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Where Families With Children Use Housing Vouchers

A Comparative Look at the 50 Largest Metropolitan Areas

By Alicia Mazzara and Brian Knudsen[1]

The Housing Choice Voucher Program, the nation's largest federal rental assistance program, assists over 5 million people in 2.2 million low-income households. Housing Choice Vouchers help these families afford decent, stable housing, avoid homelessness, and make ends meet. When implemented properly, vouchers can give low-income families real choices about where to live — including the chance to live in lower-poverty, higher-opportunity neighborhoods — and help public housing agencies meet their legal obligation to address housing discrimination and segregation.

This analysis examines the location of families with children using vouchers in all U.S. metropolitan areas and in the 50 largest metro areas across multiple neighborhood characteristics. Using Department of Housing and Urban Development (HUD) administrative data and Census Bureau survey data, we compare the location of these families to the location of voucher-affordable units using three measures: neighborhood poverty, an opportunity index, and the share of residents who are people of color.[2] This is the first metropolitan-level analysis, to our knowledge, to explore the concentration of families using vouchers across multiple neighborhood characteristics. Briefly summarized, our findings are:

- **Poverty rate.** Few metropolitan[3] families with children using vouchers live in low-poverty neighborhoods (poverty rate below 10 percent), despite the presence of affordable units. Specifically, 14 percent of metropolitan families using vouchers live in low-poverty neighborhoods, but 25 percent of metropolitan voucher-affordable rental units are located there. Similarly, *high*-poverty areas (poverty rate at or above 30 percent) contain 33 percent of metropolitan families using vouchers but only 22 percent of metropolitan voucher-affordable rentals. These figures vary widely among the 50 largest metro areas. For example, the share

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[2] In this analysis, voucher-affordable rental units are those with gross rents (rent plus tenant-paid utilities) below the local two-bedroom Small Area Fair Market Rent (SAFMR). Voucher-affordable units may be of any bedroom size, due to data limitations. See the methodology in Appendix 2.

[3] "Metropolitan" or "all metro" areas in this paper refers to all 382 metropolitan areas in the United States.

of voucher-assisted families with children living in high-poverty neighborhoods ranges from 1 percent in the San Jose metro area to 61 percent in the Buffalo metro area.

- **Opportunity index.** Few metropolitan families with children using vouchers live in "high-opportunity neighborhoods" based on a comprehensive composite index of opportunity we developed using indices created by HUD.[4] Specifically, 5 percent of metropolitan families using vouchers, but 18 percent of all metropolitan voucher-affordable rentals, are in high-opportunity neighborhoods. Similarly, *low*-opportunity areas contain 40 percent of metropolitan voucher-assisted families but only 21 percent of metropolitan voucher-affordable units. In *every one of the 50 largest metro areas*, the share of families with children using vouchers in high-opportunity neighborhoods is smaller than the share of voucher-affordable units in such neighborhoods.
- **Share of residents who are people of color.** Under the Fair Housing Act, state and local voucher programs are required to administer their programs in a non-discriminatory manner and "to take the type of actions that undo historic patterns of segregation and other types of discrimination and afford access to opportunity that has long been denied."[5] Yet most families with children using vouchers, including most families of color, live in what HUD terms "minority-concentrated" neighborhoods — neighborhoods with a higher share of black, Hispanic/Latino, Asian, Pacific Islander, or Native American residents than the metro area overall — even though most voucher-affordable units are located elsewhere. Specifically, 61 percent of metropolitan voucher-assisted families of color with children, but only 32 percent of metropolitan voucher-affordable units, are in "minority-concentrated" neighborhoods.[6] The clustering of voucher-assisted families of color in "minority-concentrated" neighborhoods isn't solely due to existing or historical patterns of residential segregation or racial discrimination in the rental market. In most of the 50 largest metro areas, voucher-assisted families of color are *more* likely to live in "minority-concentrated" neighborhoods than low-income renters of color overall.

