoods. Given the difficulty HCV holders encountered in finding rental units, it is not surprising that some HCV holders commented that they would have liked more assistance from the PHA in the search process generally, and particularly in finding landlords who would accept vouchers.

- ***Even when HCV holders searched for units in higher-rent areas, they sometimes ultimately selected lower-rent areas.***

Housing costs (including utilities) were an important factor in some HCV holders' decision not to select a unit in a higher-rent area. Several tenants reported that the PHA portion of the rent was too low in higher-rent areas, or that their income would not cover the rent in higher-rent areas. Other tenants were looking for units that included heat and/or other utilities and found them in lower-rent areas.

Some HCV holders decided against higher-rent areas because of differences in the types of units available. These people reported that units in higher-rent areas tended to be smaller, and they could get either a larger unit or a house instead of an apartment in a lower-rent area.

6.2 Impacts on Landlords

During the second round of site visits, we interviewed landlords to learn whether they were aware of the change in the HCV program and whether this affected both their willingness to rent to HCV holders and the level at which they set rents.

We interviewed 34 landlords in total: 5 each in every city except Plano, where we interviewed 4 landlords. Of these, a plurality (13) owned properties in a mix of neighborhood types. Six owned properties only in higher-opportunity neighborhoods; seven had properties only in moderate-opportunity neighborhoods; and three of the landlords owned properties only in lower-opportunity neighborhoods. Five landlords could not be classified by neighborhood type. (For a summary of landlords by city and neighborhood type, see Exhibit 3-3.)

We also gathered information about the impact SAFMRs had on landlords from PHA staff members, who were interviewed during both Phase 1 and Phase 2 site visits about their perceptions.

In general, we found that a sizable number of landlords were not aware of the new policy, and that landlords serving HCV holders in some PHAs' jurisdictions were more likely to be aware of SAFMRs than landlords in other PHAs' jurisdictions. We also found that most landlords continued to rent to HCV holders after SAFMR implementation. Although two PHAs reported losing landlords, in some cities, PHAs reported that the number of landlords participating in the program increased. Few landlords we interviewed had negative perceptions of the policy, and the main concern of those that did was that SAFMRs did not accurately reflect market rents, a perception that may or may not be a consequence of SAFMRs.

The main findings are summarized in the bullets below, followed by more detailed descriptions.

6.2.1 To what extent were landlords—including those participating in the HCV program and potential new participants—aware of the change in the HCV program?

- ***With one exception, PHAs conducted only limited landlord outreach with the implementation of SAFMRs.***

After the introduction of the SAFMRs, PHAs generally did not make extensive additional efforts to recruit new landlords in higher-opportunity areas, with the exception of Long Beach. Long Beach did a number of things to recruit new landlords, including sending letters, holding monthly landlord meetings and specific events for landlords in higher-opportunity areas, creating an infomercial, and advertising with real estate and apartment association magazines. Several PHAs hold regular briefings for landlords during the course of regular operations, and one PHA reported specifically locating these briefings in higher-opportunity neighborhoods in an effort to attract those landlords. Other PHAs reported that their landlord briefings were generally not heavily advertised to new landlords, nor were they primarily designed to help recruit new landlords to the HCV program. They were primarily intended to help landlords already in the HCV program understand changes to it.

- ***More than two-fifths of the landlords interviewed had not heard of the SAFMR policy; about one-third thought PHA communication around SAFMRs could be improved.***

While slightly more than one-half of landlords interviewed (20 of 34) reported that they were aware of SAFMRs prior to the interview, more than two-fifths said they were not. Almost one-half of landlords who were aware of the switch learned about it from the PHA (9 of 20 landlords). However, nearly one-third of landlords (10) felt the quality of PHAs' communication about SAFMRs could be improved. The most common suggestions for improvement were for the PHA to improve the methods of communication about the policy change to ensure landlords were aware of it (reported by 6 of 10), and to provide an explanation for why PHAs switched to SAFMRs (reported by 4 of 10).

About one-half of landlords who were aware of the policy reported that they learned about the switch from sources other than the PHA. Most sources of information about the policy for these landlords were sources close to the HCV program, such as HCV holders (reported by 6 of 20 landlords) and other landlords or brokers participating in the HCV program (reported by 2 of 20 landlords).

> *"A lot of the time the [PHA's] notifications go directly to the tenants and I only learn about it when the tenants then bring it to me in a panic."*
>
> *—Landlord in Cook County, higher-opportunity neighborhood*

- ***Landlord awareness of the SAFMR policy varied based on overall location as well the opportunity level of the neighborhoods landlords owned property in.***

Landlord awareness of SAFMRs varied across both the PHAs and opportunity areas. All landlords interviewed in Dallas and Long Beach were aware of SAFMRs prior to the interview, whereas only one of five landlords interviewed in Chattanooga was aware of the policy. Awareness was split among landlords in the other PHAs. In Laredo, where only two of the five landlords interviewed were aware of the policy, the lack of landlord awareness may potentially be due in part to Laredo's early termination of their participation in the SAFMR demonstration.

Exhibit 6-2: Landlord Awareness of SAFMRs by Rental Property Location

Neighborhood Opportunity Rating	Number of Landlords Aware of SAFMRs	Number of Landlords Unaware of SAFMRs
Higher Opportunity	3	3
Moderate Opportunity	4	3
Lower Opportunity	1	2
Mix of Opportunity Neighborhoods	9	4

Similarly, landlord awareness of SAFMRs varied across opportunity neighborhoods. Each landlord interviewed was classified as owning rental units in higher, moderate, or lower opportunity neighborhoods. If a landlord owned or managed properties in more than one opportunity neighborhood classification, the landlord was classified as having property in a mix of opportunity neighborhoods. Among the landlords interviewed, the largest group of landlords owned or managed properties in a mix of opportunity neighborhoods and were the most likely to be aware of SAFMRS (9 of 13 were aware). Landlords with properties in only lower-opportunity neighborhoods were least likely to be aware of SAFMRs prior to the interview, although the sample was very small (one of three were aware).[40] As noted previously, this variation in awareness may reflect differences in outreach efforts among the individual PHAs.

6.2.2 How did landlords react to SAFMRs? Did the shift to SAFMRs affect the way they treated HCV holders?

- ***Most landlords continued to rent to HCV holders after SAFMRs were implemented.***

When asked whether they would continue to rent to HCV holders after implementation of SAFMRs, 22 of 34 landlords said they would, as shown on Exhibit 6-3. All landlords with property in only higher-opportunity areas (six) reported they will continue renting to HCV holders. In Mamaroneck and Cook County, where it is against the law to refuse to rent to a tenant

[40] These three landlords were in Chattanooga and Laredo.

on the basis of their status as an HCV holder, all 10 landlords interviewed said they would either continue to rent to HCV holders or started renting to HCV holders as a result of SAFMRs.

About 9 percent of landlords we interviewed (3 of 34) said they had or would stop renting to either some or all of their HCV renters due to SAFMR-related changes in the payment standards.[41] All three attributed this to payment standards they believe are too low relative to the market. All three indicated that their lack of interest in the program is temporary, and that they would accept vouchers if they viewed payment standards as being comparable with market rents. Even the one landlord who reported selling off rental properties that were in areas where the payment standards went down said he continues to accept HCV holders in his other properties where he believes the payment standards more closely match market rents.

> *"I think that [SA]FMRs are working wonderfully."*
> *—Landlord in Plano*

Exhibit 6-3: Landlord Participation in HCV Program after SAFMR Implementation

Landlord Participation in HCV Program after SAFMRs	Number of Landlords
Continues to rent to HCV holders	22
Started renting to HCV holders or added units	4
Stopped renting some or all properties to HCV holders	4
Never participated in HCV program	2

Note: In addition to the four landlords that stopped renting some or all properties to HCV holders, two landlords are not currently participating in the HCV program for reasons unrelated to SAFMRs.

In addition to landlord-reported decisions to continue in or leave the program (temporarily), all PHAs reported that new landlords in higher-opportunity neighborhoods joined the HCV program as a result of SAFMRs. As noted previously, new legislation in Cook County and Mamaroneck prohibiting discrimination on the basis of source of income was helpful to households in those jurisdictions.

- ***In areas where payment standards decreased, about one-half of landlords reported making a rent concession to reduce HCV holders' rent burden.***

Eleven landlords interviewed noted that payment standards in areas they owned property changed since SAFMRs were implemented. Of these, seven reported the payment standards for their properties decreased, and four reported the payment standards for their properties increased. Among landlords who owned properties where payment standards decreased, about one-half (three of seven) reported making some form of rent concession—such as lowering their rent or forgoing rent increase requests—to help tenants remain in their rental units. Two of these three

[41] Two more landlords are not currently participating in HCV, but they report that this is because their only HCV tenant moved out for reasons unrelated to SAFMRs, not because of an active decision to stop participating in the program. Both said they would be open to renting to HCV holders in the future, if the voucher amount is sufficient to cover their rent.

landlords commented that the reason for making rent concessions was because they knew the HCV holders could not afford to pay more in rent and wanted to "help them out" or because the landlord wanted to avoid a vacancy. All three of these landlords had properties in a mix of opportunity areas.

Four landlords reported making no rent concessions when payment standards for their units decreased. Of these, three were located in Dallas. Two of the three landlords in Dallas who reported they would not make rent concessions were also landlords that stopped renting some or all of their properties through the HCV program.

These findings are in line with PHAs' perspectives. Their perception was that some landlords were willing to accept lower rents in ZIP Codes where payment standards declined, sometimes to assist tenants they wanted to retain, but also to avoid vacancies, or both. Landlords were more likely to accept rent reductions if landlord-tenant relationships were good. Sometimes, landlords who requested contract rent adjustments dropped the requests after realizing that rent increases were to be paid by tenants.

Some PHAs reported that landlords seemed more likely to be willing to drop rent adjustment requests for households headed or co-headed by adults with disabilities and households with seniors (a practice not necessarily unique to SAFMRs). Mamaroneck reported that this was sometimes the case, as did Long Beach. PHAs reported that landlords were also more willing to accept lower rents if they believed the situation was temporary and that payment standards would rise in the future.

6.2.3 How did landlords perceive the change to SAFMRs?

- ***Landlords tended to have a positive perception of the SAFMR policy, although perceptions varied by location.***

Among the landlords interviewed, more than one-half voiced an opinion about SAFMRs. Of those that expressed an opinion, most voiced a positive perception (8 of 19) or had mixed feelings about the policy that leaned positive (6 of 19). Few landlords had a negative perception of the SAFMR policy (5 of 19 landlords), and those tended to be isolated to landlords working with the Dallas PHA (four of five landlords with negative perceptions of the policy), and therefore could be related to factors specific to Dallas, such as market conditions or landlords' relationship with the Dallas PHA. All four of these Dallas landlords said the payment standards did not accurately reflect market rents either for specific ZIP codes or the market overall. For example, three landlords in Dallas commented that SAFMRs work well for some ZIP codes but not others, or that the payment standards either are too low or don't accurately account for other expenses in the area, like property taxes or other living expenses.

Landlords with favorable opinions of the SAFMR policy felt the revised payment standards were fair or accurately reflected market rents. For example, a landlord in Long Beach stated: "[I think] it is a wonderful idea. It is a very fair way to set up rent amounts." Similarly, landlords with mixed perspectives felt there were areas for improvement but tended to view SAFMRs more positively than negatively. For example, three landlords felt that the payment standards under

SAFMRs were generally reasonable or a good idea, but either felt that they could get higher rents from market-rate tenants (two landlords) or avoided buying rental properties in certain areas because of the payment standards for those areas (one landlord).

6.3 PHA Perspectives on SAFMRs' Impact on HCV Holders and Landlords

This section is intended to answer the research questions: How did the change to SAFMRs affect PHA interaction with HCV holders and potential holders? And, how did the change affect PHA interaction with landlords?

During both site visits we asked PHAs about their perspectives on SAFMRs' impact on tenants and landlords, because they have a broad view and were often able to summarize the impacts of SAFMRs across many different tenants and landlords. PHA perspectives are reported here to supplement the findings from discussions with tenants and landlords themselves.

6.3.1 How did PHAs view the impact of SAFMRs on HCV holders, and how did SAFMRs affect PHA interactions with HCV holders?

- ***PHAs report a range of different impacts of SAFMRs on search time and voucher success rates***

While some PHAs reported that HCV holders experienced greater challenges in finding units or required longer search times following the switch to SAFMRs, several said HCV holders found units more easily under SAFMRs, and others felt there had been no real change.

As discussed in more detail in chapter 7, several PHAs including Plano and Dallas said that HCV holders had more difficulty finding units, which they thought was because SAFMRs significantly lagged market rents due to gentrification in higher-rent areas. SAFMRs are published only annually and they believed payment standards were too low to cover the rents in these areas. Some PHAs, including Long Beach, also reported that discrimination based on the source of income played a factor.

Long Beach in particular reported that HCV holders had great difficulty searching for units in higher-opportunity areas, especially in the first year of SAFMR implementation. They reported that these neighborhoods had few rental units, and even with SAFMRs, the market rents were not affordable. Landlords preferred to rent to non-HCV holders and at rents above those allowed for by SAFMR payment standards. In response, Long Beach increased the standard search time to 120 days, with extensions up to 180 days and longer.

Long Beach eventually also applied for 120-percent exception rents in several ZIP Codes. As discussed earlier in this report, the shift from FMRs to SAFMRs reduced the number of units with rents below the applicable FMR in the Long Beach area by 12 percent, nearly double the decline of any other PHA in the demonstration. This may help explain the challenges experienced by HCV holders in Long Beach.

Mamaroneck and Plano also said that HCV holders' search time was sometimes longer under SAFMRs because tenants were unfamiliar with new, higher-opportunity neighborhoods.

In comparison, other PHAs, including Laredo and Chattanooga, believed there were no changes in either the level of difficulty finding units or search times. Cook County said it was now easier for HCV holders to find units because of the higher payment standards.

PHAs also reported mixed experience with HCV holders' success rates. Dallas reported that their voucher success rate has declined recently, to 37 percent. Dallas reported that a number of lower-rent neighborhoods in South Dallas are now less accessible to HCV holders because of reduced payment standards, which may have had an impact on HCV holders' success in finding units. Dallas also reported that success rates may be lower due to declining vacancy rates.

In Plano, voucher success rates are only 29 percent. However, almost all of the ZIP Codes are considered higher-opportunity, and there have been few areas where payment standards have declined, so HCV holders are generally not affected by reduced payment standards. It is more likely that HCV holders' challenges in finding units in Plano are related to general market tightness rather than to SAFMRs.

Chattanooga, Cook County, and Mamaroneck all reported high voucher success rates after implementation of SAFMRs. In Mamaroneck, this was despite recent average rent increases across the market. Chattanooga attributed their high voucher success rates to SAFMRs: "There are more areas open to tenants. The switch [to SAFMRs] absolutely affected the success rate." They reported that landlords who were otherwise on the fence about the HCV program decided to stay in as a result of SAFMRs, and landlords in higher-rent neighborhoods have joined the program that otherwise would not have.

- ***PHAs report a modest increase in the share of HCV holders leasing up in higher-opportunity neighborhoods, and most PHAs report that a majority decide to stay.***

The number of HCV holders in higher-opportunity neighborhoods has increased in all SAFMR PHAs, although not in large numbers. Cook County reported that the SAFMR policy itself had little impact on HCV holders moving to higher-opportunity neighborhoods in the first year, but once their mobility program was implemented and used in combination with SAFMRs (about a year after SAFMR implementation), they saw increases in the number of moves to higher-opportunity areas. Mamaroneck also reported that SAFMRs have increased opportunities for HCV holders and that some have found units in higher-opportunity neighborhoods. At the same time, Mamaroneck also reported that market conditions are tight and that some HCV holders are forced to "take whatever they can get as fast as they can get it" in order to avoid the risk of losing their voucher. This was also the case in other locations, such as Long Beach.

According to most PHAs, once HCV holders do move to higher-opportunity neighborhoods, a majority decide to stay there, as opposed to eventually returning to their old neighborhoods. A key exception is in Laredo, where the reversion back to metro-wide FMRs has meant that some tenants who leased units in higher-opportunity areas are now leaving, because payment standards in those areas have declined.

PHAs report that HCV holders who move to higher-opportunity neighborhoods face challenges. Several reported that there are few services for lower-income families, fewer public transportation options, and higher costs for things like school activities, groceries, and gas. Overall, however, the experience is generally positive. Cook County surveyed 150 people who moved to an opportunity area to determine overall satisfaction with the move and how they felt about their community, access to resources, safety, and schools, among other things. The large majority (around 85 percent) responded positively, reporting overall satisfaction with their decision to move.

Mamaroneck likewise reported, "Many families do acknowledge that it's a struggle, but they're glad they made the choice to move to a higher-opportunity neighborhood. Especially after the first year or two they feel that it's a good decision and they adjust. For the most part, people stay and work through it."

6.3.2 How did PHAs view the impact of SAFMRs on landlords, and how did SAFMRs affect PHA interactions with landlords?

- ***For most PHAs, ongoing outreach efforts to landlords are unrelated to SAFMRs.***

During the first round of site visits, PHAs reported making some efforts to educate landlords about the new policy, including holding briefings, updating their website, and creating educational materials. As would be expected, some communication with landlords was also reactive in nature. For example, some landlords have units in multiple ZIP Codes, and they approached PHAs with questions about the new differences across neighborhoods when FMRs were previously more consistent across neighborhoods. PHAs reported responding regularly to questions from landlords when SAFMRs were initially rolled out, but that questions about SAFMRs became far less frequent as landlords gained experience with the new approach to setting payment standards.

By the second site visit, PHAs reported that their efforts to recruit and retain landlords were more closely related to market conditions than to SAFMRs. For example, Plano noted, "Landlords have gotten used to SAFMRs." However, the PHA still makes monthly efforts to recruit new landlords to the program. Likewise, Chattanooga has a staff member called a Housing Navigator who holds landlord fairs where they help connect landlords with tenants.

Long Beach, which experienced a shortage of units affordable to HCV holders, has continued its extensive efforts to recruit and retain landlords in the HCV program, including one-on-one efforts to understand why landlords are terminating specific tenants' leases. In most other PHAs, landlords hear about the HCV program primarily via word of mouth.

As part of its mobility program, which was implemented in concert with SAFMRs, Cook County makes concentrated efforts to recruit landlords in higher-opportunity areas.

- ***Landlord participation in higher-opportunity neighborhoods has increased since implementation of SAFMRs. But in areas where payment standards declined, some landlords have stopped accepting vouchers.***

All six PHAs with ongoing participation in SAFMRs reported that they have added landlords in higher-opportunity areas. The PHAs attribute this to the higher payment standards in these neighborhoods. Chattanooga said, "In some areas landlords were able to put their units in the program because of the SAFMR. As you get further out [into higher-rent neighborhoods] there is no way the landlords would be able to participate in the program [without SAFMRs]."

As would be expected, landlords in higher-opportunity neighborhoods have not been universally receptive to HCV holders. For example, Mamaroneck noted that, although the county has laws that prevent discrimination on the basis of income, some landlords have implemented new eligibility requirements, such as a minimum credit score, that effectively screen out HCV holders.

Two PHAs, Dallas and Long Beach, reported losing landlords as a result of declining payment standards. The remaining five SAFMR PHAs did not. For some PHAs, this was because landlords have not experienced declines in payment standards. Mamaroneck and Chattanooga both set payment standards high enough (at 110 percent) to offset any declines that landlords otherwise would have experienced. Both PHAs reported that landlords have joined the HCV program as a result of SAFMRs, either because landlords in higher-opportunity neighborhoods were approached by HCV holders and agreed, and/or because payment standards in these neighborhoods are sufficiently high to attract landlords to the program. Cook County noted that its rent reasonableness process is quite thorough, and this reduced the number of landlords who felt the impacts of reduced payment standards. Cook County reported that, to the extent landlords were impacted in this way, the impacts have diminished over time. The HCV director said, "We're so far into SAFMRs that any lowered payment standards have less of an impact now."

That said, some PHAs reported that some landlords were angered by reductions in FMRs, having made previous investment decisions based on higher rents. Some landlords responded by leaving the HCV program, although this response varied by PHA, and in particular, by the extent of decreases in payment standards. Plano, Long Beach, and Dallas reported that although some landlords with properties in lower-rent neighborhoods accepted the lower payment standard, others have left the program.

These findings are consistent with other research that indicates that landlords' decision to participate in the HCV program is based on a comparison of costs and benefits, and that payment standards are an important component of this calculus.[42]

[42] Garboden, Rosen, DeLuca, and Edin, forthcoming.

7. Administrative Impacts of Small Area Fair Market Rents on Public Housing Agencies

As expected, we found that SAFMRs implementation altered some PHA administrative responsibilities and, at times, increased the volume of transactions the PHA must process and the level of effort required to complete certain activities. As discussed in detail in the remainder of this section, the initial adjustment to SAFMRs took roughly a year, during which PHAs set payment standards at the ZIP Code level for the first time, created materials explaining and promoting SAFMRs to landlords and HCV holders, trained staff on the new payment standards, made modifications to software systems to accommodate more payment standards, and sent HCV holders letters of impact.

In the short term, as PHAs changed policies and procedures and as staff, HCV holders, and landlords adjusted, the net effect was an increase in administrative costs at each PHA. After this initial adjustment period, the extent of impacts on PHAs declined, but nearly all PHAs report modest increases in ongoing administrative costs attributable to SAFMRs.

In this chapter, we describe the context for SAFMR implementation and then the steps PHAs took to implement SAFMRs, including changes to systems and processes needed to administer SAFMRs. We quantify these impacts (to the extent data are available) in terms of staff effort and expenditures for items such as additional staff hires and software updates to accommodate SAFMRs. We briefly review the reported impact of SAFMRs on HAP costs and administrative fees in the section titled Estimate of Financial Impacts of SAFMRs on PHAs. The last section provides a synthesis of PHAs' perspectives on the SAFMR policy.

7.1 Factors Affecting PHAs' SAFMR Implementation

This section first recaps motivations of the PHAs for participating in the SAFMR demonstration, which varied widely. It then describes external factors that affected implementation, including Federal budget sequestration, source of income discrimination legislation, and housing market conditions.

7.1.1 PHA Reasons for Using SAFMRs

The five PHAs in the SAFMR Demonstration (Chattanooga, Cook County, Laredo, Long Beach, and Mamaroneck) were randomly selected and agreed to participate. Four of these five PHAs reported that a key reason for implementing SAFMRs was to make units available to HCV holders in higher-opportunity neighborhoods.[43] One PHA specifically noted that SAFMRs could help to deconcentrate HCV tenants. The fifth PHA reported joining reluctantly, after what it perceived to be encouragement from HUD and also a sense that eventually SAFMRs were to be implemented more broadly, so the demonstration would be a way to get ahead of schedule. Secondary reasons for participation in the SAFMR demonstration included the increased

[43] Note that none was a Moving To Work PHA.

administrative fees that accompanied participation in the demonstration and PHA desires to attract new landlords to the program, reduce Housing Assistance Payment costs, and enable tenants to move to higher-quality units.

A court settlement required that the two Dallas, TX-area PHAs in this study, Dallas and Plano, use SAFMRs. Therefore, beginning in 2011, Dallas and Plano, along with every other PHA in the seven-county Dallas area, were required to use SAFMRs. Because Dallas and Plano did not volunteer to be part of the SAFMR Demonstration, their experiences and motivations are different.

7.1.2 External Factors that Affected Implementation

A number of factors external to SAFMRs and the demonstration affected PHAs' implementation of SAFMRs. These factors varied across PHAs and include federal budget sequestration, source of income discrimination legislation, and housing market conditions.

Federal Budget Sequestration

Five PHAs—Cook County, Dallas, Long Beach, Mamaroneck, and Plano—cited sequestration in 2013 as a factor that slowed implementation of SAFMRs and probably dampened its initial effects. Sequestration refers to automatic, across-the-board budget cuts to discretionary-funded programs, passed into law in 2011, that were to take effect if Congress could not agree on a plan to reduce the national budget deficit by a specific amount. These cuts went into effect in March 2013, resulting in reduced payments for administrative fees for the HCV program as well as reductions in funding for voucher renewals.

The timing almost certainly affected the SAFMR demonstration. Although Dallas and Plano implemented SAFMRs in 2011, the remaining five PHAs had not signed agreements to operate under SAFMRs until October 2012. By early 2013, several PHAs were still transitioning to SAFMRs and this process was interrupted by sequestration. As a result, most PHAs temporarily stopped issuing new vouchers, reducing the number of households enrolled in the HCV program. One PHA was forced to recall vouchers already issued, resulting in fewer households joining the HCV program during the early stages of SAFMR implementation. Reportedly, sequestration also affected staffing levels in PHAs, including Cook County, Dallas, and Long Beach. In general, this staff reduction increased workloads for PHA staff members. The Long Beach PHA reported that relationships with landlords suffered as a consequence of this staff reduction, further exacerbating challenges to HCV holders in finding rental units, discussed in chapter 6.

At the end of 2013, federal policymakers agreed on a budget that reduced the effects of sequestration for 2014 and 2015. Although this agreement technically ended the PHA budget crunch brought on by sequestration, PHAs report that it took significant time—as long as a year in some cases—to return to normal funding and staffing levels. Exhibit 7-1 summarizes this timing of the implementation of SAFMRs and subsequent sequestration.

Exhibit 7-1: Timeline of Sequestration

Spring 2011	SAFMRs effective for Dallas and Plano PHAs.
October 2012	SAFMRs effective for the five PHAs participating in the demonstration.
March 2013	Sequestration takes effect.
December 2013	Agreement to end sequestration.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

Source of Income Discrimination Legislation

Other external events affected SAFMR implementation and, to some extent, made each site a unique experiment. In Cook County and Mamaroneck, legislation protecting against discrimination by landlords on the basis of renters' source of income was enacted at about the same time as the SAFMR implementation (2013 and 2012, respectively). Both locations reported that this coincidence helped smooth the transition by increasing the number of landlords participating and the units available to HCV holders, and thus, voucher success rates, at least temporarily.[44] By 2017, Mamaroneck PHA staff noted that some landlords were using other ways to screen out applicants with vouchers, such as requiring a minimum credit score, which is generally permissible.

Housing Market Conditions

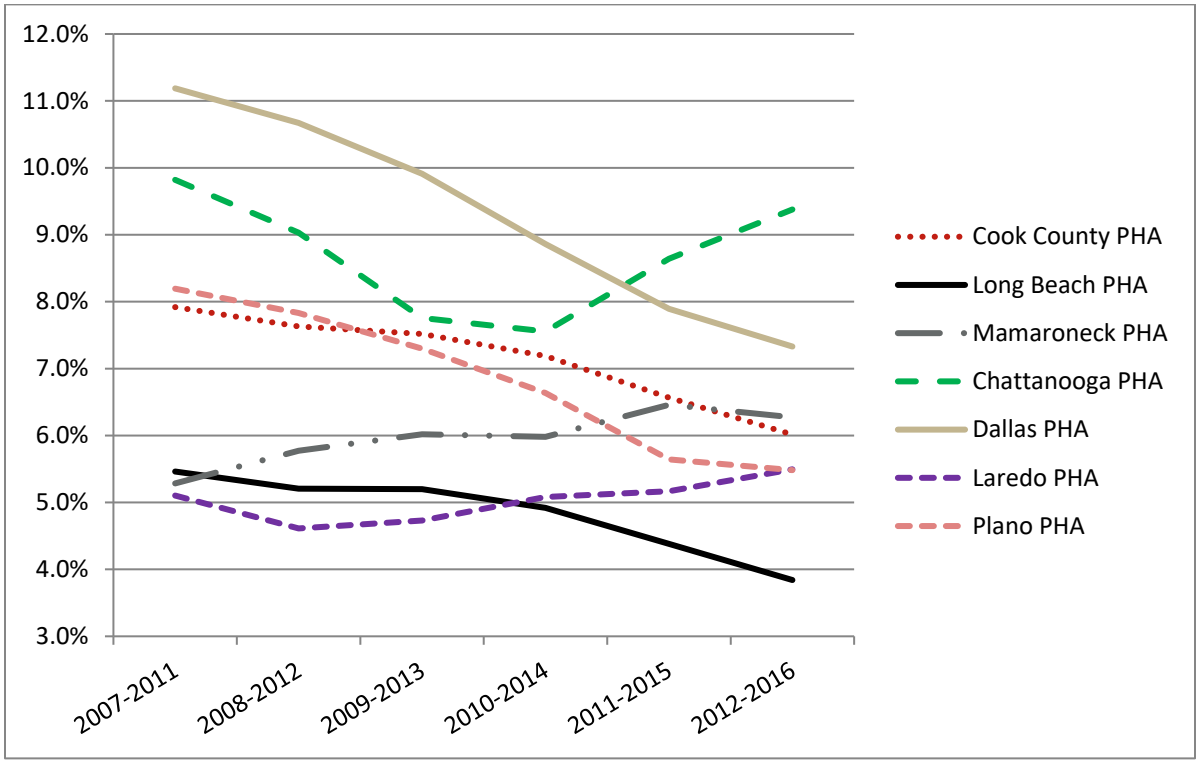
Market conditions generally varied over the course of the demonstration, and these conditions had important effects in many areas on HCV holders' ability to move to higher-opportunity neighborhoods. PHA staff in Chattanooga, Dallas, Long Beach, Mamaroneck, and Plano all expressed a belief during our 2016 interviews that declining vacancy rates affected HCV holders in their jurisdictions during the time period of this evaluation. As noted below, by 2017, Chattanooga PHA staff no longer felt market conditions were a challenge.

We examined vacancy rates independently and found that, in four of the seven SAFMR PHA jurisdictions, rolling average rental vacancy rates fell from 2011 to 2016—most sharply in Dallas, followed by Plano, but also in Cook County and Long Beach (Exhibit 7-2). This evidence of a tightening housing market aligns with the challenges reported by PHA staff in Dallas and Plano. In addition to citing a generally improving economy, PHA staff we spoke with in Dallas and Plano believe this tightening rental market was related to the relocation of large, new employers to the area, which increased competition for housing units.

PHA staff in Dallas, Plano, and Cook County reported that a looser rental market at the beginning of SAFMR implementation made HCV holders attractive tenants, which increased the options available to the HCV holders and therefore opportunities to move.

[44] Cook County reported high voucher success rates and attributed these higher rates of success to the legislation. Mamaroneck cited specific apartment buildings that became available to HCV holders because of the legislation.

Exhibit 7-2: Change in (Rolling Average) Vacancy Rates, 2011–2016



PHA = public housing agency.
Source: American Community Survey

In Long Beach, vacancy rates declined, and by the 2012–2016 period, were the lowest of any of the PHAs. This tightening of the market may well have contributed to the great difficulty that PHA staff reported with HCV holders finding units. Moreover, as discussed in chapter 4, the number of units affordable to HCV holders declined as a result of SAFMRs. As with declining vacancy rates, the likely effect of a decline in units renting below the applicable FMR would be to make it harder for HCV holders to find units. In response, Long Beach requested and was granted approval to set payment standards at 120 percent of the SAFMR, which they reported improved HCV holders' success in finding units to lease.

Other market effects were also in play in Long Beach, where PHA staff believe that large numbers of foreclosures from the housing market downturn led to increased competition for rental units. At the same time, the PHA reported that gentrification of the city's downtown raised rents and reduced the number of units available to HCV holders. The PHA specifically suggested that HCV holders not relocate, if possible, to avoid losing their current units and risking not being able to find new rentals.

In the Mamaroneck PHA, our data do not support the perception that overall vacancy rates declined, at least not for the county as a whole. However, Westchester County is very large and not just one housing market, and it is possible that the rental market tightened in the portions of

the county where its HCV holders primarily searched. ACS data show that rolling average rental vacancy rates in Westchester County increased slightly from 2011 to 2016.

In the Laredo PHA jurisdiction, vacancy rates were relatively flat. Compared with areas with tightening rental markets, in Laredo and Mamaroneck, HCV tenants may have encountered less competition and, therefore, less difficulty in moving to rental units in higher-opportunity areas to take advantage of higher payment standards available under SAFMR.

In general, tightening rental housing markets in most SAFMR jurisdictions may have made it more difficult for HCV holders to find housing in higher-opportunity areas, leading to lower effects of SAFMRs relative to what might have occurred in looser rental markets where HCV holders have more selection and less difficulty finding new rental units.

Related to the rapidly changing housing market conditions experienced in some evaluation sites, PHA staff at Dallas, Plano, Long Beach, and Mamaroneck believe that SAFMRs—which, like metro-area FMRs, are set by HUD once per year[45] and often not implemented by PHAs until the next January—sometimes lagged the market. This lag meant that even the higher SAFMRs available in higher-cost neighborhoods were reported to be too low to cover market rents by the time they went into effect. HCV holders are generally at a disadvantage relative to other renters (hence the need for protection from discrimination on the basis of source of income), and this lag may have further disadvantaged HCV holders. Another factor in any disconnect between SAFMRs and market rents could be related to how payment standards were set by PHAs, which is discussed in more detail below. As described in chapter 6, a number of HCV holders also believed that SAFMRs did not match market rents, particularly in higher-rent neighborhoods.

7.2 SAFMR Administrative Impacts on PHAs

In general, the primary impacts of the transition to SAFMRs on PHA program administration were temporary and occurred during the initial switch from metropolitan area FMRs to SAFMRs. Impacts during the initial implementation period—which took PHAs roughly a year—may have been compounded by the fact that the policy was new, it was largely untested by other PHAs, and there was little guidance on how PHAs should implement the policy.

Virtually all of the administrative impacts were reported during the first round of site visits. During the second round of site visits, PHAs reported very few additional administrative costs related to SAFMRs. One exception was Dallas, which reported that they recently implemented a

[45] One of the sources of data used to set SAFMRs and metropolitan area FMRs is the American Community Survey (ACS). For smaller geographic areas, such as ZIP Codes with population less than 20,000, data are 5-year period estimates. This has prompted concerns among commenters on HUD's 2016 Small Area Fair Market Rent Rule that SAFMRs will be lower than market rents in areas with increasing rental costs. Although the concern about ACS data also applies to metropolitan area FMRs, its effects may be more significant in small geographic areas (ZIP Codes) than in larger areas (MSAs) because rents are more highly variable over smaller areas.

new system of record, which was more costly because of the multiple payment standards than it would have been using a single payment standard.

Most of the administrative impacts were attributable to changes in effort and procedures related to analyzing and setting payment standards, training staff on how to explain and apply the new payment standards, and the need to either modify or adopt automated systems capable of handling ZIP Code-level payment standards. There were also modest impacts related to contract rent adjustments, changes to the communications strategy for landlords and tenants, and increased effort for Housing Quality Standards inspections because of the reduced geographic concentration of HCV holders' housing search areas.

PHAs also reported a number of more modest effects of SAFMRs that did not require the expenditure of much time or money. For example:

- Although most PHAs changed outreach materials for tenants to include multiple payment standards, they did not substantially change other kinds of tenant outreach or support, such as briefings.
- For most PHAs, PHA administrative processes required only minor modifications, such as rent reasonableness evaluations, PHA plans and administrative plans, procedures, and quality assurance.

Some of the administrative changes related to SAFMRs were nearly unavoidable. For example, all PHAs had to decide how to set payment standards under SAFMRs and all PHAs with automated systems designed to administer vouchers with one metropolitan area FMR had to modify them to accommodate ZIP Code-level payment standards.

On the other hand, some of the PHAs' administrative changes in response to the demonstration were related to local market conditions or the pattern of changes in FMRs in the PHAs' jurisdictions. For example, although PHAs were not required to recruit new landlords to participate in the HCV program in ZIP Codes newly accessible to HCV holders, local market conditions led some PHAs to make more extensive landlord recruitment efforts than others. The Long Beach PHA, for example, made more intensive efforts to recruit landlords than did other PHAs, because HCV holders had unusual difficulty finding units in higher-opportunity ZIP Codes. In addition, some PHAs' existing practices made it easier to integrate SAFMRs than others' practices. For example, PHAs with automated access to rental market information found changes to the rent reasonableness evaluation process to be minimal. The PHA that accessed rental market information to evaluate rent reasonableness manually experienced more difficulty integrating SAFMRs.

All the PHAs reported that, over time, managing SAFMRs—in particular setting payment standards—has become smoother and easier, but still requires somewhat more effort than metropolitan area FMRs. Some PHAs have found other administrative impacts to be permanent as well.

In the following sections, we present the hypothesized list of impacts on PHAs and our assessment of the magnitude of actual impacts based on our site visits. ***One-time impacts*** are adjustments that PHAs made once to implement SAFMRs and include changes to PHA plans and administrative plans and modifications to automated systems. ***Transitional impacts*** are those that occurred over a period of adjustment (generally about a year) and include new procedures and staff training. Finally, ***ongoing impacts*** are permanent increases in the effort required to administer HCVs and include increased quality assurance efforts.

We categorize these observed impacts as minor, moderate, or significant based our assessment of average impacts across all the PHAs. We define a minor impact as one requiring a total of roughly a day of staff time and/or financial expenditures of less than $1,000; a moderate impact took a total of up to a week of time and/or several thousands of dollars in expenditures; and a significant impact required a total of more than a week of staff time and/or many thousands of dollars of financial expenditures.[46] Specific PHAs may have had a different experience from the general experience. We highlight these idiosyncratic experiences where relevant.

Our estimates of the magnitude of impacts are expressed in terms of staff hours or out-of-pocket expenses. During site visits, we attempted to collect data to estimate the financial impacts on the SAFMR PHAs. Since each PHA collected and maintained information in widely varying ways, we were not able to systematically sum and compare financial impacts across sites. The information presented provides the range of financial impacts.

In some cases, there were no financial expenditures because staff worked on implementation either in small increments over time or in place of other responsibilities. We also describe these nonfinancial impacts. The information available was not generally detailed, so these findings should be considered rough guides. Because of staff turnover, Laredo was unable to provide any information about financial impacts, therefore, we exclude that PHA here.

In addition to presenting and categorizing the impacts, the following sections also provide narrative overviews of some of the more salient impacts of SAFMRs on the PHAs, including PHA views on the adequacy of the supplemental administrative fees HUD provides to cover the costs of implementing SAFMRs.

In the remainder of this section, we provide detailed descriptions of staff efforts to implement SAFMRs across the PHAs. The discussion of each impact is accompanied by two tables: one summarizing the impact across PHAs as a group, and a second, more detailed, table that identifies specific costs in terms of financial expenditures and staff effort for each PHA.

7.2.1 Modifications to PHA Plans and Administrative Plans

Every PHA is required to maintain an administrative plan for the HCV program. These plans typically contain language related to establishing payment standards, determining rent

[46] Impacts were often one-time; others were ongoing and therefore recurring monthly or annually. The period of recurrence is specified in the table.

reasonableness and tenant payments, and encouraging participation by owners outside areas of poverty or minority concentration. Some PHA administrative plans also include extensive procedural documentation. Exhibit 7-3 presents our assessment of the impact of SAFMRs on modifications to PHA plans and administrative plan.

Exhibit 7-3: Summary of Hypothesized and Observed SAFMR Impacts: PHA Plan and Administrative Plan Changes

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
One time.	• Revisions to PHA plan and administrative plan required to establish payment standards, rent reasonableness, and tenant rents. • Some PHAs have administrative plans with extensive procedural documentation, which may require more substantial modifications.	• With one exception, only minor modifications (if any) were needed.	Minor.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

Across PHAs, the observed impacts were minor. Despite changes in the administration of the program, only two PHAs reported updating administrative plans as a result of switching to SAFMRs. Dallas is the only PHA that made significant modifications to its PHA plan and administrative plan to accommodate SAFMRs. Dallas's updates included adding substantial guidance on how to conduct briefings and conduct reexaminations. Plano made moderate changes to its administrative plan to reflect the payment standards in effect but essentially no changes to its PHA plan. Four of the six PHAs made either no or minimal changes (spending one hour of staff time) to update plans for SAFMRs.

Exhibit 7-4 describes the administrative resources that PHAs used to modify PHA plans and administrative plans to implement SAFMRs.

Exhibit 7-4: Administrative Impacts of SAFMRs by PHA on PHA Plan and Administrative Plan Changes

PHA					
Chattanooga	Cook County	Dallas	Long Beach	Mamaroneck	Plano
Director—1 hour (total, one-time).	No change.	VP, President, and CEO—80 hours PHA administrative plan, 80 hours for PHA plan (total, one-time).	Minimal—time not recorded.	Administrator—5-10 hours; Administrator—2 hours (total, one-time).	Finance director—24 hours administrative plan, 2 hours for PHA plan (total, one-time).

CEO = chief executive officer. PHA = public housing agency. SAFMR = Small Area Fair Market Rent. VP = vice president.

7.2.2 Modifications to Automated Systems

Modifications to automated systems were the largest one-time cost incurred by most PHAs. Payment standards are generally embedded in a PHA's system of record, and thus, the switch to SAFMRs often required updates to the PHA's software. The extent of the cost depended on the PHA's automated system and whether or not significant changes were required to accommodate multiple payment standards for the same unit size. Estimated expenditures to update systems of record ranged from $0 to $35,000 per PHA, generally paid to information technology consultants or software vendors, in addition to required staff effort.

Other automated tools required updates, such as a property listings database (for Mamaroneck), automated affordability calculators (Dallas and Long Beach), and tools for assessing rent reasonableness (Mamaroneck and Plano). Modifications to other automated tools generally required minor effort, except for Mamaroneck's rent reasonableness database, which (as described below) requires significant ongoing effort. Exhibit 7-5 presents our assessment of the impact of SAFMRs on modifications to PHA's automated systems.

Exhibit 7-5: Summary of Hypothesized and Observed SAFMR Impacts: Modifications to Automated Systems

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
One time.	• May require systems of record adaptations to accommodate additional payment standards and to permit selection of different payment standards for same unit size. • Additional tools that may require adaptations include rent reasonableness data system and tool for determining unit affordability.	• Four PHAs needed modifications to systems of record; effort required varied widely. • Five PHAs had additional automated tools that typically required minor modifications.	Varies: Minor to significant.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

Four PHAs (Chattanooga, Dallas, Mamaroneck, and Plano) found it necessary to modify the automated systems that accommodate additional payment standards.[47] Modifications typically involved contracting with software providers, such as VisualHOMES, to customize the system of record software PHAs used to perform functions to maintain participant household data and calculate landlord payments. Two of the four PHAs (Dallas and Plano) required significant efforts to modify automated systems, whereas the upgrade was moderate for Chattanooga and relatively minor for Mamaroneck.

[47] Laredo PHA staff had almost entirely turned over since implementing SAFMRs. Therefore, current staff did not know whether changes to the system of record or to any other automated tools were required to accommodate the demonstration.

Dallas and Plano incurred the highest cost and staff effort to update their automated systems. Dallas required updates to two automated systems—the system of record and an automated tool to calculate affordability based on ZIP Code. Dallas estimated that software updates required 250 hours of staff time from the software vendor and the PHA's information technology director and CFO in addition to payment to the software vendor for changes.[48]

Plano similarly reported spending about 120 hours of the finance director's time to update the system of record to accommodate over 100 payment standards (as of 2018) rather than the one payment standard used under metropolitan area Fair Market Rents. Plano's finance director also spent about 3 to 4 hours updating the rent reasonableness software and about 10 hours updating the website.

Chattanooga reported 40 hours of staff time from an information technology software specialist who updated the software that pulls the proper payment standards, plus $900 in expenditures. Although the PHA went from 1 to 35 payment standards in the first year of SAFMR implementation, its rent reasonableness system required only minor updates to change the search criteria to pull comparable units within the same ZIP Code.

Long Beach and Mamaroneck also reported that their systems of record needed modifications to add additional payment standards under SAFMRs, but these costs tended to be less than in Chattanooga, Dallas, and Plano. Because Long Beach's software already allowed for multiple payment standards, system of record software updates incurred no significant costs. Long Beach, however, incurred a cost (which they could not specify) to update GoSection8, which is both its rent reasonableness tool and a property listings database. This update required uploading all payment standards (which increased from 1 to 12 under SAFMRs) to facilitate rent reasonableness and affordability determinations. Long Beach also needed to update the affordability worksheet the staff uses. This update was a one-time cost of about 16 hours of staff time by the community program specialist.

Mamaroneck also required updates to the system of record software to accommodate multiple payment standards. This cost was estimated at about $400 in vendor charges and required six hours of staff time to communicate needs to the software vendor. Cook County was the only PHA not reporting an automated system update cost, because it uses a large spreadsheet instead. Exhibit 7-6 describes the administrative resources that PHAs used to modify automated systems to implement SAFMRs.

[48] PHA staff documented changes to the software, tested the changes to the software, and did data entry to reflect the increased number of jurisdictions.

Exhibit 7-6: Administrative Impacts of SAFMRs by PHA on Modifications to Automated Systems

PHA					
Chattanooga	Cook County	Dallas	Long Beach	Mamaroneck	Plano
IT specialist—40 hours/$900 (total, one-time).	No change.	Software vendor + IT director + CFO—250 hours/$35,000 to software vendor (total, one-time).	GoSection8 system changes for rent reasonableness; affordability worksheet update (16 hours) (total, one-time).	$400 to software vendor; ED—6 hours (total, one-time).	Office supplies, postage, software modifications $10,705; finance director—124 hours (total, one-time).

CFO = chief financial officer. ED = executive director. IT = information technology. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.3 Analyzing and Setting Payment Standards

All PHAs had to decide how to set payment standards in response to SAFMRs, because the number of FMRs in each PHA's jurisdiction multiplied, sometimes dramatically. Even the smallest PHA (Laredo) increased from one FMR to five SAFMRs per unit size. The largest PHA (Dallas) now has more than 300 FMRs per unit size in its jurisdiction.

HUD's policy requiring that new payment standards not be applied to existing HCV holders until the second annual reexamination following the effective date of the payment standard reduction was an added complication for PHAs in setting payment standards. The intent of the policy was to smooth the transition for HCV holders in the case of a decline in payment standards. This 2-year hold harmless period meant that both metropolitan area FMRs and SAFMRs were effective in some ZIP Codes at the same time—one that would apply to HCV holders moving into the ZIP Code and one based on old metropolitan area FMRs for existing tenants.

Exhibit 7-7 presents our assessment of the impact of SAFMRs on PHAs analyzing and setting payment standards.

Exhibit 7-7: Summary of Hypothesized and Observed SAFMR Impacts: Analyzing and Setting Payment Standards

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional, ongoing.	• Although the first year will be the most challenging, expanding the PHAs' analysis from a single set of FMRs to multiple will require ongoing analysis that is more complex than before SAFMR. • Focusing on using FMRs as a mobility tool, rather than strictly a funds management tool, will be new to some PHAs.	• The initial process of setting SAFMR payment standards was time consuming for most PHAs, because many more payment standard areas exist. • After the first year, the process was easier but still requires more effort than managing metropolitan area FMRs.	Initially significant for most PHAs; moderate impacts on an ongoing basis.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

The cost of setting payment standards under SAFMRs varied depending on the amount of time PHAs spent adjusting HUD-issued FMRs. PHAs have discretion to set their payment standards between 90 and 110 percent of the FMR without HUD approval, which helped to accommodate local conditions but also complicated the process of establishing SAFMR payment standards. PHAs may choose to vary payment standards from the FMR to decrease the rent burden on HCV tenants, increase the subsidy amount to increase the ability of HCV holders to access higher-opportunity areas, or make it easier for HCV holders to successfully use vouchers. Many of the demonstration PHAs used this discretion, often to reduce the potential negative impacts of the demonstration on landlords and tenants and on the PHA.

About one-half of PHAs considered several factors in determining appropriate payment standards: the number of households affected by payment standard increases and decreases, the impact on HAP costs, and the PHAs' administrative burden.[49] For these PHAs, the process of determining appropriate payment standards is a time-consuming process that requires analysis of each ZIP Code. PHAs reported that because ZIP Code payment standards were new, more effort was generally involved in setting payment standards during the first year than in subsequent years, although much of the process had to be repeated each year.

Some PHAs tried to take a more straightforward approach, with mixed success. Chattanooga, Long Beach, and Plano initially set all payment standards at 100 percent of the SAFMR. For Plano, a desire to avoid a lawsuit that might stem from any appearance of differential treatment motivated this decision. As a result, some costs arose in updating materials to accommodate the

[49] For example, some PHAs used their flexibility to set payment standards to consolidate multiple ZIP Codes into a single payment standard area.

new and more numerous payment standards. However, the amount of time and effort required to set payment standards was minimal.

After the hold harmless period for the SAFMR demonstration ended (at the second annual re-examination of income following a payment standard reduction), Chattanooga changed its approach. Every year, Chattanooga analyzes HUD-provided FMRs to determine which areas saw increases and decreases in FMRs, and to calculate the number of households that would be affected if payment standards were set at 100 percent of SAFMR. Payment standards are increased to 110 percent of SAFMR in areas where SAFMRs would otherwise reduce the payment standard. They took this approach to reduce the administrative burden of handling decreases in payment standards, as well as the risk of errors in selecting the correct payment standard. To date, this analysis is an ongoing cost of about 40 hours of the director's time per year.

Likewise, Long Beach initially set all payment standards at 100 percent of SAFMR. In April 2015, Long Beach increased all payment standards to 110 percent of the SAFMR in response to the decreases in payment standards in many ZIP Codes under SAFMRs and the decline in voucher success rates, a consequence at least in part of the sharp drop in units available to HCV holders in the PHA's jurisdiction (Exhibit 4-5 in chapter 4). It was also the result of the PHA's analysis of rent burden and rent reasonableness for tenants in both higher-opportunity and lower-opportunity areas, indicating that payments standards set at 100 percent of SAFMR were below market. Long Beach later increased all payment standards to 120 percent of the SAFMR, with HUD approval, both to attract more landlords to the program and to place payment standards more in line with the market.

Two PHAs tried to make the process of analyzing and setting payment standards more manageable by bundling multiple ZIP Codes into a single payment standard area, thereby reducing the total number of payment standard areas in the jurisdiction. Cook County uses this approach. The PHA originally implemented SAFMRs with 10 payment standard zones; over time, Cook County's approach evolved and it now has 24 payment standards per unit size rather than one for each of its 170 or so ZIP Codes. PHA staff reported that this approach simplifies administration and reduces confusion among landlords and HCV holders compared with 170 different payment standards. Dallas initially created groups of ZIP Codes with the same payment standard but decided after the first 2 years of SAFMR implementation that the ZIP Code-level approach was simpler.

Dallas spent a significant amount of time considering new payment standards during the initial implementation of SAFMRs. This is due to Dallas having a large number of ZIP Codes in its jurisdiction and SAFMRs being imposed on Dallas, creating an additional burden to a PHA that had altered its operation of the HCV program to meet obligations under a 20-year racial discrimination suit (*Walker* v. *HUD*). Ultimately, Dallas decided to use each ZIP Code's SAFMR as its payment standard, rather than consolidate ZIP Codes into groups. The analysis conducted by Dallas initially required about 120 staff hours from the HCV program vice

president, the chief financial officer, the chief operating officer, and the president and CEO of the PHA.

Initially, Mamaroneck did not set payment standards for all ZIP Codes in the Westchester County, focusing instead only on setting payment standards in areas where HCV holders lived. As tenants moved into new areas, staff added payment standards for the new ZIP Codes. Mamaroneck also analyzed the HUD-provided SAFMRs by ZIP Code to determine whether payment standards should be set at 90 percent, 100 percent, or 110 percent. Prior to SAFMRs, Mamaroneck set payment standards for most bedroom sizes at 110 percent of FMR.