Policymakers, housing agencies, advocates, and civil rights groups can use these findings to better understand how local voucher programs perform relative to the local housing market and identify areas for improvement. Approaches should include investing in the communities where many voucher-assisted families live, as well as increasing access to a wide range of neighborhoods so that families using vouchers have real choices about where to live. Some families[7] want to remain in

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[4] Our opportunity index is a composite measure that considers school quality, poverty, labor market engagement, access to jobs, and access to transit. It is based on five of HUD's Affirmatively Furthering Fair Housing (AFFH) opportunity indices. Low-opportunity neighborhoods in this analysis are Census tracts that have opportunity index scores in the bottom quintile (bottom 20 percent) for all metropolitan tracts; high-opportunity neighborhoods have opportunity index scores in the top quintile. For more details, see the methodology in Appendix 2.

[5] Department of Housing and Urban Development, "Affirmatively Furthering Fair Housing; Final Rule," 80 Fed. Reg. 42272, 42274, July 16, 2015.

[6] The share of people of color in "minority-concentrated" neighborhoods is at least 20 percentage points higher than in the metro area as a whole. This is based on HUD's official measure of "areas of minority concentration" used in the Rental Assistance Demonstration program. See Appendix 2 for more details.

[7] This paper uses the terms "families with children using vouchers," "families using vouchers," "families," "voucher-assisted families with children," and "voucher-assisted families" interchangeably. While results presented here pertain

their current neighborhoods to be close to their relatives, child care, or current job. Other families would like to move to safer neighborhoods with good schools, and much more could be done to ensure that families can use their voucher in a neighborhood of their choosing.

These large metro areas have enough rental units to enable a much greater share of families using vouchers to rent in low-poverty and high-opportunity areas. For example, the number of voucher-affordable rentals *in low-poverty neighborhoods alone* exceeds the *total* number of voucher-assisted families in each of the 50 largest metro areas. In metro areas where access to voucher-affordable units in low-poverty, high-opportunity neighborhoods is severely constrained, agencies can set interim goals that include helping more interested families move from neighborhoods with high poverty and little opportunity to ones with *more moderate* levels of poverty and opportunity.

This paper begins by briefly reviewing research on the effect of neighborhoods on children and families' well-being and why it's important to analyze where families with vouchers reside in relation to the local rental market. After a detailed examination of the findings summarized above, it closes with potential areas for further research and implications for program administrators and policymakers. A companion set of interactive tables, charts, and maps provides information on voucher-affordable units and families with children, families of color with children, and all households in the voucher program in the 50 largest metro areas.[8]

Neighborhoods Influence Families' Well-Being and Long-Term Success

Where families live largely determines the quality of their children's schools[9] and the safety of the streets and playgrounds. It also can affect adults' access to jobs,[10] transportation costs to work, access to fresh and reasonably priced food and other basic goods and services, and the distance between child care and jobs.[11]

An emerging body of research finds that living in lower-poverty neighborhoods has important benefits for families, including improved academic performance for children and higher employment

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only to households with minor children, the interactive web tables and maps include data on all households using vouchers.

[8] View our interactive tables and charts at https://www.cbpp.org/research/housing/interactive-tables-where-voucher-assisted-households-live-in-the-50-largest and map at https://www.cbpp.org/research/housing/interactive-map-where-voucher-households-live-in-the-50-largest-metropolitan-areas. Nick Kasprak developed the web interactives for this report.

[9] For more on the quality of schools near families using vouchers and other forms of federal rental assistance, see Ingrid Gould Ellen and Keren Horn, "Housing and Educational Opportunity: Characteristics of Local Schools Near Families with Federal Housing Assistance," Poverty & Race Research Action Council, July 2018, https://prrac.org/housing-and-educational-opportunity-characteristics-of-local-schools-near-families-with-federal-housing-assistance/.

[10] Rebecca Casciano and Douglas S. Massey, "Neighborhood disorder and individual economic self-sufficiency: New evidence from a quasi-experimental study," *Social Science Research,* February 2012, pp 1-18.

[11] Xavier de Souza Briggs, *The Geography of Opportunity: Race and Housing Choice in Metropolitan America,* Brookings Institution Press, 2005.

and earnings among adults.[12] For instance, moving to a lower-poverty neighborhood while young can sharply increase children's earnings in adulthood and chances of attending college and can reduce girls' likelihood of becoming single mothers.[13] Studies have also consistently found that living in high-poverty neighborhoods with low-performing schools and high rates of violent crime harms families' well-being and children's long-term outcomes.[14]

Considering these findings, the Housing Choice Voucher program should provide low-income families — particularly those with young children — the chance to live in high-opportunity, lower-poverty neighborhoods, if they wish to do so. Some families want to stay in their current neighborhoods to be near their relatives, child care, or current job. But other families want to move to safer neighborhoods with good schools and diverse neighbors. These families might do so if they had more information, more assistance from program administrators to identify landlords willing to accept vouchers, or if their voucher covered the higher rents typical of lower-poverty, higher-opportunity neighborhoods. Because the Housing Choice Voucher program assists more families with children than the other two major rental assistance programs (public housing and Project-Based Rental Assistance) combined, it has a unique potential to help families move to neighborhoods with low poverty, low crime, and strong schools. [15]

Key Terms

This report uses the following terms to describe neighborhoods:

- **Low-poverty** neighborhoods have a poverty rate of less than 10 percent.
- **High-poverty** neighborhoods have a poverty rate of 30 percent or higher.
- **High-opportunity** neighborhoods score in the top 20 percent for all metropolitan neighborhoods under our composite opportunity index.
- **Low-opportunity** neighborhoods score in the bottom 20 percent for all metropolitan neighborhoods under our composite opportunity index.
- HUD defines **"minority-concentrated"** neighborhoods as those where the percentage of people of color is at least 20 percentage points higher than for the entire metro area.

[12] For a synthesis of some of this research, see Barbara Sard, Douglas Rice, Alison Bell, and Alicia Mazzara, "Federal Policy Changes Can Help More Families with Housing Vouchers Live in Higher-Opportunity Areas," Center on Budget and Policy Priorities, September 4, 2018, https://www.cbpp.org/research/housing/federal-policy-changes-can-help-more-families-with-housing-vouchers-live-in-higher.

[13] Raj Chetty, Nathanial Hendren, and Lawrence Katz, "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment," *American Economic Review* 106, No. 4, 2016, pp. 855–902.

[14] For a synthesis of some of this research, see Sard *et al.*

[15] Sard *et al.*

Voucher-Affordable Rental Housing Varies Among Metro Areas

Housing is tied to a place, which means that housing analyses that focus on states or the nation as a whole are not granular enough to capture key differences in local housing markets. Housing markets typically extend well beyond local jurisdictional boundaries and generally correspond to metropolitan areas. Metropolitan areas therefore provide a much better picture of local housing markets and how they are functioning than state or national data alone. Additionally, nearly 90 percent of families using vouchers reside in metropolitan areas, and roughly 60 percent of all families using vouchers live in the 50 largest metro areas.[16]

The availability and location of rental units affordable to voucher recipients — and the location of families that use vouchers — vary considerably among metro areas. Housing voucher subsidies are capped based on a Fair Market Rent that HUD estimates each year for modest housing units in a geographic area. We consider a rental unit to be "voucher-affordable" if its gross rent is below HUD's Small Area Fair Market Rent (SAFMR) for a modest two-bedroom apartment.[17] We are, to our knowledge, the first to use SAFMRs to compute tract-level estimates of voucher-affordable rentals units. However, the available data do not allow us to limit the number of voucher-affordable units to those with two or more bedrooms. This measure therefore includes some studio and one-bedroom units that would be too small for the typical voucher-assisted family of one parent and two children. It also mostly misses three-bedroom (and larger) units, likely partly offsetting the inclusion of smaller units. (See Appendix 2 for our full methodology.)

Voucher-affordable units may be concentrated in neighborhoods of greater or lesser opportunity due to market or historical dynamics unique to a particular metro area, such as exclusionary zoning, geography, access to public transportation, historical segregation-related policies like redlining, and more.[18] Our analysis finds that voucher-assisted families with children tend to be more clustered in neighborhoods that: (a) score in the bottom 20 percent of our opportunity index, (b) have high poverty rates, or (c) have larger shares of residents who are people of color, relative to voucher-affordable units. These differences are sometimes quite pronounced, depending on the metropolitan area. To help set reasonable expectations for how local voucher programs can do more to give families the chance to move to lower-poverty, higher-opportunity neighborhoods, it's

[16] CBPP analysis of 2017 HUD administrative data.