All PHAs other than Plano report that the process of setting payment standards is much more time consuming than the process used before the demonstration, and that this effort is ongoing.

As noted previously, some PHAs reported that SAFMRs lagged the market, and attributed this to inaccurate or outdated market data used by HUD.[50] PHAs can correct for perceived lags relative to the market by setting payment standards at 110 percent of the HUD-established SAFMR. While some PHAs used this flexibility, others did not. For example, Long Beach initially set payment standards at 100 percent of SAFMR and increased them to 110 percent and then 120 percent (with HUD approval) after HCV holders struggled to find units accessible to them. In comparison, Plano reports that SAFMRs lag the market, but does not adjust them in response to this perception.

Exhibit 7-8 summarizes the administrative resources that PHAs used to analyze and set payment standards to implement SAFMRs.

Exhibit 7-8: Administrative Impacts of SAFMRs by PHA on Analyzing and Setting Payment Standards

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
Director—40 hours total to date.	Created or updated ZIP Code and payment standards spreadsheets—100 hours total to date.	VP-HCV, CFO, COO, president/ CEO, 120 hours total to date.	Community program specialist—15 to 16 hours for affordability spreadsheet total to date.	Director—40 hours initially; 10 hours to update annually.	All staff—1 hour total to date.

CEO = chief executive officer. CFO = chief financial officer. COO = chief operating officer. PHA = public housing agency. SAFMR = Small Area Fair Market Rent. VP-HCV = Housing Choice Voucher program vice president.

7.2.4 Rent Reasonableness

In addition to setting payment standards for broad geographical areas, it is the responsibility of each PHA to verify that the rents for each unit are reasonable relative to comparable units.

[50] Note that the age of the data used to calculate SAFMRs is the same as age of the data used to calculate metropolitan area-wide FMRs.

Individual PHAs take different approaches in finding comparable units. Most use databases or websites to find comparable units. Some PHAs manually populate databases, and others are more automated. PHAs that manually populated rent reasonableness databases had higher ongoing costs when the number of payment standards increased. PHAs that were strict in verifying rent reasonableness prior to the SAFMR demonstration minimized the impacts of SAFMRs in some ways. That is, fewer units were likely to face reduced rents in areas with declining payment standards if the PHA had already established that it was paying the reasonable rent as the approved rent would be more likely to fall below the new SAFMR payment standard.

PHAs generally did not find evaluating rent reasonableness to be any more difficult using SAFMRs than metropolitan area FMRs, with one notable exception. Five of the six PHAs reported using an automated rent reasonableness system or some automated source of information for rent reasonableness such as GoSection8, a property rental listings database for PHAs populated with rental unit information by landlords. Landlords list units on this website, families search available units on it, and PHAs use it to select units comparable with those being evaluated. One PHA said the only change to this reported approach is that staff now select comparable units for the rent reasonableness determination only within the same ZIP Code. Exhibit 7-9 presents our assessment of the impact of SAFMRs on rent reasonableness determinations.

Exhibit 7-9: Summary of Hypothesized and Observed SAFMR Impacts: Rent Reasonableness

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional.	• May simplify rent reasonableness determinations, because local area rents are embedded in the SAFMR. • Alternatively, PHA staff may have to be more knowledgeable about sub-areas and may not be familiar with the housing stock and market in higher-opportunity areas.	• With one exception, only minor modifications were needed.	Minor.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

Mamaroneck's PHA is the exception. They reported ongoing higher efforts to conduct rent reasonableness, perhaps in part because as a small PHA, their system for identifying comparable rentals was not automated. In response to the SAFMR demonstration, the Mamaroneck PHA constructed a property information database from scratch and updates it using market listings, generally from the multiple listing service, as well as with data it gathers from surveys it administers to landlords participating in the HCV program and nonparticipating landlords. In addition to rent reasonableness determinations, this database also helps set payment standards by serving as a check on how close market rents are to SAFMRs, among other things.

Creating a ZIP Code-level database was a time-consuming process. Prior to the demonstration, the entire jurisdiction was considered the payment standard area; post-SAFMR, the ZIP Code is

considered the payment standard area. Three property listings for every unit size for each payment standard area are entered into Mamaroneck's rent reasonableness database. Additionally, the PHA does market research in an area every time a participant searches for a new apartment. Database updates require an ongoing effort of about 7 hours a week. Mamaroneck did not have the capacity to take on this additional work, so it initially hired an intern to help with updates. Prior to the demonstration, Mamaroneck collected comparable units from rental advertisements in the newspaper and stored them in tenants' files each year.

Chattanooga and Plano use fully automated systems to determine rent reasonableness, therefore no ongoing costs are associated with rent reasonableness determinations in these PHAs outside of any one-time costs to update the software or search criteria. Cook County has not changed its process to determine rent reasonableness as a result of SAFMRs, so no additional costs have incurred. It continues to use a housing listing website that collects data that landlords input.

Long Beach reported only a one-time cost to determine rent reasonableness under SAFMRs. HUD regulations required Long Beach to complete new rent reasonableness determinations for all units, because SAFMRs led to a decrease in the applicable payment standard of more than 5 percent. This new determination in rent reasonableness, in turn, resulted in Long Beach informing HCV landlords they had to decrease rents. Some landlords accepted lower rents, but many did not. The SAFMR decrease and the resulting rent renegotiations required the PHA to nearly double the number of rent reasonableness determinations from 1,886 units to 3,349 units during the first year of the demonstration.

Dallas reported that additional costs related to extra office support and overtime incurred since the implementation of SAFMRs. Despite these costs, staff reported that rent reasonableness determinations are easier now under SAFMRs, because it is easier to find comparable properties in higher-opportunity areas.

Exhibit 7-10 describes the administrative resources that PHAs used to determine rent reasonableness to implement SAFMRs.

Exhibit 7-10: Administrative Impacts of SAFMRs by PHA on Rent Reasonableness

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
No change.	No change.	Additional office support + overtime (ongoing).	No change.	7 hours per week (ongoing).	No change.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.5 Contract Rent Adjustments

The contract rent is the total rent for a unit and represents the sum of the amount the HCV tenant pays and the amount the PHA pays directly to the landlord. HCV landlords may seek a contract rent adjustment for a number of reasons, one being an increase in payment standards. In areas

where payment standards have gone up, landlords who initially made rent concessions to accommodate specific tenants may be motivated to request contract rent adjustments if they believe the PHA will absorb the increased costs.[51] Similarly, landlords in areas that have not requested rent adjustments on a regular basis (because they knew additional increases would be borne by tenants) may be more likely to request rent adjustments if the costs will not be borne by tenants.

SAFMRs temporarily increased requests from landlords for contract rent adjustments for five of the six PHAs for units in areas where payment standards went up. However, higher payment standards did not always result in the PHA approving the contract rent adjustment because rent reasonableness determinations did not always support the higher rent requested. Two PHAs reported that landlords were often sensitive to whether rent increases fell on tenants or the PHA and withdrew requests for adjustments after becoming aware that tenants would pay higher rents. Exhibit 7-11 presents our assessment of the impact of SAFMRs on contract rent adjustments.

Exhibit 7-11: Summary of Hypothesized and Observed SAFMR Impacts: Contract Rent Adjustments

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional.	• SAFMR payment standards may cause a change in behavior of current landlords and increase the number of requests for rent adjustments or protract the setting process. • Landlords who have not regularly requested rent adjustments, because they knew any additional increase would be borne by the tenant, may request in greater numbers in areas where the payment standard goes up.	• SAFMRs increased requests for rent adjustments for most PHAs, especially in areas where payment standards increased.	Moderate.

SAFMR = Small Area Fair Market Rent.

Chattanooga, Cook County, Laredo, Long Beach, Mamaroneck, and Plano all reported increases in the number of requests for rent adjustments they attributed to the implementation of SAFMRs. Chattanooga reported the greatest impact, stating that it required an estimated 192 hours of the director's time in the first year to respond to increased requests. PHAs reported that the increase in requests for contract rent adjustments was temporary. Exhibit 7-12 describes the administrative resources that PHAs used to make contract rent adjustments to implement SAFMRs.

[51] Note that landlords should only request contract rent adjustments if they believe their units are worth more on the market, but other factors probably play a role in contract rent adjustment requests.

Exhibit 7-12: Administrative Impacts of SAFMRs by PHA on Contract Rent Adjustments

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
Director—192 hours to respond to increase in requests.	No change.	Additional overtime, landlord services.	No change.	None named.	Slight increase during change in standards.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.6 Inspection System and Process Changes

SAFMR impacts on unit inspections were moderate. The inspection process required no changes; however, with units in neighborhoods that had previously been difficult for HCV holders to access becoming accessible under SAFMRs, the units needing inspection became more geographically dispersed in most PHA jurisdictions, which required inspectors to travel longer distances. In addition, as HCV holders responded to higher payment standards and searched for units in higher-cost neighborhoods, the number of inspections temporarily increased. Dallas, the largest PHA, hired two new inspectors to compensate for longer travel times. Chattanooga hired a part-time inspector to work on a contract basis for the same reason. Exhibit 7-13 presents our assessment of the impact of SAFMRs on inspection systems and processes.

Exhibit 7-13: Summary of Hypothesized and Observed SAFMR Impacts: Inspection System and Process Changes

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional, ongoing.	• If HCV holders become more dispersed, this increase in areas where HCV holders live may have an effect on inspector productivity and increase travel costs. • In some locations, inspectors are part of the rent reasonableness process. Inspectors will need to become familiar with housing stock and rents in additional areas.	• No necessary changes to process. • More need for inspections as the number of moves increased; more geographically dispersed units also meant longer travel times for inspectors.	Moderate.

SAFMR = Small Area Fair Market Rent.

Exhibit 7-14 describes the administrative resources that PHAs used to make inspection system and process changes to implement SAFMRs.

Exhibit 7-14: Administrative Impacts of SAFMRs by PHA Inspection System and Process

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
New hire: contract inspector—$15,000/year for overflow inspections	No change	Two new inspectors hired (ongoing)	Increased number of inspections (ongoing)	Increase in travel distance for inspections (ongoing)	No change

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.7 Procedures and Staff Training

Most PHAs conducted formal or informal staff training about the demonstration, impact letters sent to HCV holders, and new payment standards. Some PHAs reported that training was considerable. For others, it was minimal, taking place during regular team meetings or on the job. Exhibit 7-15 presents our assessment of the impact of SAFMRs on PHA procedures and staff training.

Exhibit 7-15: Summary of Hypothesized and Observed SAFMR Impacts: Procedures and Staff Training

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional.	• Will require development of detailed procedures and policies, as well as training and retraining of staff at all levels. • Experience with the program will both enable and require the PHA to make improvements in procedures and training over time. The end of the 2-year hold harmless period reduces the need for manual selection of payment standards.	• Some retraining needed.	Moderate.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

Exhibit 7-16 describes the administrative resources that PHAs used for changes in procedures and staff training to implement SAFMRs.

Exhibit 7-16: Administrative Impacts of SAFMRs by PHA on Procedures and Staff Training

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
Staff training / SAFMR: Director, housing specialist, inspector	Training held as part of regular staff meetings	$40,000 in staff training (total, one-time)	Phone calls with HUD, increase in staff trainings	Increase in trainings	Staff trainings

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.8 Education and Support for Tenants

Upon implementation of SAFMRs, HCV holders faced the challenge of understanding how the new policy affected the units they could afford. All PHAs had to update materials they provide to landlords and tenants, as well as content on PHAs' websites to reflect SAFMRs. Examples of materials included a chart of payment standards by unit size and ZIP Code and a brief explanatory letter. Some materials were mailed to HCV holders as part of the reexamination packet. PHAs also regularly conduct briefings to inform HCV holders about the HCV program and/or as part of the reexamination process, and they also provided SAFMR-related materials to HCV holders in these briefings. Most PHAs found that these updates and changes to briefings required only limited effort.

With the transition period completed, all PHAs except Dallas report that ongoing efforts to educate and support HCV holders in response to SAFMR are not needed. After explanation from the PHA and some experience with the demonstration, HCV holders (according to PHAs) now understand the program and what they can afford.

Plano lengthened the usual briefing to explain SAFMRs. They reported that updates to materials came at a one-time estimated cost of $750. Long Beach and Mamaroneck noted that attendance at briefings was initially higher than usual, because more households requested moves. Long Beach reported that updates to materials and the website were the only changes needed to the PHA's communication strategy with HCV holders, and that these required about 16 hours of the community program specialist's time. Mamaroneck could not provide cost estimates for updating briefing materials.

Only Dallas reported holding any additional briefings during the first year of implementation to explain SAFMRs. The PHA estimated that these additional briefings came at a cost of $55,000 in the first year and $10,000 each year since initial implementation. Dallas also reported creating new relocation and briefing packets and a new client guide.

Exhibit 7-17 presents our assessment of the impact of SAFMRs on education and support for tenants.

Exhibit 7-17: Summary of Hypothesized and Observed SAFMR Impacts: Education and Support for Tenants

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
One-time, transitional, ongoing.	• Unless a PHA has already administered a mobility program, the associated level of effort encouraging and assisting households to consider moving to higher-opportunity areas is likely to increase. • Current program participants living in areas where payment standards decrease will need additional staff	• New relocation and briefing packets • Longer briefings with tenants in some cases • With two exceptions,	Moderate.

	attention in understanding both the timing and the impact of payment standard reductions on individual situations. • Some PHAs do not hold in-person briefings for current HCV participants who move. With SAFMR, PHAs likely will have to schedule additional briefings.	PHAs have not increased efforts to encourage or assist households to move.	

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

Additional Search Assistance Provided to HCV Holders

With two exceptions, PHAs did not increase the search assistance provided to HCV holders in response to the demonstration. As part of normal course of operations, all the SAFMR PHAs provide at least limited search assistance, such as maintaining lists of available units on their websites or referring HCV holders to online rental listing services. Four of the seven PHAs provided more extensive search assistance or mobility counseling to HCV holders than the basic required level of support, even before adoption of SAFMRs. PHAs with no additional search assistance or mobility counseling report that this is because their operating budgets are not able to fund it.

Cook County was one of the two PHAs that expanded search assistance in response to the demonstration. Cook County staff reported perceiving SAFMRs as key to the PHA's efforts to provide successful mobility counseling. Although Cook County has had some form of a mobility program for a number of years, staff said the success of the program has been limited by low payment standards under metropolitan area FMRs relative to market rents in higher-opportunity neighborhoods. Staff describe previous mobility counseling efforts as reactive to tenants interested in moving to higher-opportunity neighborhoods.

Cook County's expanded mobility program proactively encourages tenants to move. With the introduction of SAFMRs and the ability to more closely approximate market rents in higher-cost neighborhoods, Cook County began providing mobility counseling targeting five different groups, adapting its approach to the needs and interests of each group: serial movers (those who moved in each of the past 3 years, to focus on family stability), those living in higher-poverty areas, families enrolled in the Family Self Sufficiency program, families on the waiting list, and families issued vouchers because they wished to move who ended up staying in place. Cook County reported helping over 150 households with moves to higher-opportunity neighborhoods between 2016 and 2017.

A second PHA, Long Beach, also added mobility counseling services to help HCV holders search in higher-opportunity areas. The primary source of information for HCV holders searching for units had traditionally been the GoSection8 website, but Long Beach added mobility counseling in 2016 in response to declining numbers of landlords listing properties on the website. PHA staff believe this decline was because the PHA's payment standards were low relative to the market. Long Beach offers small-group mobility counseling to HCV holders when

their voucher search time nears expiration or has been extended. The counseling is an added responsibility for the deputy executive director, with no new staff hired to perform this function.

Chattanooga and Dallas are PHAs where tenants receive more than basic search assistance (both before and after adoption of SAFMRs). Chattanooga has a *housing navigator* who establishes relationships with landlords (some of whom have waived application fees and security deposits to make it easier for families to lease up), meets with tenants, and negotiates rent on behalf of HCV holders when needed. In part, a grant from the Maclellan Foundation funded the position, beginning in 2015, to address the needs of homeless and HCV holders with disabilities who were unable to find suitable housing without assistance. The housing navigator also lists units available to HCV holders on Chattanooga's website. The position was not created in response to SAFMRs but may be useful to HCV holders interested in moving to higher-opportunity neighborhoods.

The Dallas PHA reported that it does not provide housing search and related assistance for HCV holders moving to higher-opportunity areas because outside housing counseling agencies provide this service. The three remaining PHAs provide only limited search assistance to HCV holders, and the level of assistance did not change either with SAFMR implementation or in response to declining payment standards in some areas. For example, Laredo provides HCV holders with lists of landlords. Mamaroneck conducts new tenant briefings, during which they provide lists of landlords. Plano lists rental units on its website.

Financial Assistance Provided to HCV Holders

PHAs generally did not provide financial assistance to HCV holders as part of the SAFMR demonstration. In Cook County, however, households participating in the mobility program who were moving to higher-opportunity areas received up to $500 in assistance to cover security deposits. This amount increased to $1,000 in July 2016 as part of Cook County's new mobility counseling program. No other PHA provided financial assistance to HCV holders as part of the SAFMR demonstration. Mamaroneck has a long-standing practice of referring HCV holders to the Westchester County Department of Social Services for assistance with security deposits, although recently assistance has generally been reserved for households being evicted. This practice did not change when the demonstration was implemented.

Exhibit 7-18 describes the administrative resources that PHAs used for changes in education and support for tenants to implement SAFMRs.

Exhibit 7-18: Administrative Impacts of SAFMRs by PHA on Education and Support for Tenants

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
Tenant briefings	Created new mobility counseling program in conjunction with SAFMRs;	$55,000 in first year for increase in number of relocation briefings;	Community program specialist—16 hours total for updates to materials and	Tenants given more information during normal briefings; minimal	$750 for updated materials total; Finance director—10

	updated briefing materials.	$10,000/year ongoing cost. New relocation and briefing packets; new client guide.	website. Tenants given more information during normal briefings. Deputy Director provides mobility counseling.	additions to the website and forms.	hours total. Longer briefings with tenants.

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.9 Education and Support for Landlords

Some PHAs made efforts to recruit new landlords and educate current landlords, especially PHAs whose HCV holders struggled to find units. PHA efforts to support landlords included letters or outreach to inform them about the demonstration and updated information on PHA websites. One PHA created a property owners lease-up guide to explain the HCV program and provide SAFMR demonstration information. Several PHAs said they hold regular forums, meetings, or fairs with landlords, and they used these opportunities to discuss the SAFMR demonstration. Other PHAs held meetings specifically to explain the demonstration or to orient new landlords. Two PHAs held meetings in higher-opportunity areas in an effort to recruit new landlords. One PHA met with rental agents to explain the demonstration. Another PHA temporarily hired a real estate agent at the beginning of the demonstration to recruit new landlords.

Exhibit 7-19 presents our assessment of the impact of SAFMRs on PHAs' education and support for landlords.

Exhibit 7-19: Summary of Hypothesized and Observed SAFMR Impacts: Education and Support for Landlords

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional.	• Landlords currently participating in the HCV Voucher program will require more education to understand impact on current tenants. Landlord behaviors and questions will be different depending on whether payment standards decrease or increase. • New landlords in higher-opportunity areas initially may require higher levels of attention until they become familiar with the SAFMR program.	• Moderate amount of landlord education.	Moderate.

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent.

In Long Beach, where the demonstration caused a decline in the number of units affordable to HCV holders, the PHA made extensive efforts to educate existing landlords and recruit new

landlords. They sent letters to landlords and held monthly landlord meetings, as well as events for landlords in higher-opportunity areas; created an infomercial for its website; advertised with real estate and apartment association magazines; and held new owner orientations.

In addition to updating briefing materials, Chattanooga began holding monthly meetings for landlords. They reported monthly meetings as an ongoing annual cost of approximately $500.

Exhibit 7-20 describes the administrative resources that PHAs used for changes in procedures and staff training to implement SAFMRs.

Exhibit 7-20: Administrative Impacts of SAFMRs by PHA on Education and Support for Landlords

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
$500 for monthly landlord meetings (ongoing)	None reported	Additional landlord training	Recruiting events held; landlord mailing; advertising; created new owner orientation; newsletter; attendance at apartment association meetings and trade shows	Landlords given more information during normal briefings	None reported

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.10 Quality Assurance

Most PHAs reported that, initially, on adoption of SAFMRs, the incidence of errors made by staff related to selecting the correct payment standards increased. The reported frequency of errors declined over time as staff learned new systems and processes. Exhibit 7-21 presents our assessment of the impact of SAFMRs on quality assurance.

Exhibit 7-21: Summary of Hypothesized and Observed SAFMR Impacts: Quality Assurance

Type of Impact	Hypothesized Impacts	Observed Impacts	Magnitude of Observed Impacts
Transitional.	• HUD-50058 errors based on selection of the wrong payment standard are not unusual even with area-wide FMRs. When selecting the payment standard, staff may confuse the voucher size for which the family qualifies and the unit size the family selects. Staff may also need to select among multiple payment standard schedules when processing a dated or retroactive transaction. SAFMRs increase this risk and will require vigilant quality assurance processes.	• Five of seven public housing agencies reported short-term increases in quality assurance efforts.	Minor.

FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.

With many more payment standards and a 2-year adjustment period for tenants in ZIP Codes where payment standards declined, five PHAs reported that the number of errors initially increased. Mamaroneck reported no increase in errors, although an initial effort was made to increase data quality checks. One PHA did not have information about error rates.

As a result of increases in errors, most PHAs increased their quality assurance efforts (for example, by doubling the number of files reviewed for accuracy), although the increase in the overall level of effort was modest. The largest reported effort was about 5 hours per month.

Exhibit 7-22 describes the administrative resources that PHAs used for changes in quality assurance to implement SAFMRs.

Exhibit 7-22: Administrative Impacts of SAFMRs by PHA on Quality Assurance

PHA					
Chattanooga	**Cook County**	**Dallas**	**Long Beach**	**Mamaroneck**	**Plano**
Director—65 hours per year	Increase in HUD-50058 errors	More frequent quality control	Increase in file review	Increase in data quality checks	Increase in errors, additional data quality checks

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.

7.2.11 Voucher Success Rates

Changes in the share of HCV holders who successfully use HCVs to lease a unit (success rates) can affect both the wellbeing of HCV holders and the administrative workload of PHAs, who need to issue more vouchers to utilize the same amount of funds if success rates decline. Because the number of units under lease affects the amount of administrative fees earned by a PHA, the HCV unit utilization rate also has implications for both lower-income families and PHAs. The unit utilization rate is the average share of authorized units that the PHA has under lease during the year.

As noted previously, both the hypothesized and actual effects of SAFMR on voucher success rates are ambiguous. If landlords in higher-opportunity ZIP Codes are reluctant to rent to HCV holders, SAFMRs could reduce success rates. On the other hand, if SAFMRs successfully increase access to higher-opportunity ZIP Codes for HCV holders without decreasing the willingness of landlords in lower-opportunity ZIP Codes to rent to HCV holders, voucher success rates could increase.

Most PHAs believed that SAFMRs were a factor in voucher success rates, but other factors were far more important. For example, Cook County and Mamaroneck did not see an impact from SAFMRs but believed that legislation banning discrimination on the basis of source of income improved voucher success rates substantially. Laredo, Long Beach, and Plano could not isolate the impact of SAFMRs from other factors they saw as being more important, such as overall changes in the rental housing market including vacancy rates and gentrification.

Likewise, Dallas reported that overall market conditions and other factors determined the success rate, not SAFMRs. In addition to a tightening rental market, Dallas reported that voucher success rates dropped sharply in 2014, but that this decrease was related to a change in the occupancy standard that reduced the number of bedrooms for which tenants qualified.[52] Some households were over-housed as a result of the change and moved to units with fewer bedrooms to avoid an increase in their share of the rent.

In contrast, Chattanooga reported that SAFMRs affected voucher success rates and utilization positively because of the improved access to higher-rent ZIP Codes.

7.2.12 Adequacy of Supplemental Administrative Fees

Recognizing that PHAs implementing SAFMRs incur costs to transition from metropolitan area FMRs to SAFMRs, HUD provided supplemental administrative fees based on the fees incurred during the implementation of SAFMRs in Dallas. The increase varied by the number of HCVs administered by the public housing agency, up to a maximum of $300,000 for the five demonstration PHAs (Kahn and Newton, 2013). The additional administrative fees were anticipated to cover additional expenses such as upgrading computer software used to administer the HCV program, additional outreach and briefings for families and landlords on the SAFMRs, assistance with relocation issues resulting from SAFMRs, changes to rent reasonableness determinations, additional training and hiring of staff, and other necessary expenses.

PHAs were fairly evenly split in reporting whether the additional administrative fees HUD provided were sufficient to cover the expenses involved in implementing and administering SAFMRs. Some PHAs reported that the additional administrative fee provided adequately covered the up-front costs, but they indicated ongoing costs were not covered now that the demonstration has ended. For example, one PHA hired a contract inspector to handle the overflow work arising when units are more geographically dispersed, resulting in longer travel times. This expense is reported to be ongoing, but the additional administrative fee is not.

PHAs also expressed concern that their administrative fees from HUD could decline due to SAFMRs if increases in the average housing assistance payment led to a corresponding decline in the number of vouchers a PHA could issue. HUD pays administrative fees based on the number of units leased in a given month. This issue is addressed in the next section.

7.3 Other Impacts of SAFMR on PHAs

In addition to the administrative expenses and time associated with the one-time costs of implementing SAFMRs described above, the shift to SAFMRs could lead to changes in the PHAs' Housing Assistance Payment (HAP) costs and the administrative fee the PHA could earn.

[52] It was not uncommon for PHAs to change occupancy standards in response to sequestration, but Dallas was the only one among the demonstration PHAs that did so.

During the first round of site visits, PHAs reported that they had not experienced higher HAP costs (in fact, the interim report showed that average HAP costs across all sites actually declined), perhaps because the policy had not been in place long enough to significantly influence HCV holders' choice of neighborhoods. As will be discussed in chapter 8, our analysis indicates that average HAP costs increased in 2017 compared with 2015 but are still lower than they were in 2010 ($699 in 2017 compared with $741 in 2010 in 2017 dollars).

During the second site visit, Cook County, Plano, and Mamaroneck all reported higher HAP costs compared with the previous year. Cook County estimates that HAP costs have increased an average of $40 per unit, and attributes this to the mobility counseling program. Staff reported that without mobility counseling, decreases in payment standards in lower-rent neighborhoods would balance out increases in higher-rent neighborhoods.

Plano also reported higher per-unit HAP costs, and said that because of this, they have had to issue fewer vouchers to avoid budget over-utilization. Plano noted that it is now more difficult to create a projected budget, because of the variability in the payment standards across ZIP Codes. In response, the PHA reported that it has become somewhat more conservative in the number of vouchers it issues, which also affects unit utilization. Because PHAs are paid an administrative fee per occupied unit, a decrease in unit utilization reduces PHAs' revenues, and therefore budget. According to Plano, the PHA has experienced a decline in administrative fee revenue as a consequence of SAFMRs, which has meant laying off some staff members.

Our analysis in chapter 8 does not support the perception of higher HAP costs, showing instead flat costs in 2017 compared with 2010 in both Mamaroneck and Cook County, and slightly lower costs in Plano. Differences between PHAs' perceptions and our findings could be related to a comparison of real versus nominal dollars (our analysis uses inflation-adjusted costs). Federal voucher funding did not keep pace with inflation in housing costs for several years during the evaluation period, and it is also possible that this, and not SAFMRs, resulted in a need to issue fewer vouchers.

7.4 Overall PHA Impressions of the SAFMR Policy

All the PHAs in the Demonstration evaluation except Laredo are continuing to use SAFMRs. Laredo's primary concern with SAFMRs seemed to be the possibility of increasing HAP costs and the added burden of administering and explaining multiple payment standards to HCV holders.

Under the SAFMR Final Rule, the Dallas, TX HUD Metro FMR Area, which includes both Plano and Dallas, is required to continue to use SAFMRs. However, both of these PHAs had a negative view of the SAFMR policy and believe the benefits to the policy do not outweigh the costs. For example, Dallas PHA staff said the burden of administering ZIP Code-based payment standards, explaining the policy to HCV holders and landlords, and the potentially harmful effects on elderly households outweighed any benefit HCV holders experience from increased access to higher-opportunity neighborhoods.

Among the remaining four PHAs, all saw the policy as being a net benefit. Although SAFMRs are mandatory for several of these PHAs now that SAFMRs are being rolled out nationally, others such as Chattanooga and Mamaroneck are continuing to use SAFMRs voluntarily because of what they see as positive impacts of the policy. These PHAs see SAFMRs as offering the chance for HCV holders to live in safer neighborhoods with good schools and other opportunities. One staff member from the Chattanooga PHA said, "It is worth the pain. … It's an opportunity for tenants. It was a change for the better."

8. Fiscal Effects of Small Area Fair Market Rents on Public Housing Agencies, Housing Choice Voucher Holders, and Landlords

At least three groups are financially affected by the changes in HCV payment standards resulting from SAFMRs.

- PHAs—by changes in per-unit and total Housing Assistance Payment (HAP) contract costs.
- Landlords—by new payment standards affecting program HAP contract payments they receive.
- HCV holders—by changes in the HCV holder contributions to rents resulting from new payment standards.

This chapter describes the effects of SAFMRs on payment standards and rents. We start by examining changes in average payment standards overall and separately for each PHA. We then describe rent-related effects of SAFMRs on PHAs, HCV holders, and landlords.

8.1 Average per-Unit Payment Standards

As described in chapter 7, following the change from metropolitan area FMRs to SAFMRs, each PHA had to determine the level at which to set its payment standards. PHAs could (and sometimes did) simply opt to use the SAFMR as the payment standard, or they could vary the payment standard from 90 to 110 percent of the SAFMR in any particular ZIP Code. PHAs also had the option to set separate payment standards for each ZIP Code or combine multiple ZIP Codes into a single zone in order to reduce the total number of payment standards.

In this section, we examine the average per-unit payment standard in 2010, 2015, and 2017. Changes over time stem both from the switch from metropolitan area FMRs to SAFMRs *and* from discretionary decisions that PHAs made in setting payment standards under the new SAFMR regime. The payment standard is important, because it affects the maximum rents that a HCV holder can afford and, consequently, the amount of subsidy (for a given voucher), that the PHA may need to expend.

In general, changes in average payment standards result from:

- Increases in payment standards applicable to households that live in higher-rent ZIP Codes.
- Offset by decreases in payment standards applicable to households that live in lower-rent ZIP Codes.

The magnitude of changes in payment standards in each location and the number of households residing in each type of location determine the net effect. In other words, average payment standards are strongly affected by SAFMRs' success in moving households from lower-rent

neighborhoods to those with higher rents. Ultimately, they determine the amount of HAP subsidies that PHAs need to expend.

Exhibit 8-1 compares changes over time in average payment standards for both SAFMR and the 138 comparison PHAs in order to shed light on the impact of SAFMRs on changes in payment standards. The exhibit shows overall changes and changes for units renting in each rent ratio category. All measures in this chapter have been adjusted for housing cost inflation over time to 2017 dollars by multiplying each cost by the ratio of 2017 average total cost for each PHA's cluster to each respective year's average total cost for that cluster. We include statistical comparisons of 2015 to 2017 in addition to comparisons between each and 2010 because of the prevalence of reversals of the direction of a change observed from 2010 to 2015 in the subsequent change observed between 2015 and 2017. Because of this, whether the incremental changes (2010 to 2015 and 2015 to 2017) and are statistically significant is interesting in additional to whether the net change (2010 to 2017) is statistically significant. We also calculate and report statistical significance for whether the net change from 2010 to 2017 differs between SAFMR and comparison PHAs.

Exhibit 8-1 shows an overall sharp decline in average payment standards after SAFMRs were initially implemented (between 2010 and 2015), and this initial outcome moderated between 2015 and 2017. Between 2010 and 2015, the average payment standard decreased in real terms (in 2017 dollars) by about 11 percent in the SAFMR PHAs (from $1,170 to $1,049), a difference that is statistically significant at the 0.001 level.[53] In contrast, the average payment standard decreased by about 2 percent in the comparison PHAs (from $1,031 to $1,010). The declines in payment standards in the 2010 to 2015 period among SAFMR PHAs are the result of the combination of an 18-percent decrease in the average payment standard of units in lower-rent ZIP Codes, a 7-percent decrease in moderate-rent ZIP Codes, and an increase of about 10 percent in higher-rent ZIP Codes.[54] The sharp reduction in average per-unit payment standard between 2010 and 2015 indicates that increases in payment standards for households in higher-rent neighborhoods were more than offset by lower payment standards for households in lower-rent neighborhoods.

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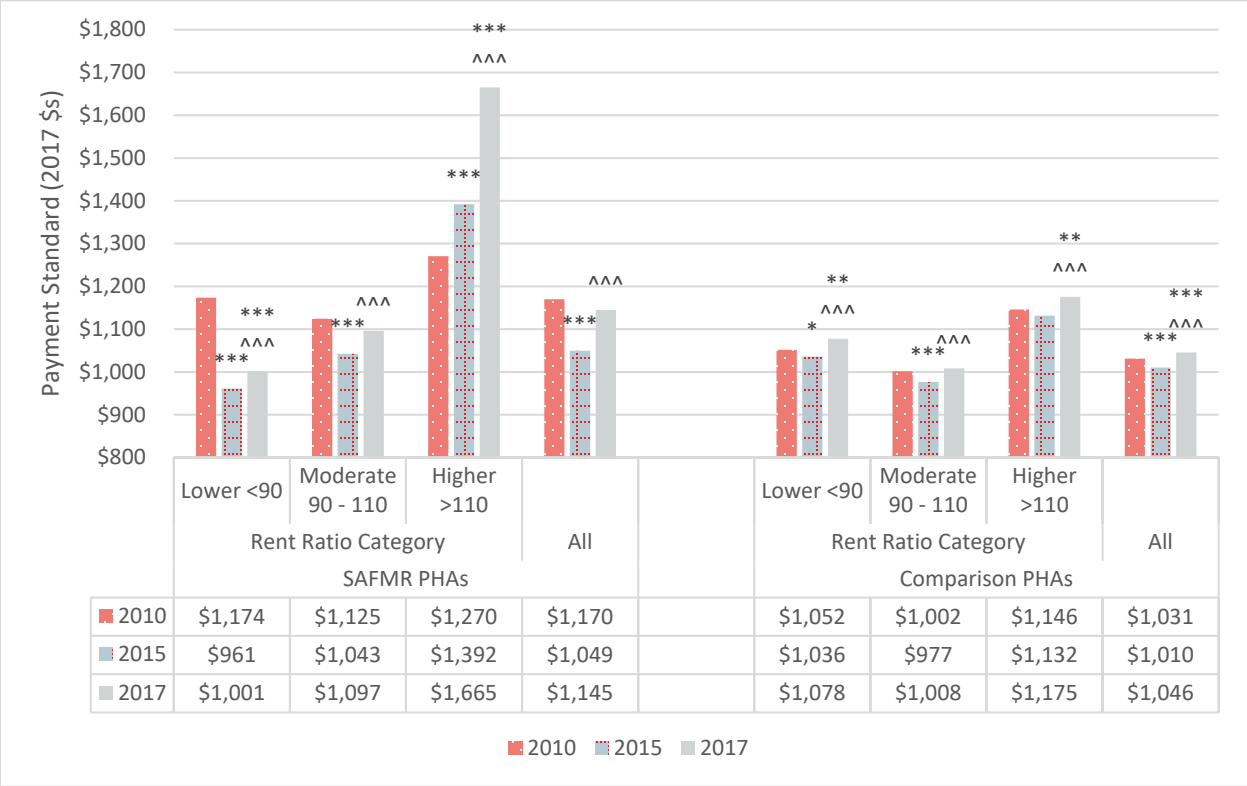
[53] All values in this chapter are expressed in 2017 dollars so that reported changes over time are changes in real terms. As outlined in chapter 3, to adjust for inflation, we calculate the average total housing cost (total rent to owner plus utility allowance) for each cluster of the comparison PHAs for each year. We then inflate data for 2010 and 2015 to 2017 dollars by multiplying each dollar-denominated outcome by the total cost in that cluster in 2017 divided by the total cost in the cluster in 2010 and 2015, respectively. Conclusions are not changed when analysis uses CPI to adjust for inflation.

[54] The overall average is the average of each category weighted by the share of the HCV holders that live in ZIP Codes in the category, which is reported in Exhibit 5-2.

Exhibit 8-1: Average Payment Standard by Rent Ratio, SAFMR and Comparison PHAs



	SAFMR PHAs				Comparison PHAs			
Rent Ratio Category	Lower <90	Moderate 90 - 110	Higher >110	All	Lower <90	Moderate 90 - 110	Higher >110	All
2010	$1,174	$1,125	$1,270	$1,170	$1,052	$1,002	$1,146	$1,031
2015	$961	$1,043	$1,392	$1,049	$1,036	$977	$1,132	$1,010
2017	$1,001	$1,097	$1,665	$1,145	$1,078	$1,008	$1,175	$1,046

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$198***	-$35	$365***	-$39

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***,**,* For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001.
Source: HUD Public and Indian Housing Information Center administrative data

The large declines in payment standards between 2010 and 2015 in lower- and, to a lesser extent, and moderate-rent neighborhoods in SAFMR PHAs were somewhat moderated by 2017. At the same time, the average per-unit payment standard in higher-rent areas increased markedly between 2015 and 2017. It appears that PHAs set payment standards closer to 110 percent of SAFMR in 2017 than they did in 2015. This is consistent with findings from our site visits. For example, Chattanooga and Long Beach both reported that they initially set payment standards at 100 percent of the SAFMR in each ZIP Code, but later increased payment standards to 110 percent lower-rent neighborhoods after the hold harmless period ended. Payment standards in lower- and moderate-rent neighborhoods increased by 4 and 5 percent respectively in SAFMR

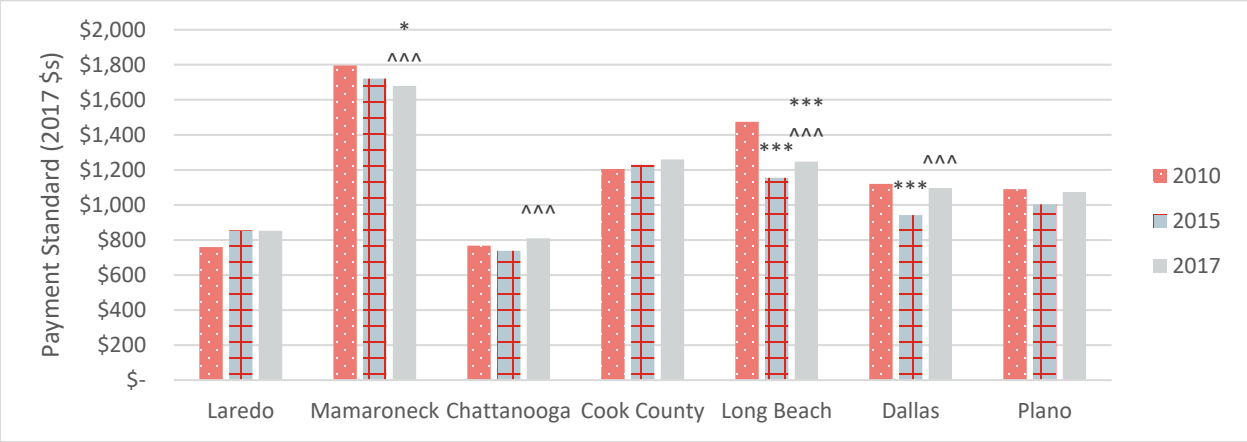
PHAs between 2015 and 2017, similar to the increases observed in comparison PHAs in each rent ratio category. By contrast, payment standards in higher-rent neighborhoods increased by 20 percent in SAFMR PHAs, but by only 4 percent in the comparison PHAs.

The changes in average payment standards in each ZIP Code rent ratio category together result in an average overall increase in payment standards of 8 percent between 2015 and 2017 in SAFMR PHAs. The average per-unit payment standard also rose between 2015 and 2017 among comparison PHAs, rising by 3 percent. Despite increasing between 2015 and 2017, the average 2017 payment standards in SAFMR PHAs are still 6 percent below the 2010 average (after adjusting for inflation using cluster-level changes in total rental costs). By contrast, the average 2017 payment standards in comparison PHAs are 1 percent above the 2010 level.

The table at the bottom of Exhibit 8-1 reports the resulting calculated difference between SAFMR and comparison PHAs in the average net change in payment standards between 2010 and 2017. We find a nearly $200 lower net change in lower-rent ZIP Codes and a $365 higher net change in higher-rent ZIP Codes. Both are statistically significantly different from zero at the 0.001 level. The overall net changes, however, differ by just -$39, and are not statistically significantly different from zero.

We report the combined overall average payment standard for all ZIP Codes at each SAFMR PHA in Exhibit 8-2. Average payment standards declined between 2010 and 2015 for all SAFMR PHAs except Laredo and Cook County. The only statistically significant changes between 2010 and 2015 were in Long Beach and Dallas. Between 2015 and 2017, average payment standards increased in all SAFMR PHAs except Mamaroneck and Laredo. Overall, average payment standards in 2017 are statistically significantly different, and lower, from 2010 in Long Beach (at the 0.001 level) and Mamaroneck (at the 0.05 level), and not statistically significantly different from 2010 in all other SAFMR PHAs.

Exhibit 8-2: Average Payment Standards by Site, All ZIP Codes

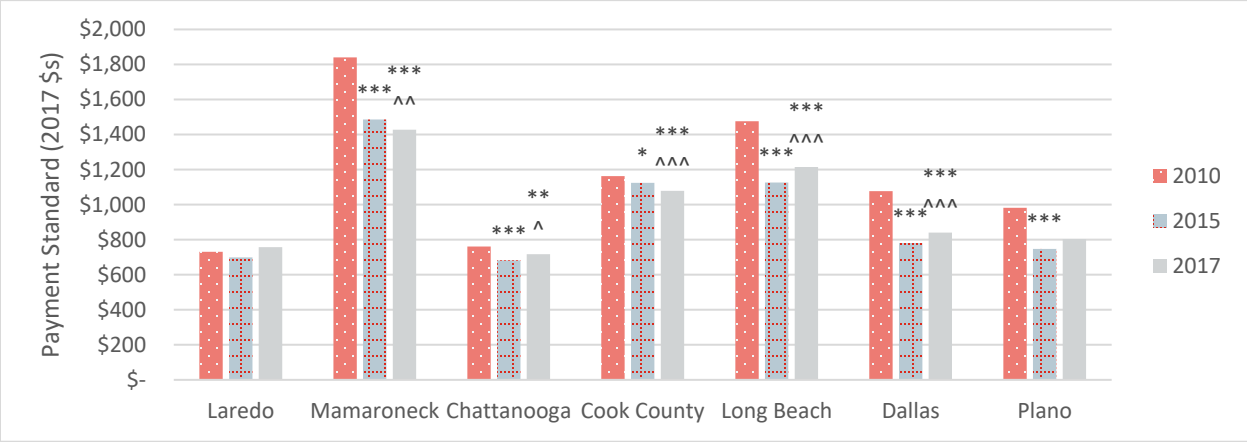


PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001 and * <0.05. In 2015: ^^^ <0.001.
Source: HUD Public and Indian Housing Information Center administrative data

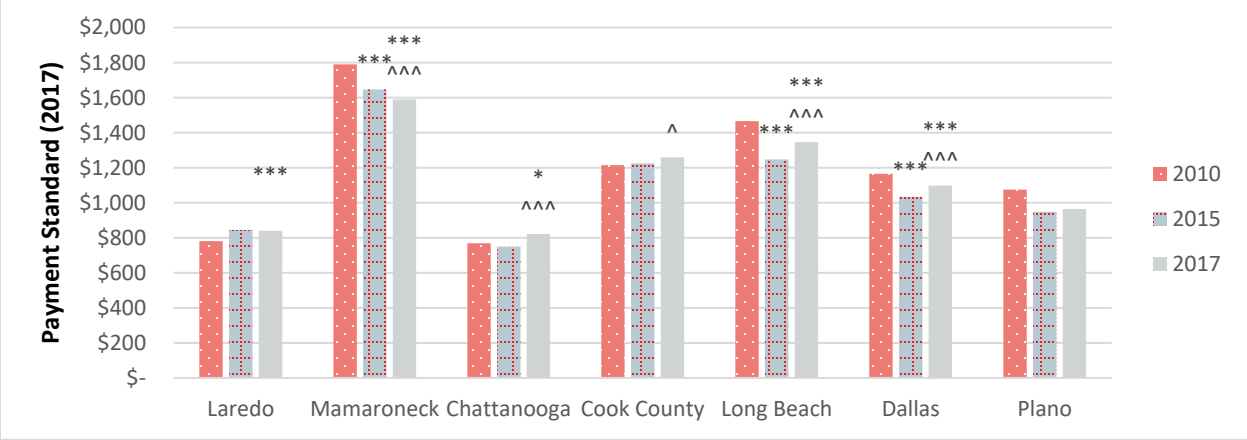
Exhibit 8-3 presents the information separately for each of the SAFMR PHAs by rent ratio, showing a similar pattern to the overall totals for all SAFMR PHAs in Exhibit 8-1, although the magnitude of the changes varied across sites. The largest decreases in payment standards from 2010 to 2015 in lower-rent ZIP Codes were in Dallas, Long Beach, Mamaroneck, and Plano. The largest increases in payment standards in higher-rent ZIP Codes were in Cook County and Laredo. Mamaroneck and Plano saw minimal changes in payment standards in the higher-rent ratio category during this time period despite the switch to SAFMRs. Between 2015 and 2017, average payment standards in the lower-rent ZIP Codes rebounded somewhat in Chattanooga, Long Beach, and Dallas (all statistically significantly different), but continued to decline in Cook County (which did not see as large of a decrease initially). Average per-unit payment standards in higher-rent neighborhoods increased between 2015 and 2017 in five of the seven SAFMR PHAs, with the largest increases in Dallas and Long Beach.

Exhibit 8-3: Average Payment Standards by Rent Ratio by Site

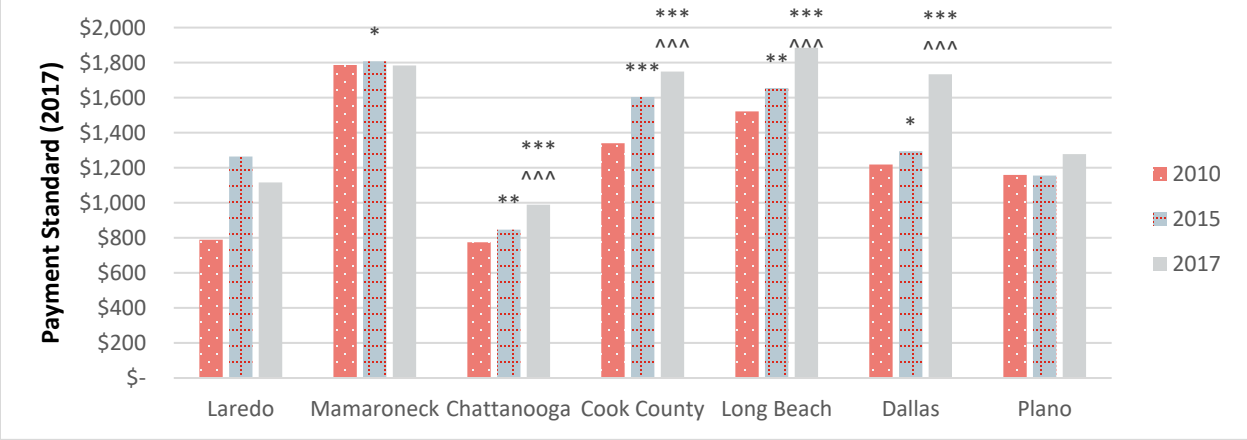
Lower-Rent ZIP Codes (Rent Ratio < 90)



Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)



Higher-Rent ZIP Codes (Rent Ratio > 110)



PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Seven ZIP Codes contained more than two HCV holders in Laredo in 2015 and 2017, so statistical testing is not possible for lower- and higher-rent ZIP Codes.
Source: HUD Public and Indian Housing Information Center administrative data

8.2 Rent-Related Effects of SAFMRs

8.2.1 PHA Effects: HAP Payments to Landlords

SAFMRs appear to have an impact on PHAs' HAP payments to landlords. Exhibit 8-4 shows HAP payments incurred by PHAs. In 2010, HAP payments across SAFMR PHAs averaged $741 per unit (in 2017 dollars after adjusting for cluster-level trends in total housing cost) and $644 in 2015 for an average decrease of 13 percent. In contrast, the average HAP decreased from $641 to $612, a decline of about 4 percent, in the comparison PHAs. A different pattern emerged between 2015 and 2017. Payments to landlords increased by about 9 percent between 2015 and 2017 in the SAFMR PHAs (from $644 to $699), while they stayed virtually flat in the comparison PHAs (rose from $612 to $619). Overall, between 2010 and 2017, HAP payments to landlords declined in both SAFMR and comparison PHAs but declined by a bit more in the SAFMR PHAs (6 percent) than in the comparison PHAs (4 percent). These differences between 2017 and 2010 are statistically significantly different at the 0.05 level for SAFMR PHAs and at the 0.001 level for comparison PHAs.

Note that HAP payments can change for reasons other than changes in rents and payment standards. For example, increases in HCV holder incomes and decreases in the applicable utility allowance can lead to increases in HCV holder contributions to rent that result in decreases in HAP payments by PHAs to landlords.

In the SAFMR PHAs, average per-unit HAP payments decreased by 21 percent in lower-rent ZIP Codes and increased by about 6 percent in higher-rent ZIP Codes between 2010 and 2015. The decrease in lower-rent ZIP Codes was slightly offset by an increase of 2 percent from 2015 to 2017 (but the increase is not statistically significant). Meanwhile, average HAP at the SAFMR PHAs increased dramatically (by 21 percent) between 2015 and 2017 in the higher-rent ZIP Codes. Overall, between 2010 and 2017, the average per-unit HAP payments in SAFMR PHAs decreased by 19 percent in lower-rent ZIP codes and increased by 6 percent in higher-rent ZIP Codes, with both changes statistically significant at the 0.001 level. By contrast, in the comparison PHAs, the changes in HAP payments were similar across rent categories, with an overall average decline of 2 percent in the lower-rent ZIP Codes (statistically significant at the 0.05 level) and by 4 percent in the higher-rent ZIP Codes (statistically significant at the 0.001 level) between 2010 and 2017.

The table at the bottom of Exhibit 8-2 reports the resulting calculated difference between SAFMR and comparison PHAs in the net change in average per-unit HAP payments between 2010 and 2017. In lower-rent ZIP Codes, the net change in average per-unit HAP payments is -$129, while in higher-rent ZIP Codes, the net change is $262. Both are statistically significantly different from zero at the 0.001 level. The overall net changes, however, differ by just -$19, and are not statistically significantly different from zero.

Exhibit 8-4: HAP Costs for SAFMR and Comparison PHAs by Rent Ratio

	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$742	$710	$815	$741		$650	$622	$728	$641
2015	$589	$637	$868	$644		$631	$589	$692	$612
2017	$603	$668	$1,049	$699		$640	$594	$700	$619

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$129***	-$15	$262***	-$19

HAP = Housing Assistance Payment. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***,**,* For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^,^^,^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001, 0.01, and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Our analysis shows that, while the direction of changes in HAP and payment standards associated with the introduction of SAFMRs are similar, the changes in HAP may lag changes in payment standards. Among SAFMR PHAs, HAP decreases were smaller than payment standard decreases between 2010 and 2015, particularly in higher-rent ZIP Codes. And then subsequent increases between 2015 and 2017 were also smaller for HAP than for payment standards. This disparity may be because once payment standards change, it takes time for landlords to adjust rents—for example, to request rent increases (and for PHAs to approve the requests)—or because some rents are already reasonable below both the old and new payment standard.

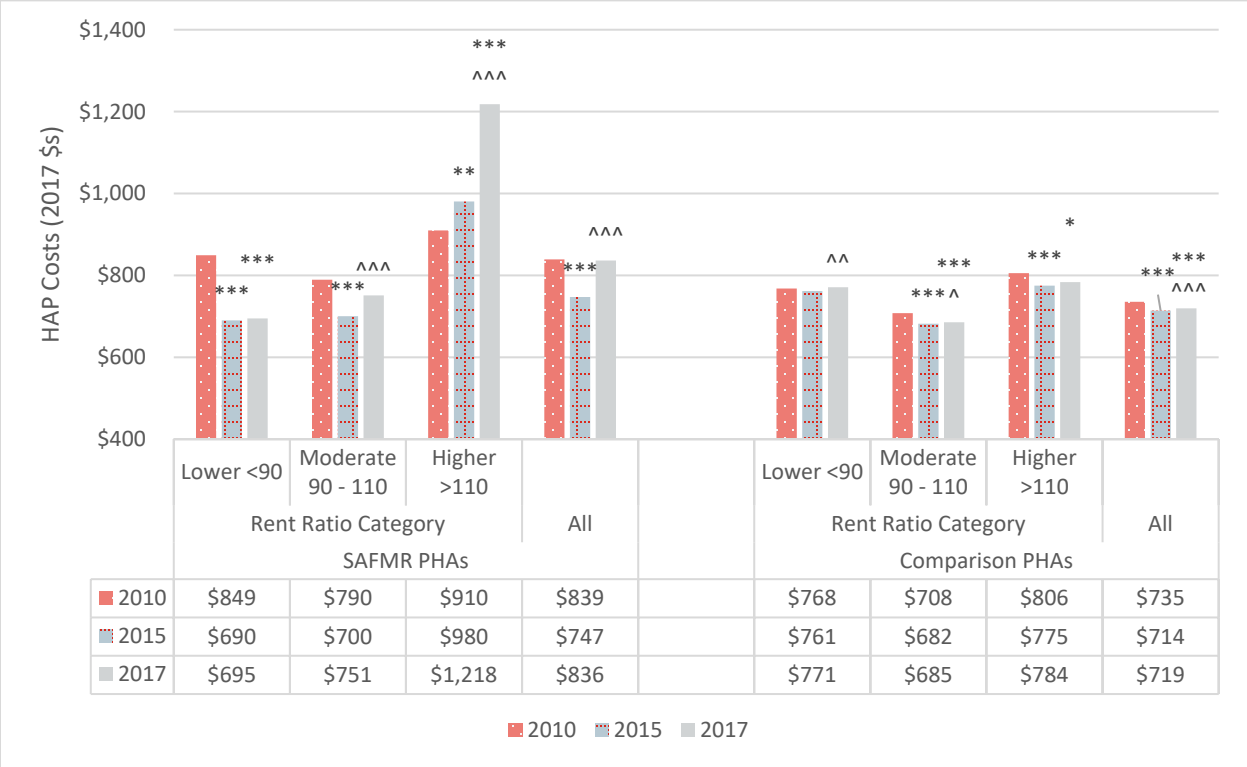
Changes in HAP payments can differ for our key subgroups of families with children, seniors, and heads or co-heads with a disability for a number of reasons. These include the different outcomes for moving decisions (whether to move and to what kind of neighborhood) after changes in payment standards due to SAFMRs that we reported in chapter 5 and differences in external factors such as employment outcomes that change over time. Exhibit 8-5 reports changes in HAP payments for families with children. The patterns of changes in average HAP payments before and after the introduction of SAFMRs for families with children are similar in nature to those for all households. Between 2010 and 2017, average HAP payments for families with children declined substantially by $154 in lower-rent ZIP Codes and increased substantially in higher-rent ZIP Codes by $308. These changes ultimately cancel out in the overall average, with average HAP payments in 2010 and 2017 within $3 of each other. In comparison PHAs HAPs decrease slightly across all neighborhood types between 2010 and 2017, with a decrease of $16 across all ZIP Code types. As a result, the difference in differences calculations for 2010 to 2017 are a net -$158 difference in lower-rent ZIP Codes and a $330 difference in higher-rent ZIP Codes, both statistically significant at the 0.001 level. There is effectively no differential change in the HAP costs across all neighborhood types.

A slightly different pattern emerges for households with seniors and heads or co-heads with a disability. As shown in Exhibits 8-6 and 8-7, these households experienced a large decline in average payment standard between 2010 and 2015 of $70 for seniors and $92 for households with adults with disabilities, driven by larger declines for households in lower-rent ZIP Codes that were not offset by increases in higher-rent ZIP Codes. This decline was moderated somewhat by increases in average HAP costs between 2015 and 2017 in all ZIP Code types, but the resulting 2017 HAP is still lower than the 2010 HAP (after adjusting for inflation), by $29 for households with a senior and by $42 for households with a head or co-head with a disability. Smaller, albeit statistically significant changes are observed over the same time periods for these subgroups for the overall average in comparison PHAs.

In our conversations with PHAs, they noted with concern that decreasing payment standards could result in decreasing HAP payments for seniors and disabled individuals who might find it more challenging to move. Those unable to negotiate lower rents with their landlord would face an increase in their own rental contribution. PHAs discussed options for mitigating such situations, including PHA staff directly negotiating with landlords and individual payment standard exceptions.

The difference-in-differences calculations for these groups are reported in Exhibits 8-6 and 8-7. They suggest that these concerns are valid in that the differential changes in HAP payments for households with seniors and headed or co-headed by adults with disabilities are of similar magnitudes and statistical significance to those reported for all households in Exhibit 8-4 in all but the higher-rent neighborhoods. In these neighborhoods, the differential increases are on average not as large.

Exhibit 8-5: HAP Costs for SAFMR and Comparison PHAs by Rent Ratio—Families with Children

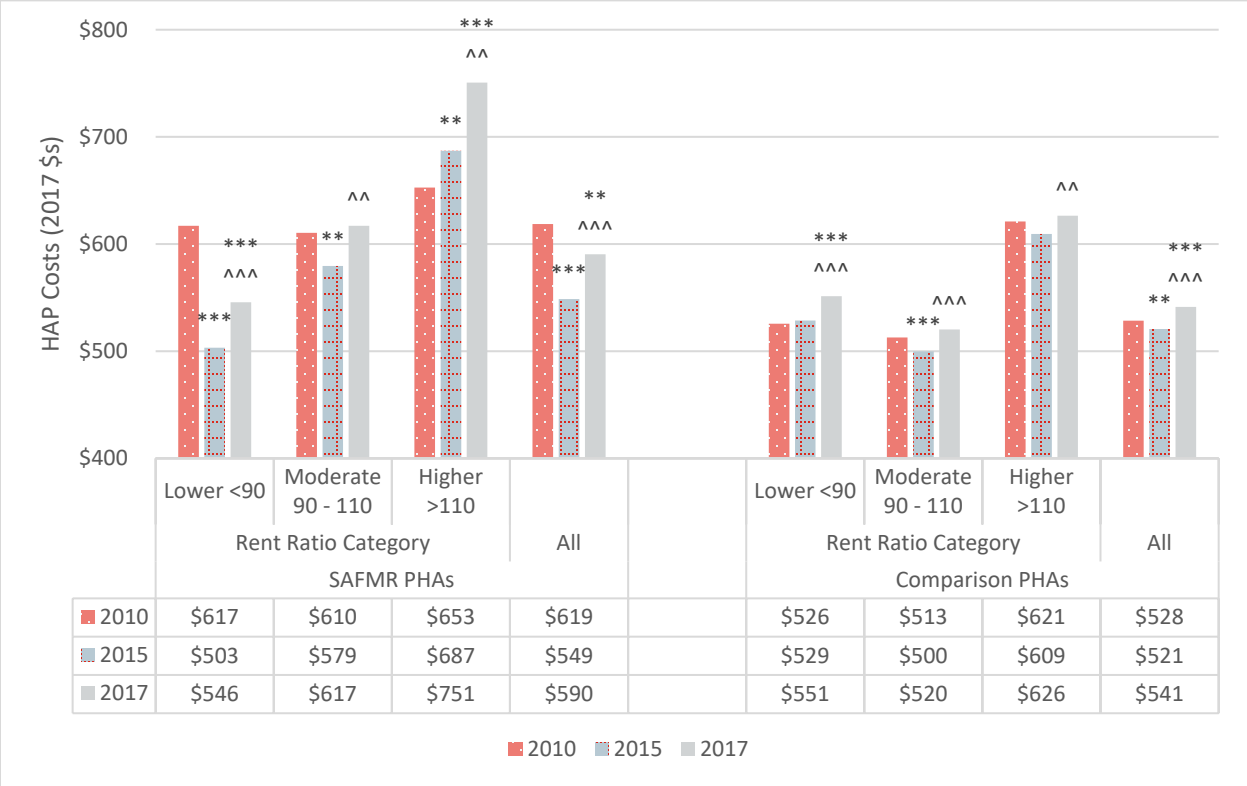


	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
	Rent Ratio Category			All		Rent Ratio Category			All
2010	$849	$790	$910	$839		$768	$708	$806	$735
2015	$690	$700	$980	$747		$761	$682	$775	$714
2017	$695	$751	$1,218	$836		$771	$685	$784	$719

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$158***	-$16	$330***	$13

HAP = Housing Assistance Payment. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***,**,* For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^,^^,^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001, 0.01, and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-6: HAP Costs for SAFMR and Comparison PHAs by Rent Ratio—Seniors



	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$617	$610	$653	$619		$526	$513	$621	$528
2015	$503	$579	$687	$549		$529	$500	$609	$521
2017	$546	$617	$751	$590		$551	$520	$626	$541

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$97***	-$1	$92**	-$41***

HAP = Housing Assistance Payment. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, ** For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001 and 0.01. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001 and 0.01.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-7: HAP Costs for SAFMR and Comparison PHAs by Rent Ratio—Adults with Disabilities

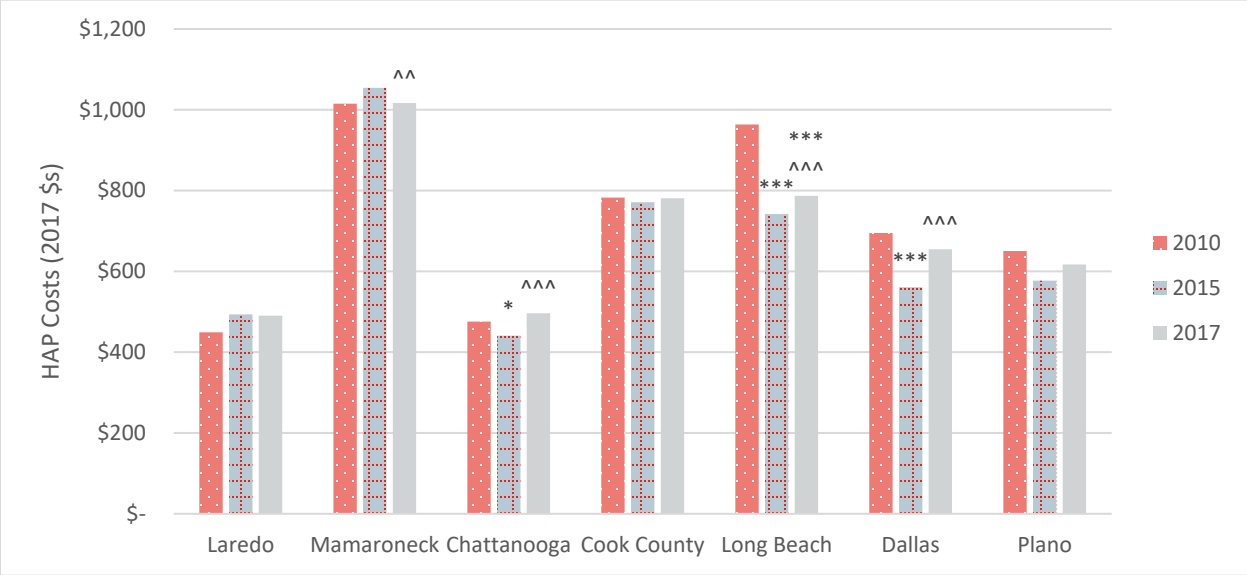
	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
	Rent Ratio Category			All		Rent Ratio Category			All
2010	$678	$655	$728	$676		$566	$541	$644	$559
2015	$539	$602	$765	$584		$559	$522	$619	$542
2017	$575	$640	$893	$634		$578	$539	$640	$561

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$115***	-$13	$169***	-$44***

HAP = Housing Assistance Payment. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, **, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001.
Source: HUD Public and Indian Housing Information Center administrative data

The combined average result of changes in HAP payments by SAFMR PHA across all ZIP Code types is reported in Exhibit 8-8. By 2017, average HAP costs are not statistically significantly different than the 2010 level in any SAFMR PHA except Long Beach, where they remain substantially lower. Because we adjust for inflation in total housing costs observed in comparison PHA clusters, these average *real* HAP costs differ from PHAs' perception of HAP costs as they relate to the implementation of SAFMRs. In fact, average *nominal* (not inflation-adjusted) HAP costs are higher in 2017 than in 2010 in all but Long Beach (results not displayed). But even these higher nominal HAP costs have not kept pace with increasing nominal HAP costs in comparison PHAs not using SAFMRs.

Exhibit 8-8: HAP Costs by Site

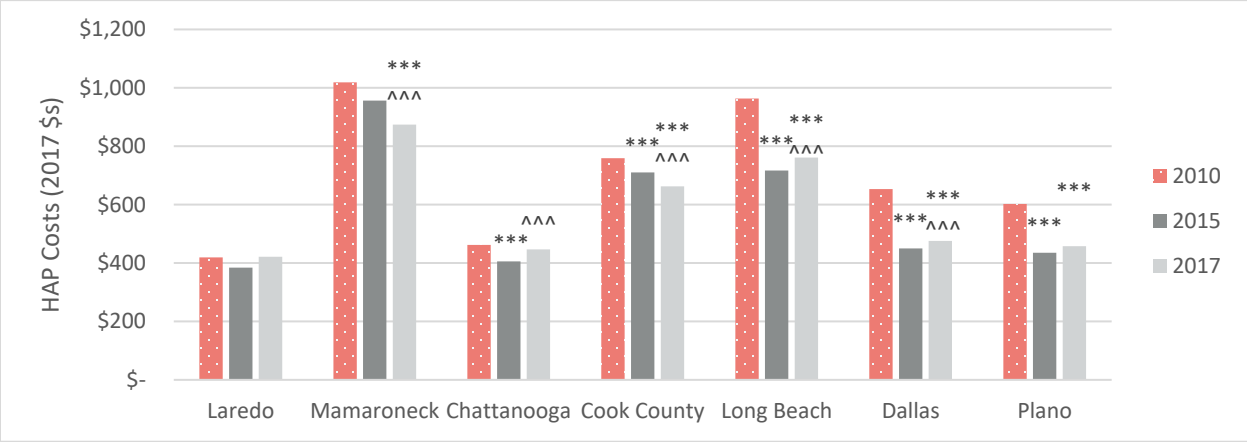


HAP = Housing Assistance Payment.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01.
Source: HUD Public and Indian Housing Information Center administrative data

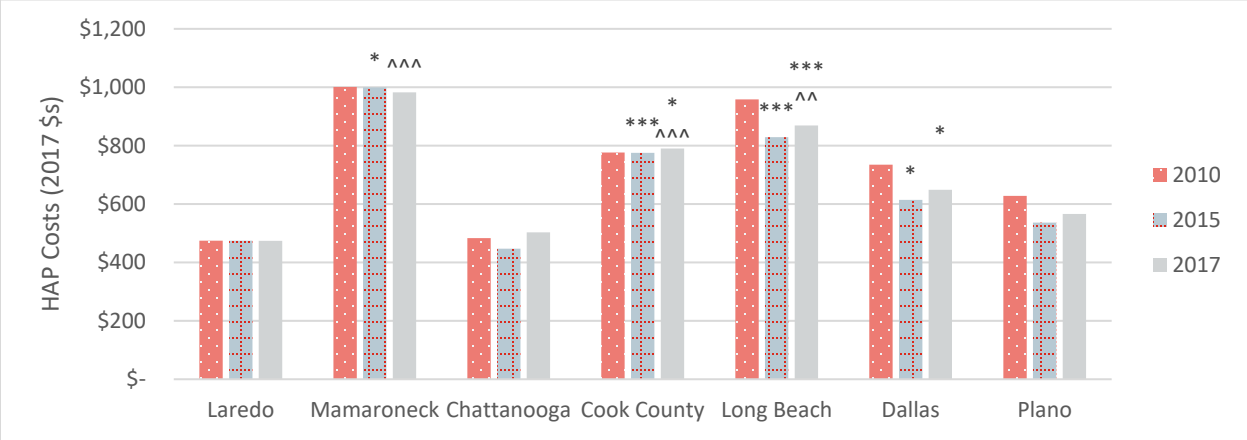
Exhibit 8-9 shows changes in HAP payments across sites by ZIP Code rent ratio. As expected, the change in HAP payments follows a similar pattern to the change in payment standards. Average per-unit HAP payments in lower-rent ZIP Codes saw the largest decreases between 2010 and 2017 in Dallas, Long Beach, and Plano. Average per-unit HAP payments in higher-rent ZIP Codes saw increases between 2010 and 2017 in all SAFMR PHAs and are all statistically significant except Laredo and Mamaroneck (where samples sizes are small) and Plano.

Exhibit 8-9: HAP Costs by Site by ZIP Code Rent Ratio

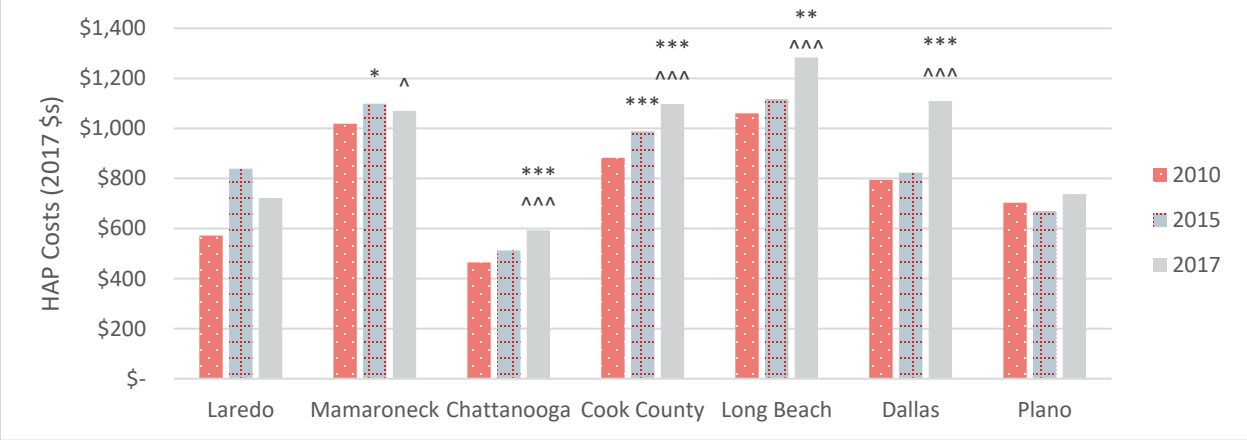
Lower-Rent ZIP Codes (Rent Ratio < 90)



Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)



Higher-Rent ZIP Codes (Rent Ratio > 110)



HAP = Housing Assistance Payment.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Seven ZIP Codes contain more than two HCV holders in Laredo in 2015 and 2017, so statistical testing is not possible for lower- and higher-rent ZIP Codes.
Source: HUD Public and Indian Housing Information Center administrative data

8.2.2 HCV Holder Effects: HCV Holder Contributions to Rent

We now look at the fiscal effects of the change to SAFMRs on HCV holders in terms of their housing costs.

HCV Holders' Contributions to Rent

Exhibit 8-10 shows how HCV holder's monthly contribution to rent changed following the introduction of SAFMRs. In the SAFMR PHAs, HCV holder contributions increased an average of 18 percent (in real terms) between 2010 and 2015. HCV holder contributions to rent increased the most in lower-rent ZIP Codes, increasing from $368 to $448, or a 22-percent increase—perhaps due to increases in rent contributions by HCV holders who did not wish to move despite drops in payment standards that lowered HAP payments to landlords on their behalf. HCV holder contributions to rent also rose substantially in moderate-rent ZIP Codes between 2010 and 2015, rising from $384 to $441, a 15-percent increase. The increase in HCV holder contributions to rent in higher-rent ZIP Codes was smaller, rising from $423 to $469, or an 11-percent increase. These changes were partially offset by subsequent declines in HCV holder rent contributions between 2015 and 2017 across all neighborhood types. However, average contributions remain $42 (11 percent) higher in 2017 than in 2010 across all neighborhood types, after adjusting for inflation. Between 2010 and 2017, average contributions to rent in SAFMR PHAs rose by $51 (14 percent) in lower-rent neighborhoods, $27 (7 percent) in moderate-rent neighborhoods, and $24 (6 percent) in higher-rent neighborhoods. These increases are all statistically significant at the 0.001 level.

A more muted pattern applied in the comparison PHAs, where HCV holder contributions rose by about 9 percent between 2010 and 2015, with roughly similar increases across all ZIP Code rent categories. These increases were also offset by slight declines (between $6 and $10 across different rent ratio categories), leaving family contributions toward rent $26 (7 percent) higher in 2017 than in 2010.

Taken together, the data for the two sets of PHAs suggests SAFMRs led to a $16 differential increase in HCV holder contributions across all neighborhood types between 2010 and 2017. This was driven in particular by a differential increase in lower-rent areas of $30. Average HCV holder contributions in higher-rent ZIP Codes actually increased more in comparison PHAs (9 percent) than in SAFMR PHAs (6 percent). But because of the much larger increase in HCV contributions to rent in lower-rent ZIP Codes at SAFMR PHAs (14 percent) than comparison PHAs (6 percent), average HCV holders' rent contributions increased more in SAFMR PHAs (11 percent) than in comparison PHAs (7 percent). Changes between 2010 and 2017 are statistically significant at the 0.001 level in all categories for both SAFMR and comparison PHAs. The difference-in-differences statistics in lower-rent ZIP Codes and for all ZIP Code types combined are statistically significant at the 0.001 level.

Exhibit 8-10: Average HCV Holder Contribution to Rent by Rent Ratio

	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$368	$384	$423	$380		$347	$356	$414	$358
2015	$448	$441	$469	$449		$378	$387	$459	$391
2017	$419	$411	$447	$422		$368	$381	$451	$384

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	$30***	$1	-$14	$16

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
*** For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^^, ^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001, 0.01, and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data.

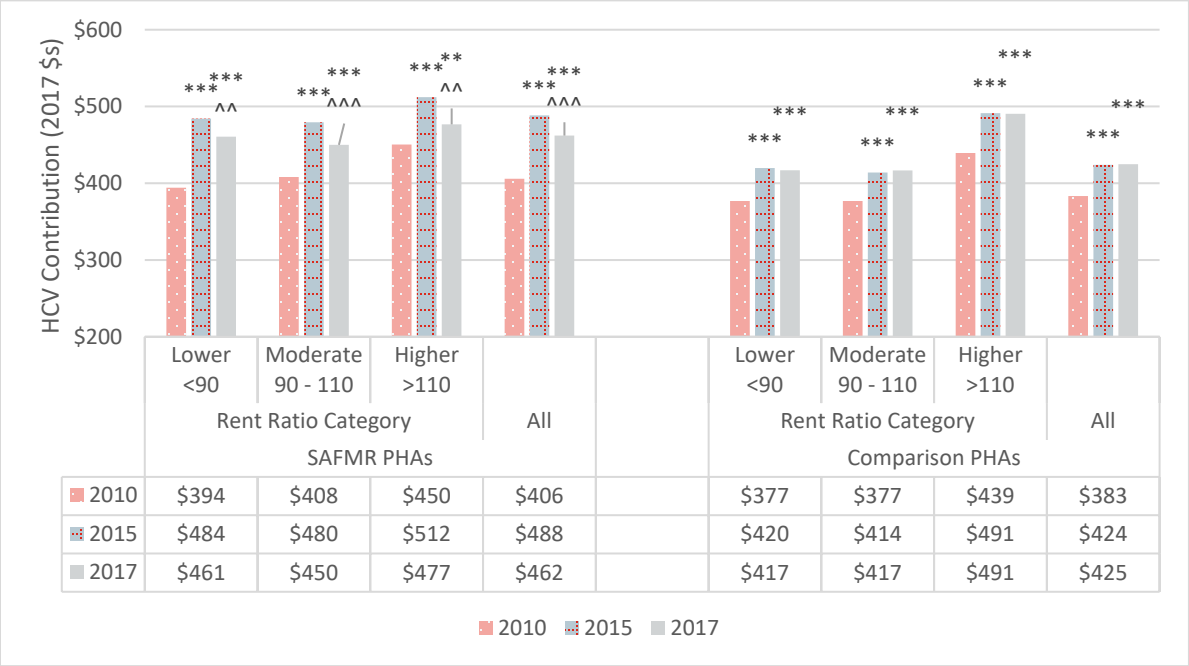
Note that changes in HCV holder contributions to rent can result from changes in payment standards (particularly when payment standards decrease without corresponding decreases in unit rents), changes in the actual rents of selected units, changes in HCV holder incomes, and changes in utility allowances. Although voucher holders may not spend more than 40 percent of income at the time of initial lease up, they are able to contribute more of their income after the first year of a lease.

HCV Holders' Contributions to Rent for Key Subgroups

Exhibits 8-11 through 8-12 report average HCV holder rent contributions for our key subgroups. Of HCV holders, families with children have a similar pattern as all voucher holders. The increases in rent contributions between 2010 and 2015 were larger for households in lower and moderate rent ZIP Codes in SAFMR PHAs than for their counterparts in comparison PHAs. Subsequent declines between 2015 and 2017 across all neighborhood types offset this difference but did not eliminate it. In lower-rent ZIP Codes, the difference between the rent contributions of HCV holders with children in 2017 and 2010 was larger in SAFMR PHAs than in comparison PHAs. However, in higher-rent ZIP Codes, the increase in average HCV holder rent contributions for families with children between 2010 and 2017 was smaller in SAFMR PHAs than in comparison PHAs. For all HCV holders with children, contribution to rent increased by $56 (14 percent) in SAFMR PHAs and by $42 (11 percent) in comparison PHAs. Both of these differences between 2010 and 2017 are statistically significant at the 0.001 level. The resulting difference-in-differences statistics are very similar in magnitude to those for all HCV holders. The differential change in average HCV Holder contribution in lower-rent ZIP Codes is $26, and the differential change in higher-rent ZIP Codes is -$26, both statistically significant at the 0.01 level.

We observe qualitatively similar trends in HCV holder rent contribution for households with seniors or with a head or co-head with a disability. Increases in HCV holder rent contribution between 2010 and 2015 were larger in SAFMR PHAs than in comparison PHAs, particularly for households living in lower-rent ZIP Codes. While the offsetting declines in HCV holder contributions between 2015 and 2017 were larger for these subgroups than for the entire sample, these households were still paying a larger (and statistically significantly different) amount for rent in 2017 than in 2010. The average increase between 2010 and 2017 for seniors across all neighborhood types was $26 per month in SAFMR PHAs as compared to $7 in comparison PHAs. The increase for households with a head or co-head with a disability was $24 per month in SAFMR PHAs as compared to $7 in comparison PHAs. The differences in differences statistics show a statistically significant differential increase in lower-rent neighborhoods and for all neighborhood types for both subgroups.

Exhibit 8-11: Average HCV Holder Contribution to Rent by Rent Ratio—Families with Children



	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$394	$408	$450	$406		$377	$377	$439	$383
2015	$484	$480	$512	$488		$420	$414	$491	$424
2017	$461	$450	$477	$462		$417	$417	$491	$425

2010 to 2017 difference in differences	Rent Ratio Category: Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	$26**	$2	-$25**	$15**

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, ** For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001 and 0.01. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001 and 0.01.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-12: Average HCV Holder Contribution to Rent by Rent Ratio—Seniors

	SAFMR PHAs					Comparison PHAs			
	Rent Ratio Category			All		Rent Ratio Category			All
	Lower <90	Moderate 90 - 110	Higher >110			Lower <90	Moderate 90 - 110	Higher >110	
2010	$351	$361	$363	$355		$341	$352	$382	$350
2015	$441	$391	$382	$417		$369	$379	$419	$379
2017	$398	$362	$366	$381		$347	$356	$397	$357

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	$41***	-$3	-$12	$20***

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, **, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001 and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-13: Average HCV Holder Contribution to Rent by Rent Ratio—Families with Adults with Disabilities

	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$349	$358	$361	$352		$328	$342	$390	$342
2015	$431	$395	$401	$415		$354	$368	$421	$368
2017	$384	$363	$378	$376		$335	$349	$398	$349

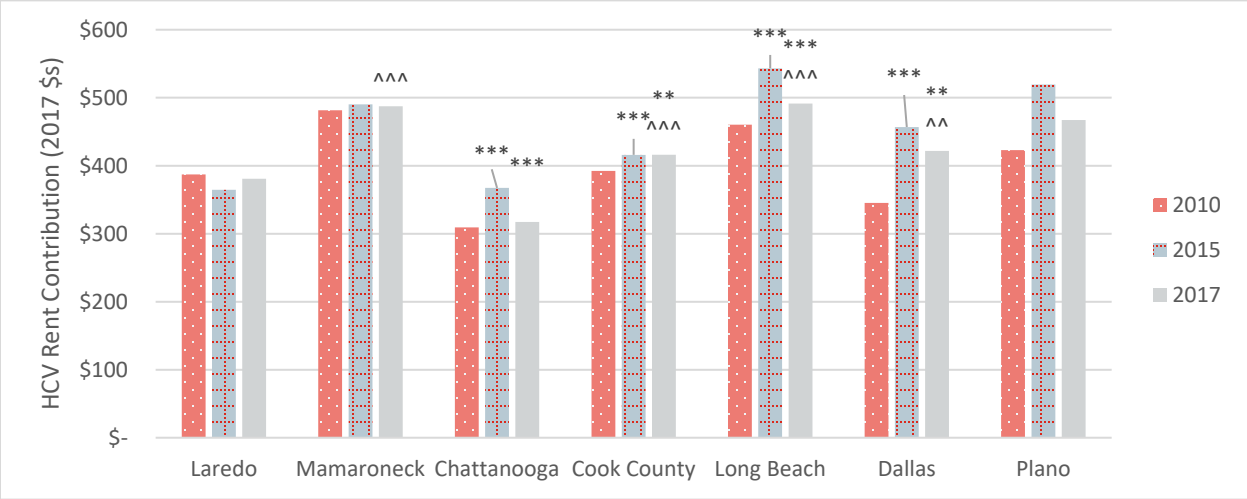
2010 to 2017 difference in differences	Rent Ratio Category: Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	$29***	-$1	$9	$17***

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001 and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001 and 0.01.
Source: HUD Public and Indian Housing Information Center administrative data

HCV Holders' Contributions to Rent by Site

Exhibit 8-14 shows the average HCV holder contribution to rent by SAFMR PHA (across all ZIP Code rent ratio categories). In all PHAs except Laredo, average HCV holder contributions increased between 2010 and 2015. Between 2015 and 2017, HCV holder contributions then shifted back towards 2010 levels in all PHAs but Cook County, although differences between 2010 and 2017 remained statistically significant in Chattanooga, Cook County, Long Beach, and Dallas.

Exhibit 8-14: Average HCV Holder Contribution to Rent by Site



HCV = Housing Choice Voucher.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01. In 2015: ^^^ <0.001, ^^ <0.01.
Source: HUD Public and Indian Housing Information Center administrative data

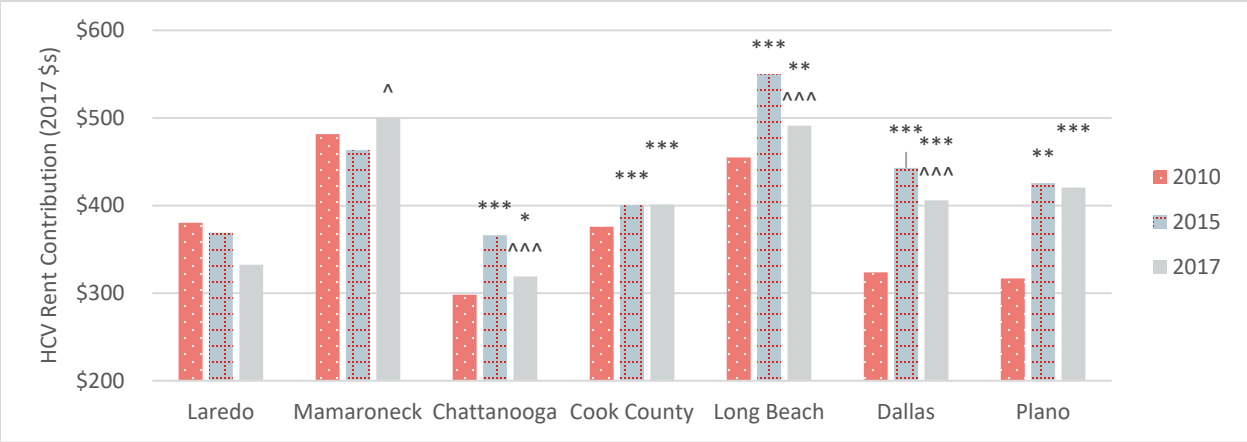
A comparison of Exhibits 8-14 and 8-2 and a review of tenant and landlord's possible reactions to changes in payment standards suggest changes in payment standards drive these patterns in tenant contributions. In SAFMR PHAs, from 2010 and 2015, and again for 2015 to 2017, as average payment standards decrease, average tenant contributions increase (although not necessarily proportionally), and as average payment standards subsequently increase, average tenant contributions decrease. These patterns suggest that HCV holders are making up at least some of the difference between a unit rent and the new payment standard by paying more rent when payment standards decline (or do not keep up with rent increases) and have a declining contribution when payment standards increase. A comparison of the same exhibits broken out by ZIP Code rent ratio type (Exhibits 8-15 and 8-3) confirm and strengthen this interpretation.

HCV Holders' Contributions to Rent by Site by Rent Category

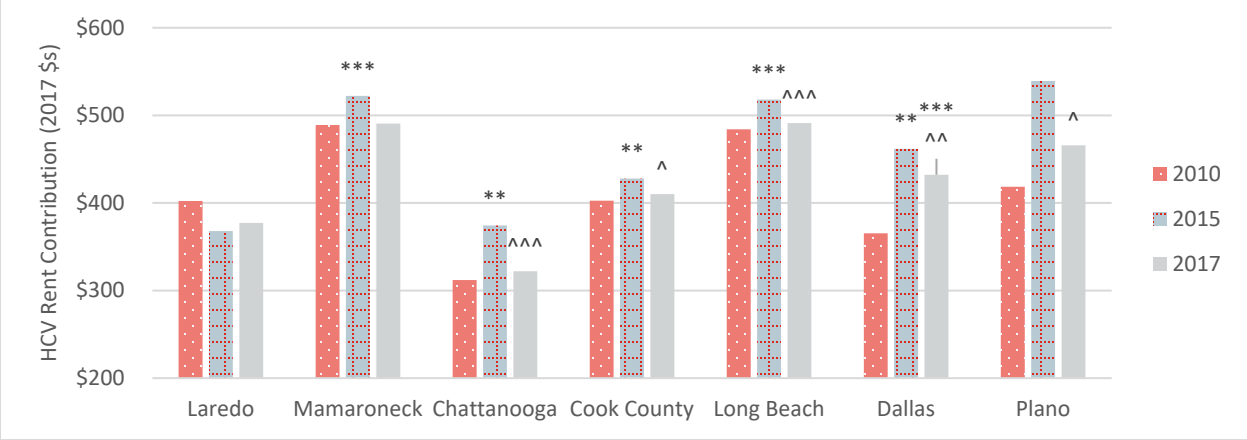
Exhibit 8-15 shows HCV holder contributions to rent by SAFMR PHA for each rent category. In lower-rent ZIP Codes, most PHAs generally follow a similar pattern of substantial increases in HCV contributions to rent between 2010 and 2015—23 percent in Chattanooga, 7 percent in Cook County, 37 percent in Dallas, 21 percent in Long Beach, and 34 percent in Plano. In Laredo and Mamaroneck, average tenant contributions to rent actually declined; however, as noted, the sample size in Mamaroneck was very small, so regard this finding with caution. Between 2015 and 2017, previous increases in HCV holder contributions to rent in lower-rent ZIP Codes were offset by declines in Chattanooga, Long Beach, and Dallas. Still, the 2017 averages remained above the 2010 baseline in each of these three PHAs, and differences are statistically significant. Meanwhile, HCV holder contributions in lower-rent ZIP Codes in Cook County and Plano were essentially unchanged from 2015 to 2017, and so remained statistically significantly higher in 2017 than in 2010.

Exhibit 8-15: Average Monthly HCV Holder Contribution to Rent by Site by ZIP Code Rent Ratio

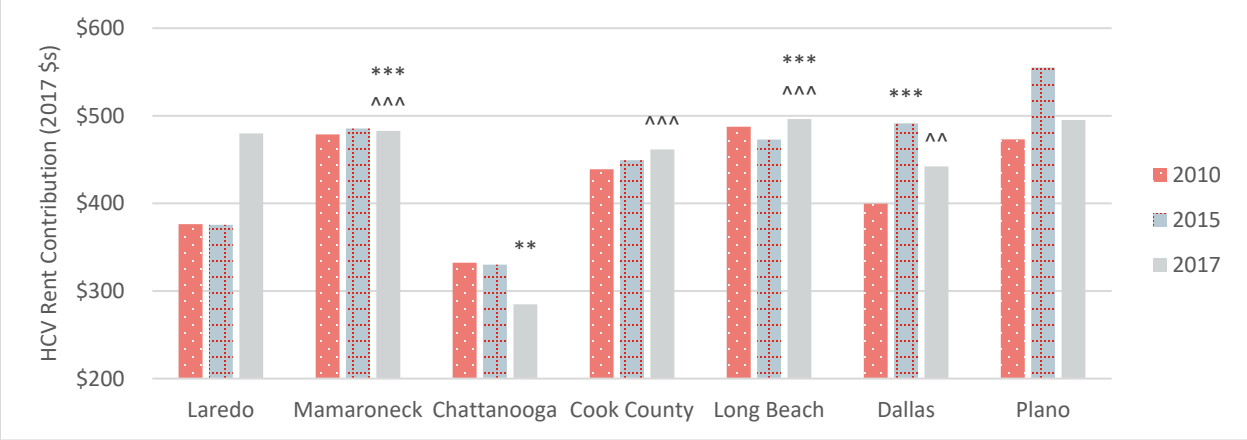
Lower-Rent ZIP Codes (Rent Ratio < 90)



Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)



Higher-Rent ZIP Codes (Rent Ratio > 110)



HCV = Housing Choice Voucher.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Seven ZIP Codes contain more than two HCV holders in Laredo in 2015 and 2017, so statistical testing is not possible for lower- and higher-rent ZIP Codes.
Source: HUD Public and Indian Housing Information Center administrative data

Tenant contributions increased in similar proportions in moderate-rent ZIP Codes between 2010 and 2015 for all PHAs except Laredo, where tenant contributions decreased. The contributions then reverted toward 2010 levels in all PHAs and were not statistically significantly different between 2010 and 2017 in any PHA except Dallas.

In the higher-rent ZIP Codes, tenant contributions remained approximately the same at the five demonstration sites but increased in Dallas and Plano between 2010 and 2015. Between 2015 and 2017 tenant contributions rose in Laredo, Cook County, and Long Beach, and declined in Chattanooga, Dallas, and Plano. Across all the PHAs except Chattanooga tenant contributions in real terms were higher in higher-rent ZIP Codes in 2017 than in 2010. The differences between 2010 and 2017 are statistically significant in Mamaroneck, Chattanooga, and Long Beach.

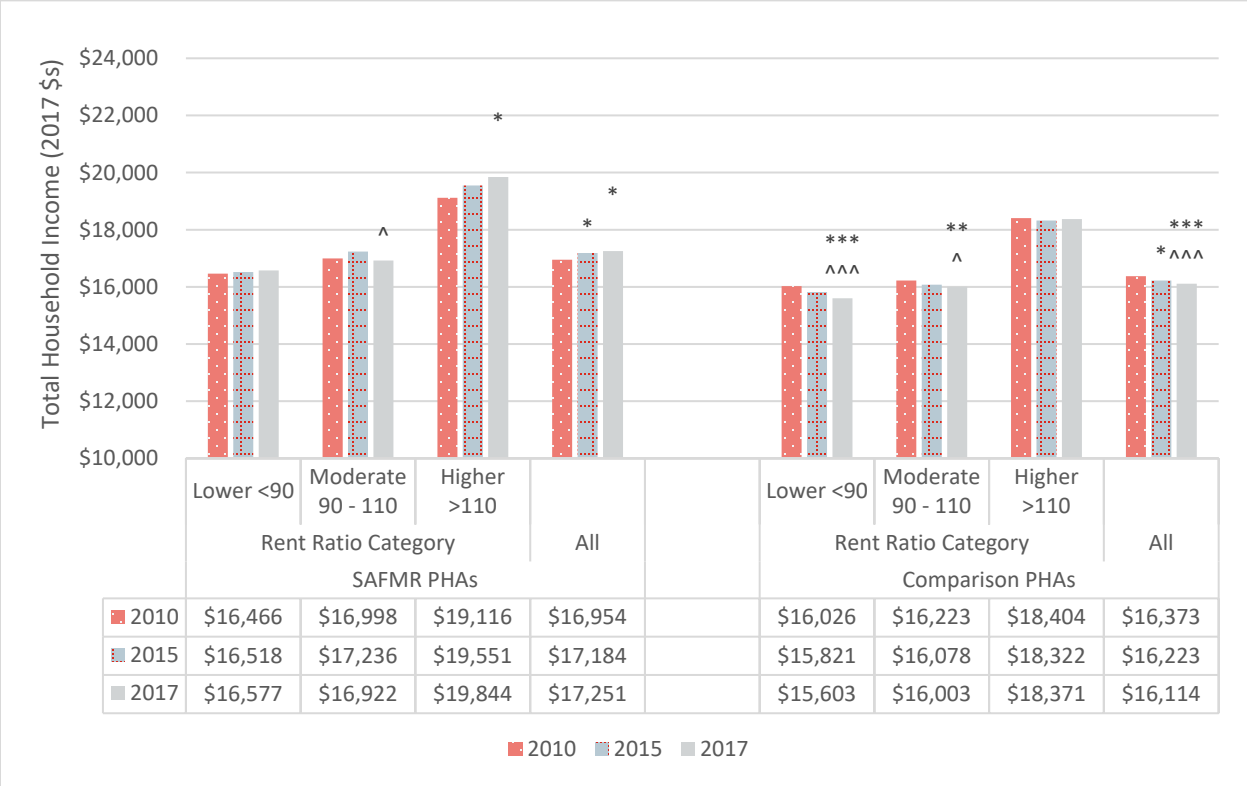
Changes in HCV Holders' Total Household Income

Because incomes play an important role in determining rents in the HCV program, we present total household income as reported in HUD administrative data to provide greater insight into interpreting the fiscal variables we report in this chapter. We note that household incomes are not a primary outcome for the SAFMR evaluation. This is because we would not expect any effects of SAFMRs on employment outcomes (as a second-order effect, for example, of moves to higher opportunity neighborhoods or of whether households continue to participate in or successfully lease-up in the HCV program) to occur in the first few years after implementation. However, evidence presented in this section does suggest that the implementation of SAFMRs may have affected total household income. Additional research is needed to understand these changes in income beyond their value in providing context to the other fiscal variables we report on in this chapter. In the HCV program, tenants pay at least 30 percent of income (adjusted during annual reviews) toward rent and utilities, with the balance paid by the PHA as rent payments to landlords or utility allowance payments. Our primary purpose in including HCV holder income in our analysis is to determine whether there are changes in income that explain the changes in HAP payments that we observe. For this reason, we use the same cluster-level total housing cost inflation adjustment for income that we use for other variables.[55]

Exhibit 8-16 shows that average annual household income increased in SAFMR PHAs from 2010 to 2017 by almost $300. This change is statistically significant at the 0.05 level. The change is driven by an increase of $728 in the average household income for HCV holders in higher-rent ratio Zip Codes in the SAFMR PHAs.

[55] The magnitudes and directions of differences between incomes for voucher holders in SAFMR and comparison PHAs are similar in nature when examined for nominal income (not adjusted for inflation) or with the same CPI inflation factors that HUD uses to calculate FMRs. As expected, the overall time trends are different depending on the inflation factor used. Nominal incomes for HCV holders in SAFMR PHAs increased at an annual rate of 1.2 percent between 2010 and 2015 at annual rate of 2.4 percent between 2015 and 2017.

Exhibit 8-16: Average HCV Holder Total Household Annual Income by Rent Ratio



	SAFMR PHAs					Comparison PHAs			
Rent Ratio Category	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$16,466	$16,998	$19,116	$16,954		$16,026	$16,223	$18,404	$16,373
2015	$16,518	$17,236	$19,551	$17,184		$15,821	$16,078	$18,322	$16,223
2017	$16,577	$16,922	$19,844	$17,251		$15,603	$16,003	$18,371	$16,114

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars. Statistically significant different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001 and ^ <0.05.
Source: HUD Public and Indian Housing Information Center administrative data.

Meanwhile, a $423 decrease in lower-rent ratio ZIP Codes drove a decrease in incomes in comparison PHAs by $259. These trends indicate that the decreases in HAP costs documented in Exhibit 8-4 for comparison PHAs ***are not*** a result of increases in HCV holder income. Rather, payment standards (Exhibit 8-1) have not been keeping up with overall total housing costs in comparison PHAs, leading to increased HCV holder contributions as rents have increased over time.

Exhibit 8-17 shows that the observed income gains in SAFMR PHAs were stronger for families with children, suggesting that some of the increased HCV holder rent contribution for these families was a result of increasing incomes (among either existing voucher holders or new voucher holders). Again, average annual income for families with children increased over time adjusted for housing cost inflation in SAFMR PHAs, but not in comparison PHAs.

Exhibit 8-17: Average HCV Holder Total Annual Household Income by Rent Ratio—Families with Children

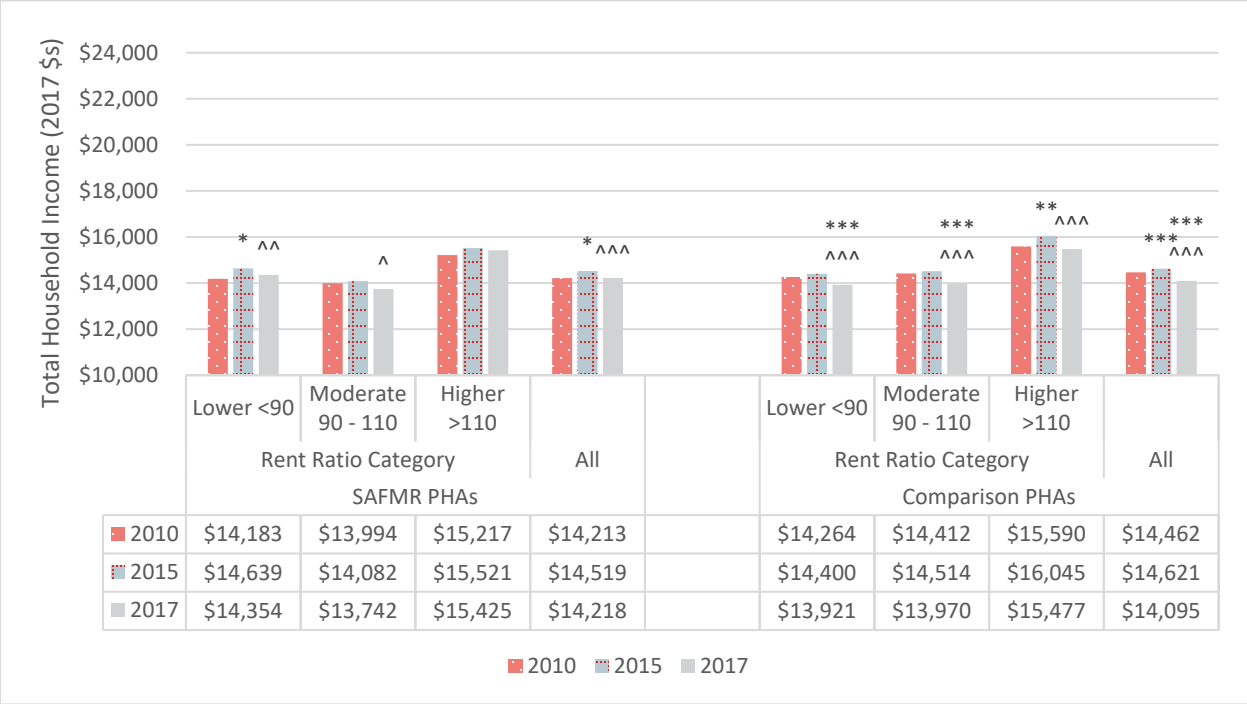
	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$19,119	$19,570	$21,523	$19,595		$18,918	$18,524	$20,595	$18,841
2015	$19,605	$19,937	$22,009	$20,180		$18,859	$18,476	$20,456	$18,782
2017	$19,993	$19,884	$21,892	$20,444		$18,823	$18,584	$20,774	$18,874

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: * <0.001, ** <0.01. In 2015: ^^ <0.01, ^ <0.05.**
Source: HUD Public and Indian Housing Information Center administrative data

As shown in Exhibits 8-18 and 8-19, patterns of housing cost inflation-adjusted average total annual income for households with a senior or with a head or co-head with a disability were similar to patterns observed in comparison PHAs.[56]

[56] Note that patterns that appear visually different in Exhibit 8-16 due to the scale of the exhibit are relatively small in magnitude and are, for the most part, statistically significant different from one year to the next in the same way for SAFMR and comparison PHAs.

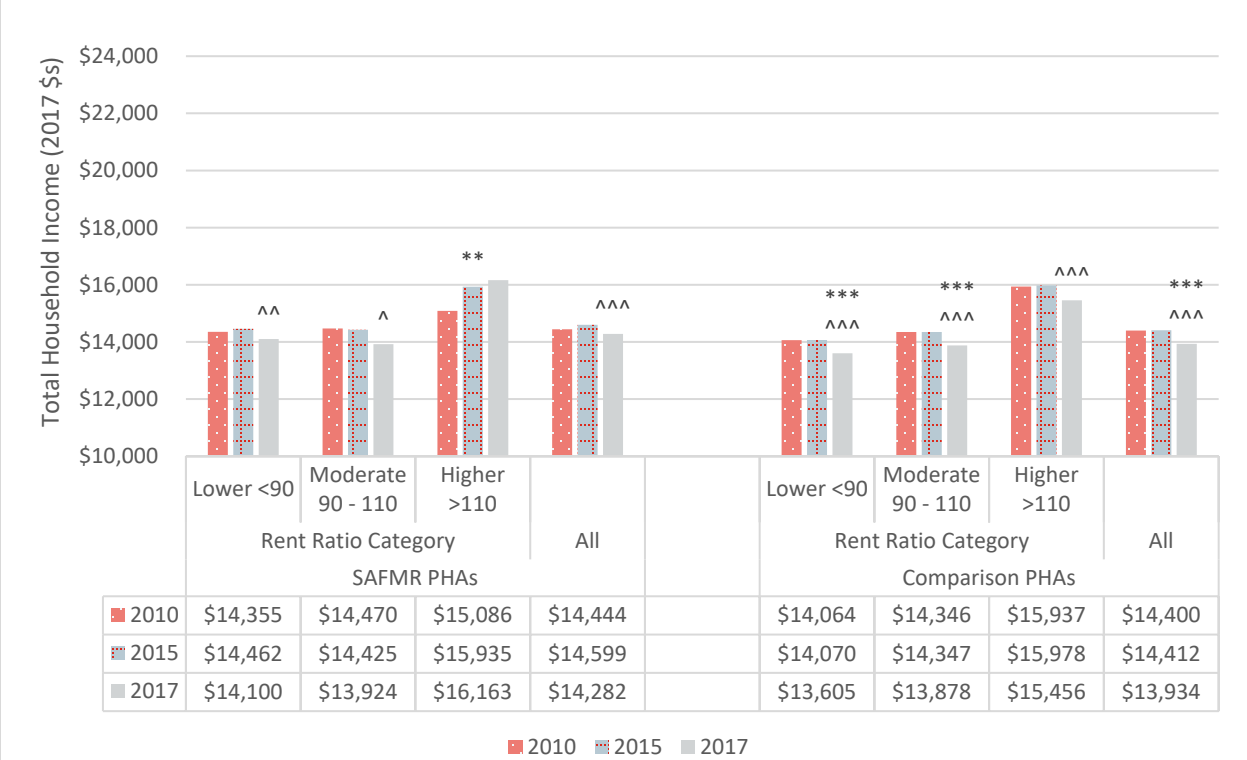
Exhibit 8-18: Average HCV Holder Total Household Annual Income by Rent Ratio—Seniors



	SAFMR PHAs				Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All	Lower <90	Moderate 90 - 110	Higher >110	All
2010	$14,183	$13,994	$15,217	$14,213	$14,264	$14,412	$15,590	$14,462
2015	$14,639	$14,082	$15,521	$14,519	$14,400	$14,514	$16,045	$14,621
2017	$14,354	$13,742	$15,425	$14,218	$13,921	$13,970	$15,477	$14,095

HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-19: Average HCV Holder Total Household Income by Rent Ratio—Adults with Disabilities



HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Source: HUD Public and Indian Housing Information Center administrative data

8.2.3 Landlord Effects: Rent to Landlords

Payment standards determine the maximum rental subsidy in any particular area. Among other relationships, they may affect rents by influencing which units get selected to participate in the program, but the relationship between payment standard and rent can be complicated. The rent to landlords can exceed the payment standard if the HCV holder is willing to pay rent above the payment standard and is allowed to do so by HUD rules, which limit rent contributions to 40 percent at the time of initial lease-up. In addition, specific units may not qualify to rent at levels equal to the full payment standard if market analysis indicates that the reasonable rent value for the unit is below the payment standards. Further, PHAs can approve rent exceptions for specific units should a situation warrant it, for example, to prevent an elderly person or individual with a disability from being forced to move if a reasonable rent for the unit is above the payment standard.

Exhibit 8-20 shows that average rents to landlords stayed more or less flat in real terms in SAFMR PHAs from 2010 to 2015, decreasing by 1 percent, before increasing by 4 percent between 2015 and 2017, which is statistically significantly different at the 0.001 level. The

resulting 2-percent difference between 2010 and 2017 is not statistically significant. In the comparison PHAs, average rents also increased by 2 percent between 2010 and 2017, a difference that is statistically significant (recall that we have many more comparison PHA observations in our sample).

Exhibit 8-20: Average Rent to Landlords for SAFMR and Comparison PHAs by Rent Ratio

	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$968	$942	$1,068	$971		$856	$832	$984	$855
2015	$919	$935	$1,160	$959		$874	$834	$997	$863
2017	$919	$943	$1,314	$994		$883	$840	$1,007	$870

2010 to 2017 difference in differences	Rent Ratio Category: Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$76***	-$6	$223***	$8

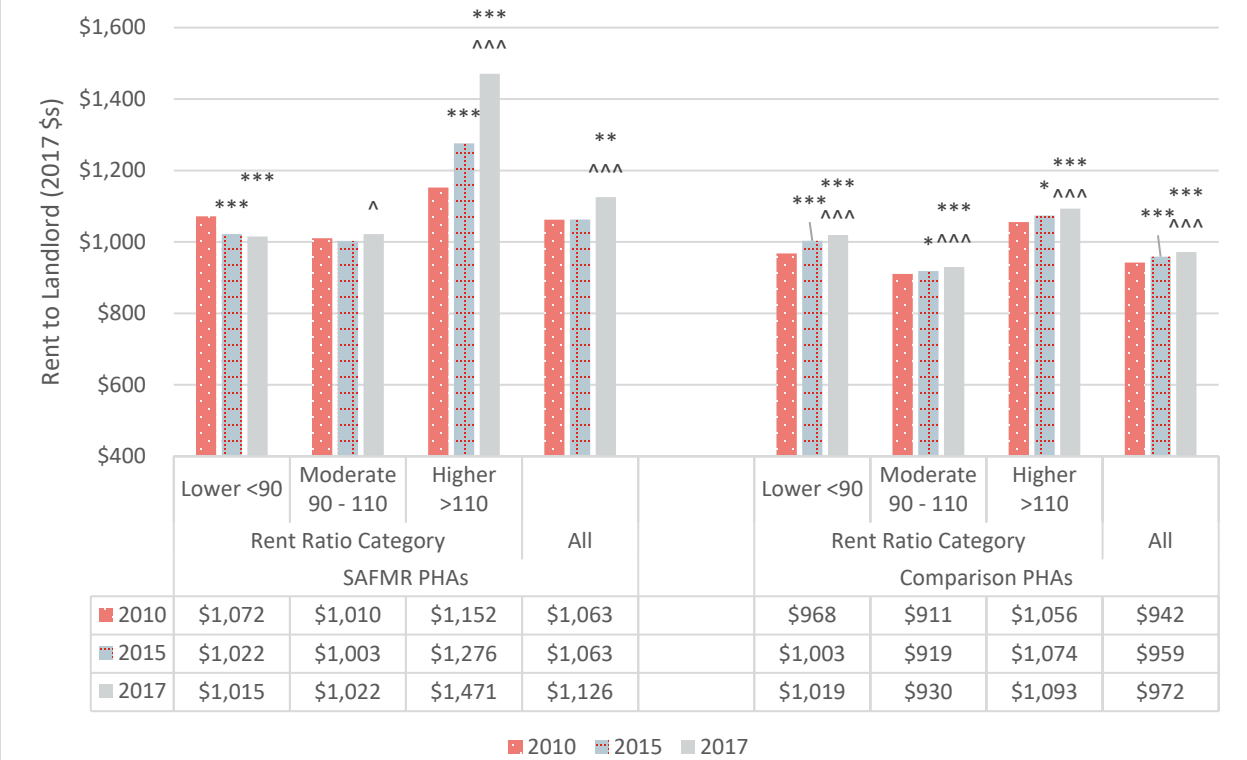
PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, **, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001.
Source: HUD Public and Indian Housing Information Center administrative data

In the comparison PHAs, rents to landlords stayed fairly constant across all ZIP Code types, whereas in the SAFMRs, the pattern varied by rent ratio. As expected, rents to landlords decreased in lower-rent ZIP Codes (by about 7 percent) and increased in higher-rent ZIP Codes (by about 6 percent) between 2010 and 2015. While rents to landlords in lower-rent ZIP Codes remained unchanged between 2015 and 2017, average rents to landlords in higher-rent ZIP Codes saw an additional 12-percent increase, for a total difference of almost $250 between 2017 and 2010—a 23-percent increase that is statistically significant at the 0.001 level. The difference-in-differences statistics show this same pattern of relative decrease in rent to landlords in lower-rent neighborhoods in SAFMR PMAs and a sizeable differential average increase in rent to landlords in higher-rent neighborhoods. This change supports the hypothesis that HCV holders in lower-rent ZIP Codes were able to find lower cost units, either through existing landlords accepting lower rents or by finding new units. Also, HCV holders locating to or already living in higher-rent ZIP Codes were finding higher cost units, or landlords were able to charge higher rents, perhaps because new ZIP Codes with higher rents became accessible to HCV holders through SAFMRs.

Exhibit 8-21 shows that the same general trend prevails for households with children. However, Exhibit 8-22 shows that in SAFMR PHAs, HCV holder households that include seniors did not see, on average, a statistically significant decline in rents in lower-rent ZIP Codes, and see a more muted increase in higher-rent ZIP Codes. The differences-in-differences estimates are also smaller in magnitude and are statistically significant at the 0.05 level for both lower- and higher-rent neighborhoods. Exhibit 8-23 shows that households with disabilities in SAFMR PHAs saw a similarly sized decline in rent paid to landlords in lower-rent ZIP Codes as all households and an increase in higher-rent ZIP Codes.

The average rent to landlords across all ZIP Code categories for each SAFMR PHA is shown in Exhibit 8-24. Large and statistically significant differences in rents across all households were observed in Long Beach, where average rents to landlords have declined by $105 per month between 2010 and 2017 (statistically significant at the 0.001 level) and have increased by $67 per month in Dallas between 2010 and 2017 (statistically significant at the 0.01 level).

Exhibit 8-21: Average Rent to Landlords for SAFMR and Comparison PHAs by Rent Ratio—Households with Children

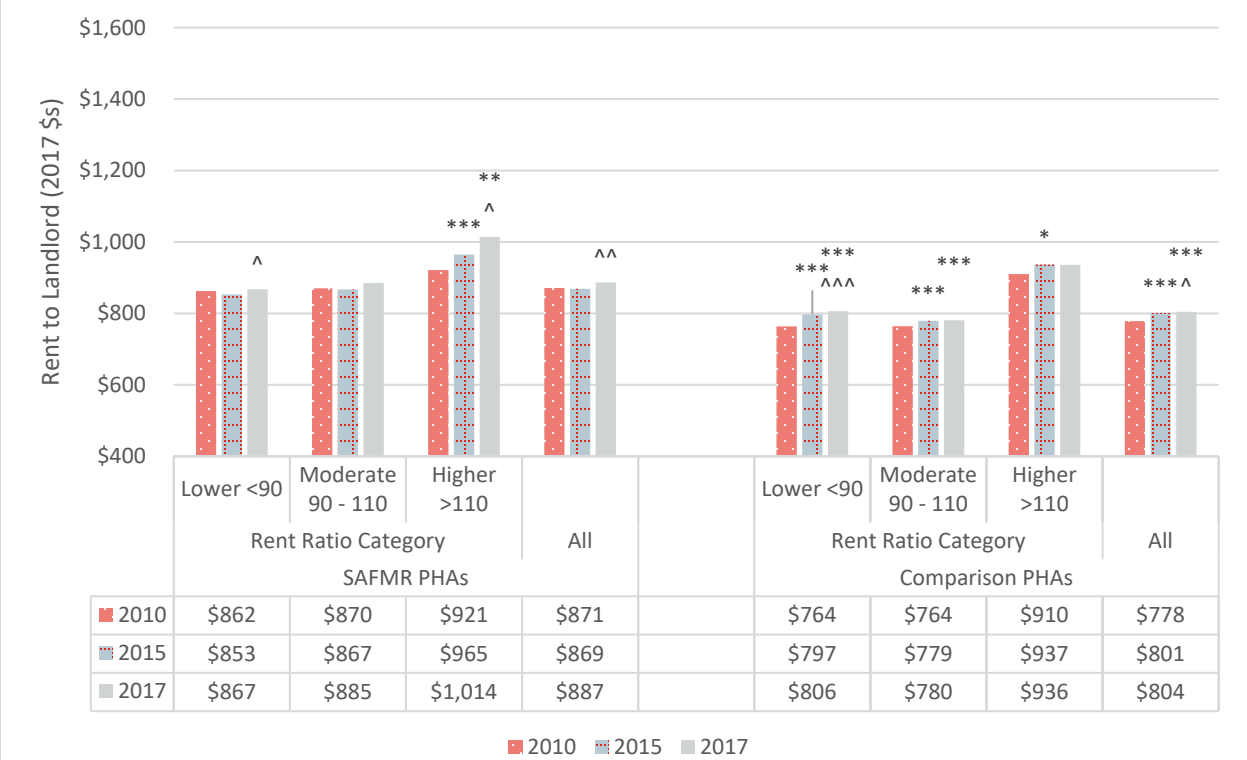


	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$1,072	$1,010	$1,152	$1,063		$968	$911	$1,056	$942
2015	$1,022	$1,003	$1,276	$1,063		$1,003	$919	$1,074	$959
2017	$1,015	$1,022	$1,471	$1,126		$1,019	$930	$1,093	$972

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$108***	-$7	$281***	$34

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, **, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001 and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-22: Average Rent to Landlords for SAFMR and Comparison PHAs by Rent Ratio—Seniors



	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$862	$870	$921	$871		$764	$764	$910	$778
2015	$853	$867	$965	$869		$797	$779	$937	$801
2017	$867	$885	$1,014	$887		$806	$780	$936	$804

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$38*	-$2	$67*	-$10

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, **, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^^, ^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001, 0.01, and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data

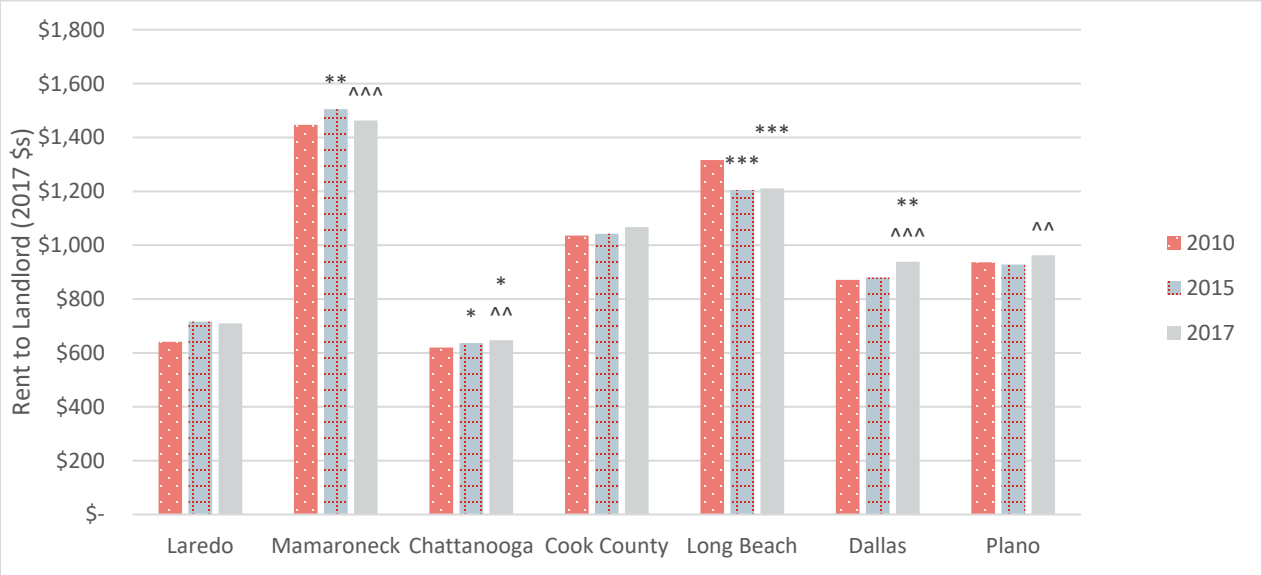
Exhibit 8-23: Average Rent to Landlords for SAFMR and Comparison PHAs by Rent Ratio—Adults with Disabilities

	SAFMR PHAs					Comparison PHAs			
	Lower <90	Moderate 90 - 110	Higher >110	All		Lower <90	Moderate 90 - 110	Higher >110	All
2010	$909	$891	$962	$908		$776	$761	$906	$779
2015	$872	$881	$1,033	$892		$800	$773	$918	$795
2017	$876	$895	$1,135	$912		$809	$777	$924	$801

2010 to 2017 difference in differences	Rent Ratio Category			
	Lower < 90	Moderate 90 – 110	Higher > 110	All
SAFMR PHAs (2017–2010) – Comparison PHAs (2017–2010)	-$66***	-$11	$155***	-$17

PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: All values expressed in 2017 dollars.
***, **, * For bars, indicates that value in 2017 or 2015 is statistically different from the value in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. For difference in differences, indicates the statistic is significantly different from zero.
^^^, ^^, ^ For bars, indicates that value in 2017 is statistically different from the value in same category in 2015 with p-value of less than 0.001, 0.01, and 0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit 8-24: Average Rent to Landlords by Site

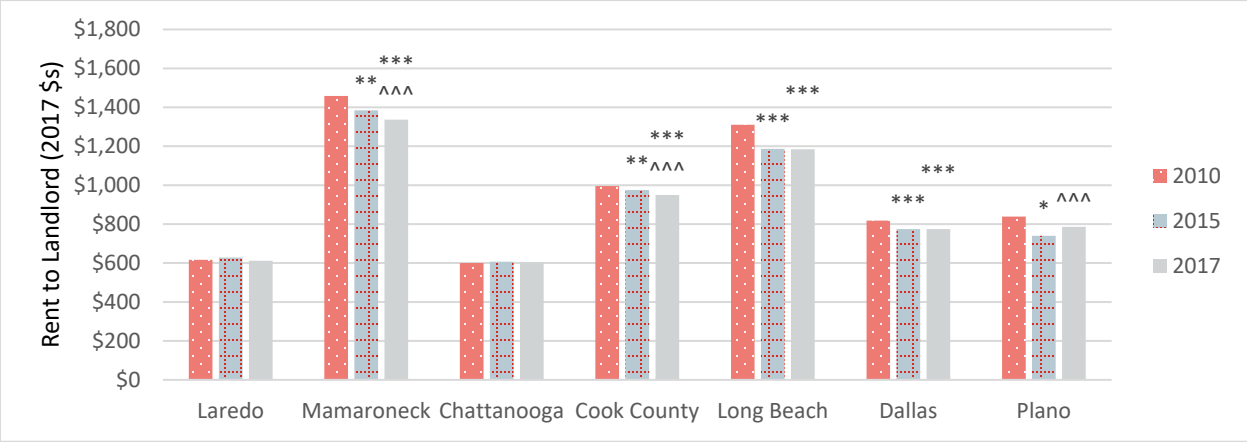


Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: * <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01.**
Source: HUD Public and Indian Housing Information Center administrative data

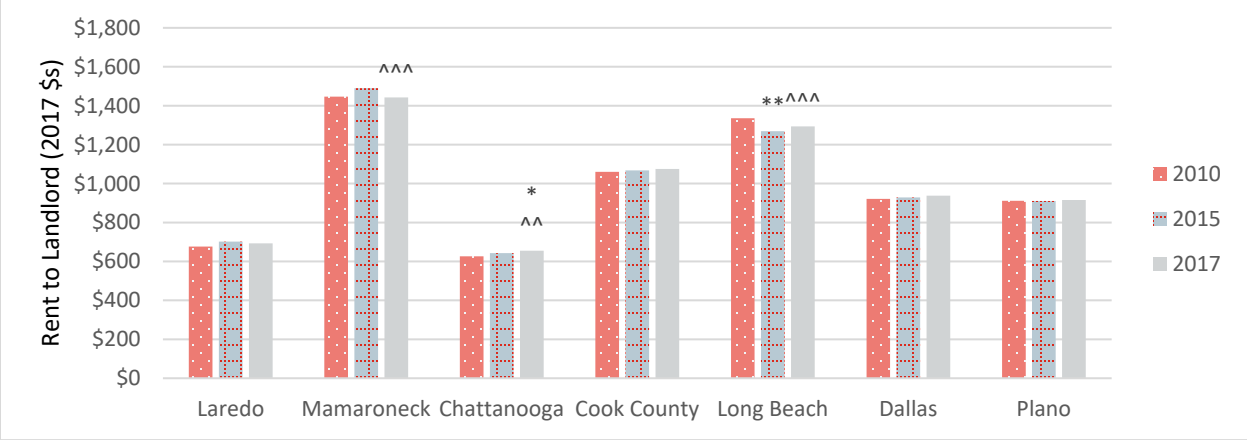
Exhibit 8-25 shows the average rents to landlords by site for each ZIP Code rent ratio category. In lower-rent ZIP Codes, average rents to landlords decreased by 10 percent in Long Beach, 5 percent in Mamaroneck, and 13 percent in Plano between 2010 and 2015. Rents to landlords in lower-rent ZIP Codes continued to decline in Mamaroneck and Cook County and increased slightly in Plano between 2015 and 2017. All other PHAs stayed approximately constant between 2015 and 2017, with changes that were relatively small in magnitude. As a result, rents to landlords are statistically significantly lower in 2017 than in 2010 in Mamaroneck, Cook County, Long Beach, and Dallas in lower-rent ZIP Codes. In higher-rent ZIP Codes, average rents increased in all sites, except Long Beach and Plano, by 6 percent or more between 2010 and 2015. Rents increased in higher-rent ZIP Codes by 11 percent in Dallas and 30 percent in Laredo (but for a very small sample size). Rents continued to increase between 2015 and 2017 in higher-rent ZIP Codes in all PHAs except Laredo and Mamaroneck, with fairly large increases in Cook County, Long Beach, and Dallas. Rents to landlords in higher-rent ZIP Codes are higher in 2017 than in 2010 in all SAFMRs, with differences of 19 percent or more in Laredo, Cook County, Long Beach, and Dallas. The increase is statistically significant in all PHAs except Laredo and Mamaroneck. Average rents in moderate-rent ZIP Codes changed only modestly, if at all, in most PHAs from 2010 to 2015 and then again from 2015 to 2017. The exception to this is Long Beach, where a statistically significant decrease in rents to landlords from 2010 to 2015 is partially offset by a subsequent increase between 2015 to 2017. Average rents to landlords in moderate-rent ZIP Codes are only statistically significantly different in 2010 and 2017 in Chattanooga, which saw an approximately $80 increase.

Exhibit 8-25: Average Rent to Landlords by Site by ZIP Code Rent Ratio Category

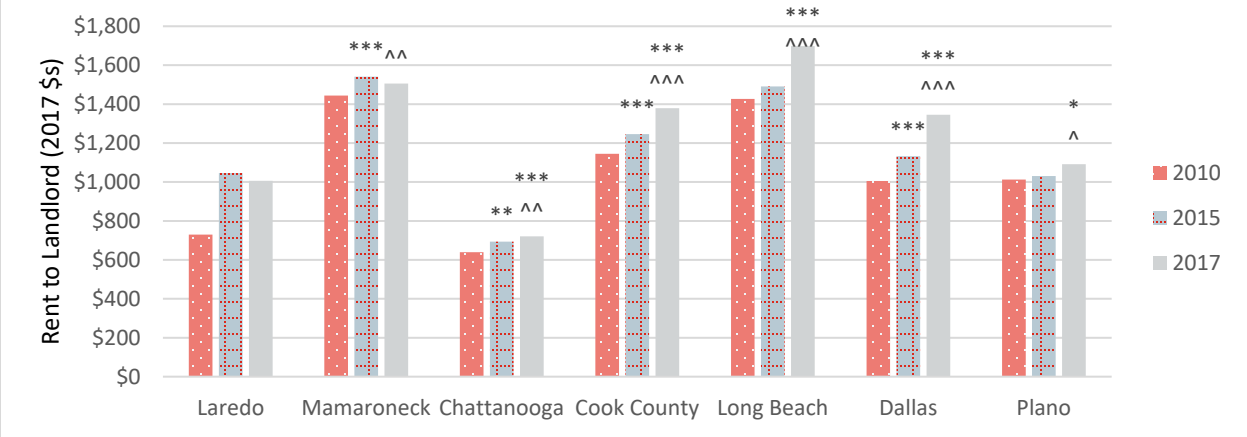
Lower-Rent ZIP Codes (Rent Ratio < 90)



Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)



Higher-Rent ZIP Codes (Rent Ratio > 110)



Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: * <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05. Seven ZIP Codes contain more than two HCV holders in Laredo in 2015 and 2017, so statistical testing is not possible for lower- and higher-rent ZIP Codes.**
Source: HUD Public and Indian Housing Information Center administrative data

Appendix A-1: SAFMR Demonstration Site Selection

HUD's process for selecting PHAs for the SAFMR demonstration had three stages: (1) selecting a pool of PHAs that met initial criteria, (2) organizing the PHAs into selection clusters, and (3) inviting PHAs to participate in the demonstration sequentially in random order. Invitation rounds proceeded until a sufficient number of PHAs had agreed to participate. Each stage is discussed in more detail in the following.

Screening Criteria

HUD began selection by developing a pool of 247 local PHAs and 20 state PHAs, each of which met its set of initial criteria (Kahn and Newton, 2013):

1. Had at least 500 vouchers in use as of September 30, 2011.
2. Had at least 10 HCV tenants living in ZIP Codes where the SAFMR exceeded the metropolitan area FMR by more than 10 percent in fiscal year 2012.
3. Had at least 10 HCV tenants living in ZIP Codes where the SAFMR was more than 10 percent less than the metropolitan area FMR.
4. Had attained at least 95 percent HCV-family reporting in PIC.
5. Was not troubled, as determined by the Section 8 Management Assessment Program.
6. Had the administrative capacity to carry out the SAFMR program.
7. Had not been involved in litigation that would seriously impede its ability to administer the HCV program.

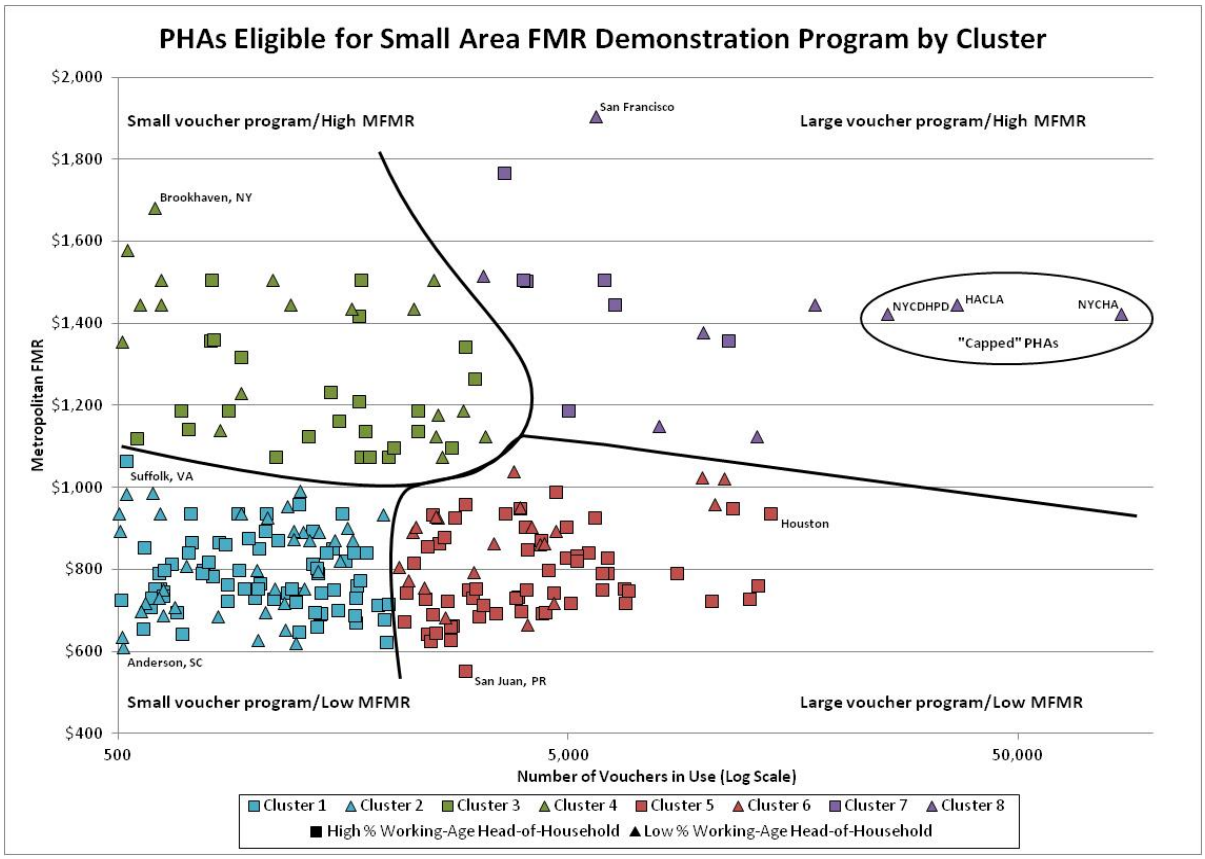
Clustering

HUD organized the 247 eligible local PHAs into 8 selection clusters using key HCV program and housing market conditions that are not expected to change as a result of the implementation of SAFMRs. Two tiers of clusters were created. First, four groups were created based on the number of vouchers (small, large) and the two-bedroom metropolitan area FMR (low, high). Then these groups were split in two based on the number of working-age heads-of-household (% high, % low). Exhibit A-1.1 presents the cluster definitions. Exhibit A-1.2 depicts the formation of the first-tier grouping based on metropolitan area FMR and PHA size.

Exhibit A-1.1: PHA Selection Cluster Definitions

	Small number of vouchers	Large number of vouchers
Low metropolitan area FMR	**High % working age** 70 PHAs (Cluster 1) **Low % working age** 38 PHAs (Cluster 2)	**High % working age** 59 PHAs (Cluster 5) **Low % working age** 21 PHAs (Cluster 6)
High metropolitan area FMR	**High % working age** 25 PHAs (Cluster 3) **Low % working age** 18 PHAs (Cluster 4)	**High % working age** 7 PHAs (Cluster 7) **Low % working age** 9 PHAs (Cluster 8)

Exhibit A-1.2: PHA Selection Cluster Size and FMR Values



MFMR = metropolitan area Fair Market Rent.
Source: HUD Office of Policy Development and Research analysis during cluster formation process

Random Ordering

HUD randomly ordered PHAs within each cluster. Next, it invited the PHA at the top of each cluster list to participate in the evaluation. When an invited PHA declined to participate, HUD reached out to the next PHA in that cluster. After a number of rounds, five PHAs (from five of the eight clusters) had agreed to participate in the SAFMR demonstration, and HUD determined this mix was adequate for both the demonstration and its evaluation.

How Selection Informs the Evaluation

HUD's process of selection informs both our evaluation design and the interpretation of our findings. Because PHAs were randomized before invitation to participate in the demonstration, each of the demonstration PHAs and the other PHAs within its cluster do not differ in any systematic way. This adds confidence to the impact interpretation of the evaluation findings, that SAFMRs cause changes in our outcomes of interest.

However, because available resources allowed only one PHA per cluster to be included in the demonstration, there is not enough statistical power to support analysis as a *cluster random controlled trial* design. Rather, we report average changes over time for the SAFMR PHAs combined, and for each PHA individually, comparing these with averages for other PHAs that were eligible for but not included in the demonstration (the 138 comparison PHAs) and averages for all PHAs in each cluster individually.

The initial selection criteria affect the interpretation of the results of this evaluation to varying degrees. Criteria 2 and 3 ensure that some existing HCV holders will be affected by the transition to SAFMRs in that the payment standards applying to their voucher will likely change. As discussed above, this is a key factor determining whether SAFMRs will affect HCV holders. Findings of impact in the evaluation may not hold for PHAs with less rent dispersion. Similarly, a lack of findings in the evaluation, with a sample that already contained some households accessing higher-rent neighborhoods (criteria 2) may not hold for areas where at least 10 HCV holders were not accessing neighborhoods with high rent levels under metropolitan area FMRs but would be able to with SAFMRs.

Criteria 4 through 6 affect the interpretation of our findings on the impact of SAFMRs on PHAs because they limit the types of PHAs in the demonstration only to those that are high performing (that is, reporting to Public and Indian Housing Information Center (PIC), not troubled, deemed able to carry out the demonstration, and not involved in litigation). Thus, we cannot be confident that findings from the demonstration would apply to lower-performing agencies.

Appendix A-2: Phase 2 Tenant Interview Protocol

INTRODUCTION

My name is _____ and I am with Quadel Consulting working on a research study for the Department of Housing and Urban Development. Today we will be talking about your experiences with the Housing Choice Voucher program and with neighborhoods in the city. We might end up talking about a few different things, but we will talk mostly about places you've lived, houses and apartments you've rented around here, and those you've thought about renting or living in. This information will help the government determine the effectiveness of SAFMRs instead of FMRs in moving tenants to areas of opportunity. This survey will take about 50 minutes and we will compensate you for your time by providing you with $20. Your participation is voluntary. All information you provide will be kept confidential.

I have some questions prepared, and you might have some things you want to bring up too. So think of this as a conversation, rather than an "interview." You can stop talking at any time. If I raise an issue or ask a question you don't want to talk about, just say so and we will move on to something else. No big deal.

I don't work for [name of PHA]. The [name of PHA] provided us with the contact information for 100 HCV holders in the [City], and you are one of 10 that we will be talking to for the study. After we talk to all of the families, we will combine everyone's perspectives into a research report that we will send to HUD that may become available for the general public to read. We may include short quotes or summaries of individual comments from our conversations with families that receive vouchers in the report, but nothing you say will be attached to your name or personal information directly. Your comments will be anonymous. None of your responses will affect your eligibility for assistance.

I would like to record our conversation because I don't want to take many notes during the interview. This way, I can really concentrate on what you have to say. If you want me to turn the recorder off for any reason or at any time, just say so. No one will hear the recording except for the research team. Then we will erase it. We will take out your name and any other identifying information from the written transcript.

Any questions?

OK, let's start.

Is it okay if I turn on the recorder now? [Get verbal consent].

Background/Selection Criteria

Note to interviewer: Prefill this section based on administrative data. Based on this information, assign each household to one of the six household move types in Exhibit 1. Interview questions vary based on household move type. During the interview, please confirm which category the household belongs to. Proceed with the interview using the questions appropriate to the household move type.

A. Voucher receipt year

- ☐ Post-SAFMR voucher recipient (2011 or later for Dallas and Plano; 2013 or later for demonstration PHAs)
  - **a. Neighborhood type**
    - ☐ Low rent ratio
    - ☐ High rent ratio
- ☐ Pre-SAFMR voucher recipient (before 2011 for Dallas and Plano; before 2013 for demonstration PHAs)
  - **b. Move type and neighborhood type**
    - ☐ Low rent ratio – no move
    - ☐ Move from a low rent ratio ZIP to another low rent ratio ZIP
    - ☐ Move from a low rent ratio ZIP to a high rent ratio ZIP
    - ☐ Multiple neighborhood types and moves (e.g., initial move from a low rent ZIP to a high rent ZIP then back to a low rent ZIP)

B. Household type

- ☐ Senior (62+) or disabled
- ☐ Parent(s) with minor children

Note to interviewer: The goal of the study is to interview households in six categories of Household Move Type (see Exhibit 1). Please check the household type prior to the interview. Interview questions vary according to the Household Move Type.

Exhibit A-2.1: Household Move Type

	Interviewer: Enter 'X' in row for correct household move type
Households who became voucher holders before change to SAFMR (before 2011 for Dallas and Plano; before 2013 for demonstration PHAs)	
Group 1: Same unit – low rent ZIP Code	
Group 2: Mover – low to high rent ZIP Code	
Group 3: Mover – low to low rent ZIP Code	
Group 4: Repeat mover – low to high to low rent ZIP Code	
Households who became voucher holders after change to SAFMR (2011 or later for Dallas and Plano; 2013 or later for demonstration PHAs)	
Group 5: New HCV holder (since implementation) – low rent ZIP Code	
Group 6: New HCV holder (since implementation) – high rent ZIP Code	

*Note to interviewer: For respondents in Dallas and Plano, use **2011** as the year SAFMRs were adopted. For all other respondents, use **2013**.*

A. HOUSING HISTORY

A1. Tell me the story of the place you are **living right now**.

[Interviewer: if the respondent does not volunteer this information, follow up with ALL of these probes: How did you end up here? What was the main reason you ended up here? Is employment a reason why you are living here? When did you move here? Who lives with you? Is anyone in your household elderly? Is anyone in your household disabled?]

A2. If you had to do it over again, would you have chosen this unit *["house" or "apartment"]?* What are some things you like about this *[house/apartment]?* Tell me what you wish you had known about this house/unit before you moved in.

A3. If you had to do it over again, would you have chosen this neighborhood? What are some things you like about this neighborhood? Tell me what you wish you had known about this neighborhood before moving in.

A4. Tell me about your housing choice voucher. We understand that you first received a voucher from *[fill in PHA name]* in *[YEAR]*. Is that correct?

Interviewer: If the respondent has lived at its current address since at least 2010 (for Dallas and Plano) or 2012 (for other PHAs), skip to Question A6. If not, proceed to Question A5.

A5. I'd like to find out about each place you've lived since [interviewer, choose one: 2011 (for Dallas/Plano) / 2013 (for other PHAs)]. You've already told me about your current place. Where did you live before that?

Probes: How did you end up there? What was the main reason you moved there? When did you move there? What was the address/ZIP Code/cross streets? Tell me the whole story of how you left that place. Why did you decide to leave?

Interviewer: Repeat A5 as often as necessary to get all units back to either a) unit prior to first receiving a voucher (may have continued to live there upon receiving voucher) OR b) unit at the time SAFMRs were introduced.

A6. I'd like to make sure I have all the details right about the places we've talked about. *[Interviewer, please work with the respondent to complete Exhibit 2, Housing History, working backwards from the current unit to previous units. Stop at a) unit prior to their first voucher unit OR b) their unit the year before the time SAFMRs were introduced.]*

Exhibit A-2.2: Housing History

	Location Description (for use in identifying unit, e.g., Andrews St.)	Address ZIP Code /Cross-streets	Dates of Residence	Same ZIP Code as Previous Unit?	Used Housing Choice Voucher to Rent Unit?	First Unit Rented with a Voucher?	First Move Since [2011/2013] (Y/N)?
Current unit							
Prior unit #1							
Prior unit #2							
Prior unit #3							

a. UNDERSTANDING OF SAFMRs

Interviewer: Questions B1 to B6 are only for voucher holders who initially received their voucher in 2010 or earlier (for Dallas or Plano) or in 2012 or earlier (for other PHAs), before the change to SAFMRs.

For voucher holders who received their vouchers more recently, after the transition to SAFMRs had already occurred, SKIP TO B7:

READ TO RESPONDENTS: Before starting the next set of questions, I'm going to describe to you what I understand to be a change in the policies of the *[fill in PHA name]* that has occurred since you first got your voucher. You may already know this, and if so, please be patient as I walk through this explanation. The *[fill in PHA name]* sets policies for the housing choice voucher program that determine the maximum amount a housing choice voucher will pay for rent for a 1 bedroom, 2-bedroom, 3-bedroom or larger apartment or house. These maximums are called "payment standards." In the past, the *[name of PHA]* set one payment standard for each apartment or house size (number of bedrooms) for all of their vouchers. [57] Starting in

[57] The study team will verify that the PHA had not used its authority to have multiple payment standards prior to adopting SAFMRs.

[*2011/2013]*, *[fill in PHA name]* began setting different payment standards for different ZIP Codes in the [name of metropolitan area]. So now for example, a 2-bedroom apartment can have different payment standards depending on the zip code where it is located.

B1. Are you aware that you can rent more expensive apartments in some parts of the city than in others? (Probes: How did you find out about this new rent policy? Did the PHA notify you of this change? If so, how were you notified? What did you understand from the notification? Was the notification clear?)

B2. Do you understand why the *[fill in PHA name]* set the new rent policy? (Interviewer: probe to get at the respondent's understanding of the intention of the ZIP Code-based payment standards)?

B3. Can you tell me what you remember about what the PHA told you about the new rent policy when you attended your annual recertification in *[2011/2013]?* This was right after the new rent policy had been adopted. (Probes: Was any additional information given to you? What additional information did you receive? What kind of things did they give you (e.g., handouts, verbal explanation, referral to a website)? Was information provided to you any other way, such as at a tenant meeting or in a newsletter?)

B4. When you first learned about the new rent policy, did you find it confusing at all? If so, what was confusing? (Probe: Were your questions about the new rent policy answered? When and how were your questions answered (during recertification, during a phone call, with information on the PHA website, other)? Are you still confused at all about the new rent policy?)

B5. Did you get information about the new rent policy from sources other than the PHA, such as other voucher holders? What did you learn from these other sources?

B6. Could the *[fill in PHA name]* have done anything differently to make it easier to understand how the new rent policy works and what it was intended to do? If so, what?

Interviewer: Questions B7 to B11 are only for voucher holders who initially received their voucher in 2011 or later (for Dallas or Plano) or in 2013 or later (for other PHAs), so after the change to SAFMR.

For voucher holders who received their vouchers more recently, after the transition to SAFMRs had already occurred, SKIP TO Section C]:

READ TO RESPONDENTS: Before starting the next set of questions, I'm going to describe to you what I understand to be a policy of *[fill in PHA name]*. You may already know this, and if so, please be patient as I walk through this explanation. The *[fill in PHA name]* sets policies for the housing choice voucher program that determine the maximum amount a housing choice voucher will pay for rent for a 1 bedroom, 2-bedroom, 3-bedroom or larger apartment or house. These maximums are called payment standards. The *[fill in PHA name]* sets different payment standards for different ZIP Codes in the [name of metropolitan area], so for example, a 2-bedroom apartment can have different payment standards depending on the ZIP Code where it is located.

B7. Are you aware that you can rent more expensive apartments in some parts of the city than in others? (Probe for whether respondent understood that payment standards varied by ZIP Code.) Did you learn about this from the PHA, from other sources, or both? If from other sources, what were these other sources?

B8. Do you find this policy confusing in any way? If so, what? (Probes: Did you have any questions about the policy when you first learned about it? Were your questions about the rent policy answered? When and how were your questions answered (during re/certification, during a phone call, with information on the PHA website, other)?)
B9. Did you get information about this rent policy from sources other than the PHA, such as other voucher holders? What did you learn from these other sources?
B10. Could the [fill in PHA name] have done anything differently to make it easier to understand how the rent policy works and what it is intended to do? If so, what?

C. MOVE EXPERIENCE AND SEARCH PROCESS

Interviewer: Questions C1 to C7 are only for voucher holders who initially received their voucher in 2010 or earlier (for Dallas or Plano) or in 2012 or earlier (for other PHAs), so before the change to SAFMR, AND who have moved (in Exhibit 1, "Group 2: Mover – low to high rent ZIP Code," "Group 3: Mover – low to low rent ZIP Code, or "Group 4: Repeat mover – low to high to low rent ZIP Code").
For voucher holders who received their vouchers more recently (Groups 5 and 6), after the transition to SAFMRs had already occurred, SKIP TO C8:
I'd like to find out more about your [Interviewer: choose the first permanent move *(e.g., not short-term or temporary) since SAFMR went into effect in their location]* decision to move. This would have been in *[date]* from *[location 1 to location 2]*.

C1. Tell me all about the move from [location 1 to location 2, e.g., Stratton Street to Walnut Ave.]. *[Interviewer: skip any topics that were already discussed in Section A.]*
Probes:

- Did you move to a different ZIP Code?
- Was the rent higher/lower/the same in location 2?
- Why did you move? Tell me all the things that made you want to/need to move:
  - Required by PHA or landlord
  - Required by personal circumstances (health, education, child care, work, family, disability, other)
  - Housing unit (quality of housing unit, size of housing unit, other)
  - Rent was going to increase if I stayed
  - Couldn't afford the rent anymore
  - For a better opportunity (lower crime, better environment, better schools, better access to jobs, to be closer to work, better access to transportation, better access to health care, better access to other community amenities (what?), closer to friends, closer to family, other)
- What would you say was the most important reason why you decided to move? (*Alternate question, if the most important reason is hard for the respondent to discern:* Of all the reasons you decided to move, which do you think might have been the biggest reason?)

Interviewer: (Check prior to interview)

- ☐ *Household moved from a low rent ratio area to a high rent ratio area after SAFMR (Group 2) – ask questions C2-C4 then skip to question C6;*
- ☐ *Household moved from a low rent ratio area to another low rent ratio area (may have stayed in the same ZIP code) after SAFMR (Group 3) – skip to C5;*
- ☐ *Household moved from a low rent ratio area to a high rent ratio area and back to a low rent ratio area after SAFMR (Group 4) – skip to question C7:*

C2. ***Group 2 Households with low rent ratio to high rent ratio move:*** Did the fact that your voucher would allow you to afford a higher rent unit in your new location affect your decision to move? How important was this to your decision to move?

C3. ***Group 2 Households with low rent ratio to high rent ratio move:*** Do you think neighborhoods with higher rents are generally "better" for you and your family? If so, how are they better? Schools? Access to jobs? Safety/crime rate? Environmental quality? Housing quality? Access to other amenities?

Interviewer: If the respondent says no or seems confused about the question, ask the question again, this time filling in the name of the specific neighborhood in place of "neighborhoods with higher rents. Do you think [neighborhood name] is better for you and your family than the neighborhood you lived in before that?

C4. ***Group 2 Households with low rent ratio to high rent ratio move:*** Are there any negatives of living in higher-rent areas like *[insert neighborhood name]* for you and your family? If so, what are those negatives?

C5. ***Group 3 Households with low rent ratio to low rent ratio move:*** Did you consider the fact that your voucher would allow you to afford a higher rent unit in some ZIP Codes when you moved to [*current unit location description, e.g., State Street*]? Did that affect your search for a new unit or your decision to move in any way? If so, how?

C6. Tell me a little about the neighborhood in [*prior unit #1 location description*]. What did you like the best about that neighborhood? What did you like the least? How does the neighborhood in [*current unit*] compare to the neighborhood in [*prior unit # location description*]? How is/was it better? How is/was it worse? What do you like most about your current neighborhood? What do you like least?

C7. Group 4 Repeat Mover Households with low to high to low rent ratio moves: We have already talked about your move to [location description of current unit]. Now I would like to ask you to about your move to [prior unit #1 location description].

When you moved in *[move year]* to *[prior unit #1 location description, e.g., Washington Street]*, did you move to a different ZIP Code? If yes, do you know if rents there were generally higher or lower? Tell me all the things that made you want to move. *If this is the last move (to the current unit*), *ask:* Are you happy with your decision to move/the location of your new unit? What do you like/dislike about it? Do you plan to move within the next year?

Now I'd like to ask you about your move in to [prior unit #2 location description.] When you moved in *[move year]* to *[prior unit #2 location description, e.g., Appleton Road]*, did you move to a different ZIP Code? If yes, was it higher or lower rent? Tell me all the things that made you want to move. *If this is the last move (to the current unit), ask:* Are you happy with your decision to move/the location of your new unit? What do you like/dislike about it? Do you plan to move within the next year?

Interviewer: Questions C8 to C10 are only for voucher holders who initially received their voucher in 2011 or later (for Dallas or Plano) or in 2013 or later (for other PHAs), so after the change to SAFMR AND who have moved (in Exhibit 1, "Group 5: New HCV holder – low rent ZIP Code," and "Group 6: New HCV holder – high rent ZIP Code").
For voucher holders who initially received their voucher earlier and for voucher holders who have never moved, skip to Section D.

C8. Can you tell me about when you first got your voucher? Did you decide to move right away, or did you decide to stay where you were and use your voucher to lease in place? How did you make that decision? What were the main things that went into that decision?
When you (eventually) moved, tell me about that decision.
Probes:

Did you move to a different ZIP Code?

What were rents like in the place you moved to? Were they higher, lower, or about the same as the rents in the neighborhood you lived in before receiving the voucher?

Tell me all the things that made you want to/need to move:

Required by PHA or landlord

Required by personal circumstances (health, education, child care, work, family, disability, other)

Housing unit (quality of housing unit, size of housing unit, other)

Couldn't afford the rent anymore

Voluntary for a better opportunity (lower crime, better environment, better schools, better access to jobs, better access to transportation, better access to health care, better access to other community amenities (what?), closer to friends, closer to family, other)

What would you say was the most important reason why you decided to move? *(Alternate question, if the most important reason is hard for the respondent to discern:* Of all the reasons you decided to move, which do you think might have been the biggest reason?)

C9. Did the PHA's policy of having different payment standards for different neighborhoods affect your decision to move? How important was this? Do you think you would have moved even without the higher payment standards? Would you have moved to the same apartment?

C10. Tell me a little about the neighborhood in *[prior unit #1 location description]*. What did you like the best about that neighborhood? What did you like the least? How does the neighborhood in *[current unit]* compare to the neighborhood in *[prior unit # location description]?* How is/was it better? How is/was it worse? What do you like most about your current neighborhood? What do you like least?

Interviewer: Questions C11 to C13 are only for voucher holders who have moved according to the Housing History in Section A. These voucher holders can be in any of Groups 2 through 6. To facilitate the discussion, start by looking at a map of the area with the respondent that shows neighborhoods.

I'd like to find out more about your search process when you decided to move from *[location 1]* to *[location 2] [Interviewer: choose the first permanent move (e.g., not short-term or temporary) since SAFMR went into effect in their location]*. This would have been in *[date]* from [*location 1 to location 2]*.

C11. Tell me about your search for a new unit.

Probes:

How did you go about searching for a house or apartment [at the time you moved to location 2]?

Looking at the map, show me the places you looked at during your search. How did you decide where to look?

Looking at the map, were there neighborhoods you wanted to look at but didn't? What were the reasons you didn't look at those neighborhoods? Can you tell me about them? What were all the things that made you want to look at these places?

[*Interviewer: prior to the interview, identify higher-rent neighborhoods in the PHA's jurisdiction.*] Did you *consider* looking for a unit in [*names of specific areas*] with higher rents? Why/why not?

Did you *actually* look for a unit in [*names of specific areas*] with higher rents? Why/why not?

Were you familiar with [*names of specific areas*] with higher rents? Have you been there before? Did you know how to get there?

C12. What assistance did the [*fill in PHA name*] give you in helping you search for a new unit? (Probe for list of participating landlords, information about neighborhoods, maps, search tips, counseling from PHA staff?) Did this assistance include helping to identify or pursue units in ZIP Codes with higher payment standards? If so, how?

C13. Did the landlord you now rent from know about the HCV program before you moved in? Had he/she rented to HCV holders in the past? If he/she was unfamiliar with the program, were

you able to explain it? Did the landlord give you any trouble about having a voucher? If so, what kind of trouble? Before finding your current unit, did you contact any landlords who refused to accept the voucher? If so, did they tell you why they refused?

D. EXPERIENCE WITH SAFMRs

Interviewer: Questions D1 to D2 are only for voucher holders who initially received their voucher in 2010 or earlier (for Dallas or Plano) or in 2012 or earlier (for other PHAs), so before the change to SAFMR (in Exhibit 1, Groups 1-4).

For voucher holders who received their vouchers more recently, after the transition to SAFMRs had already occurred (Groups 5 and 6), SKIP TO E1:

D1. In the last few years when your lease/housing contract has come up for an annual review, do you recall whether the payment standard for the unit you were living in ever went down? (Probe if needed to clarify: were you told by your landlord that you would need to pay more in rent in order to stay in your unit because of a change in the PHA's rent policy?) Y/N If so, by how much? Which unit were you living in at the time? *[IF YES, continue to D2. IF NO, skip to D6.]*

D2. ***If the payment standard went down***: When was that? It looks like you were living in [*unit location description*] (from Housing History) when the payment standard went down. I'm interested in knowing how that change in payment standard might have affected your rent or anything else about your experience. Could you tell me the whole story about what happened at that time? [*Interviewer: record whether the resident seemed to understand the questions and have confidence in their answers.*]

Prompts:

Did the amount you had to pay for rent change? Did it go up or down?

Did other housing-related costs change (e.g., payments for utilities or lawn service)? Did these go up or down? What was that like for you? What effect did this have for you and your family?

Do you know whether the amount of rent the landlord received from the [insert PHA name] change?

Tell me about whether you discussed this with the landlord? How did this happen? Did the landlord ever suggest that you should move or leave?

Did you decide to move?

E. STAYERS – people who have NEVER MOVED

Interviewer: Section E is only for voucher holders who have not moved according to the Housing History in Section A, Group 1 and some members of Groups 5 and 6.

E1. You said you *[leased in place/have not moved]* since *[SAFMRs were implemented/you first received your housing voucher].*

E2. Did you/do you think about moving since you received your voucher? If so, approximately when was this?

IF Yes (considered moving), continue to E3, otherwise skip to E11:

E3. What made you decide to stay here?

Probes:

Found a unit, but it didn't work out (why? Related to inspection, or rent reasonableness, or other?)

Couldn't find a landlord willing to rent to you

Ran out of time

Changed mind for other reasons (what?)

E4. Were moving-related expenses such as a security deposit a factor in your decision not to move? How important was this factor?
E5. If there is an elderly and/or disabled member of your household, was this a factor in your decision not to move? If so, how did it factor into your decision?
E6. If there is a school-age child in your household, was this a factor in your decision not to move? If so, how did it factor into your decision?
E7. Was the place where you work, or a place where you would like to work a factor in your decision not to move? If so, how did it factor into your decision?
E8. Was already having friends, family, a church or other religious organization, or other support community nearby a factor in your decision not to move? If so, how did this factor into your decision?
E9. Are there any other major factors that you considered in your decision not to move? If so, what were they and how did they factor into your decision?
E10. ***[For respondents who have thought about moving]*** Did you take any specific steps to search for a unit? If so, what kinds of things have you done to search for a new unit?

- ☐ Look at apartment listings
- ☐ Visit the neighborhood
- ☐ Visit units
- ☐ Talk to friends or family about moving
- ☐ Call landlords
- ☐ Other (what:_____)
- ☐ Nothing

Experience with Search Process
If respondent reported making search efforts in E10, continue to E11, otherwise skip to E17:
E11. What made/makes you want to consider a move? Were higher payment standards in some neighborhoods a factor? (Probes: Schools? Access to jobs? Safety/crime rate? Environmental quality? Housing quality? Access to other amenities? Other?)
E12. Has the *[fill in PHA name]* given you any assistance in helping you search for a new unit? Did this assistance include helping to identify or pursue units in [*names of specific areas with higher rents*]? If so, how?
E13. Looking at the map, did you search for a new unit in [*names of specific areas with higher rents*]?
IF Yes (searched in higher-rent ZIP Code), continue to E11, otherwise skip to E13:

E14. What was your experience with searching for a unit in [*names of specific areas with higher rents*]? What were your primary sources of information about available units?

E15. Did the landlords you contacted know about the HCV program? Had any of the landlords rented to HCV holders in the past? If the landlords were unfamiliar with the program, were you able to explain it? Did the landlords give you any trouble about having a voucher? Did the landlords accept the voucher?

IF No (did not search in higher-rent ZIP Code):

E16. What kept you from searching for a unit in [*names of specific areas with higher rents*]? Where did you search instead? Why?

Future move decisions

E17. Are you considering a move in the future? Y/N

E18. ***If Yes, considering moving:*** What are your reasons for considering a move in the future?

Probes:

Will be required by PHA or landlord

Will be required by personal circumstances (health, education, child care, work, family, disability, other)

Housing unit (quality of housing unit, size of housing unit, other)

Purely voluntary for a better opportunity (lower crime, better environment, better schools, better access to jobs, better access to transportation, better access to health care, better access to other community amenities (what?), closer to friends, closer to family, other)

To move to a better neighborhood with higher payment standards

F. Demographics

I have just a few final questions for you to make sure we have all of our details right.

F1. How do you identify your race?

- ☐ White
- ☐ Black/African American
- ☐ American Indian/Alaska Native
- ☐ Asian
- ☐ Native Hawaiian/Other Pacific Islander

F2. How do you identify your ethnicity?

- ☐ Hispanic or Latino
- ☐ not Hispanic or Latino

F3. Tell me about how far you got in school.

Probe:

High School completion? GED?

Training programs?

College classes?

F4. Are you currently working? Did you work for pay last week? If yes, about how many hours per week do you usually work? How much are you paid by the hour (or if not paid by hour ask for wages for other time period). If you are not currently working, when would you say was the last time (month/year) when you worked for pay?

F5. Who lives in your household with you (number of adults and children)? What are the ages of your children? *[to identify special considerations in the decision to move]*
F6. Interviewer: Indicate gender of respondent: _____.

Appendix A-3: Phase 2 Landlord Interview Protocol

INTRODUCTORY SCRIPT

Note that the protocol was notated and updated to reflect any site-specific considerations (e.g. commonly used terms identified in preparatory conversations with PHAs before the site visits).

As I mentioned over the phone, I'm _____ from Quadel Consulting working on an Abt Associates research team. We're conducting a research study for the Department of Housing and Urban Development on their Small Area Fair Market Rent policy. We're interested in learning what it's like to be a landlord and work with the housing authority. We've found that a lot of folks talk to tenants, but the landlord perspective is usually overlooked. So we want to learn about your work. We're focusing on how the Small Area Fair Market Rent policy has affected you, but also what it's like for you to work with the housing authority and renting in general.

This is more of an informal conversation than a formal interview. We have been hired to provide an independent research perspective. The [name of PHA] provided us with the contact information for 50 landlords in the [City], and you are one of five that we will be talking to for the study. After we talk to all five of the landlords, we will combine everyone's perspectives into a research report that we will send to HUD that may become available for the general public to read. We may include short quotes or summaries of individual comments from our conversations with landlords, but nothing you say will be attached to your name, your company, or your personal information directly. The [name of PHA] does not know which landlords we are interviewing. We hope to get your unfiltered on-the-ground perspective, so your comments will be anonymous and this conversation will be confidential.

I would like to record our conversation because I don't want to take many notes during the interview. This way, I can really concentrate on what you have to say. If you want me to turn the recorder off for any reason or at any time, just say so. No one will hear the recording except for the research team and the assistant who transcribes it. Then, we will erase it. We will take out your name and any other identifying information from the transcript.

Is it okay if I start recording now? [Get verbal consent].

A. Background

A1. How long have you been in the rental property business? How did you get into it?

A2. Tell me about the properties you own or manage.
Probes: All properties

How many properties/units do you own/manage?

Where are they?

Tell me all about the buildings (structure, size, quality, condition, number of units)

Tell me all about the locations (neighborhood, neighborhood reputation, proximity to amenities, demographics of neighborhood)

A3. Tell me about your tenants. How do you usually find tenants?

PROBES: marketing strategy, screening, rejections, applications

A4. [Interviewer, ask if not already discussed:] Do you currently or have you in the past rented to people with Housing Choice Vouchers (sometimes known as Section 8 or housing vouchers)?

Interviewer: Determine which term landlord is familiar with and use throughout.

Interview: If Yes (currently or formerly had HCV holder tenant), continue with A5; if No, then skip to Section B.

A5. How many units (if any) do you currently rent to Section 8/Housing Choice Voucher holders? About what percentage of all your units does this represent?

A6. Tell me about your thinking when you first decided to accept a Section 8/Housing Choice Voucher holder as a tenant. What went in to that decision?

Probes:

When did that happen (e.g., how long have you been participating in Section 8 / Housing Choice Voucher program)? Was this a result of PHA outreach? If so, what was effective about this PHA recruitment/outreach effort? Could this effort have been improved?

If not, what prompted this? Was it a new tenant approaching you? Or an existing tenant asking you to rent with a voucher?

A7. Do you market specifically to Section 8/Housing Choice Voucher holder tenants? What do you do differently when marketing to voucher holders?

A8. What about the physical unit? What types of characteristics make a unit attractive to Section 8/Housing Choice Voucher holders? Do you do certain types of renovations or advertise particular units or types of units if you're targeting voucher holders?

A9. How hard is it to get a Section 8/Housing Choice Voucher holder tenant? Do they have a lot of choice in your market?

A10. Tell me about Section 8/Housing Choice Voucher holder tenants. How are they different from market rate tenants? What are the advantages and disadvantages of renting to voucher holders?

Probes: behavior, upkeep, length of tenure; assurance that you will get the rent on time, government intervention, tenants, bureaucracy, inspections

B. Understanding of SAFMRs

B1. The [fill in PHA name] sets a payment standard every year that helps determine the maximum amount a housing choice voucher will pay for rent. Before 2011/2013, there was basically one payment standard for each apartment size (by number of bedrooms) for all of [City], with limited exceptions. In 2011/2013, [fill in PHA Name] started to set payment standards based on ZIP Codes. What's your understanding about this change in policy (e.g., that there are now different payment standards for different areas)?

B2. If you knew about this change, how did you learn about it? Did the [fill in PHA name] notify you? How were you notified? Was the notification clear? How did you deal with questions you had about the new payment standards?

Interviewer: if landlord was aware of change in payment standards ask B3, otherwise skip to B4

B3. What did [fill in PHA name] explain to you about the purpose of the change in payment standards? What is your understanding of the intention of the ZIP Code-based payment standards (e.g., to ensure that voucher holders have access to units in a broader range of neighborhoods, including neighborhoods with high-performing schools, low crime rates, and other important amenities)?

Interviewer: if landlord is not familiar with payment standards, skip to section C

B4. How well do the [fill in PHA name] payment standards reflect the market? Are there some types of neighborhoods where the payment standards correctly reflect the market and others where they do not? In what types of neighborhoods do the payment standards correctly reflect the market? In what types of neighborhoods do payment standards not reflect the market? Are payment standards too high or too low in these neighborhoods?

C. Satisfaction with HCV Program

Now I want to switch gears a little and get your perspective of the Section 8/Housing Choice Voucher program in general.

C1. PARTICIPATING LANDLORDS: Tell me about your experience with the Section 8/Housing Choice Voucher program.

Probes: How satisfied are you with the Section 8/Housing Choice Voucher holder program? What are the major positives and negatives of the program? How have SAFMRs/the change in payment standards affected your interest in the program? How has your satisfaction/dissatisfaction with the program changed over the last several years? [SKIP TO D2]

C2. NON-PARTICIPATING LANDLORDS: Tell me what you know about the Section 8/Housing Choice Voucher holder program.

Probes: what kind of landlords, tenants, and rental units is the program for? What are the potential positives and negatives of the program from a landlord's perspective? What factors would determine whether a landlord marketed to HCV holders or accepted HCVs? Have you considered marketing to Section 8/Housing Choice Voucher holder tenants? Tell me more about that.

C3. NON-PARTICIPATING LANDLORDS: Have you considered marketing to tenants with Section 8/Housing Choice vouchers? Tell me more about that.

Probes: Have you made a decision not to lease to Section 8/Housing Choice Voucher holders or have you simply not been asked to do so? If you have not yet been asked to participate, would you consider doing so? If not, why not? What changes would be needed to encourage you to do so?

C4. NON-PARTICIPATING LANDLORDS: Have you had any interactions with [PHA name] or gotten any outreach from them regarding the Housing Choice Voucher program? Could improvements to the PHA's recruitment/outreach efforts change whether you marketed to or agreed to rent to tenants with a Housing Choice Voucher? If so, what changes would be necessary?

D. Impact of Changing Payment Standards

D1. NON-PARTICIPATING LANDLORDS: Under the new policy of the [fill in name of PHA], the maximum rent subsidy will vary from one part of the city to another. In areas with higher rents, the PHA will provide a higher rent subsidy and in areas with lower rents, the PHA will provide a lower rent subsidy. The purpose of this change is to ensure the rent subsidies more closely match local market conditions. Tell me about how this change might influence whether or not you market or rent to Housing Choice Voucher tenants?

Interviewer: the rest of this section will only be relevant for participating landlords

D2. What happened (if anything) when [name of PHA] started using new payment standards? Did you have units where the payment standard went up? Where the payment standard went down? What share of units/how many units are in ZIP codes where payment standards went up? Where payment standards went down?

D3. For landlords with units in ZIP Codes where payment standards went down: What happened to units you own/manage in ZIP Codes where payment standards went down?

Probes: Did the new payment standard fall below the rent you were charging (or would have charged if you were planning to raise the rent)? How have you responded to these declines? For units occupied by HCV holders that have been affected (have had their 2nd annual reexamination); what action(s) did you take (e.g., maintain or reduce the contract rent, change responsibilities for utilities or other costs, notify the tenant of intent to take units out of HCV program for business reasons)?

D4. For landlords with units in ZIP Codes where payment standards went up: What happened to properties you own/manage in ZIP Codes where payment standards went up?

Probes: Was it easier to find renters? Did you add units to the Housing Choice Voucher program in response to increasing payment standards? Did you change/increase your marketing to Section 8/Housing Choice Voucher holders? Were there any other effects of increasing payment standards on your business? How did it affect the rents you charge?

D5. Have you ever made any rent concessions (e.g., charged what you consider below-market rents) for voucher holders? How often? For what reasons?

Probe: Were these concessions different from those offered to other renters, and if so in what way?

D6. As you probably know, even if the applicable rent falls below the payment standard, the PHA is required to determine if the actual rent being changed is reasonable. These decisions are called "rent reasonableness determinations." Do you think the rent reasonableness determinations the PHA has made are generally fair and reflective of market conditions? Why or why not? For units where you believe the PHA's rent reasonableness determination is not reflective of the market, how do you generally respond (e.g., did this change your decision to rent to a particular household or participate in the program)?

D7. Do you plan to continue to accept Section 8/Housing Choice Voucher holders as tenants for any units? If not, why not? If so, which units? All the units you own/manage, or some of them? How do you determine which units to rent to HCV holders?

E. Conclusion

E1. Is there anything else about being a landlord in [City], working with [PHA], or your experience with the Section 8/Housing Choice Voucher program that you think we should know for our research study?

Thank you for your time and participation.

Appendix A-4: Phase 1 PHA Interview Protocol

GUIDANCE TO SITE VISITORS:

- Keep probing PHA staff on a question until you get an answer that makes sense. You may need to repeat their answer back to them to make sure you've understood them properly.
- You may need to rephrase some questions to make sure staff understood the question well enough to confidently answer or say "no, we don't do that."

Phase 1: Background and Experience with SAFMR Transition

1.1 Experience with Transition to SAFMRs

I'd like to start by asking about you and your experience with the SAFMR demonstration.

1. What is your background and experience with the organization?

2. What was the motivation of the PHA for joining the demonstration?

3. Generally speaking, how has the transition proceeded? What steps were required to make the initial transition to SAFMRs?

4. Were there any unexpected implementation issues?

5. Are there any other changes outside of the PHA that may have influenced how SAFMRs were implemented or accepted? For example, did sequestration affect the timing of the roll out or any administrative procedures? Did source of income protection affect landlord attitudes? Were there any other changes?

1.2 Background Information

6. I'd like to review some basic background information on your PHA to make sure I have a good understanding before we go into more details. *(Find the available information for this table in _County_Data.xls file in the PHA folder; ask the PHA to fill in any gaps and/or confirm or correct the information.)*

Exhibit A-4.1: PHA Background Information

Data item	Explanation
Cities/counties served by the HCV program:	(List cities or counties)
Jurisdiction in square miles:	(Miles)
Pre-SAFMR payment standard (FMR schedule)	(Complete payment standard schedule for all bedroom sizes and all sub-areas for the year before the transition to SAFMR)
Current payment standard by ZIP code	(Complete payment standard schedule for all bedroom sizes and all ZIP codes for the current year)
Fiscal year (FY) end date:	(Date)
Number of tenant-based vouchers under lease at end of last FY by type	(Number of regular, VASH, FUP, enhanced vouchers, etc.)
Current number of tenant-based vouchers under lease:	(Number)
Budget utilization rates:**	(Percent = HAP dollars spent / HAP budget allocated)
At end of FY 2015 (if available):	
At end of FY 2014:	
At end of FY 2013:	
At end of FY 2012:	
At end of FY 2011:	
At end of FY 2010:	
At end of FY 2009:	
Current budget utilization rate:	
Unit utilization rates:**	(Percent = units under lease / units allocated)
At end of FY 2015 (if available):	
At end of FY 2014:	
At end of FY 2013:	
At end of FY 2012:	
At end of FY 2011:	
At end of FY 2010:	
At end of FY 2009:	
Current unit utilization rate:	
Software used to submit PIC data:	(Name of software)

***Special vouchers include: homeownership vouchers, VASH, FUP, Mainstream 1, Mainstream 5, non-elderly disabled, tenant protection, disaster voucher.**
****Source: VMS (Voucher Management System)**

7. Is your PHA a stand-alone agency, a unit of government, i.e., part of the city, county, or state government, a nonprofit contractor, or a for-profit contractor? (*If part of government, identify which agency and which level of government*.)

8. What is the current rental market vacancy rate, either overall or within subdivisions of your jurisdiction? What sources do you use for your estimate? What is the vacancy rate in the portion of the market affordable to voucher holders? What sources do you use for your estimate?

9. [Refer to table, PHA Background Information] Has your budget utilization rate changed as a result of the switch to SAFMRs? If so, how and why? If not, why not?

10. [Refer to table, PHA Background Information] Have unit utilization rates changed as a result of SAFMRs? In what way? If not, why not? If so, does this differ for ZIP codes with higher versus lower payment standards? Do you expect impacts to dissipate over time? If not, why not?

1.3 Participant experience (from the PHA perspective)

11. Do you feel that families who have been awarded a voucher understand what rent they can afford in different neighborhoods under the SAFMR policy? Was it difficult to explain the policy to existing residents? Has it been difficult to explain the policy to new voucher recipients? If not, why not?

12. How have SAFMRs affected where new voucher recipients search? Are they more likely to search in areas of opportunity? Where they lease up? Are they more likely to lease up in areas of opportunity? If not, why not?

13. Does the PHA provide search assistance in areas where payment standards increased? Does the PHA provide assistance to households that live in areas where the payment standard decreased?

14. Have you changed your policies regarding the amount of time voucher recipients have for their initial search since the switch to SAFMRs? What, if any, changes have you made in your policies related to granting extensions? Has this had an impact on the PHA's administrative duties or costs? If so, what has the impact been?

15. Do participants have a hard time finding units to rent that meet program requirements? If so, why? If not, why not? How has this changed since implementation of SAFMRs? Does this vary by neighborhood?

15a. To what extent, if at all, is the security deposit on units in high-opportunity neighborhoods a barrier to relocating (e.g., because security deposits tend to be higher on higher-cost units)?
16. [Refer to table Voucher Success Rates] What is your estimate of voucher success rates from 2012-2015? Do you think SAFMRs have affected voucher success rates? If so, how? What other factors have affected voucher success rates since implementing SAFMRs (e.g., sequestration, change in market tightness)? How important is SAFMR relative to other factors? Has the impact of SAFMR been different for new voucher recipients and existing voucher holders? If so, what are the differences?

Exhibit A-4.2: Voucher Success Rates*

PHA Fiscal Year	PHA estimate of success rate
Year prior to implementation (list year:_____)	
Year during implementation (list year: _____)	
Year following implementation (list year: _____)	

*The success rate is defined as the percentage of new voucher holders that successfully lease a qualifying unit in the program.

17. Has the switch to SAFMRs had an effect on the rate at which existing HCV participants move? If so, what effect is that? If not, why not?

18. Has the switch to SAFMRs had an effect on where existing HCV participants who choose to move end up leasing up? If so, what effect is that? If not, why not?

19. How have current tenants in areas where rents decreased responded? Have they left the program? Have their landlords accepted lower rents? Have their out-of-pocket costs increased – if so, for what reasons?

20. Does the PHA track information on involuntary moves (e.g., tracked in PIC, termination notice, unit no longer meets rent reasonableness standard, landlord foreclosure, landlord sale)? Can we get a sample of this data? Has there been a change in the number of involuntary moves as a result of SAFMRs? If so, how has it changed and what are the reasons for this?

21. When was the last time you opened your waiting list? Did you get more or fewer applicants than the last time you opened your list? Do you a sense of whether the switch to SAFMRs had any effect on the number of applicants on the waiting list? Why or why not?

22. Overall, do you feel that residents are pleased with the change to SAFMRs?

23. What information does the PHA keep on household search or other indicators of tenants' experience with SAFMRs (e.g., requests for extensions of time, use of resource rooms, use of housing search and assistance programs)? Is there any information on neighborhoods targeted by families, or any additional information beyond what is in PIC? Can we get samples of this information?

24. Does the PHA have any other thoughts on impacts of the demonstration on residents?

1.4 Landlord experience (from the PHA perspective)

25. Since implementation of SAFMRs, has the PHA reached out to landlords in opportunity areas? What type of outreach? If not, why not?

26. Has the policy been difficult to explain to landlords? Do you get a lot of complaints from landlords? Has this taken a lot of PHA staff time to address? Have complaints gone down over time? Why or why not?

27. What has been the reaction of these landlords?

28. Have a significant number of new landlords in areas where payment standards have increased begun to participate in the program since the switch to SAFMRs? Why do you think that is?

29. How many new landlords in areas with higher payment standards have joined the program?

30. Overall, how many landlords were renting to HCV holders before the transition to SAFMRs? How many landlords are renting to HCV holders today? What do you think are the reasons for any changes?

31. What has been the reaction of existing landlords to SAFMRs? Have landlords in areas experiencing a sizable decrease in payment standards renewed their leases at lower rents? Have they ended their relation with the program? Why or why not?

31a. Have you noticed any changes in neighborhood development patterns that might be related to SAFMRs? For example, more development in higher-opportunity areas and less development in lower-opportunity areas? Or changes in the types of development? If so, what changes have you noticed? How are SAFMRs related to these changes? For example, do SAFMRs affect development of RAD, tax credit, and other properties? If so, how? Have you observed that SAFMRs are affecting private development? If so, how? What is the magnitude of these effects?

Phase 1: PHA Costs of SAFMR Transition

2.1 Housing Assistance Payment Costs

32. How did you expect per-unit HAP costs to change as a result of SAFMRs? (e.g., how are payment changes being applied? What happens if the payment standard goes up? stays the same? goes down? Does the tenant or landlord pay the difference?) How did your expectation affect how you set HAP, and how you communicated SAFMRs to tenants and landlords?

33. How has the transition actually affected per-unit HAP costs? (Do you actively track changes?) Have changes been a result of changes in contract rents for voucher units, payment standards, or both? Please explain.

2.2 HCV Program Staffing/Labor Costs

34. PHA will be asked in advance to provide a list staff members/titles (columns A and B). The following is the list of employees/titles. For each person, could you indicate whether there has been a change in role/responsibilities as a result of SAFMR? If yes, please also indicate whether there has been a) a change in base salary; b) a change in overtime pay; and c) whether the person is newly hired. As appropriate, please indicate the corresponding cost of each of these role/responsibility changes.

Exhibit A-4.3: Staffing changes related to SAFMR

Employee name or initials	Title	Change in role/ responsibilities as a result of SAFMR? (If yes, describe)	If YES in column C (change in role/responsibilities), then:		
			Change in salary as a result of SAFMR? (If yes, provide annual $ change)	Change in overtime as a result of SAFMR? (If yes, provide annual change in overtime pay)	New hire as a result of SAFMR? (If yes, provide annual total compensation)

35. Can you tell me who performs each of the following functions? For each activity/task, have there been changes resulting from SAFMR? Are these changes one-time or ongoing?

Exhibit A-4.4: Staff Performing Activities/Tasks

Activity/task	Who performs it (initials or title)	Any changes resulting from SAFMR? One-time or ongoing?
Waiting List/Selection		
Initial eligibility determinations		
Voucher issuance		
Rent reasonableness		
HQS Inspections		
Informal reviews		
Annual re-certifications		
Move processing		
Executing HAP contracts		
Processing HAP payments		
Data entry		
Customer service/complaint resolution		
Landlord outreach		
FSS program		
Voucher homeownership		
Case management		
Clerical functions		
Portability specialist		
Management/oversight		
Other: _____		
Other:_____		

2.3 Potential Impacts on Systems and Admin Plans from Implementing SAFMRs

36. Were modifications to the PHA Administrative Plan and PHA Plan required to implement SAFMRs? If so, describe these modifications and complete the table [Potential one-time impacts]. If there have been no changes, why not (i.e., what characteristics of your systems or processes made it possible to adapt without changes)? *(Note that the pre- and post-demonstration PHA Administrative Plan and PHA Plan will have been requested prior to the site visit.)*

37. Were modifications to the PHA's system of record required to implement SAFMRs? If so, describe these modifications and complete the table [Potential one-time impacts]. If there have been no changes, why not (i.e., what characteristics of your systems or processes made it possible to adapt without changes)?

38. Were modifications to other automated tools required to implement SAFMRs? If so, describe these modifications and complete the table [Potential one-time impacts]. If there have been no

changes, why not (i.e., what characteristics of your systems or processes made it possible to adapt without changes)?

Exhibit A-4.5: Potential one-time impacts

SAFMR-related change	Total cost expenditures	Staff hours needed for modifications	Staff performing modifications	Cost of consultants or temporary staff hired to assist with modifications
PHA Administrative Plan				
PHA Plan				
PHA system of record				
Other automated tools: *list* (e.g., rent reasonableness) _____				
Other automated tools: *list* _____				
Other automated tools: *list* _____				

2.4 Potential Transitional Impacts from Implementing SAFMRs

39. How were payment standards set prior to SAFMRs? Were they the same for the entire PHA?

40. Describe the steps you took to set payment standards following the implementation of SAFMRs. Were these steps more time consuming than the process you took to set payment standards before? How much more time was involved? Have you updated your payment standards since that time? What was involved in doing this? Complete the table [Potential transitional impacts]. If the steps were not different, why not?

41. Has the shift to SAFMRs led to any changes in how you determine if rents are reasonable? What changes (*get as much detail as possible*)? Is determining rent reasonableness now easier, harder, or about the same as it was before the introduction of SAFMRs? If it is different, complete the table [Potential transitional impacts]. If there have been no changes, why not (i.e., what characteristics of your systems or processes made it possible to adapt without changes)?

42. Have SAFMRs changed the number of requests for contract rent adjustments or extended contract rent negotiations? If so, describe how and complete the table [Potential transitional impacts]. If there have been no changes, why not?

43. Have SAFMRs changed the number of requests from voucher holders for extensions of search time? If so, how? Does this add costs? If so, complete the table [Potential transitional impacts]. If not, do you have ideas about why this has not changed?

44. Have SAFMRs changed the productivity of HQS inspectors in terms of time per inspection and/or increased costs for travel to inspections (e.g., because units are dispersed over a larger area)? If so, describe and complete the table [Potential transitional impacts]. If there have been no changes, why not (i.e., what characteristics of your systems or processes made it possible to adapt without changes)?

45. Have any changes to the PHA's communication and outreach strategy and materials (e.g., landlord brochures, briefing packets, reexamination packets, web site and briefing videos) been required as a result of implementing SAFMRs? If so, provide these materials, and describe and complete the table [Potential transitional impacts]. If there have been no changes, why not (i.e., what characteristics of your systems or processes made it possible to adapt without changes)?

46. Prior to the SAFMR demonstration, had you defined opportunity areas, either formally or informally? If so, how does the PHA define opportunity areas? Is there a direct match between the SAFMRs and the opportunity and non-opportunity areas? Has this created any difficulties providing information to families searching? If so, describe and complete the table [Potential transitional impacts].

47. Has the PHA been administering a mobility program? If so, has the switch to SAFMRs changed the level of effort associated with providing support for tenants (e.g., encouraging them to move to opportunity areas, helping tenants understand the implications of reductions in payment standards in some areas)? If so, describe and complete the table [Potential transitional impacts].

48. Have additional briefings with tenants been required as a result of SAFMRs? If so, describe and complete the table [Potential transitional impacts]. If not, why do you think additional briefings with tenants have not been needed?

49. Have SAFMRs changed the level of support for landlords the PHA provides (e.g., more and/or specialized briefings or outreach)? If so, describe and complete the table [Potential transitional impacts]. If not, why do you think additional support for landlords has not been needed?

50. Have SAFMRs changed the incidence of HUD-50058 errors (e.g., because of selection of the wrong payment standard)? Have changes to the quality assurance process been required to deal with this? If so, describe and complete the table [Potential transitional impacts].

50a. Have SAFMRs changed the effort or process of preparing data for VMS? If so, how and why? Have you incurred costs as a result of this additional effort?

51. What other costs have you incurred as a result of the transition to SAFMRs?

52. Have any costs decreased as a result of the transition to SAFMRs? (E.g. rent reasonableness costs?) If so, how and why?

Exhibit A-4.6: Potential transitional impacts

SAFMR-related change	Were costs one-time or ongoing? If ongoing, are higher costs permanent or will they decline over time?	Total cost expenditures	Time period over which expenditures were incurred	Staff hours needed for additional effort	Staff performing additional effort
Process of establishing payment standards					
Process of determining rent reasonableness data					
Requests for CRAs or extended contract rent negotiations					
Additional requests from voucher holders for extended search time					
Inspector productivity					
PHA communication and outreach strategy and materials					
Support for tenants					
Support for landlords					
Quality assurance processes					

2.5 Other Program Costs

53. Have office building costs charged to HCV changed as a result of implementing SAFMRs? If so, how? (e.g., need for extra office space that resulted in expanding leased space in building?) If so, please provide documentation of additional expenditures. Were these costs temporary or ongoing?

54. Have any of the office expenses charged to HCV shown in the chart below changed as a result of implementing SAFMRs? If so, how?

Exhibit A-4.7: HCV Office Expense Changes

Office expense	Affected by SAFMR? (Y/N)	Cost of additional expenses
Office supplies		
Office equipment		
Communication devices		
Postage and mailing costs		
Record storage		
Banking costs		
Costs of shredding sensitive records		
Audit costs		
Limited English Proficiency, 504 compliance, fair housing laws, translation of documents, interpretation services		

55. Has implementing SAFMRs affected the PHA's vehicle expenses charged to HCV? If so, how? (e.g., more miles needed to inspect units no longer concentrated in a few tracts?) What is the total additional vehicle expense?

56. What additional training / conferences / professional association affiliation; publications and administrative expenses associated with pertinent training, conferences and membership in affiliated associations were required to implement SAFMRs? This cost should also include any amounts associated with travel costs.

2.6 Conclusion

57. Have there been any other changes in PHA processes or procedures as a result of SAFMRs? And any cost implications?

58. Has the additional administrative fee provided by HUD for participating in the demonstration been sufficient to cover the up-front switch to SAFMRs and additional transitional or ongoing costs?

Appendix A-5: Phase 2 PHA Interview Protocol

Phase 2: PHA Background and Experience with SAFMR Transition

1.1 Experience with Transition to SAFMRs

I'd like to start by asking about you and your experience with the SAFMR demonstration.

1. [IF THE PERSON IS NEW TO THE STUDY] What is your background and experience with the organization? [IF PREVIOUSLY INTERVIEWED] Have you had any changes in your role with the agency since we met last year?

2. [*Begin by summarizing what we understood from the Phase 1 site visit.*] In general, how has your experience with the transition to SAFMRs changed since our last visit [on *date*]? What, if anything, has become more difficult? What, if anything, has become easier/more routine?

3. Are there any changes outside of the PHA that may have influenced your HCV program over the last year? For example, changes in state or local housing policy?

1.2 Background Information

4. *[Refer to pre-populated table, PHA Background Information]* Has anything changed since our conversation last year in terms of basic background information on your PHA?

Exhibit A-5.1: PHA Background Information

Data item	Explanation
Cities/counties served by the HCV program:	(List cities or counties)
Jurisdiction in square miles:	(Miles)
Current payment standard by ZIP code	(Complete payment standard schedule for all bedroom sizes and all ZIP codes for the current year)
Number of tenant-based vouchers under lease at end of last FY by type	(Number of regular, VASH, FUP, enhanced vouchers, etc.)
Current number of tenant-based vouchers under lease:	(Number)
Budget utilization rates:**	(Percent = HAP dollars spent / HAP budget allocated)
At end of FY 2016 (if available):	
At end of FY 2015:	
At end of FY 2014:	
At end of FY 2013:	
At end of FY 2012:	
At end of FY 2011:	
At end of FY 2010:	
At end of FY 2009:	
Current budget utilization rate:	
Unit utilization rates:**	(Percent = units under lease / units allocated)
At end of FY 2016 (if available):	
At end of FY 2015 (if available):	
At end of FY 2014:	
At end of FY 2013:	
At end of FY 2012:	
At end of FY 2011:	
At end of FY 2010:	
At end of FY 2009:	
Current unit utilization rate:	
Software used to submit PIC data:	(Name of software)

***Special vouchers include: homeownership vouchers, VASH, FUP, Mainstream 1, Mainstream 5, non-elderly disabled, tenant protection, disaster voucher.**
****Source: VMS (Voucher Management System)**

5. How has the housing market changed since our visit last year (prompts: vacancy rates, rents)? How are these changes affecting voucher holders?

6. *[Refer to table, PHA Background Information]* Based on our information, it looks like your budget utilization rate from 2009-2016 has [stayed the same, gone up, gone down]. Is this right? What do you think are the primary reasons for this change [for the stability in this rate over time]? [probe for other reasons]

[If the respondent volunteers SAFMRs] How do you think the switch to SAFMRs may have affected your budget utilization rate? Did SAFMRs have a large effect as compared to other factors? What factor had the largest effect? Have any impacts related to SAFMRs dissipated over time? If not, why not?

[If the respondent does not volunteer SAFMRs] Do you think the switch to SAFMRs may have affected your budget utilization rate? Why or why not? [If the respondent agrees they may have had an effect, ask whether the effect of the switch to SAFMRs was large or small compared to other factors.] What factor had the largest effect on budget utilization rates over this time? Have any impacts related to SAFMRs dissipated over time? If not, why not?

7. *[Refer to table, PHA Background Information]* Based on our information, it looks like your unit utilization rate from 2009-2016 has [stayed the same, gone up, gone down]. Is this right? What do you think are the primary reasons for this change over time [for the stability in this rate over time]? [probe for other reasons]

[If the respondent volunteers SAFMRs] How do you think the switch to SAFMRs may have affected your unit utilization rate? Did SAFMRs have a large effect as compared to other factors? What factor had the largest effect? Have any impacts related to SAFMRs dissipated over time? If not, why not?

[If the respondent does not volunteer SAFMRs] Do you think the switch to SAFMRs may have affected your unit utilization rate? Why or why not? [If the respondent agrees they may have had an effect, ask whether the effect of the switch to SAFMRs was large or small compared to other factors.] What factor had the largest effect on unit utilization rates over this time? Have any impacts related to SAFMRs dissipated over time? If not, why not?

1.3 Participant Experience (from the PHA perspective)

8. Is there any remaining confusion among families who have been awarded a voucher about what rent they can afford in different neighborhoods under the SAFMR policy? How has voucher holders' understanding of the policy changed over the last year? Have you changed your approach to explaining the policy? If so, how?

9. Have you seen any change since last year in where voucher recipients search? Are they more likely to search in areas of opportunity? Have you seen changes in where they lease up? Are they more likely to lease up in areas of opportunity? If not, why not?

10. Have you made any changes since last year in search assistance to voucher recipients in areas where payment standards increased after SAFMRs were implemented? Have you made any changes since last year in assistance to households that live in areas where the payment standard decreased after SAFMRs were implemented?

11. Has your policy regarding the amount of time voucher recipients have for their initial search changed since last year? To what do you attribute any changes in the time needed for voucher recipients' initial search (market, SAFMRs, other)?

12. Has it become more or less difficult in the past year for participants to find units to rent that meet program requirements? If so, why? To what do you attribute changes (market, SAFMRs, other)? If not, why not? Does this vary by neighborhood?

13. *[Refer to pre-populated table, Voucher Success Rates]* According to the information you provided prior to our visit, voucher success rates from 2012-2016 are in the table below. Are these correct? What factors do you think account for the changes in voucher success rates over this period? [probe for other reasons, e.g., sequestration, change in market conditions]

[If the respondent volunteers SAFMRs] How do you think the switch to SAFMRs may have affected voucher success rates? Did SAFMRs have a large effect as compared to other factors? What factor had the largest effect? Has the impact of SAFMR been different for new voucher recipients and existing voucher holders? If so, what are the differences? Have any impacts related to SAFMRs dissipated over time? If not, why not?

[If the respondent does not volunteer SAFMRs] Do you think the switch to SAFMRs may have affected voucher success rates? Why or why not? [If the respondent agrees they may have had an effect, as whether the effect of the switch to SAFMRs was large or small compared to other factors.] What factor had the largest effect on budget utilization rates over this time? Have any impacts related to SAFMRs dissipated over time? If not, why not?

Exhibit A-5.2: Voucher Success Rates*

PHA Fiscal Year	PHA estimate of success rate
2012	
2013	
2014	
2015	
2016	

*The success rate is defined as the percentage of new voucher holders that successfully lease a qualifying unit in the program.

14. Has there been a change in the last year in the rate at which existing HCV participants move? If so, what effect is that? Is this different for different types of HCV participants (e.g., disabled, elderly, those with children)? Has the rate of moving increased in particular types of neighborhoods, such as areas where SAFMRs have gone up or gone down? If not, why not? To what do you attribute this (SAFMRs, change in administrative procedures, market, other)?

15. Has there been a change in the last year in where existing HCV participants who choose to move end up leasing up? If so, what effect is that? Is this different for different types of HCV participants (e.g., disabled, elderly, those with children)? If not, why not? To what do you attribute this (SAFMRs, change in administrative procedures, market, other)?

16. Thinking about people who have moved to opportunity areas since the switch to SAFMRs, have households generally stayed there? If so, why? To what extent do households move to opportunity areas and then later move back to lower-rent areas?

17. Thinking about tenants who were in ZIPs where payment standards have decreased due to SAFMRs, how have they responded? Have they left the program? Have their landlords accepted lower rents? Have their out-of-pocket costs increased – if so, how and for what reasons? How else have they responded? What is the frequency of each of these outcomes?

18. Has there been a change over the past year in the number of involuntary moves as a result of SAFMRs? If so, how has it changed and what are the reasons for this?

19. Has your experience over the past year led you to draw any new conclusions about how SAFMRs may have impacted residents? If so, what are those conclusions? What experience led you to draw these new conclusions?

1.4 Landlord Experience (from the PHA perspective)

20. Over the last year, has the PHA done any additional outreach to landlords in opportunity areas? If so, why? What type of outreach? How has this changed from prior outreach? If not, why not?

21. Are there remaining challenges to explaining SAFMRs to landlords? Have complaints from landlords related to SAFMRs gone down or up over the last year? Why do you think that is? How much PHA staff time have landlord complaints related to SAFMRs taken to address over the last year?

22. Have you added new landlords to the program over the last year in areas where payment standards have increased? In areas where payment standards have decreased? If so, how many? Is this more or less than you added in other years since introduction of SAFMRs? Why do you think that is?

23. Have you lost landlords over the last year in areas where payment standards decreased? In areas where payment standards have increased? If so, how many? Is this more or less than you lost in other years since introduction of SAFMRs? Why do you think that is?

24. What other reactions have landlords had over the last year in areas where payment standards decreased? Have landlords in areas experiencing a sizable decrease in payment standards renewed their leases at lower rents? Shifted costs to tenants (if so, what)? Why or why not?

25. Have you noticed any changes in neighborhood development patterns that might be related to SAFMRs since they were implemented? For example, more development in higher-opportunity areas and less development in lower-opportunity areas? Or changes in the types of development? If so, what changes have you noticed? Are these changes related to SAFMRs in any way? For example, do SAFMRs affect the development of RAD, tax credit, and other properties? If so, how? Have you observed or heard that SAFMRs are affecting private development? If so, how? How big are these effects?

Phase 2: PHA Costs of SAFMR Transition

2.3 Potential Impacts on Systems and Admin Plans from Implementing SAFMRs

26. *Interviewer: The table "Potential one-time impacts" should be pre-populated with information from site visit 1.* Column 1 summarizes our understanding of one-time costs from our last site visit. Please review our summary to see if the figures match your general understanding of the one-time costs of moving to SAFMRs. If you think any of the numbers are incorrect, we'd appreciate it if you would correct the table so we have as accurate an understanding as possible. Have any additional one-time expenditures been required since last year because of SAFMRs? If so, describe these modifications and complete the table [Potential one-time impacts]. [*Note to interviewer: Confirm with the PHA staff member that expenditures and staff hours are directly related to SAFMRs. Leave out expenditures and staff hours not directly related to SAFMRs.*]

Exhibit A-5.3: Potential one-time impacts

	Site visit 1 review		Additional or corrected information		
SAFMR-related change	Total cost expenditures reported during site visit 1	Staff hours reported during site visit 1	Additional/ Corrected cost expenditures	Additional/ corrected staff hours needed	Titles of staff performing work
PHA Administrative Plan	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
PHA Plan	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
PHA system of record	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Other automated tools: *list* (e.g., rent reasonableness) _____	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Other automated tools: *list* _____	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Other automated tools: *list* _____	$_____ Examples of expenditures:		$_____ Examples of expenditures:		

For impacts where there has been a change since last year, please describe these.

2.4 Potential Transitional Impacts from Implementing SAFMRs

27. *Interviewer: The table "Potential transitional impacts" should be pre-populated with information from site visit 1.* Column 1 summarizes our understanding of transitional costs from our last site visit. Transitional costs are costs expected to be incurred during the 1- to 2-year period of transition to SAFMRs. Please review our summary to see if the figures match your general understanding of the one-time costs of moving to SAFMRs. If you think any of the numbers are incorrect, we'd appreciate it if you would correct the table so we have as accurate an understanding as possible. Have any additional transitional expenditures been required since last year because of SAFMRs? If so, describe these corrections and/or additional expenditures and complete the table. [*Note to interviewer: Confirm with the PHA staff member that expenditures and staff hours are directly related to SAFMRs. Leave out expenditures and staff hours not directly related to SAFMRs.*]

Exhibit A-5.4: Potential transitional impacts

SAFMR-related change	Site visit 1 review		Additional or corrected information		
	Total cost expenditures reported during site visit 1	Staff hours reported during site visit 1	Additional or corrected cost expenditures	Additional/ corrected staff hours needed	Titles of staff performing work
Process of establishing payment standards	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Process of determining rent reasonableness data	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Requests for CRAs or extended contract rent negotiations	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Additional requests from voucher holders for extended search time	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
HQS Inspector productivity	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
PHA communication and outreach strategy and materials	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Support for tenants	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Support for landlords	$_____ Examples of expenditures:		$_____ Examples of expenditures:		
Quality assurance processes	$_____ Examples of expenditures:				
Other: *list* _____	$_____ Examples of expenditures:		$_____ Examples of expenditures:		

For impacts where there has been a change since last year, please describe these.

28. Have the impacts of SAFMRs discussed during Site Visit 1 dissipated over time? How and why?

29. ***For PHAs not known to be administering a mobility program:*** Have you started a mobility program in the last year? If so, how was this related to the shift to SAFMRs?

30. ***For PHAs administering a mobility program****:* How have SAFMRs affected your mobility program? Has the switch to SAFMRs changed the level of effort associated with providing support for tenants (e.g., encouraging them to move to opportunity areas, helping tenants understand the implications of reductions in payment standards in some areas)?

31. What other costs have you incurred as a result of the transition to SAFMRs? Have impacts of SAFMRs been permanent, or have they dissipated over time? What additional costs, if any, have gone up on a permanent basis?

32. Have any costs decreased as a result of the transition to SAFMRs? (E.g. rent reasonableness costs?) If so, what costs are these? How and why have they changed?

2.5 Other Program Costs

33. ***Interviewer: See the pre-populated table, "Per-unit HAP costs."*** Based on our information, it looks like your per-unit HAP costs from 2012-2016 have [stayed the same, gone up, gone down]. Is this right? How do you think SAFMRs have affected per-unit HAP costs? Have changes been a result of changes in contract rents for voucher units, changes in payment standards, changes in household income or a combination of these? Please explain. What other factors have affected per-unit HAP costs over the same time period? How important are these factors relative to SAFMRs?

Exhibit A-5.5: Per-unit HAP costs, 2-bedroom

PHA Fiscal Year	Abt estimate of per-unit HAP costs (2-bedroom units)	Abt estimate of per-unit HAP costs (all units)
2012		
2013		
2014		
2015		
2016		

34. Have any new staff been hired specifically to handle increased workload related to SAFMRs? To perform what function(s)? When was this person(s) hired? Full-time or part time? What is their total compensation (annual salary plus fringe)?

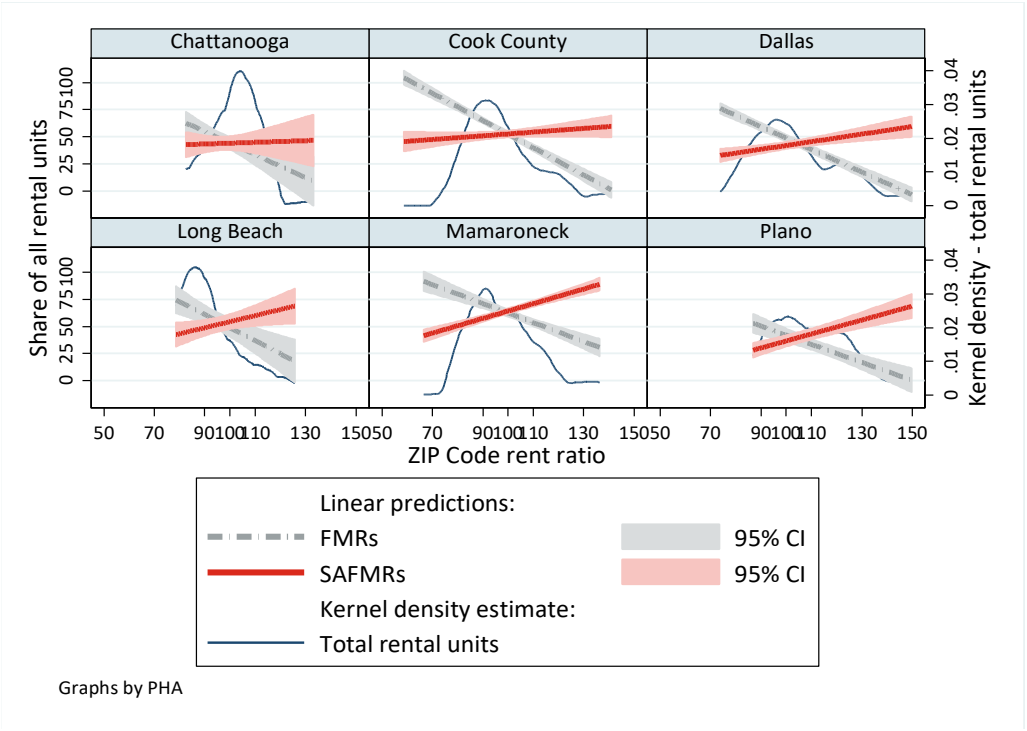
2.6 Conclusion

35. Have there been any other changes in PHA processes or procedures as a result of SAFMRs? If so, what are the cost implications of these changes?

36. What advice do you have for other PHAs implementing SAFMRs? Do you think the benefits of adopting SAFMRs have outweighed the costs? If so, why?

Appendix B-1: Appendix Exhibits to Chapter 4

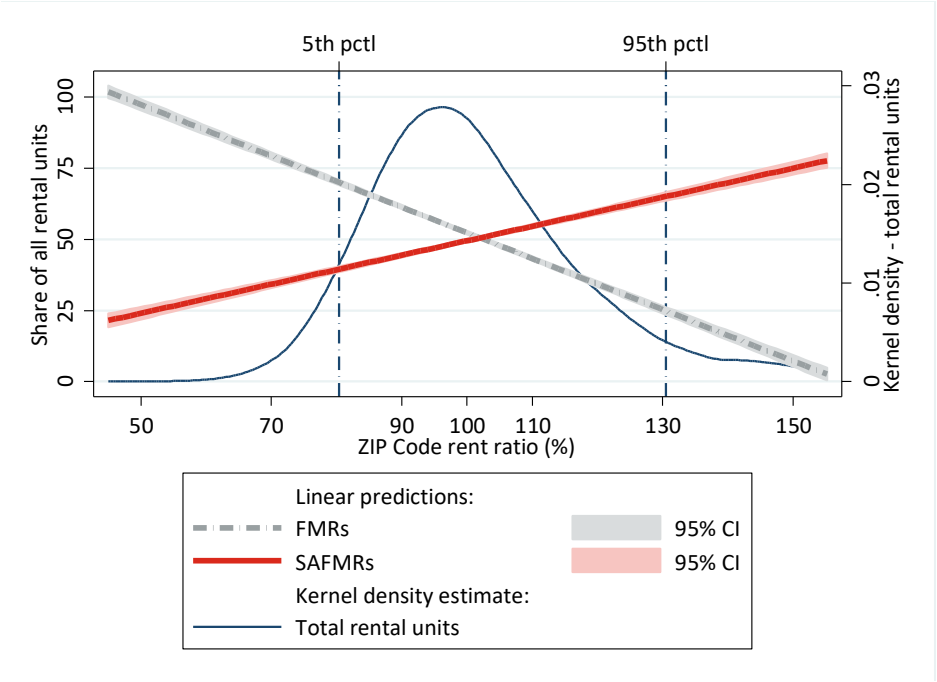
Exhibit B-1.1: Share of Rental Units below SAFMR and Metropolitan Area FMR by Site



		Zip Code rent ratio categories						Total	
		Lower rent		Moderate rent		Higher rent			
Zip Code rent ratio		<90		90-110		>110			
PHA	Share	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Laredo	***Units affordable***	80	58	57	55	14	53	56	55
	All rental units	26		60		15		100	
Mamaroneck	***Units affordable***	79	54	59	65	47	77	64	63
	All rental units	36		45		20		100	
Chattanooga	***Units affordable***	64	45	42	46	21	32	42	44
	All rental units	16		68		16		100	
Cook County	***Units affordable***	76	53	51	50	24	57	53	52
	All rental units	33		45		22		100	
Long Beach	***Units affordable***	70	46	45	52	37	69	58	50
	All rental units	56		33		11		100	
Dallas	***Units affordable***	70	38	47	42	23	50	45	44
	All rental units	24		46		31		100	
Plano	***Units affordable***	63	32	40	38	21	51	34	43
	All rental units	9		47		44		100	

FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis data set includes all ZIP Codes in PHA service areas where SAFMRs are implemented.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

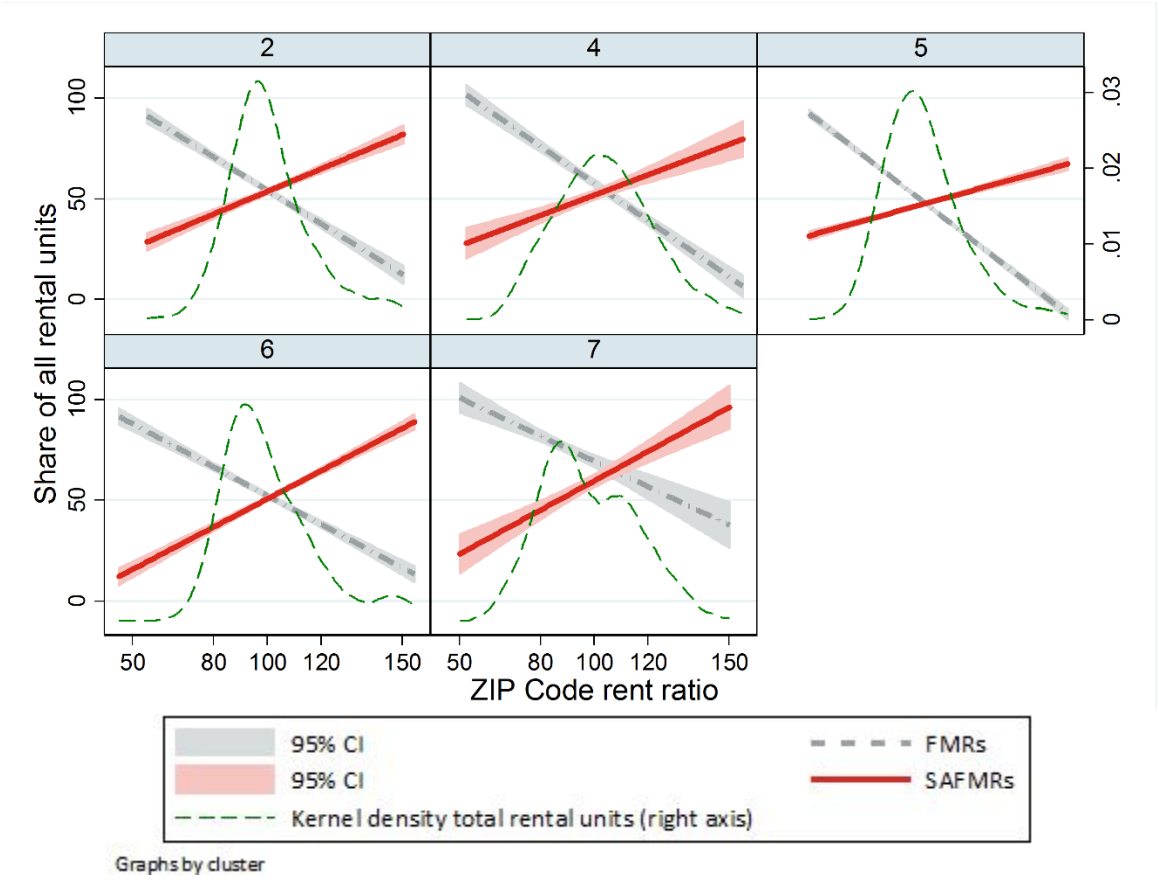
Exhibit B-1.2: Share of Rental Units below SAFMR and Metropolitan Area FMR Comparison PHAs



	Zip Code rent ratio categories						Total	
	Lower Rent		Moderate Rent		Higher Rent			
Zip Code Rent Ratio	<90		90-110		>110			
	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Average share of units affordable	42	70	49	51	62	32	50	51

FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis dataset includes all ZIP Codes in which voucher holders live in cluster PHA service areas plus any ZIP Code which is geographically adjacent (borders) ZIP codes where voucher holders live.
Source: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Markets Rents; 2012 American Community Survey 5-Year Estimates (special tabulation for HUD of rent and rental units by ZCTA); 2012 American Community Survey 5-Year Estimates (total rental units)

Exhibit B-1.3: Share of Rental Units below SAFMR and Metropolitan Area FMR by Cluster



		Zip Code rent ratio categories							
		Lower Rent		Moderate Rent		Higher Rent			
	Zip Code Rent Ratio	<90		90-110		>110		Total	
	Cluster	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR
Average share of units affordable	2	46	71	52	54	68	35	54	53
	4	41	78	53	56	63	37	54	54
	5	41	68	47	49	55	26	47	48
	6	41	67	49	51	69	33	51	52
	7	46	83	58	67	76	57	58	71

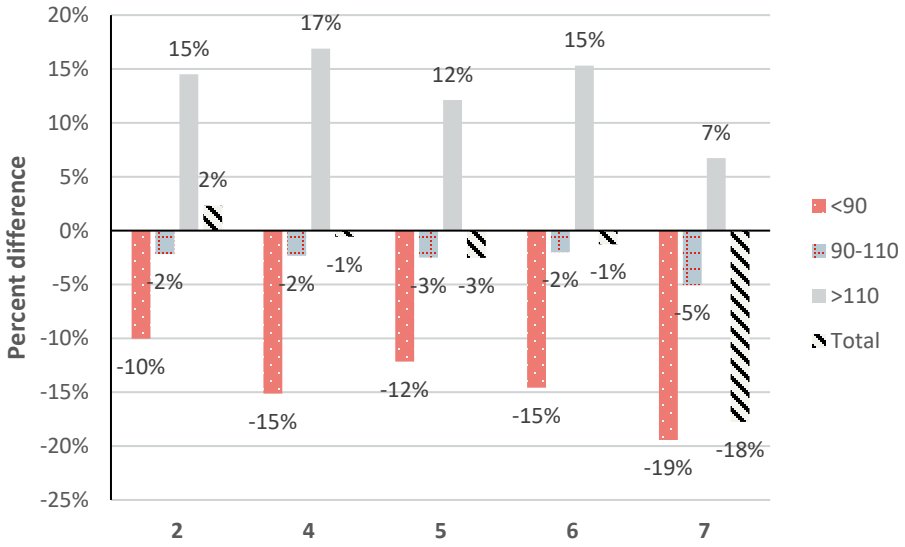
FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis dataset includes all ZIP Codes in which voucher holders live in cluster PHA service areas plus any ZIP Code which is geographically adjacent (borders) ZIP codes where voucher holders live.
Source: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Markets Rents; 2012 American Community Survey 5-Year Estimates (special tabulation for HUD of rent and rental units by ZCTA); 2012 American Community Survey 5-Year Estimates (total rental units)

Exhibit B-1.4: Comparison of Total Units with Rents below the SAFMR and Metropolitan Area FMR for Comparison PHAs by Cluster

Metro FMR	Number of Vouchers	% Working Age	Cluster #	Lower Rent <90	Lower Rent <90	Moderate Rent 90-110	Moderate Rent 90-110	Higher Rent >110	Higher Rent >110	Total	Total	Difference	Percent Change SAFMR vs FMR
				SAFMR	FMR	SAFMR	FMR	SAFMR	FMR	SAFMR	FMR		
Low	Small	Low	2	144,510	222,764	422,839	439,793	230,191	117,022	797,540	779,579	17,961	2.3%
High	Small	Low	4	102,451	196,986	261,379	275,976	257,190	151,647	621,020	624,610	-3,589	-0.6%
Low	Large	High	5	604,618	997,089	1,781,876	1,862,853	758,932	367,465	3,145,427	3,227,406	-81,980	-2.5%
Low	Large	Low	6	267,490	440,416	550,164	573,922	353,117	171,468	1,170,770	1,185,807	-15,037	-1.3%
High	Large	High	7	116,846	210,220	146,949	171,266	131,482	99,092	395,277	480,577	-85,301	-17.7%
	Total			1,235,915	2,067,475	3,163,207	3,323,810	1,730,912	906,694	6,130,034	6,297,979	-167,945	-2.7%

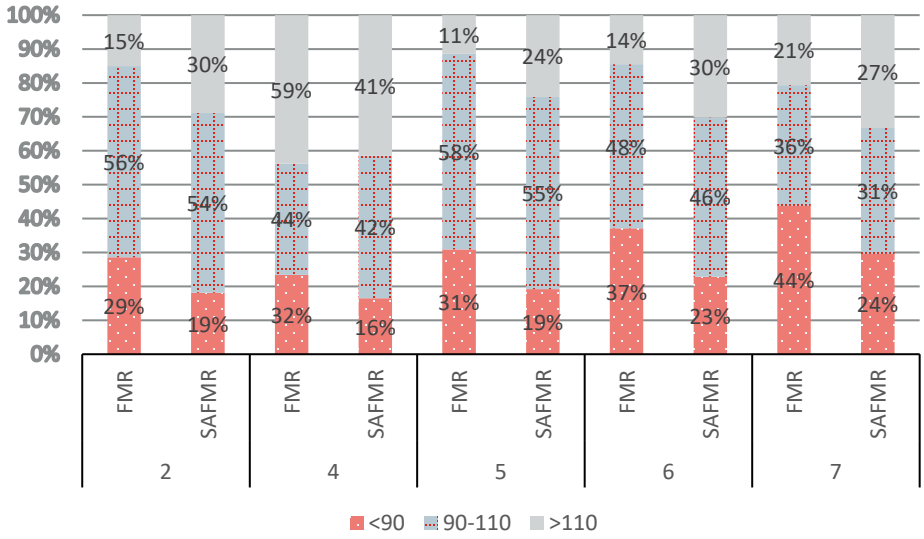
FMR = Fair Market Rent. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
Note: Analysis dataset includes all ZIP Codes in which voucher holders live in cluster PHA service areas plus any ZIP Code which is geographically adjacent (borders) ZIP codes where voucher holders live. HUD's demonstration design resulted in a PHA from five of eight "clusters" being selected for the demonstration. We did not conduct analysis for PHAs in clusters that were not included in the demonstration.
Source: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Markets Rents; 2012 American Community Survey 5-Year Estimates (special tabulation for HUD of rent and rental units by ZCTA); 2012 American Community Survey 5-Year Estimates (total rental units)

Exhibit B-1.5: Difference in Units with Rents below SAFMR and Metropolitan Area FMR as a Percentage of Units With Rents Below FMR by Rent Ratio—by Cluster



FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis dataset includes all ZIP Codes in which voucher holders live in cluster PHA service areas plus any ZIP Code which is geographically adjacent (borders) ZIP codes where voucher holders live.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

Exhibit B-1.6: Distribution of Units with Rents Below Applicable FMR by ZIP Code Rent Ratio—by Cluster

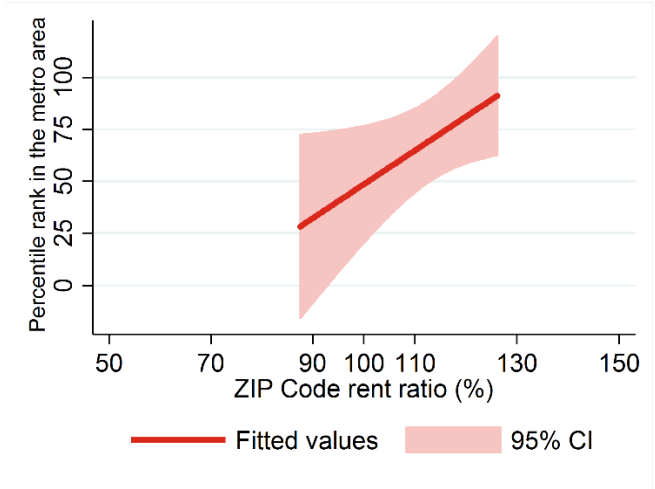


FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent.
Note: Analysis dataset includes all ZIP Codes in which voucher holders live in cluster PHA service areas plus any ZIP Code which is geographically adjacent (borders) ZIP codes where voucher holders live.
Sources: HUD FY2015 FMRs; HUD FY2015 SAFMRs; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units)

Exhibit B-1.7: Opportunity measures by rent ratio—by PHA with corresponding cluster(s)

Overall Index

Laredo



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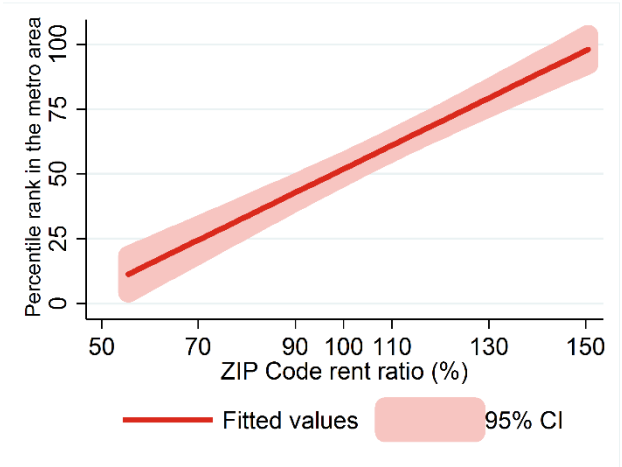
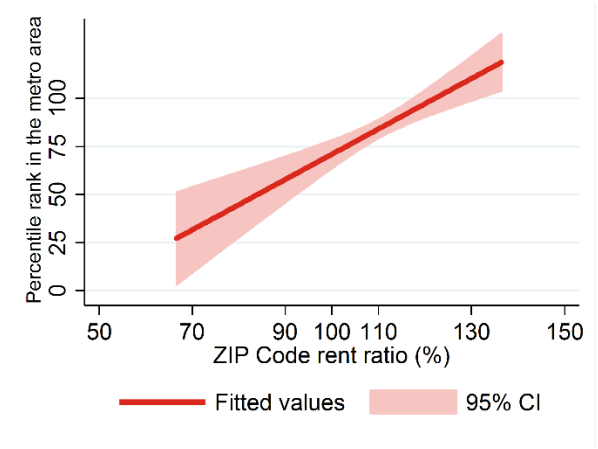
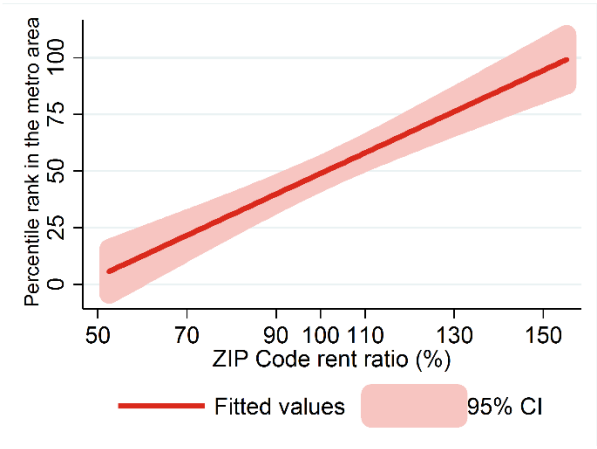


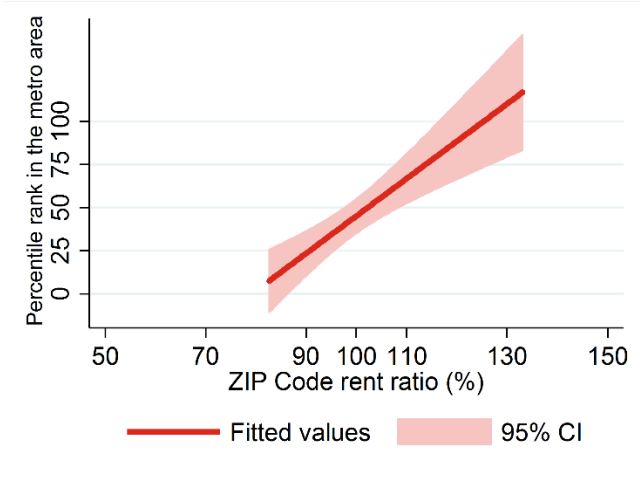
Mamaroneck



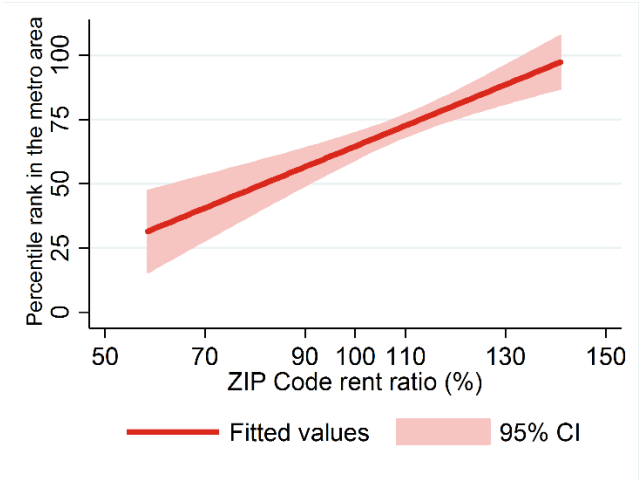
Cluster 4



Chattanooga



Cook County



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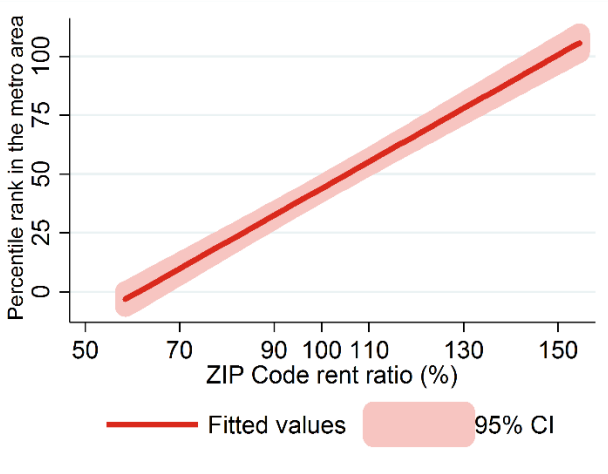

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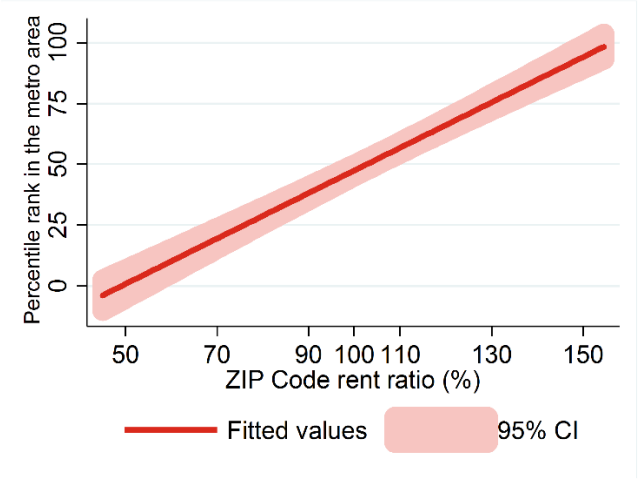
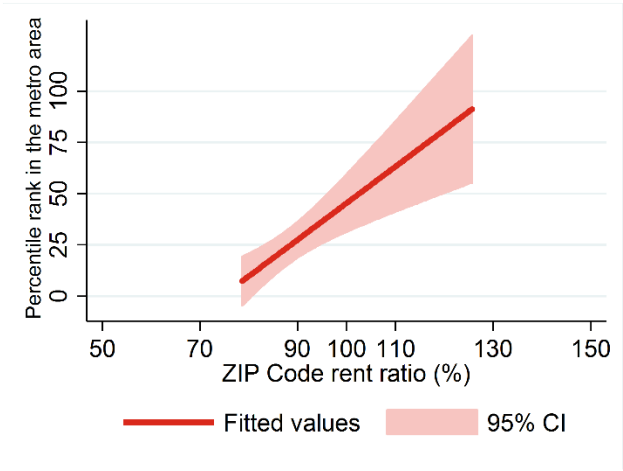


Long Beach



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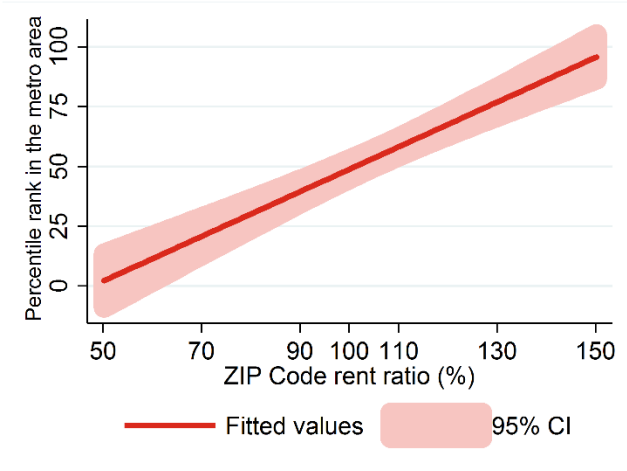
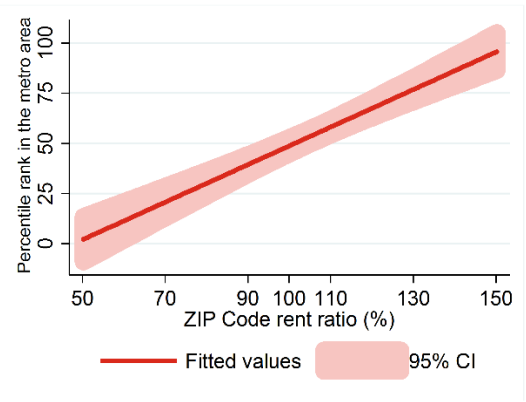


Dallas



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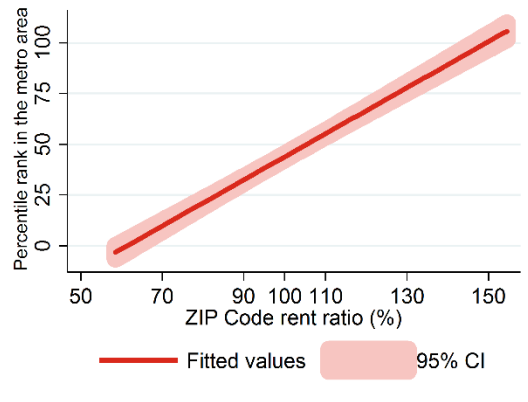
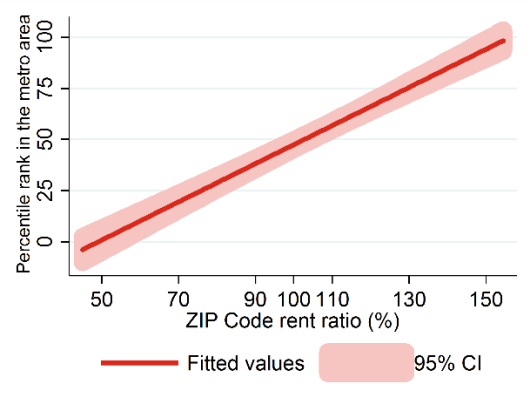
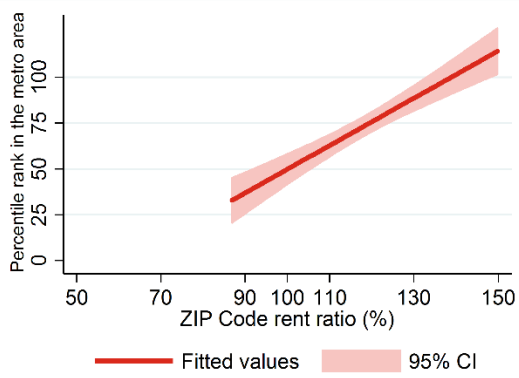


Cluster 6



Plano



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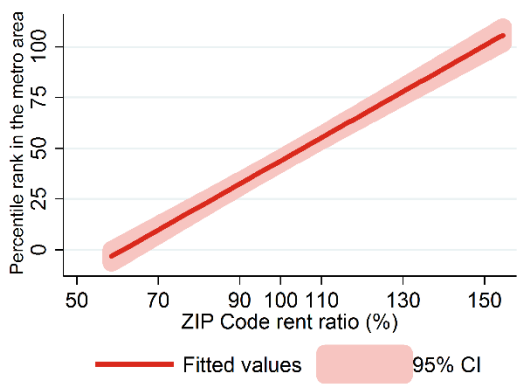

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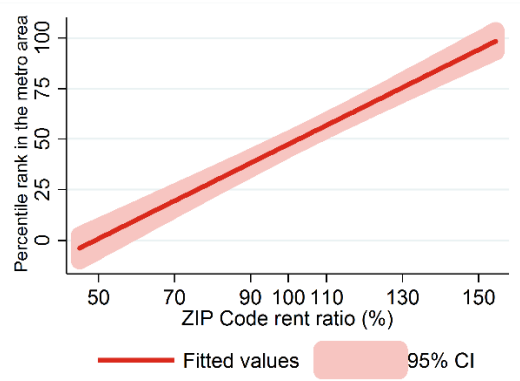

Component Indices

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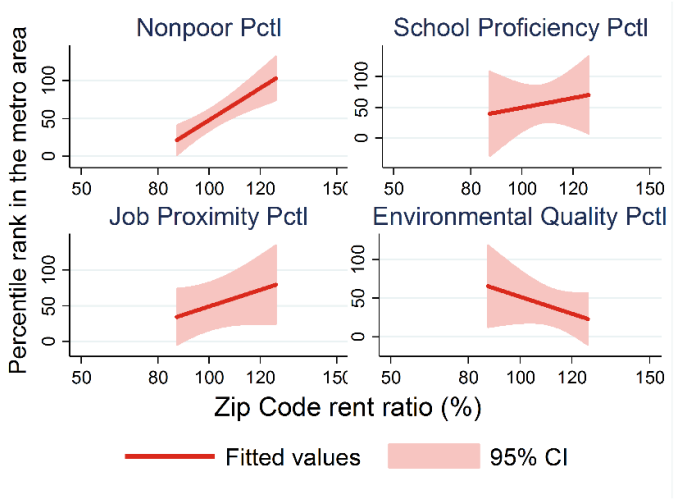

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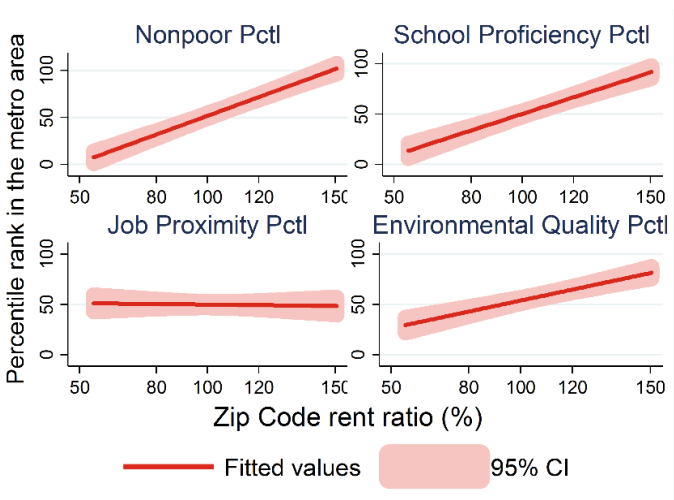
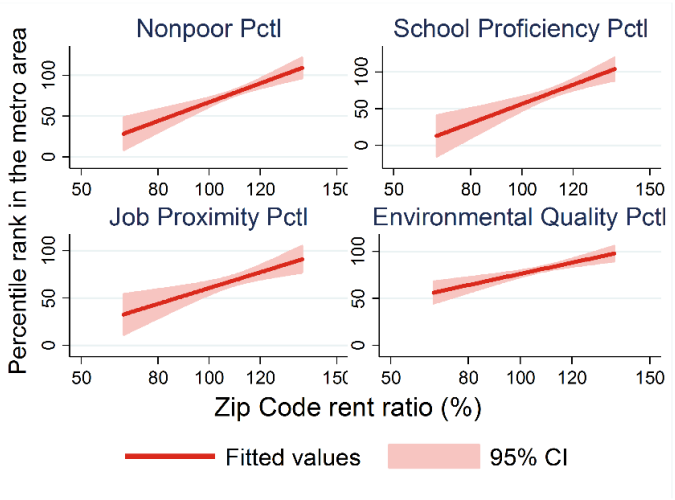


Mamaroneck



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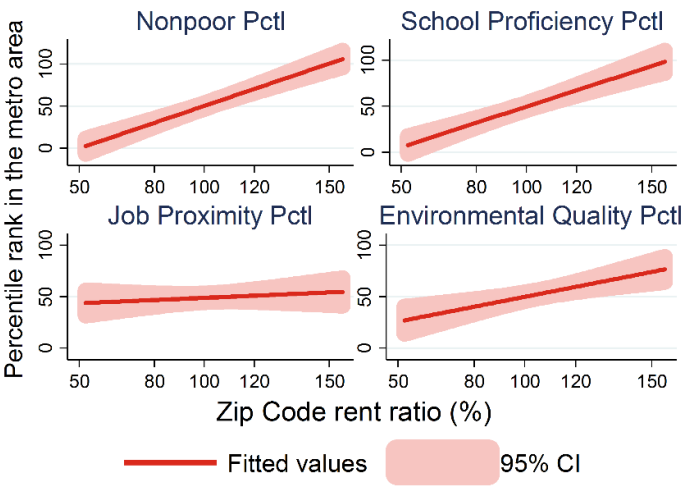
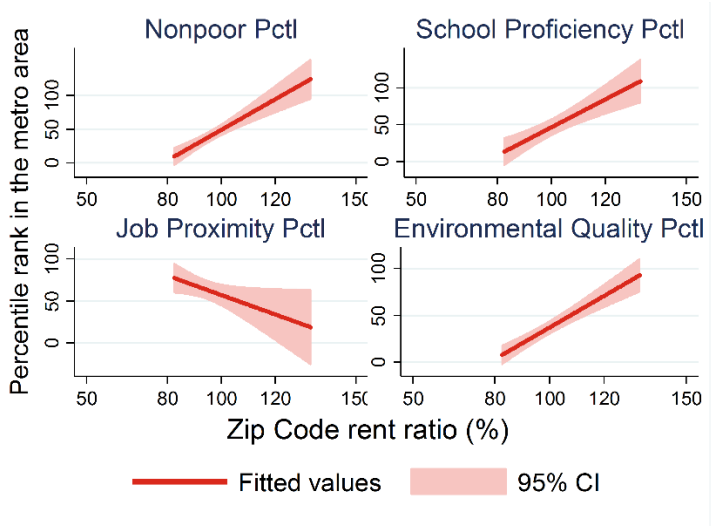


Chattanooga



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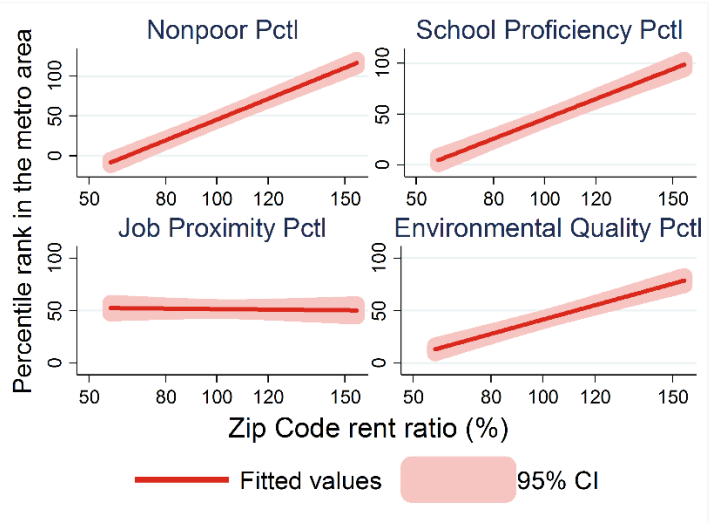
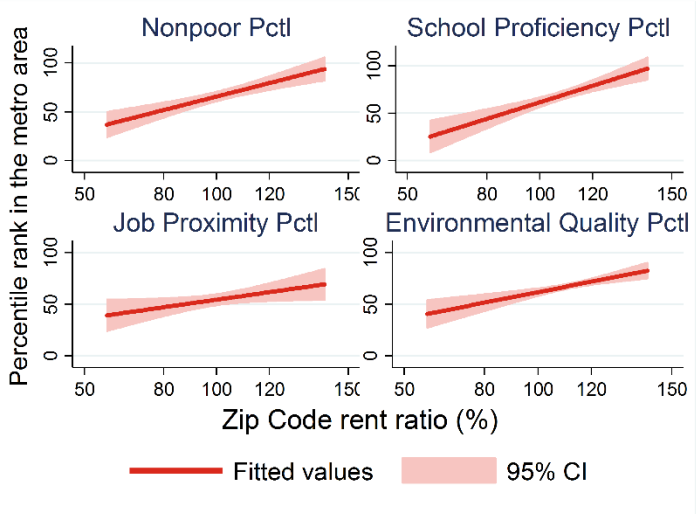


Cook County



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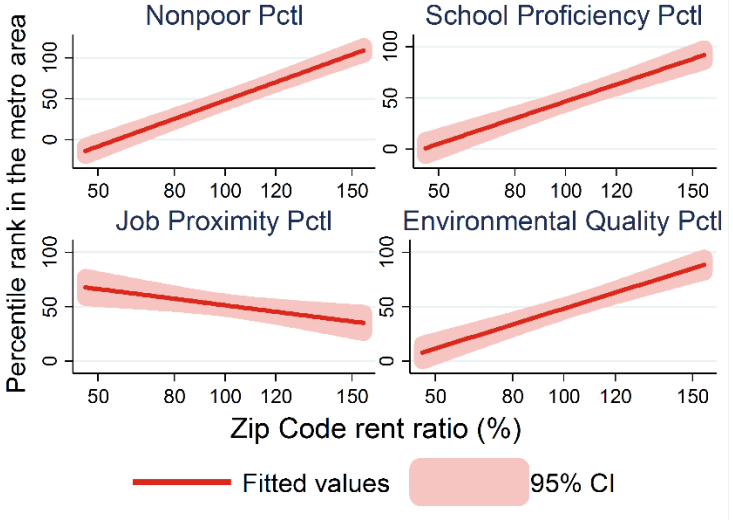
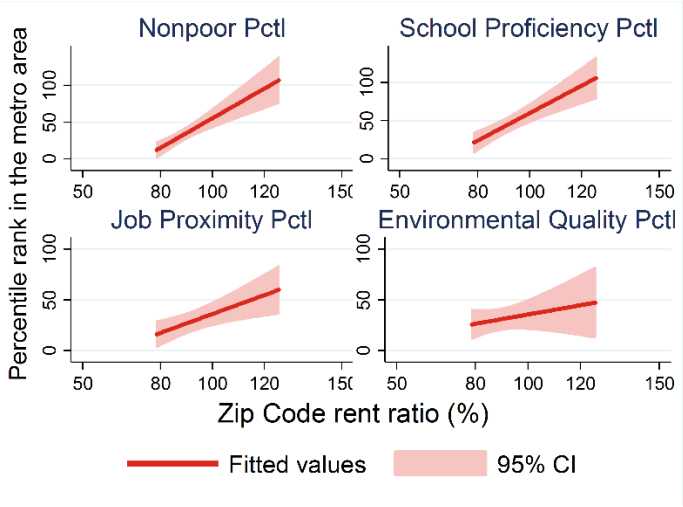


Long Beach



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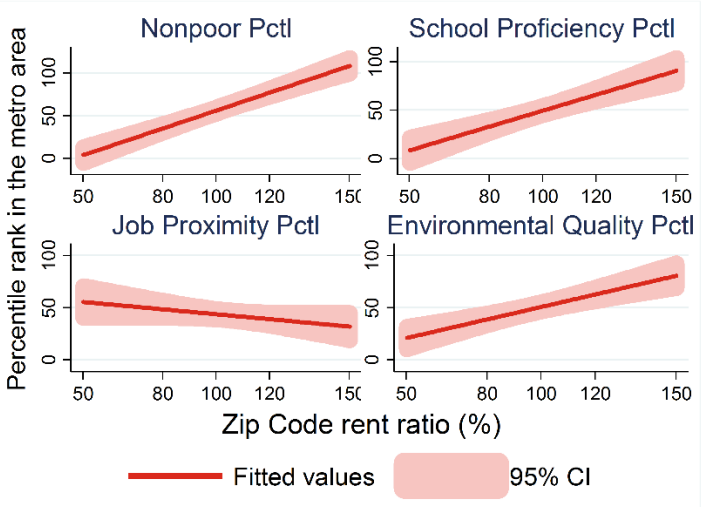
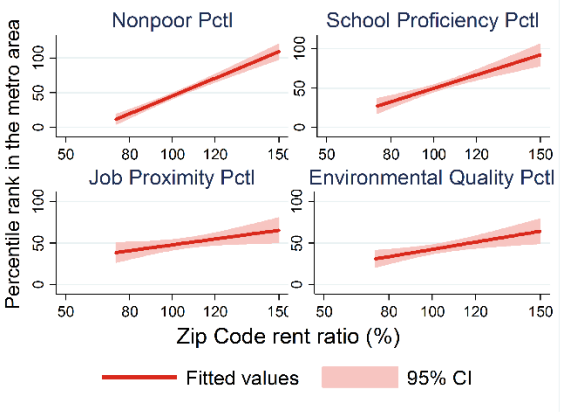


Dallas



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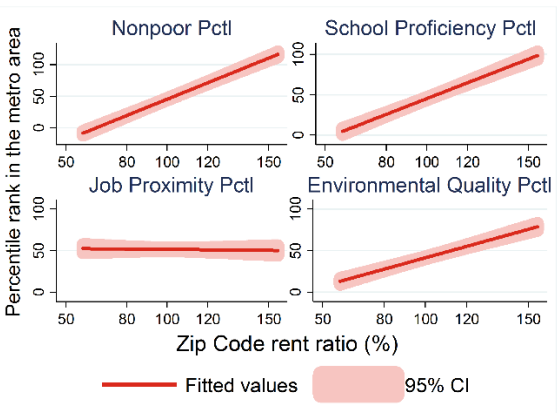

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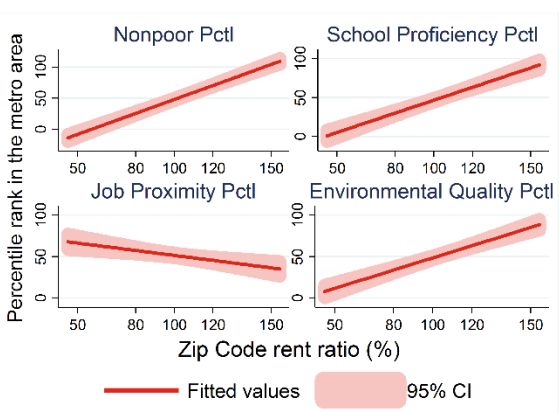
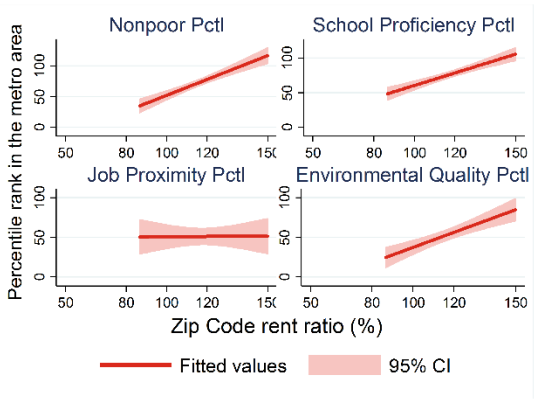


Plano



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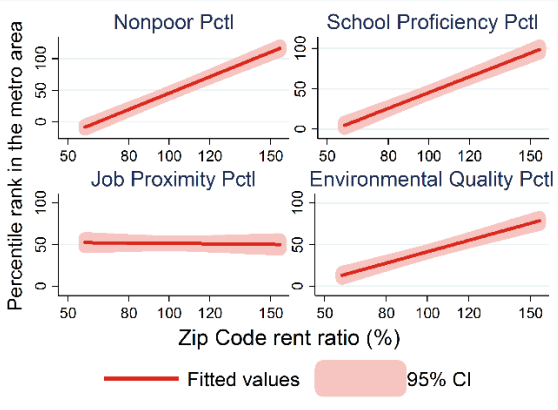

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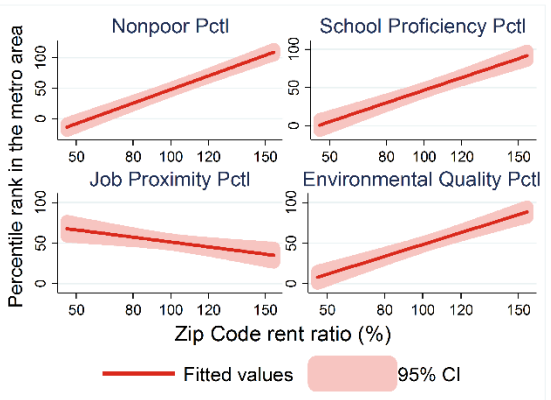
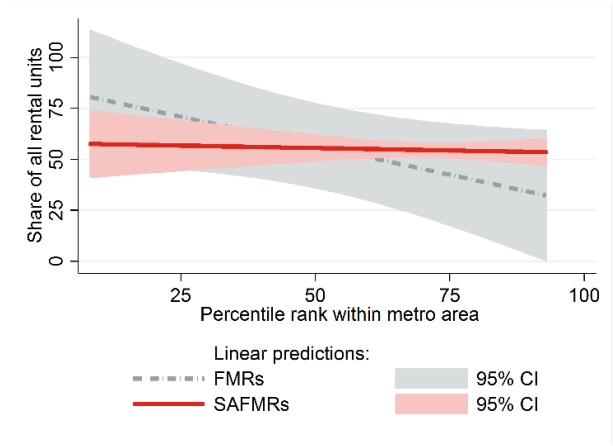


PHA = public housing agency. Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); 2014 ACS 5-year estimates (percent nonpoor); School Proficiency Index, 2011–2012 (HUD Open Data); Job Proximity Index, 2010 (HUD Open Data); Environmental Health Hazard Index, 2005 (HUD Open Data)

Exhibit B-1.8: Access to Neighborhood Opportunity—Share of Units Below Applicable FMR by PHA with Corresponding Cluster(s)

Overall Index

Laredo



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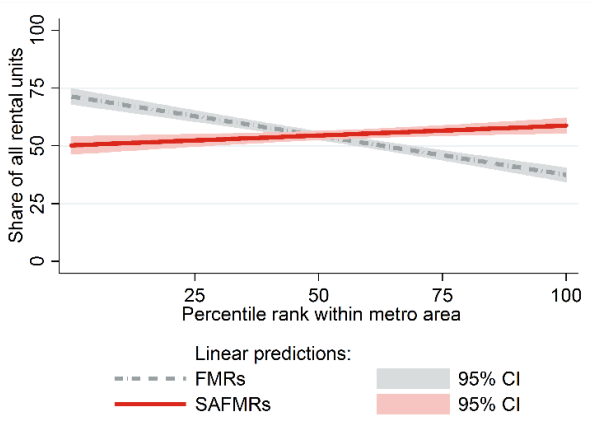
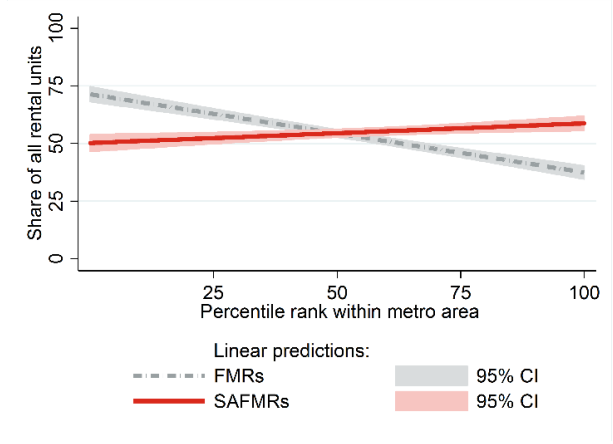
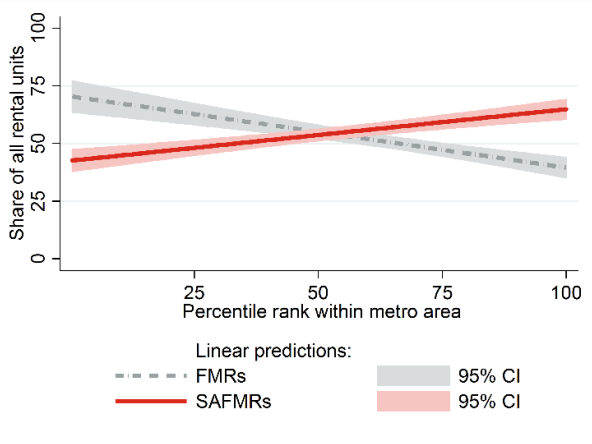


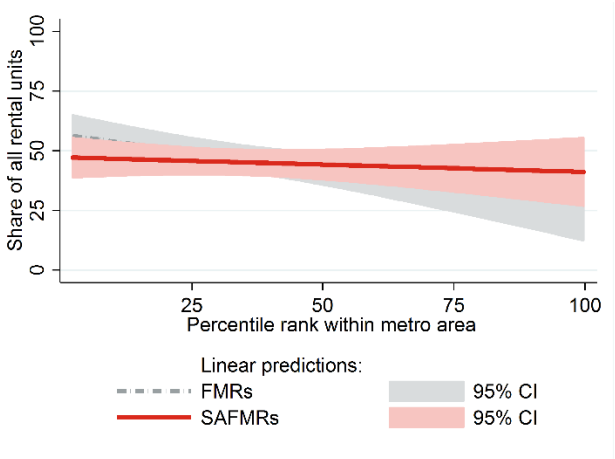
Mamaroneck



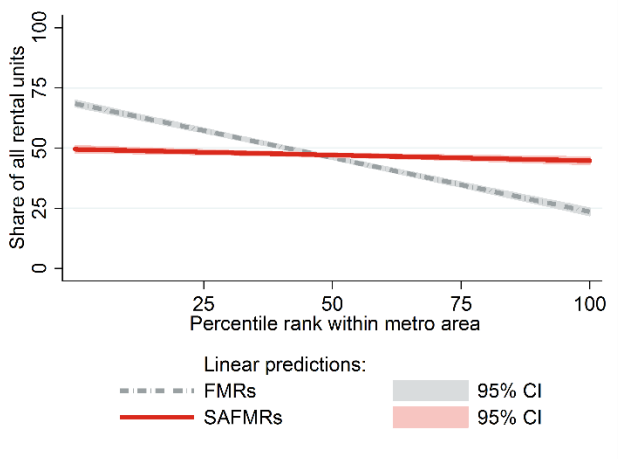
Cluster 4



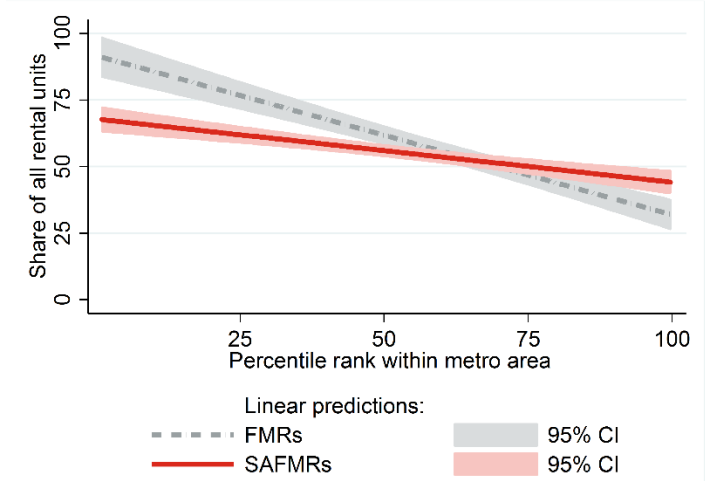
Chattanooga



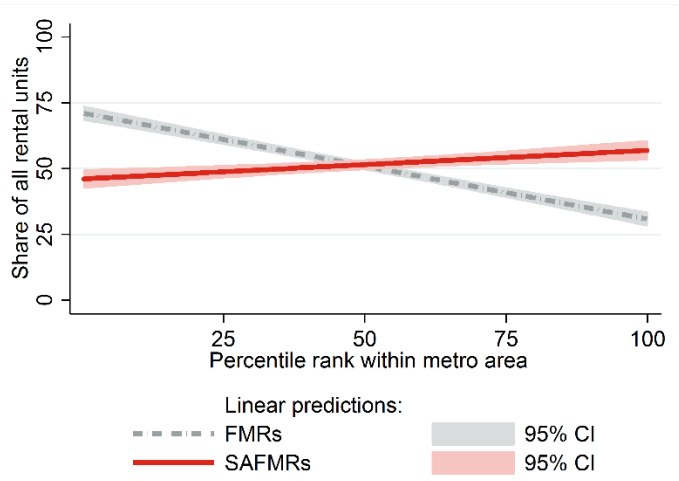
Cluster 5



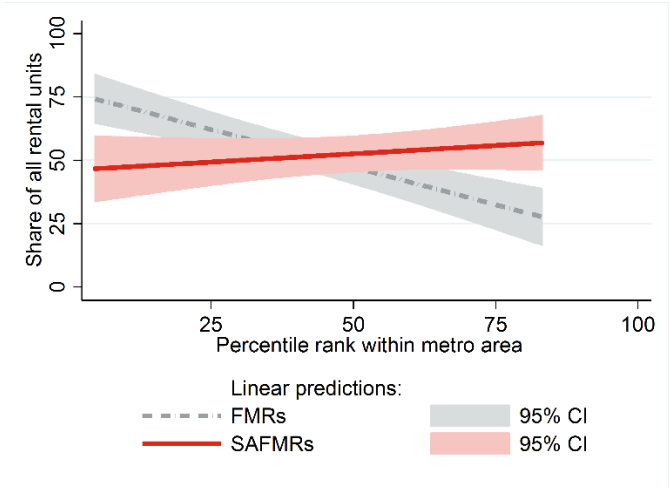
Cook County



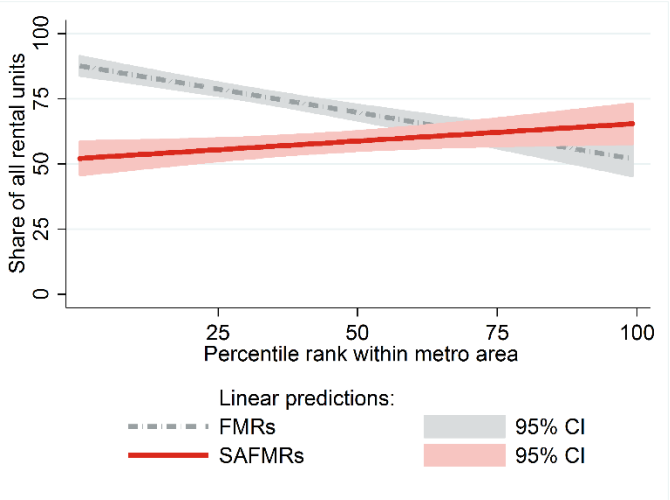
Cluster 6



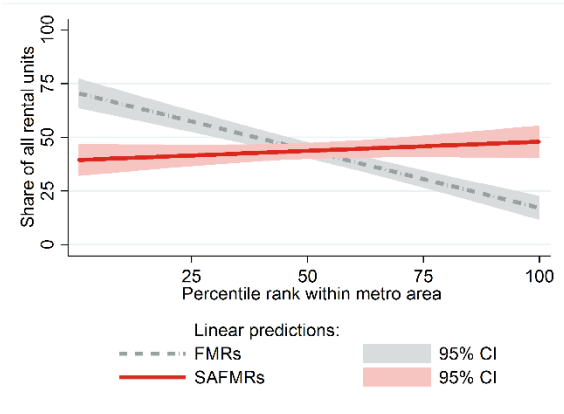
Long Beach



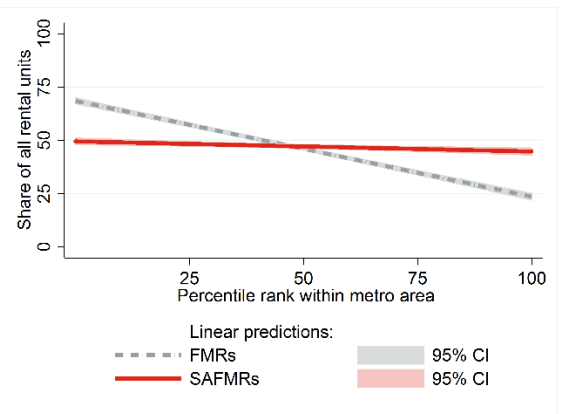
Cluster 7



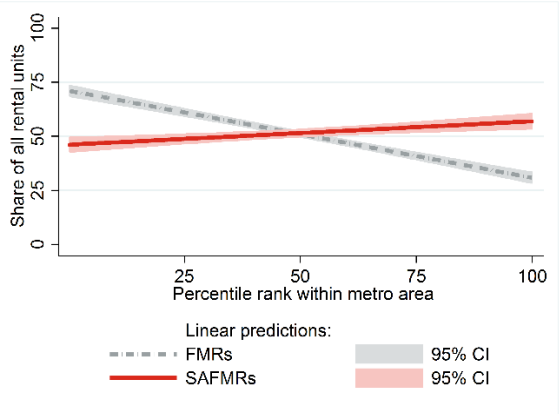
Dallas



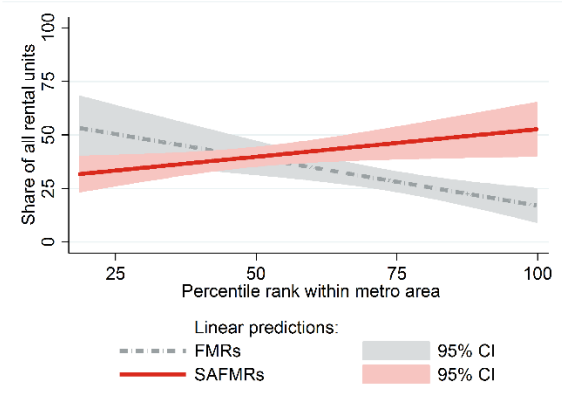
Cluster 5



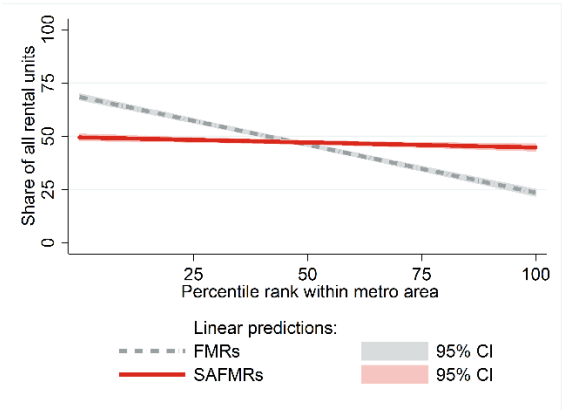
Cluster 6



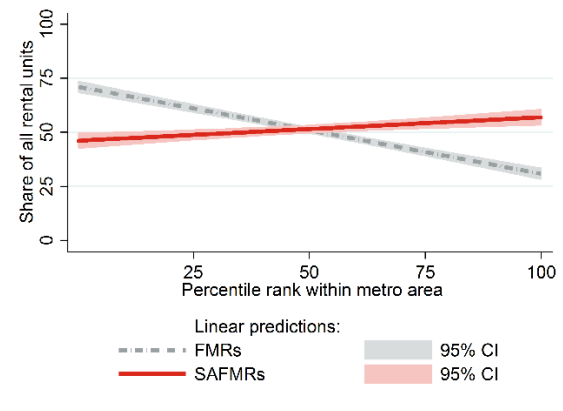
Plano



Cluster 5

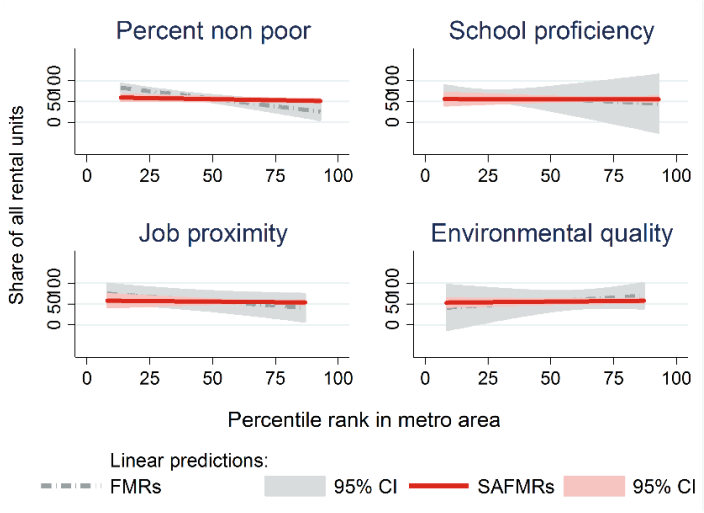


Cluster 6

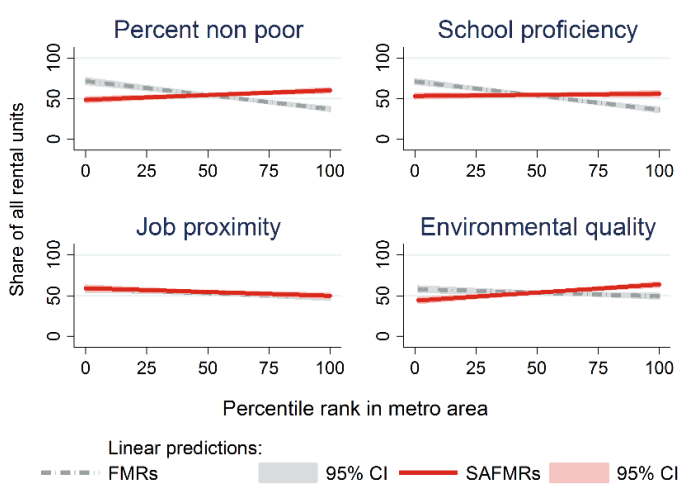


Component Indices

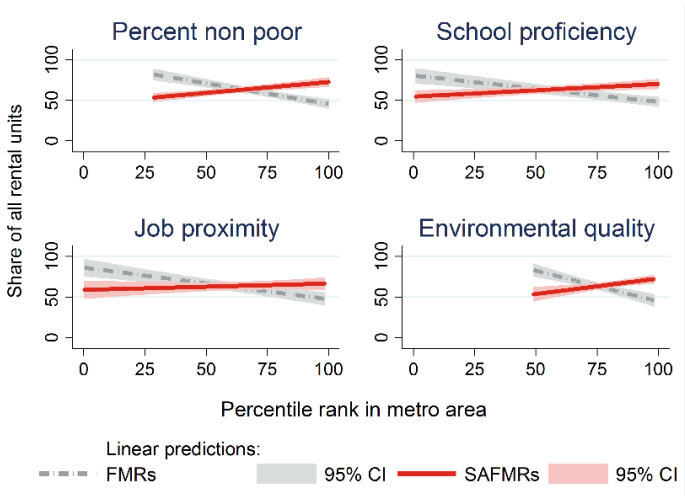
Laredo



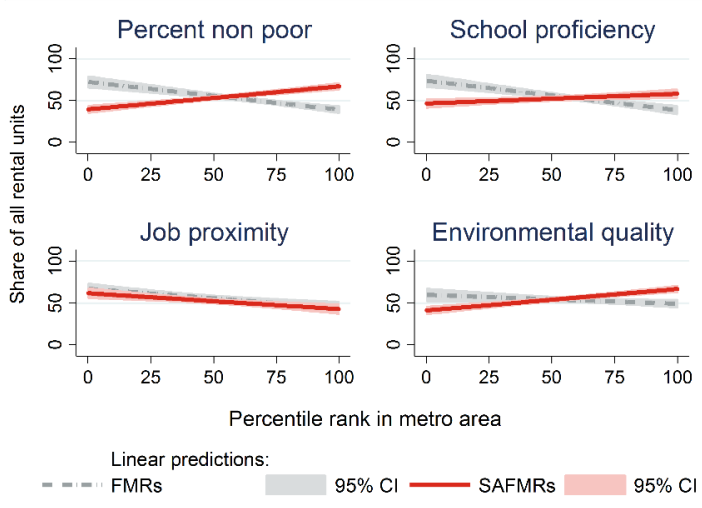
Cluster 2



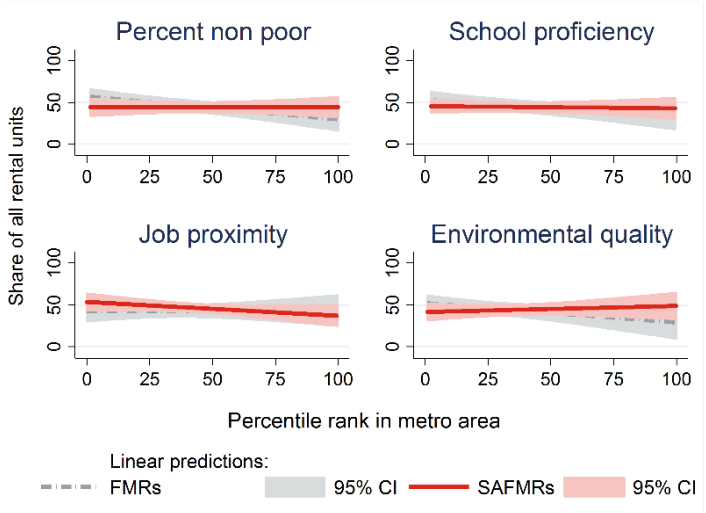
Mamaroneck



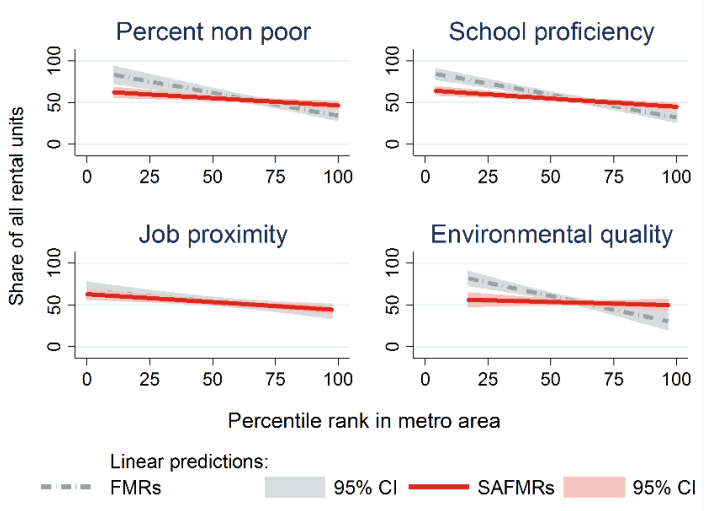
Cluster 4



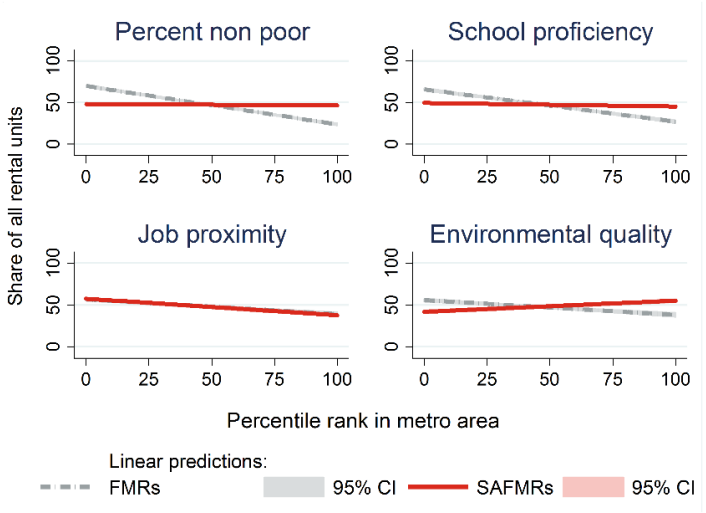
Chattanooga



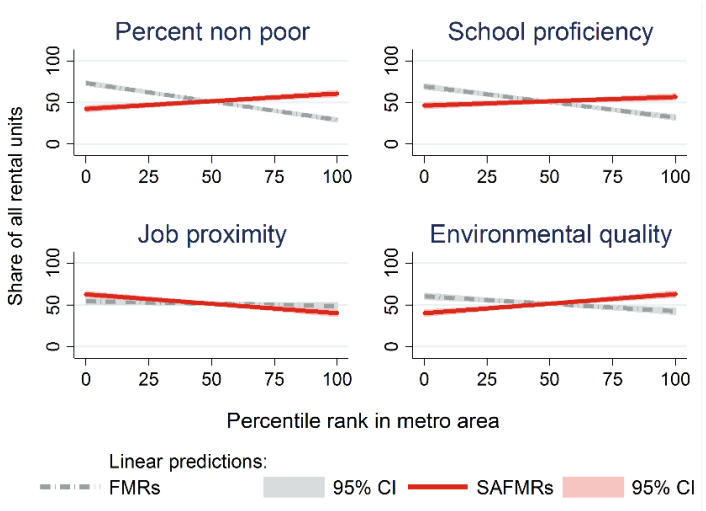
Cook County



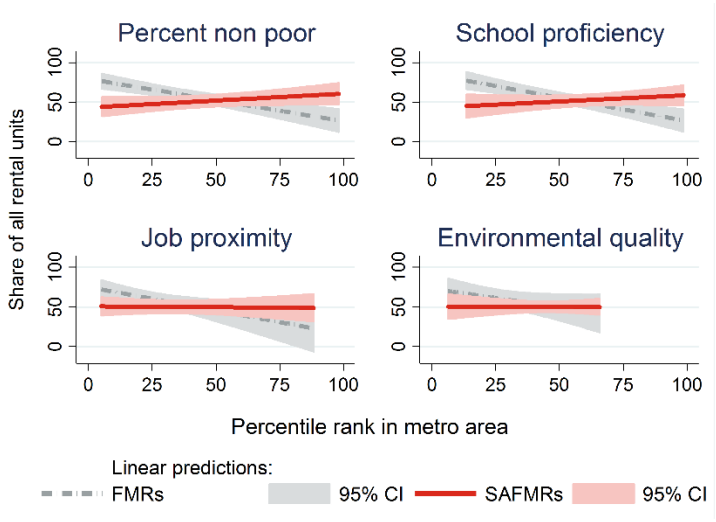
Cluster 5



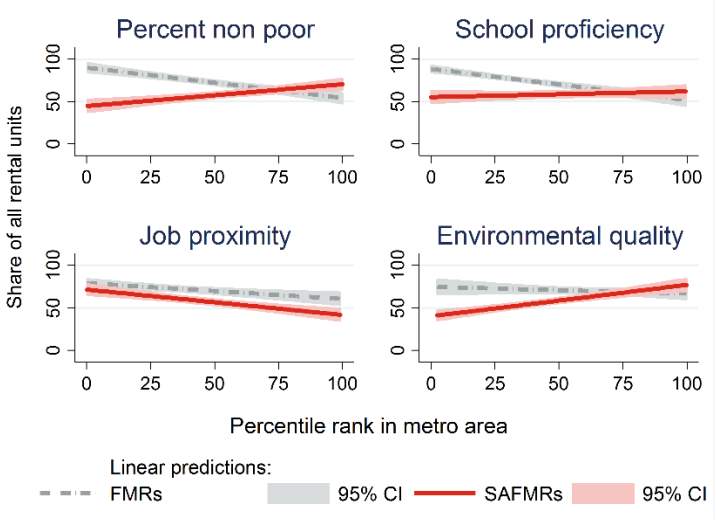
Cluster 6



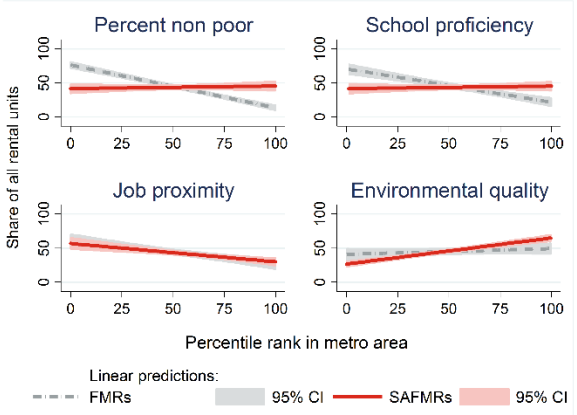
Long Beach



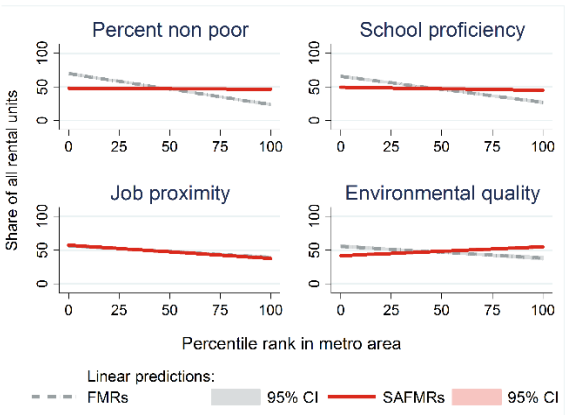
Cluster 7



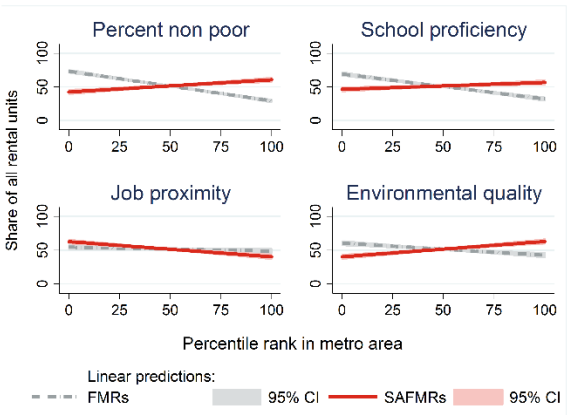
Dallas



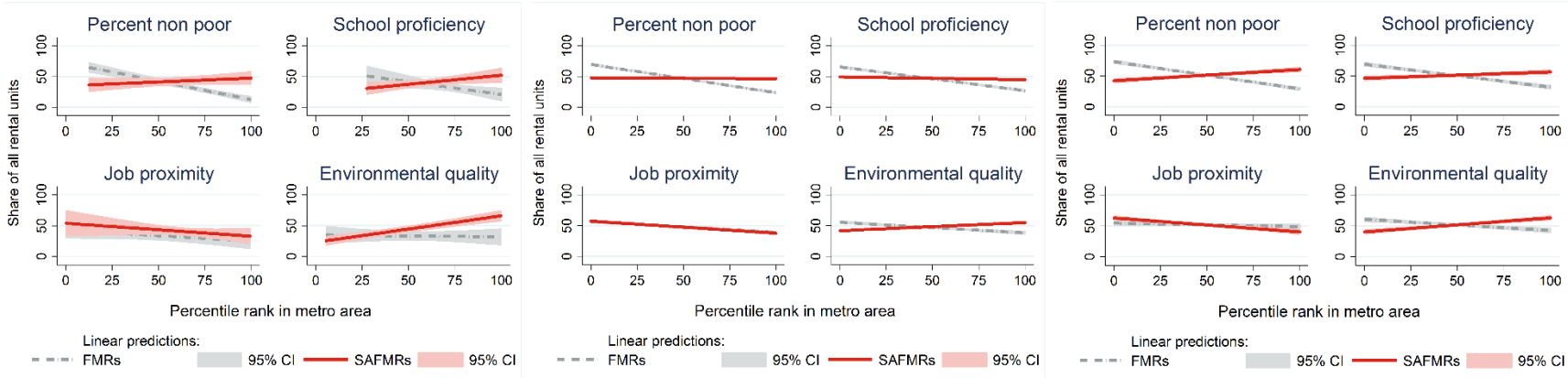
Cluster 5



Cluster 6



Plano **Cluster 5** **Cluster 6**

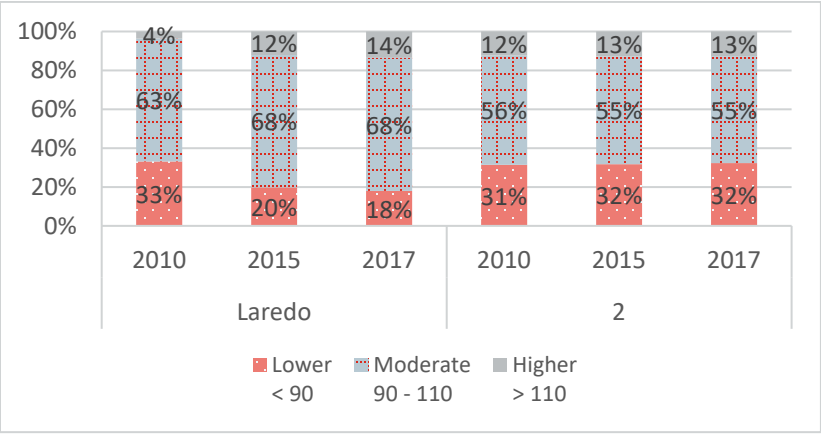


FMR = Fair Market Rent. SAFMR = Small Area Fair Market Rent. PHA = public housing agency.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 Small Area Fair Market Rents; 2012 American Community Survey (ACS) 5-year estimates (special tabulation for HUD of rent and rental units by ZIP Code Tabulation Area); 2012 ACS 5-year estimates (total rental units); 2014 ACS 5-year estimates (percent nonpoor); School Proficiency Index, 2011–2012 (HUD Open Data); Job Proximity Index, 2010 (HUD Open Data); Environmental Health Hazard Index, 2005 (HUD Open Data)

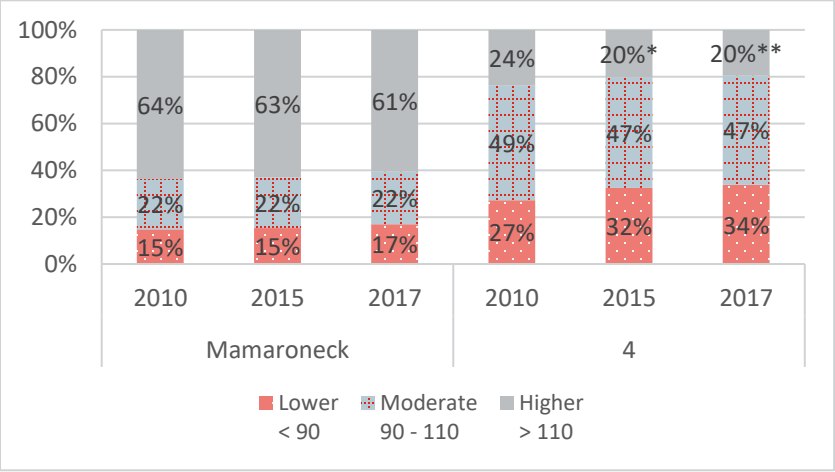
Appendix B-2: Appendix Exhibits to Chapter 5

Exhibit B-2.1: Rent Ratios of ZIP Codes Where HCV Holders Live Before and After SAFMRs, by PHA with Corresponding Cluster(s)

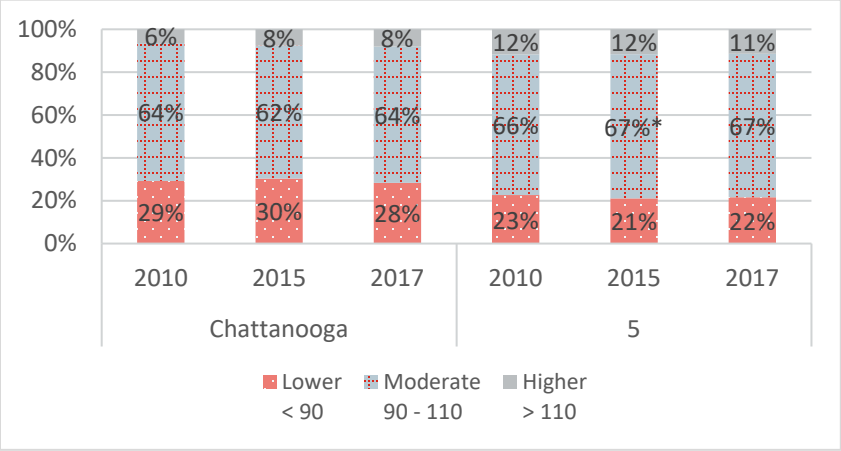
Laredo and Cluster 2



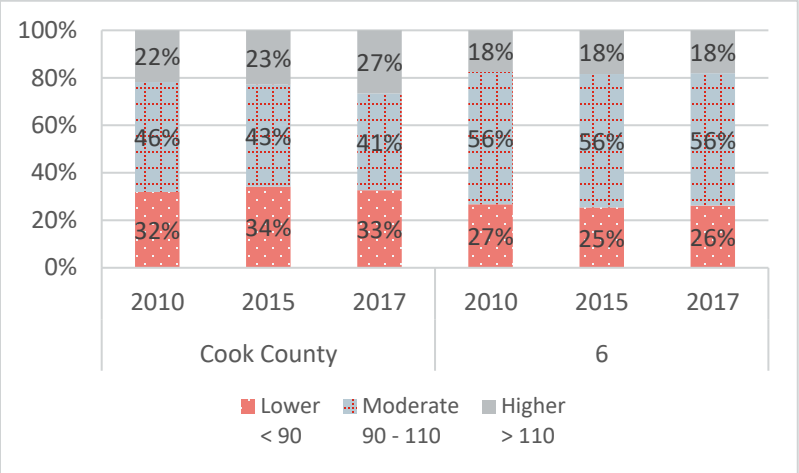
Mamaroneck and Cluster 4



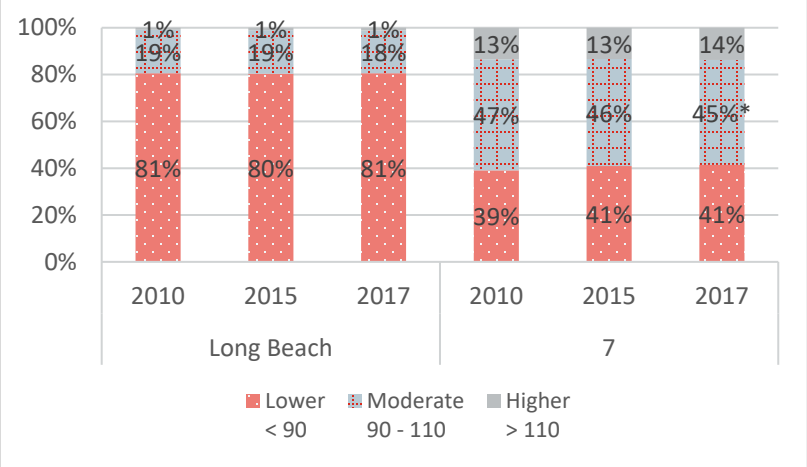
Chattanooga and Cluster 5



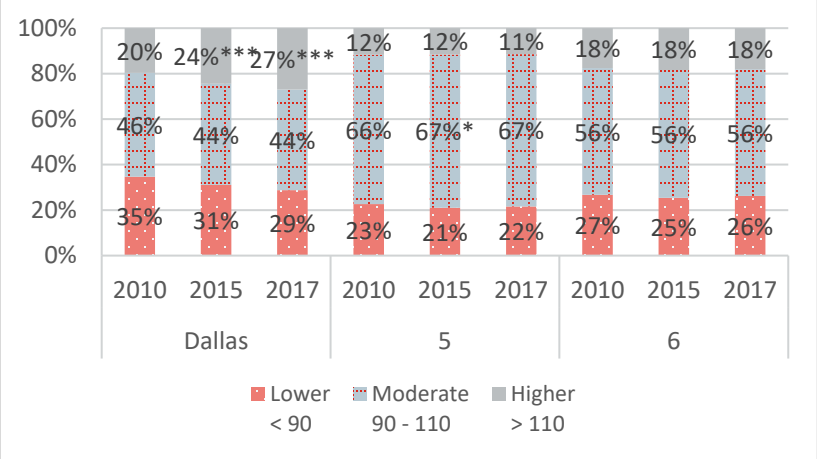
Cook County and Cluster 6



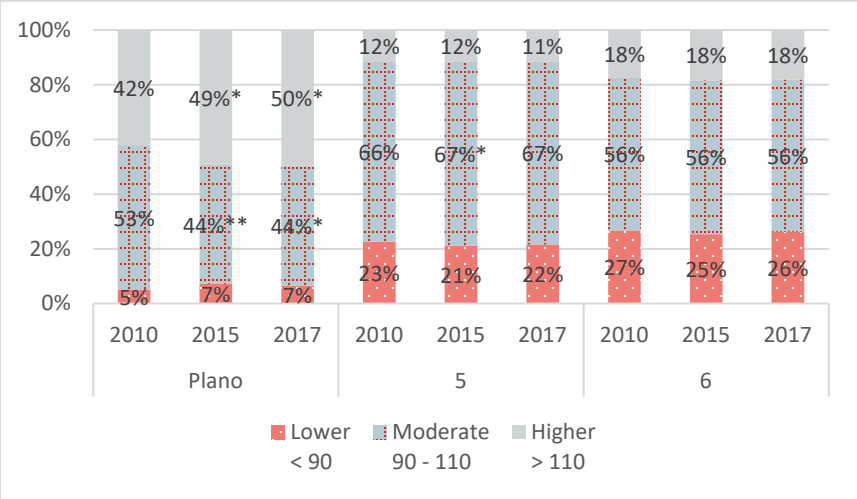
Long Beach and Cluster 7



Dallas and Clusters 5 and 6



Plano and Clusters 5 and 6

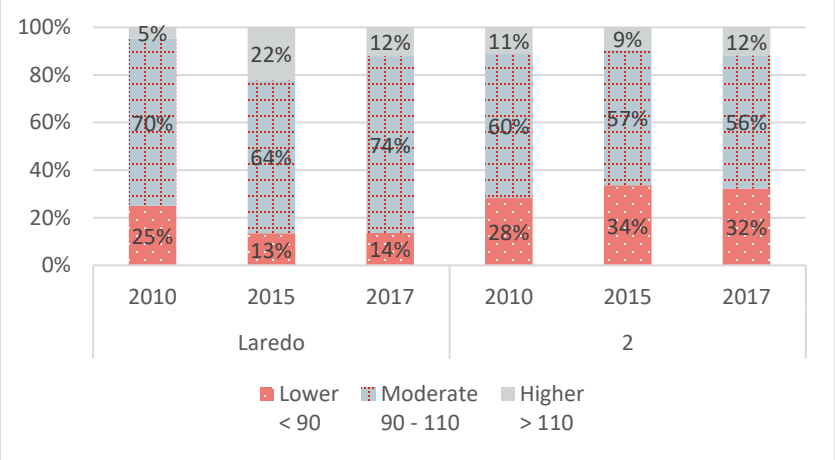


HCV = Housing Choice Voucher. PHA = public housing agency. SAFMR = Small Area Fair Market Rent.
*****, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05.**
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

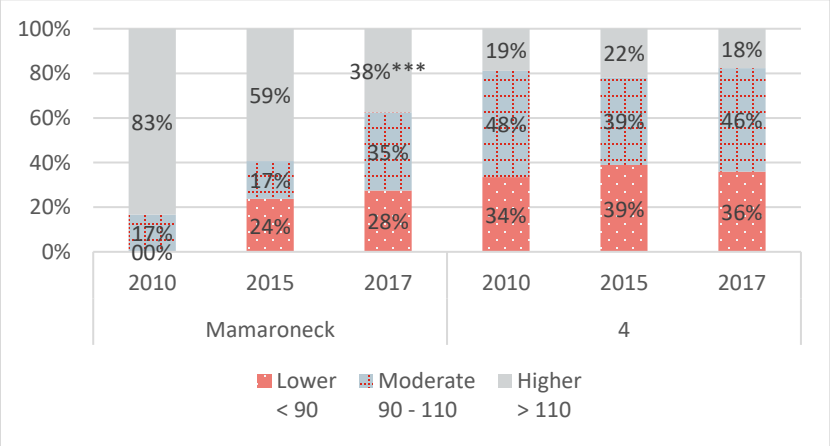
Exhibit B-2.2: Distribution of Rent Ratios by PHA with Corresponding Cluster(s) —New HCV Holders and ZIP Code Movers

New HCV Holders

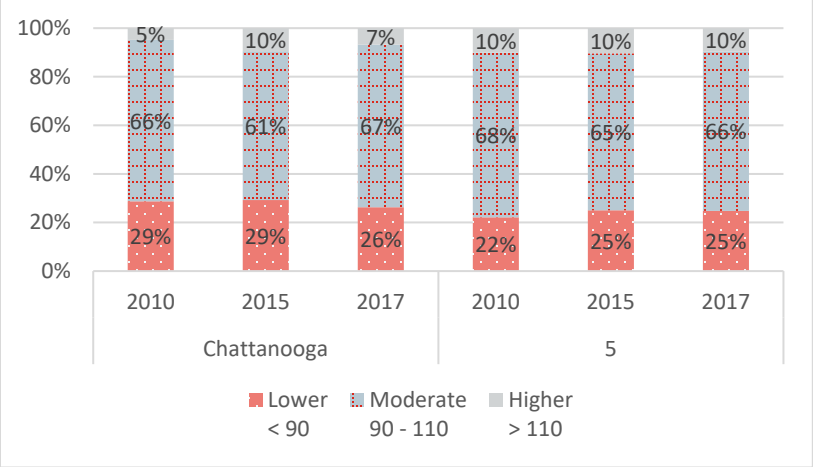
Laredo and Cluster 2



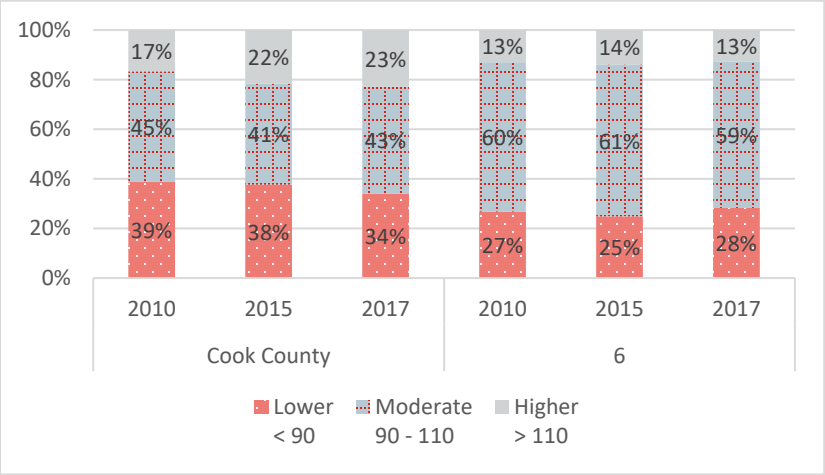
Mamaroneck and Cluster 4



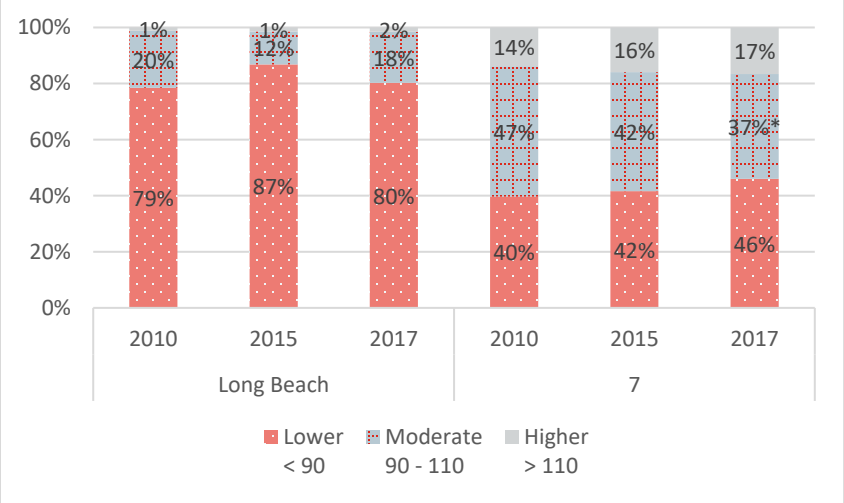
Chattanooga and Cluster 5



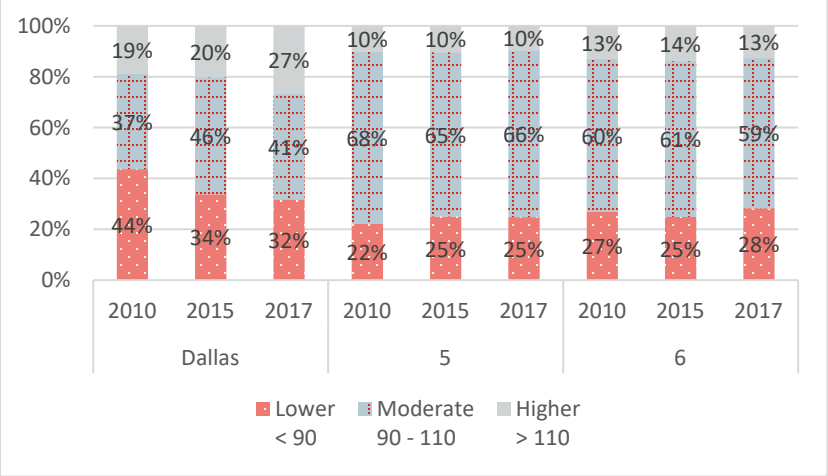
Cook County and Cluster 6



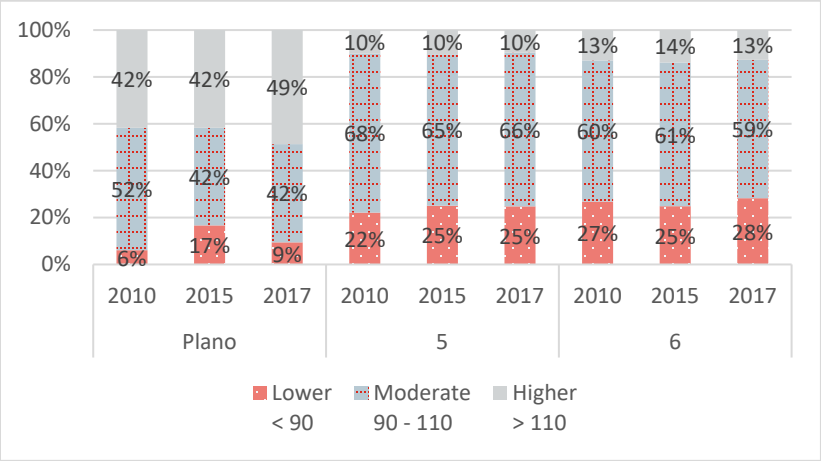
Long Beach and Cluster 7



Dallas and Clusters 5 and 6

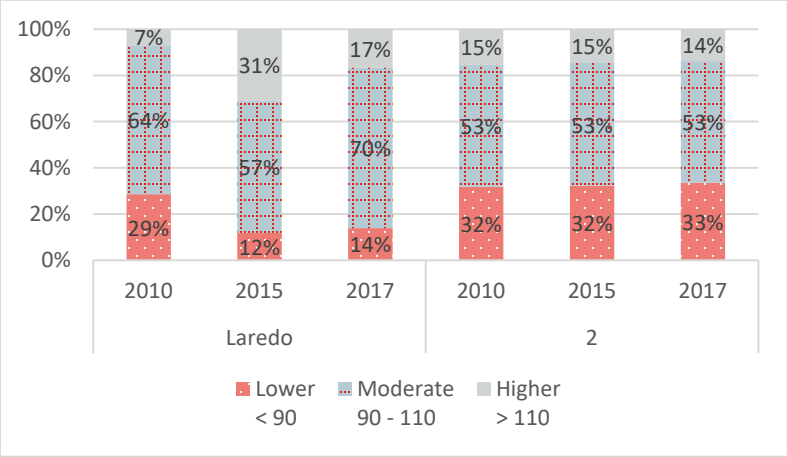


Plano and Clusters 5 and 6

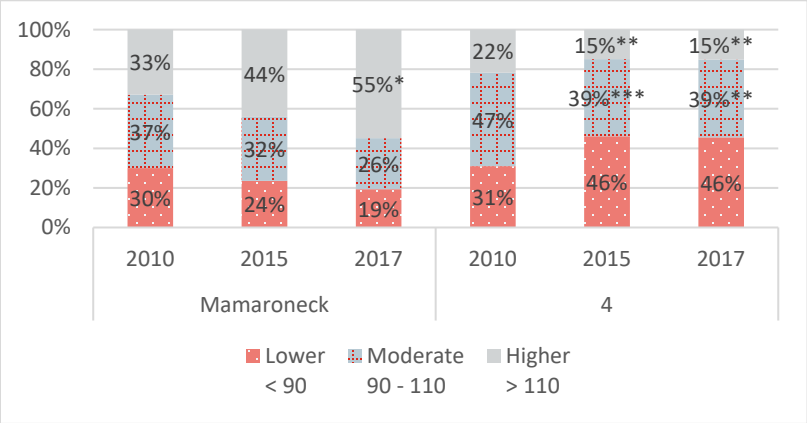


ZIP Code Movers

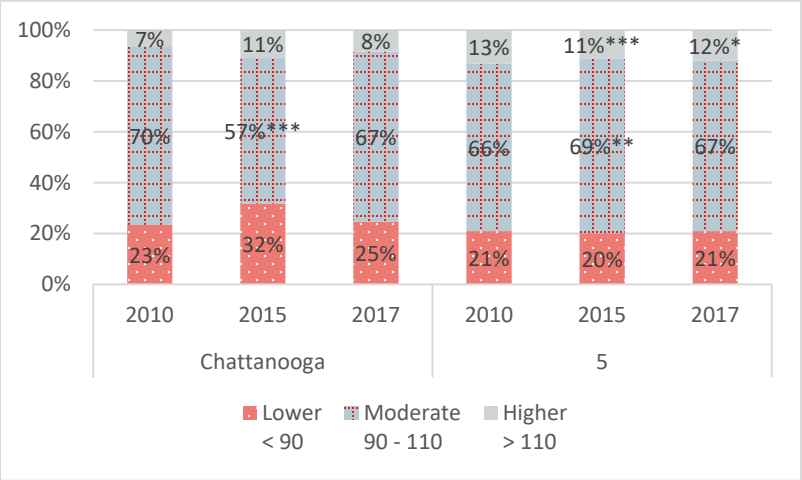
Laredo and Cluster 2



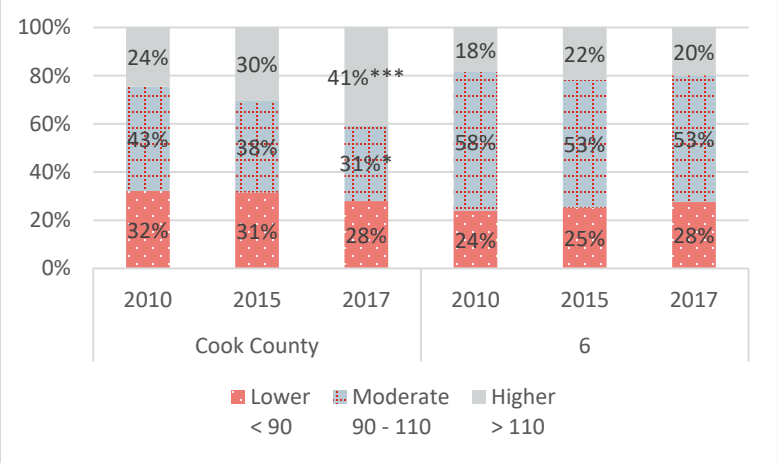
Mamaroneck and Cluster 4



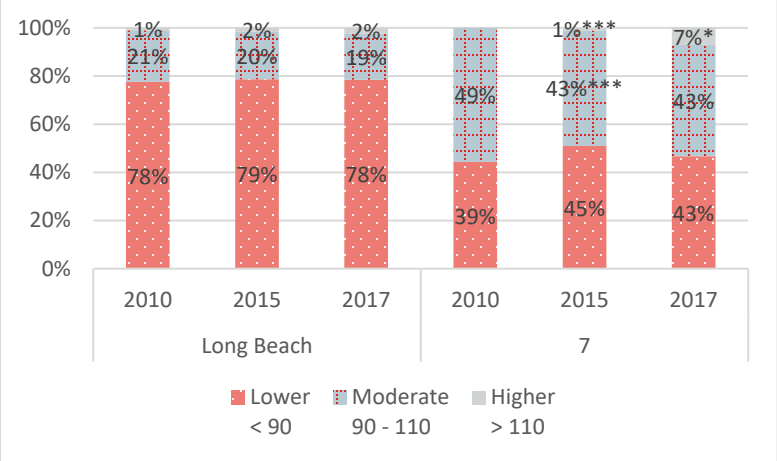
Chattanooga and Cluster 5



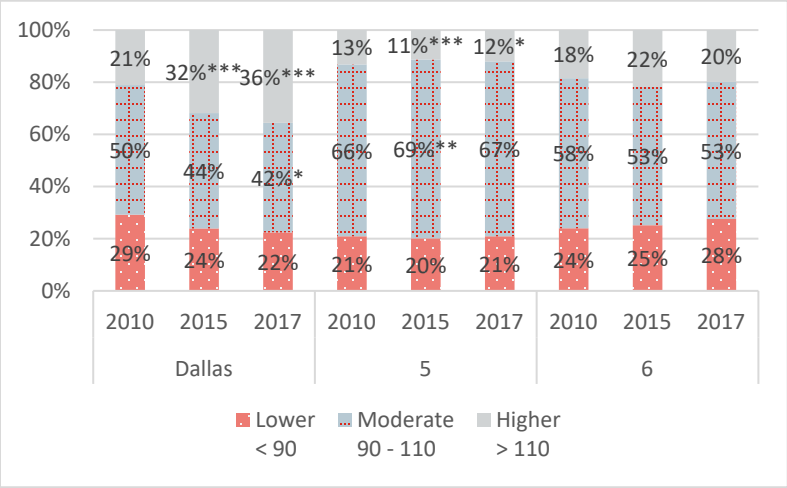
Cook County and Cluster 6



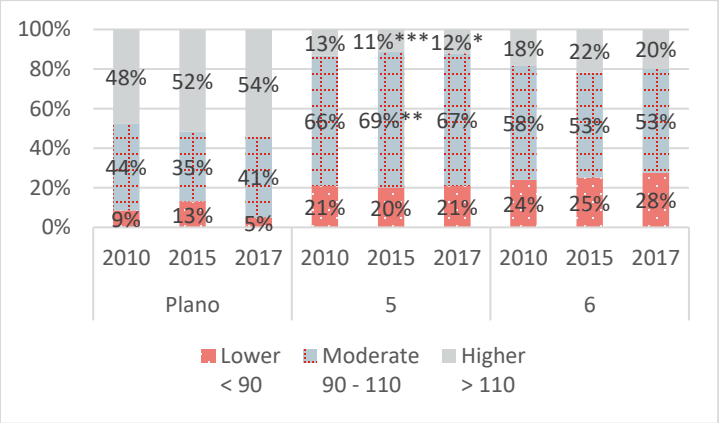
Long Beach and Cluster 7



Dallas and Clusters 5 and 6



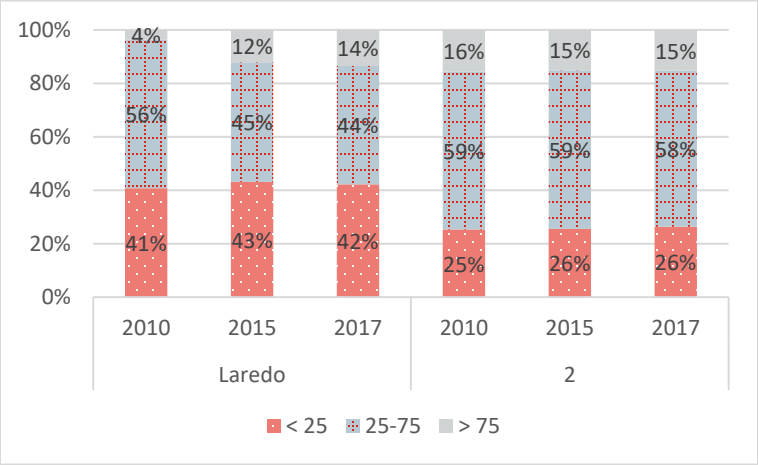
Plano and Clusters 5 and 6



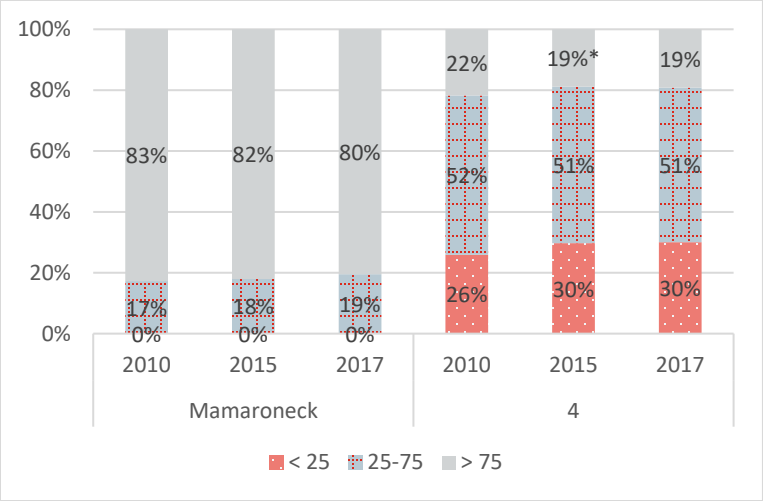
HCV = Housing Choice Voucher. PHA = public housing agency.
*****, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. Differences in proportion calculated with standard errors clustered by ZIP Code.**
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

Exhibit B-2.3: Distribution of Opportunity Index for All HCV Holders—by PHA with Corresponding Cluster(s)

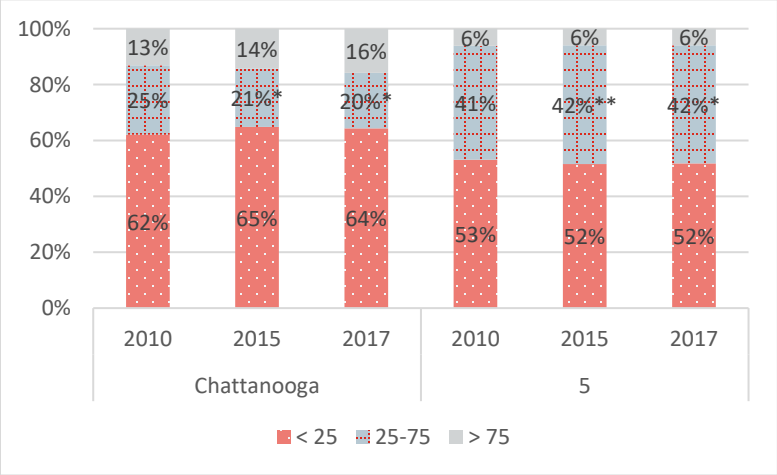
Laredo and Cluster 2



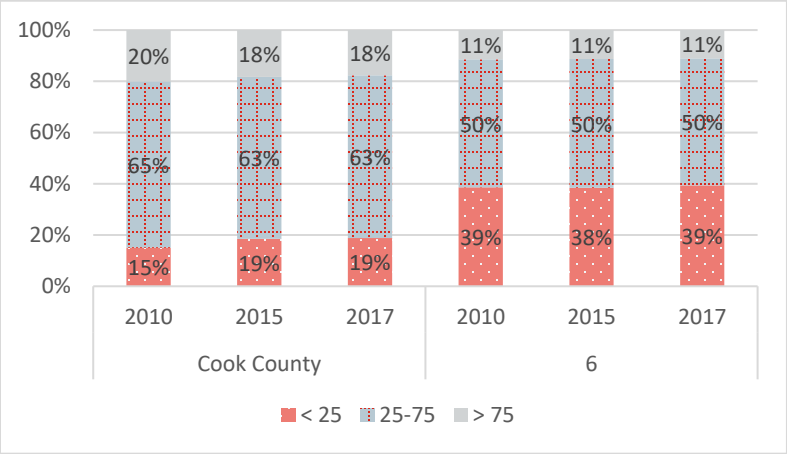
Mamaroneck and Cluster 4



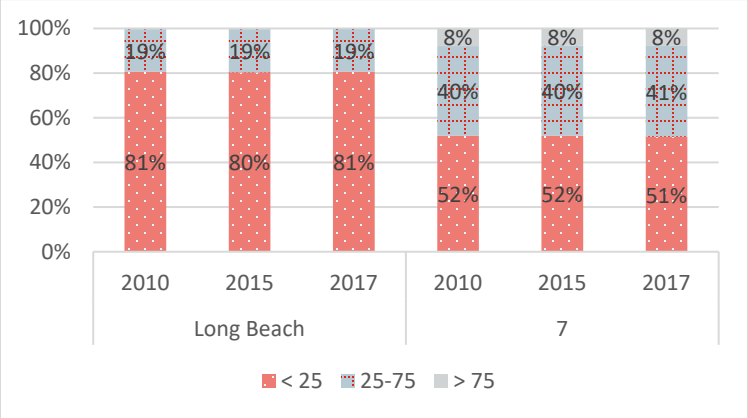
Chattanooga and Cluster 5



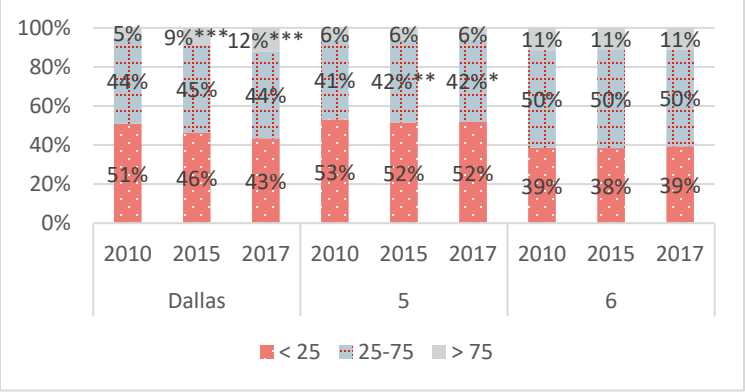
Cook County and Cluster 6



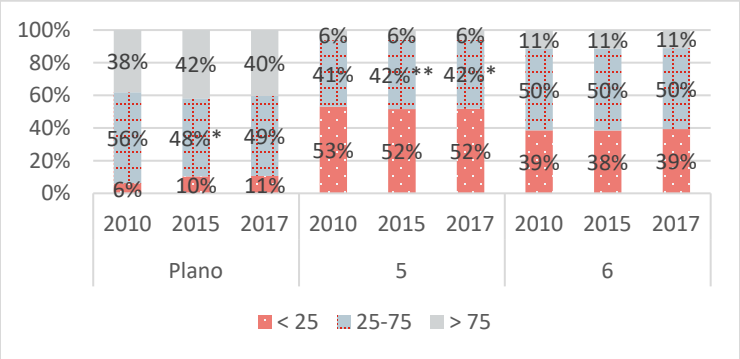
Long Beach and Cluster 7



Dallas and Clusters 5 and 6



Plano and Clusters 5 and 6

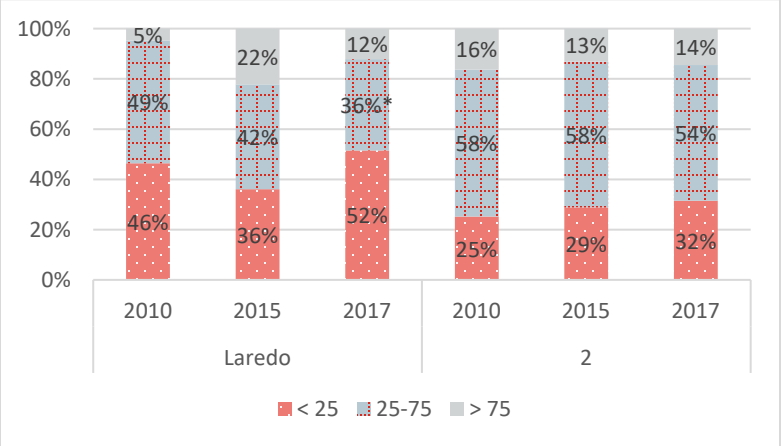


HCV = Housing Choice Voucher. PHA = public housing agency.
***, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

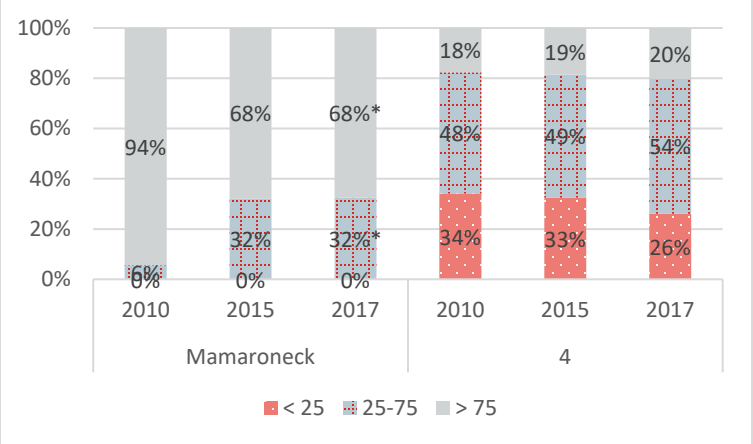
Exhibit B-2.4: Distribution of Opportunity by PHA with Corresponding Cluster(s)—New HCV Holders and ZIP Code Movers

New HCV Holders

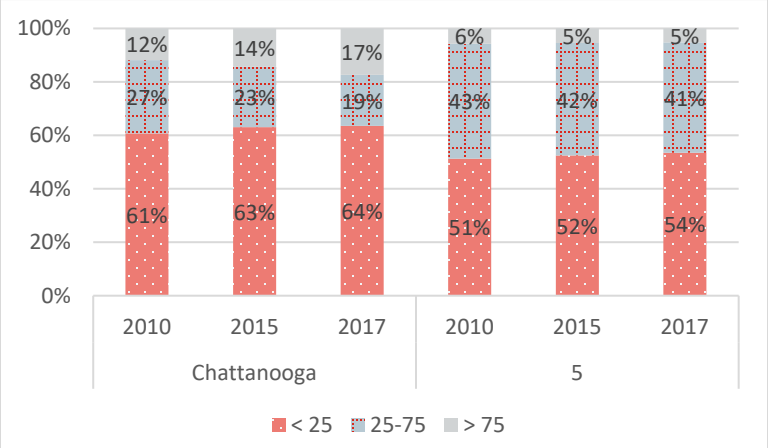
Laredo and Cluster 2



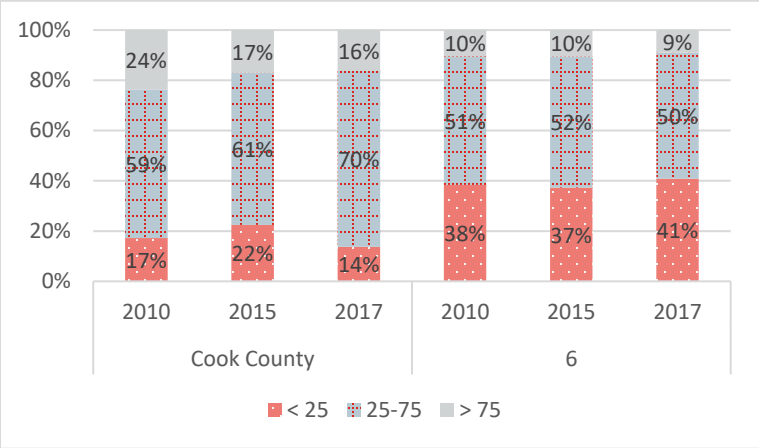
Mamaroneck and Cluster 4



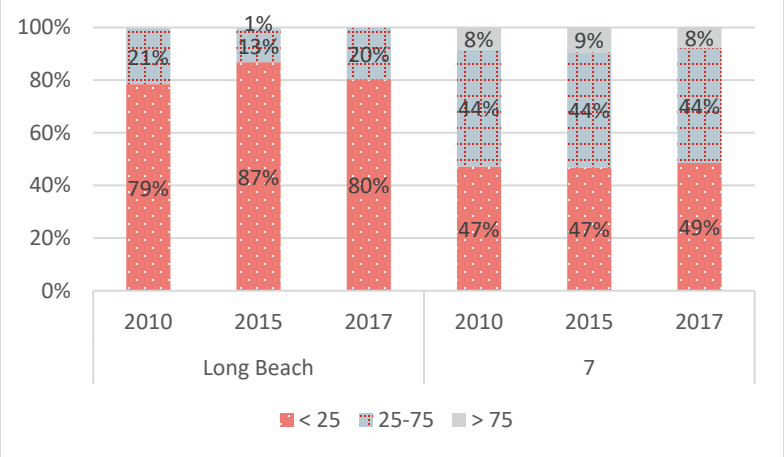
Chattanooga and Cluster 5



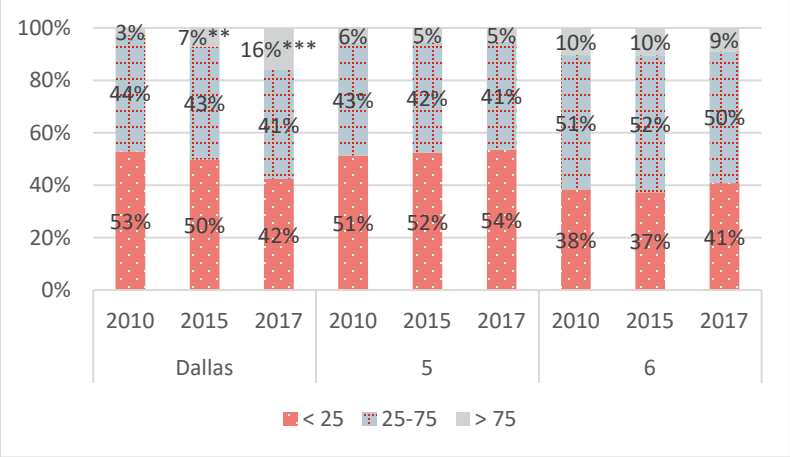
Cook County and Cluster 6



Long Beach and Cluster 7



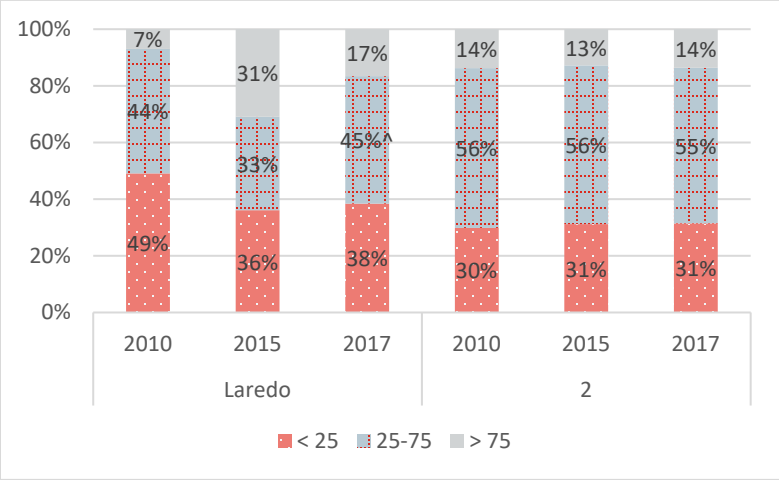
Dallas and Clusters 5 and 6



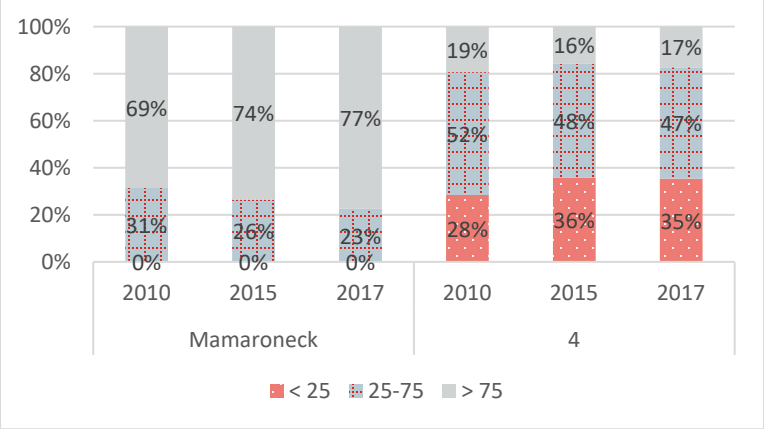
Plano and Clusters 5 and 6

ZIP Code Movers

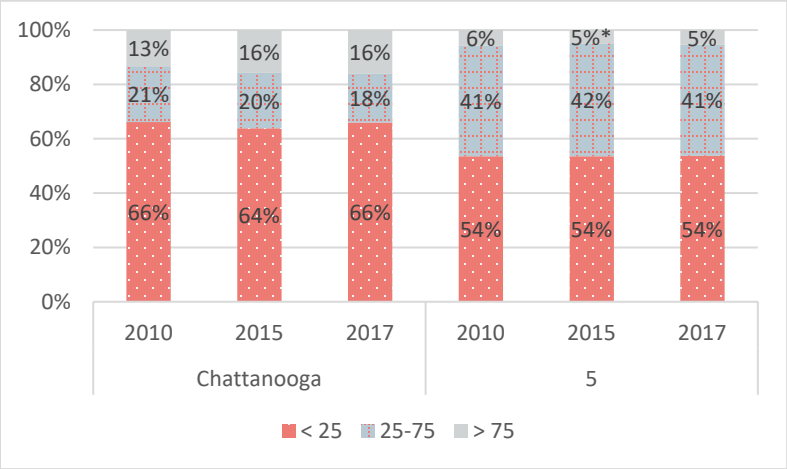
Laredo and Cluster 2



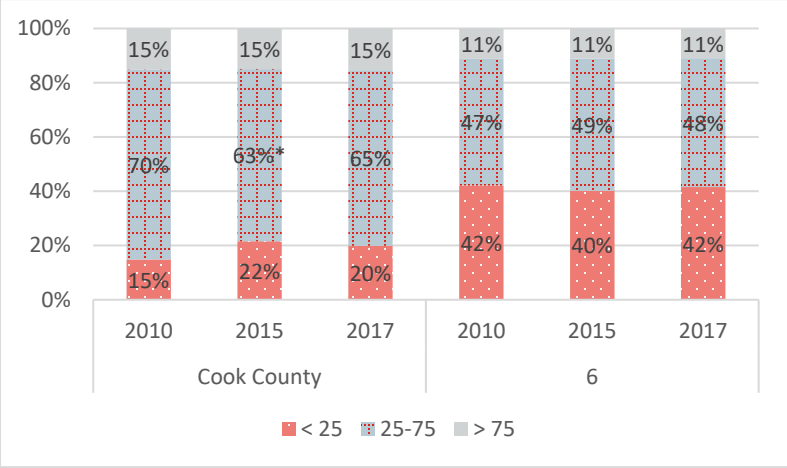
Mamaroneck and Cluster 4



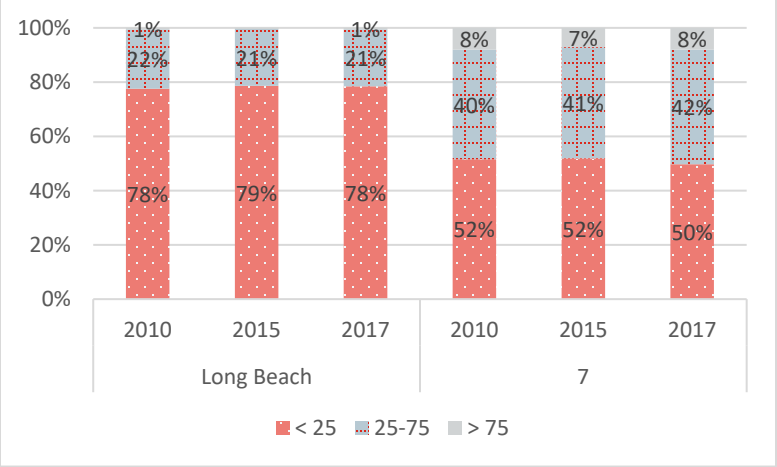
Chattanooga and Cluster 5



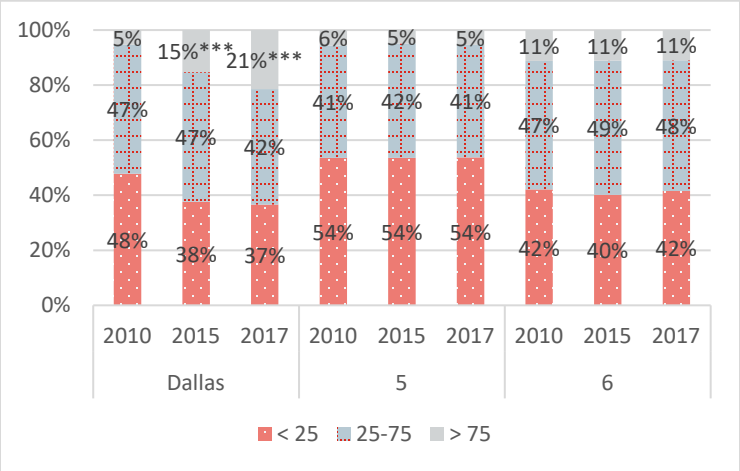
Cook County and Cluster 6



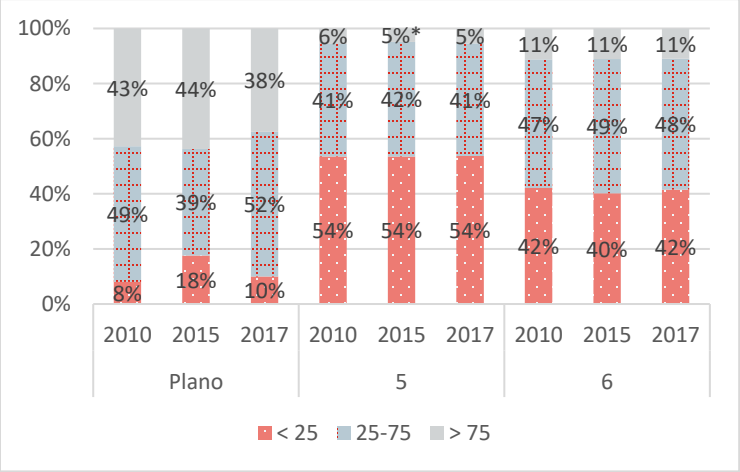
Long Beach and Cluster 7



Dallas and Clusters 5 and 6



Plano and Clusters 5 and 6



HCV = Housing Choice Voucher. PHA = public housing agency.
***, **, * indicates that share in 2017 or 2015 is statistically different from the share in same category in 2010 with p-value of less than 0.001, 0.01, and 0.05. Differences in proportion calculated with standard errors clustered by ZIP Code.
Sources: HUD FY2015 Fair Market Rents; HUD FY2015 SAFMRs (rent ratio calculation); HUD Public and Indian Housing Information Center administrative data extract (counts)

Exhibit B-2.5: Difference-in-differences regression results on likelihood of moving up, conditional on moving, including household characteristics

		Model			
		1. Move up	2. Move up, by starting rent ratio	3. Change in overall index	4. Change in overall index by starting rent ratio
		Outcome			
Main variable	Interaction	Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
SAFMR PHA post-SAFMR		0.058** (0.018)		3.34** (1.140)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		0.088* (0.040) 0.057*** (0.015) 0.041 (0.022)		5.38 (3.31) 2.89* (1.45) 4.39* (2.01)
Dallas and Plano 2011–2012		0.033* (0.015)		2.22* (0.858)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		0.087*** (0.014) 0.022 (0.015) -0.030 (0.030)		5.50*** (1.00) 0.81 (1.04) 0.48 (1.69)
Post-SAFMR (2013–2017)		-0.015*** (0.003)		-1.78*** (0.24)	
	Lower (<90) Moderate (90 -110) Higher (>110)		-0.024*** (0.006) -0.011* (0.004) -0.010 (0.009)		-1.92*** (0.40) -1.54*** (0.29) -2.08** (0.70)
Year = 2011–2012		-0.006* (0.003)		-1.08*** (0.19)	
Starting rent ratio	Lower (<90) Moderate (90 -110) Higher (>110)		-0.003 (0.005) -0.004 (0.004) -0.011 (0.008)		-0.77** (0.29) -0.91*** (0.22) -1.80** (0.50)
Starting rent ratio category Lower (<90) Moderate (90 - 110) Higher (>110)			-- -0.055*** (0.015) -0.203*** (0.020)		-- -5.93*** (1.02) -22.22*** (1.61)

Main variable	Interaction	Model			
		1. Move up	2. Move up, by starting rent ratio	3. Change in overall index	4. Change in overall index by starting rent ratio
		Outcome			
		Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
PHA fixed effects		Included	Included	Included	Included
Single female head of household		0.003 (0.003)	0.007* (0.003)	0.301 (0.154)	0.782** (0.197)
Includes head or co-head with disability		-0.007*** (0.002)	-0.009*** (0.002)	-0.109 (0.077)	-0.348*** (0.085)
Race/Ethnicity					
White (non-Hispanic)		-0.004 (0.004)	-0.003 (0.004)	-0.561** (0.140)	-0.418* (0.189)
Hispanic		-0.011** (0.004)	-0.016** (0.005)	0.128 (0.185)	-0.443 (0.234)
Presence of children					
Under 5		-0.001 (0.002)	-0.004 (0.002)	-0.348** (0.129)	-0.621*** (0.131)
5–12		0.007* (0.003)	0.008** (0.003)	0.521** (0.142)	0.660*** (0.150)
13–17		-0.003 (0.002)	0.000 (0.002)	0.092 (0.110)	0.461*** (0.112)
Number of children					
1		-0.002 (0.003)	0.002 (0.003)	0.330* (0.157)	0.776*** (0.167)
2		-0.003 (0.005)	0.003 (0.005)	0.302 (0.227)	1.018** (0.272)
3		-0.003 (0.005)	0.006 (0.006)	0.554* (0.258)	1.525*** (0.317)
4		0.001 (0.006)	0.012 (0.006)	0.795** (0.272)	1.979*** (0.364)
5		0.005 (0.007)	0.015 (0.008)	1.064** (0.323)	2.224*** (0.444)
6		0.004 (0.008)	0.016 (0.009)	0.983* (0.439)	2.284** (0.571)
7		0.005 (0.010)	0.017 (0.012)	0.438 (0.482)	1.805* (0.696)

Main variable	Interaction	Model			
		1. Move up	2. Move up, by starting rent ratio	3. Change in overall index	4. Change in overall index by starting rent ratio
		Outcome			
		Moved up (10 percentile)	Moved up (10 percentile)	ΔOpportunity	ΔOpportunity
Adults in household					
Age 18–24					
1		-0.011*** (0.002)	-0.005* (0.002)	-0.303* (0.120)	0.327* (0.150)
2 or more		-0.015** (0.004)	-0.004 (0.005)	-0.724** (0.252)	0.507 (0.330)
Age 25–64					
1		-0.012** (0.003)	-0.007 (0.004)	0.133 (0.191)	0.808** (0.224)
2		-0.017*** (0.004)	-0.008 (0.005)	0.175 (0.220)	1.179*** (0.287)
3 or more		-0.034** (0.011)	-0.018 (0.012)	0.074 (0.722)	1.873* (0.821)
Age 65 and older		-0.010* (0.005)	-0.004 (0.005)	0.652** (0.230)	1.340*** (0.272)
Intercept		0.326*** (0.007)	0.369*** (0.013)	1.49*** (0.32)	6.13*** (0.78)
Sample size (HH years)		561,870	561,870	561,870	561,870
Number of PHAs		151	151	151	151

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent. PHA = public housing agency.
Note: Black is used as the reference category for race and thus not included in the table.
*****,**,* indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of a distinct fixed effects linear regression with PHA fixed effects, with standard errors clustered by PHA.**

Exhibit B-2.6: Difference-in-differences regression results overall opportunity index for all new households and for key subgroups, with household characteristics

		Model			
		9. Overall opportunity index, New HCV Holders	10. Overall opportunity index, New HCV Holders by Families with Children	11. Overall opportunity index, New HCV Holders by Seniors	12. Overall opportunity index, New HCV Holders by Head or Co-Head with disability
		Outcome			
Main variable	Interaction	Opportunity Index	Opportunity Index	Opportunity Index	Opportunity Index
SAFMR PHA post-SAFMR		2.71 (1.46)			
	In Subgroup All others		4.33 (2.79) 1.08 (1.23)	0.13 (2.17) 3.14* (1.55)	0.60 (1.04) 3.71 (1.98)
Dallas and Plano 2011–2012		-1.18 (0.98)			
Starting rent ratio	In Subgroup All others		2.92** (0.89) -5.32*** (0.98)	-4.06** (1.55) -0.77 (0.92)	-4.54*** (0.98) 0.27 (0.93)
Post-SAFMR (2012–2017)		-1.20*** (0.29)			
	In Subgroup All others		-1.18*** (0.34) -1.23*** (0.34)	-0.22 (0.66) -1.33*** (0.29)	-1.01** (0.35) -1.30*** (0.33)
Year = 2011–2012		-0.02 (0.27)			
Subgroup	In Subgroup All others		-0.16 (0.29) 0.11 (0.39)	1.12 (0.90) -0.18 (0.26)	-0.02 (0.33) -0.02 (0.32)
PHA fixed effects		Included	Included	Included	Included
Single female head of household		0.369 (0.253)	0.350 (0.248)	0.368 (0.251)	0.359 (0.249)
Includes head or co-head with disability		-0.140 (0.229)	-0.142 (0.229)	-0.131 (0.227)	-0.152 (0.306)

Main variable	Interaction	Model			
		9. Overall opportunity index, New HCV Holders	10. Overall opportunity index, New HCV Holders by Families with Children	11. Overall opportunity index, New HCV Holders by Seniors	12. Overall opportunity index, New HCV Holders by Head or Co-Head with disability
		Outcome			
		Opportunity Index	Opportunity Index	Opportunity Index	Opportunity Index
Race/Ethnicity					
White (non-Hispanic)		7.346*** (0.719)	7.345*** (0.720)	7.350*** (0.718)	7.343*** (0.720)
Hispanic		-5.261*** (0.734)	-5.256*** (0.732)	-5.262*** (0.733)	-5.256*** (0.732)
Presence of children					
Under 5		-0.276 (0.209)	-0.271 (0.208)	-0.276 (0.209)	-0.272 (0.208)
5–12		0.463 (0.238)	0.467 (0.240)	0.466 (0.238)	0.465 (0.238)
13–17		0.905*** (0.223)	0.911*** (0.225)	0.902*** (0.223)	0.904*** (0.223)
Under 18			-1.269 (1.297)		
Number of children					
1		1.073** (0.337)	2.206 (1.202)	1.071** (0.341)	1.075** (0.338)
2		0.325 (0.487)	1.446 (1.130)	0.321 (0.491)	0.329 (0.489)
3		-0.620 (0.614)	0.505 (1.054)	-0.626 (0.619)	-0.619 (0.614)
4		-1.479* (0.703)	-0.363 (0.995)	-1.486* (0.706)	-1.481* (0.702)
5		-2.027* (0.822)	-0.908 (0.990)	-2.036* (0.824)	-2.028* (0.822)
6		-1.774 (0.960)	-0.653 (1.011)	-1.785 (0.961)	-1.777 (0.958)
7		-1.126 (1.336)	0.000*** (0.000)	-1.132 (1.337)	-1.121 (1.341)
Adults in household					
Age 18–24					

		Model			
		9. Overall opportunity index, New HCV Holders	10. Overall opportunity index, New HCV Holders by Families with Children	11. Overall opportunity index, New HCV Holders by Seniors	12. Overall opportunity index, New HCV Holders by Head or Co-Head with disability
		Outcome			
Main variable	Interaction	Opportunity Index	Opportunity Index	Opportunity Index	Opportunity Index
1		-0.653* (0.279)	-0.658* (0.278)	-0.660* (0.277)	-0.662* (0.279)
2 or more		0.125 (0.488)	0.128 (0.489)	0.125 (0.487)	0.124 (0.490)
Age 25–64					
1		-0.874* (0.383)	-0.881* (0.383)	-0.875* (0.383)	-0.875* (0.384)
2		-0.154 (0.457)	-0.154 (0.461)	-0.147 (0.459)	-0.156 (0.458)
3 or more		0.558 (1.176)	0.549 (1.179)	0.556 (1.179)	0.567 (1.178)
Age 62 and older				-0.878 (0.599)	
Age 65 and older		1.795** (0.495)	1.777** (0.489)	1.911*** 1.911***	1.813** (0.498)
Intercept		32.20*** (0.65)	32.30*** (0.64)	32.29*** (0.65)	32.21*** (0.66)
Sample size (HH years)		313,120	313,120	313,120	313,120
Number of PHAs		150	150	150	150

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent. PHA = public housing agency.
Note: Black is used as the reference category for race and thus not included in the table.
***, **, * indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of three distinct fixed effects linear regressions—one for each subgroup interaction model—with PHA fixed effects, with standard errors clustered by PHA.

Exhibit B-2.7: Difference-in-differences regression results on likelihood of moving and moving up—all HCV Holders, with household characteristics

		Model			
		13. Move	14. Move, by starting rent ratio	15. Move up	16. Move up, by starting rent ratio
		Outcome variable			
Main variable	Interaction	Moved (Yes=1)	Moved=1 (Yes=1)	Moved up (10 percentile)=1	Moved up (10 percentile)=1
SAFMR PHA post-SAFMR		-0.007 (0.004)		0.003** (0.001)	
Starting rent ratio	Lower (<90) Moderate (90 - 110) Higher (>110)		-0.008*** (0.002) -0.005 (0.005) -0.005 (0.006)		0.005 (0.003) 0.003* (0.002) 0.002 (0.002)
Dallas and Plano 2011–2012		-0.010*** (0.003)		-0.001 (0.001)	
Starting rent ratio	Lower (<90) Moderate (90 - 110) Higher (>110)		-0.015** (0.005) -0.008 (0.004) -0.018*** (0.004)		0.003 (0.002) 0.000 (0.001) -0.009*** (0.002)
Post-SAFMR (2013–2017)		-0.013** (0.004)		-0.004*** (0.001)	
Starting rent ratio	Lower (<90) Moderate (90 - 110) Higher (>110)		-0.012*** (0.003) -0.009*** (0.003) -0.009* (0.004)		-0.006*** (0.001) -0.004*** (0.001) -0.002 (0.001)
Year = 2011–2012		0.005 (0.003)		0.001 (0.001)	
Starting rent ratio	Lower (<90) Moderate (90 - 110) Higher (>110)		0.002 (0.004) 0.006* (0.003) 0.006 (0.005)		0.001 (0.002) 0.002 (0.001) 0.000 (0.001)

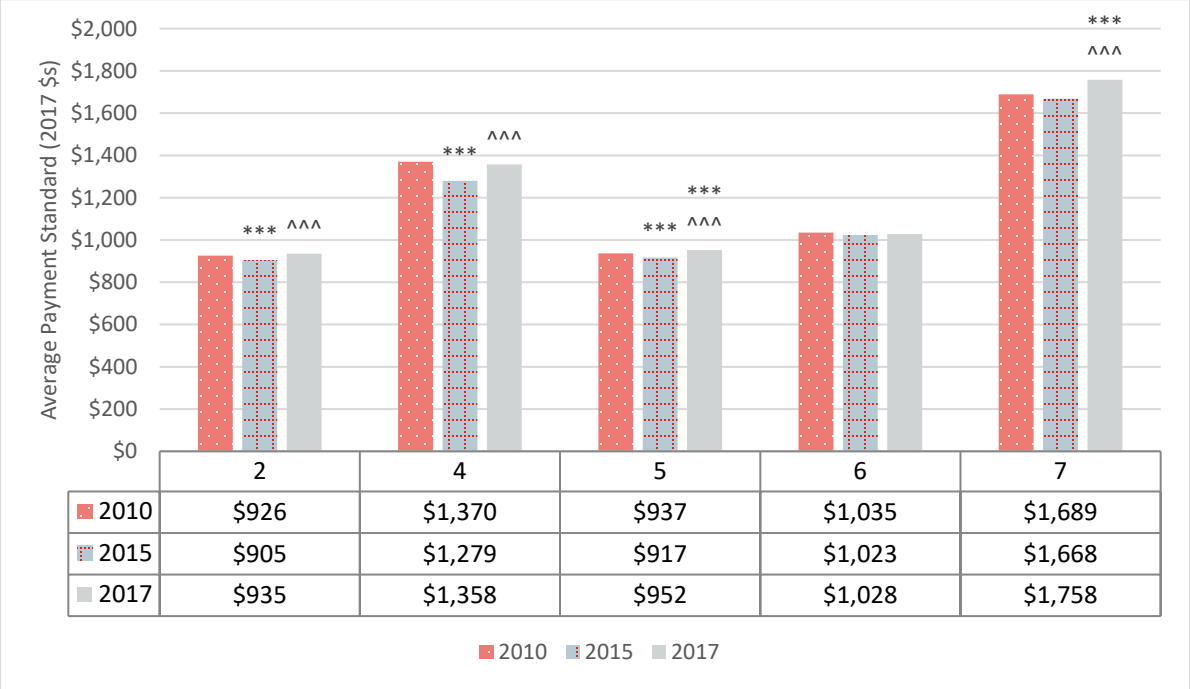
Main variable	Interaction	Model			
		13. Move	14. Move, by starting rent ratio	15. Move up	16. Move up, by starting rent ratio
		Outcome variable			
		Moved (Yes=1)	Moved=1 (Yes=1)	Moved up (10 percentile)=1	Moved up (10 percentile)=1
Starting rent ratio category Lower (<90) Moderate (90 - 110) Higher (>110)			-- -0.004 (0.003) -0.014*** (0.003)		-- -0.007*** (0.002) -0.026*** (0.002)
PHA fixed effects		Included	Included	Included	Included
Single female head of household		0.020*** (0.001)	0.020*** (0.001)	0.006*** (0.000)	0.007*** (0.000)
Includes head or co-head with disability		0.016*** (0.001)	0.016*** (0.001)	0.004*** (0.000)	0.004*** (0.000)
Race/Ethnicity					
White (non-Hispanic)		-0.026*** (0.002)	-0.026*** (0.002)	-0.008*** (0.001)	-0.008*** (0.001)
Hispanic		0.006** (0.002)	0.006** (0.002)	0.001 (0.001)	0.000 (0.001)
Presence of children					
Under 5		0.018*** (0.001)	0.017*** (0.001)	0.005*** (0.000)	0.005*** (0.000)
5–12		0.000 (0.001)	0.000 (0.001)	0.001 (0.000)	0.001 (0.000)
13–17		-0.015*** (0.001)	-0.015*** (0.001)	-0.005*** (0.000)	-0.005*** (0.000)
Number of children					
1		0.028*** (0.001)	0.028*** (0.001)	0.008*** (0.000)	0.009*** (0.001)
2		0.047*** (0.002)	0.047*** (0.002)	0.014*** (0.001)	0.015*** (0.001)
3		0.066*** (0.002)	0.066*** (0.002)	0.020*** (0.001)	0.021*** (0.001)
4		0.077*** (0.002)	0.077*** (0.002)	0.024*** (0.001)	0.026*** (0.001)

Main variable	Interaction	Model			
		13. Move	14. Move, by starting rent ratio	15. Move up	16. Move up, by starting rent ratio
		Outcome variable			
		Moved (Yes=1)	Moved=1 (Yes=1)	Moved up (10 percentile)=1	Moved up (10 percentile)=1
5		0.085*** (0.003)	0.086*** (0.003)	0.028*** (0.002)	0.029*** (0.002)
6		0.088*** (0.004)	0.089*** (0.004)	0.028*** (0.002)	0.030*** (0.002)
7		0.092*** (0.005)	0.093*** (0.005)	0.029*** (0.002)	0.031*** (0.003)
Adults in household					
Age 18–24					
1		-0.001 (0.001)	0.000 (0.001)	-0.001*** (0.000)	-0.001* (0.000)
2 or more		-0.005** (0.002)	-0.005* (0.002)	-0.003*** (0.001)	-0.002** (0.001)
Age 25–64					
1		0.006*** (0.001)	0.006*** (0.001)	0.001 (0.001)	0.001* (0.001)
2		-0.010*** (0.002)	-0.009*** (0.002)	-0.005*** (0.001)	-0.004*** (0.001)
3 or more		-0.010** (0.003)	-0.009** (0.003)	-0.006*** (0.001)	-0.004** (0.001)
Age 65 and older		-0.030*** (0.002)	-0.029*** (0.002)	-0.010*** (0.001)	-0.009*** (0.001)
Intercept		0.068*** (0.003)	0.071*** (0.004)	0.023*** (0.001)	0.029*** (0.001)
Sample size (HH years)		5,537,887	5,537,887	5,537,887	5,537,887
Number of PHAs		151	151	151	151

HCV = Housing Choice Voucher. SAFMR = Small Area Fair Market Rent. PHA = public housing agency.
Note: Black is used as the reference category for race and thus not included in the table.
*****, **, * indicates that the coefficient is statistically significantly different from zero with p-value of less than 0.001, 0.01, and 0.05. Each column reports the results of a distinct fixed effects linear regression with PHA fixed effects, with standard errors clustered by PHA.**

Appendix B-3: Appendix Exhibits to Chapter 8

Exhibit B-3.1: Average Payment Standards by Cluster, All ZIP Codes



	2	4	5	6	7
2010	$926	$1,370	$937	$1,035	$1,689
2015	$905	$1,279	$917	$1,023	$1,668
2017	$935	$1,358	$952	$1,028	$1,758

Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: * <0.001. In 2015: ^^^ <0.001.**
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit B-3.2: Average Payment Standards by Rent Ratio by Cluster

Lower-Rent ZIP Codes (Rent Ratio < 90)

Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)

Higher-Rent ZIP Codes (Rent Ratio > 110)

Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01.
Source: HUD Public and Indian Housing Information Center administrative data

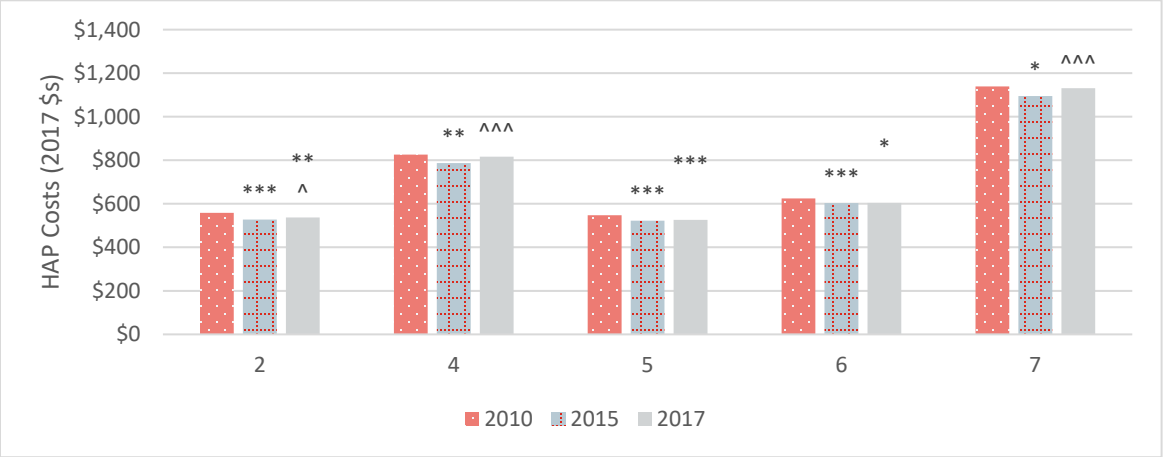
Exhibit B-3.3: HAP Costs by Cluster

	2	4	5	6	7
2010	$538	$840	$582	$633	$1,141
2015	$509	$794	$550	$615	$1,104
2017	$521	$828	$555	$610	$1,130

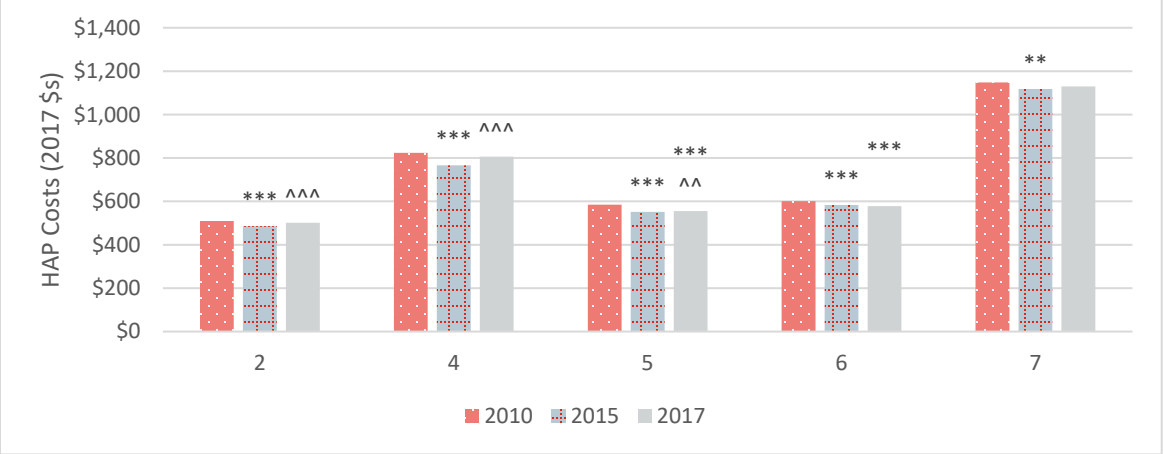
HAP = Housing Assistance Payment.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001. In 2015: ^^^ <0.001.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit B-3.4: HAP Costs by Cluster by ZIP Code Rent Ratio

Lower-Rent ZIP Codes (Rent Ratio < 90)



Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)



Higher-Rent ZIP Codes (Rent Ratio > 110)

HAP = Housing Assistance Payment.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit B-3.5: Average HCV Holder Contribution to Rent by Cluster

	2	4	5	6	7
2010	$353	$421	$332	$376	$500
2015	$385	$468	$366	$395	$539
2017	$373	$433	$361	$401	$513

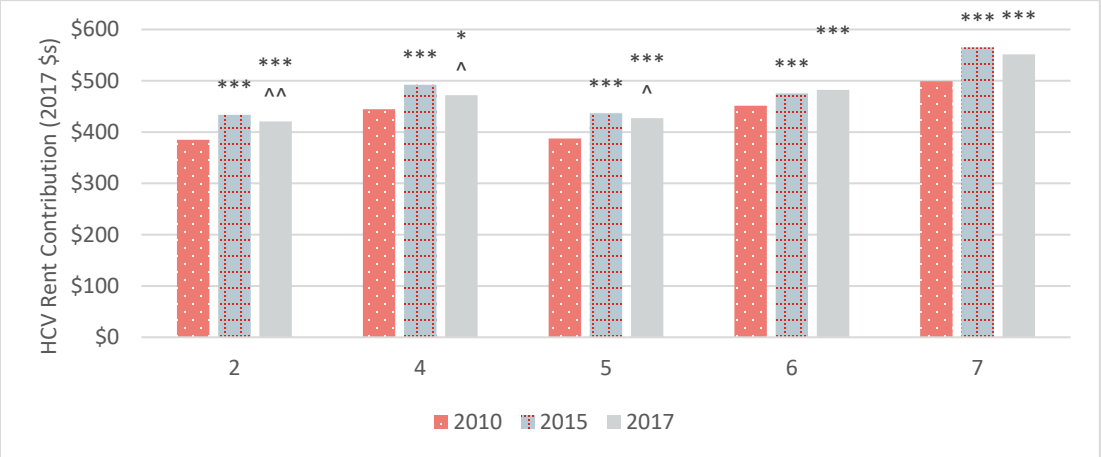
HCV = Housing Choice Voucher.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit B-3.6: Average Monthly HCV Holder Contribution to Rent by Cluster by ZIP Code Rent Ratio

Lower-Rent ZIP Codes (Rent Ratio < 90)

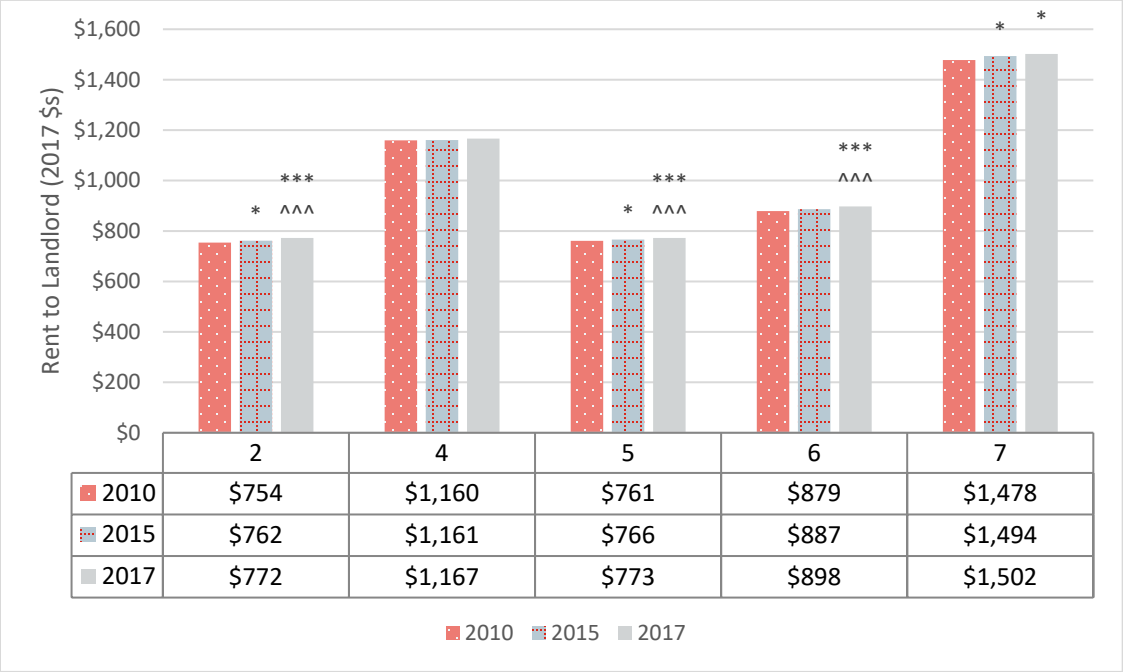
Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)

Higher-Rent ZIP Codes (Rent Ratio > 110)



HCV = Housing Choice Voucher.
Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: *** <0.001, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01, ^ <0.05.
Source: HUD Public and Indian Housing Information Center administrative data

Exhibit B-3.7: Average Rent to Landlords by Cluster



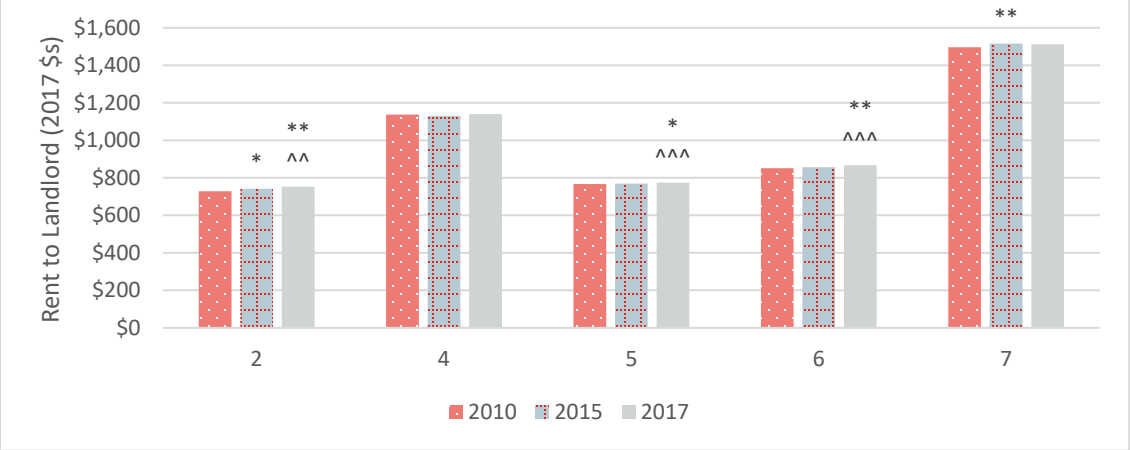
	2	4	5	6	7
2010	$754	$1,160	$761	$879	$1,478
2015	$762	$1,161	$766	$887	$1,494
2017	$772	$1,167	$773	$898	$1,502

Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: * <0.001, * <0.05. In 2015: ^^^ <0.001.**
Source: HUD Public and Indian Housing Information Center administrative data

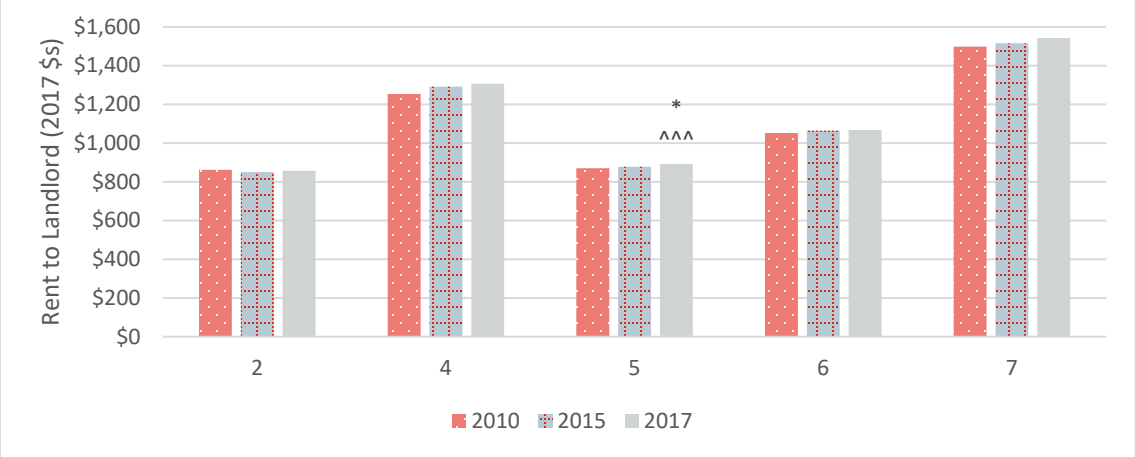
Exhibit B-3.8: Average Rent to Landlords by Cluster by ZIP Code Rent Ratio Category

Lower-Rent ZIP Codes (Rent Ratio < 90)

Moderate-Rent ZIP Codes (90 < Rent Ratio < 110)



Higher-Rent ZIP Codes (Rent Ratio > 110)



Note: All values expressed in 2017 dollars. Statistically significantly different from same category with standard errors clustered by ZIP Code at p-value level in 2010: ** <0.01, * <0.05. In 2015: ^^^ <0.001, ^^ <0.01.
Source: HUD Public and Indian Housing Information Center administrative data

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