[17] Historically, HUD has established a single set of Fair Market Rents (FMRs) for units of various sizes in each metro area or rural county. In recent years, however, HUD has tested SAFMRs, which are based on rents in a particular zip code within a metropolitan area. SAFMRs therefore reflect neighborhood rents more accurately than metro-level FMRs. For more, see Center on Budget and Policy Priorities and Poverty & Race Research Action Council, "A Guide to Small Area Fair Market Rents," May 4, 2018, https://www.cbpp.org/research/housing/a-guide-to-small-area-fair-market-rents-safmrs.

[18] Racism and discriminatory public policies have played a central role in the creation and persistence of high-poverty, low-opportunity neighborhoods, which are home primarily to people of color, particularly African Americans. (These factors also contributed to the creation and persistence of predominantly white, low-poverty neighborhoods that feature well-resourced, high-performing schools.) See, for instance, Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America*, Liveright, 2017.

critical to examine the percentage of voucher-assisted families in a given type of neighborhood and compare that to the underlying affordable rental market.[19]

For example, in some metro areas, voucher-affordable rental units are relatively scarce in low-poverty neighborhoods or disproportionately concentrated in high-poverty neighborhoods. In these metro areas, state and local housing agencies that administer the voucher program may find it more difficult to help interested families move to low-poverty areas. Conversely, in metropolitan areas with more voucher-affordable units in low-poverty neighborhoods, agencies may find it easier to assist families wishing to move to these areas.

Across metropolitan areas nationally, a quarter of voucher-affordable rentals are in low-poverty neighborhoods. But the share varies considerably among individual metro areas, from 12 percent in the Riverside (CA) metro area to 54 percent in the San Jose (CA) metro area.[20] At the other end of the spectrum, a little over one-fifth of all metropolitan voucher-affordable units are in high-poverty neighborhoods. However, among the 50 largest metro areas, the range spans from just 2 percent in the San Jose metro area to 44 percent in the Memphis metro area. As discussed later in this report, metropolitan areas show similar diversity in the location of voucher-affordable units when examining other neighborhood characteristics, like opportunity and the share of residents who are people of color. (Visit our interactive map to compare the location of voucher recipients and voucher-affordable units in the 50 largest metropolitan areas.)

Poverty Rate

Growing up in safe, low-poverty neighborhoods with good schools improves children's academic achievement and long-term chances of success.[21] Yet few metropolitan voucher-assisted families with children live in low-poverty neighborhoods — fewer than one would expect given the supply of rental units in those neighborhoods that are affordable to voucher holders. Also, 1 in 3 metropolitan families using vouchers live in *high*-poverty areas — *more* than one would expect given the share of voucher-affordable units in those neighborhoods — which may expose them to more violent crime and worse-performing schools.[22]

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[19] The Housing Choice Voucher program is administered by about 2,100 state and local housing agencies. Nearly all of the 50 largest metro areas are served by more than one agency. See Barbara Sard and Deborah Thrope, "Consolidating Rental Assistance Administration Would Increase Efficiency and Expand Opportunity," Center on Budget and Policy Priorities, April 11, 2016, https://www.cbpp.org/research/housing/consolidating-rental-assistance-administration-would-increase-efficiency-and-expand.

[20] CBPP/PRRAC analysis of 2012-2016 American Community Survey (ACS) and 2017 HUD administrative data. Unless otherwise noted, figures in this paper come from CBPP or PRRAC analysis of HUD and ACS data. ACS estimates are subject to survey error and differences may not be statistically significant.

[21] Heather Schwartz, "Housing policy is school policy: Economically integrative housing promotes academic success in Montgomery County, Maryland," in R.D. Kahlenberg, ed., *The Future of School Integration*, Century Foundation, 2012; Raj Chetty and Nathaniel Hendren, "The Effects of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects and II: County-Level Estimates," *Quarterly Journal of Economics,* August 2018, a version of which was released in 2015; Roslyn Arlin Mikelson, "School Integration and K-12 Educational Outcomes: A Quick Synthesis of Social Science Evidence," National Coalition on School Diversity, March 2015, https://www.gpmlaw.com/portalresource/School_Integration_and_K-12_Educational_Outcomes.pdf.

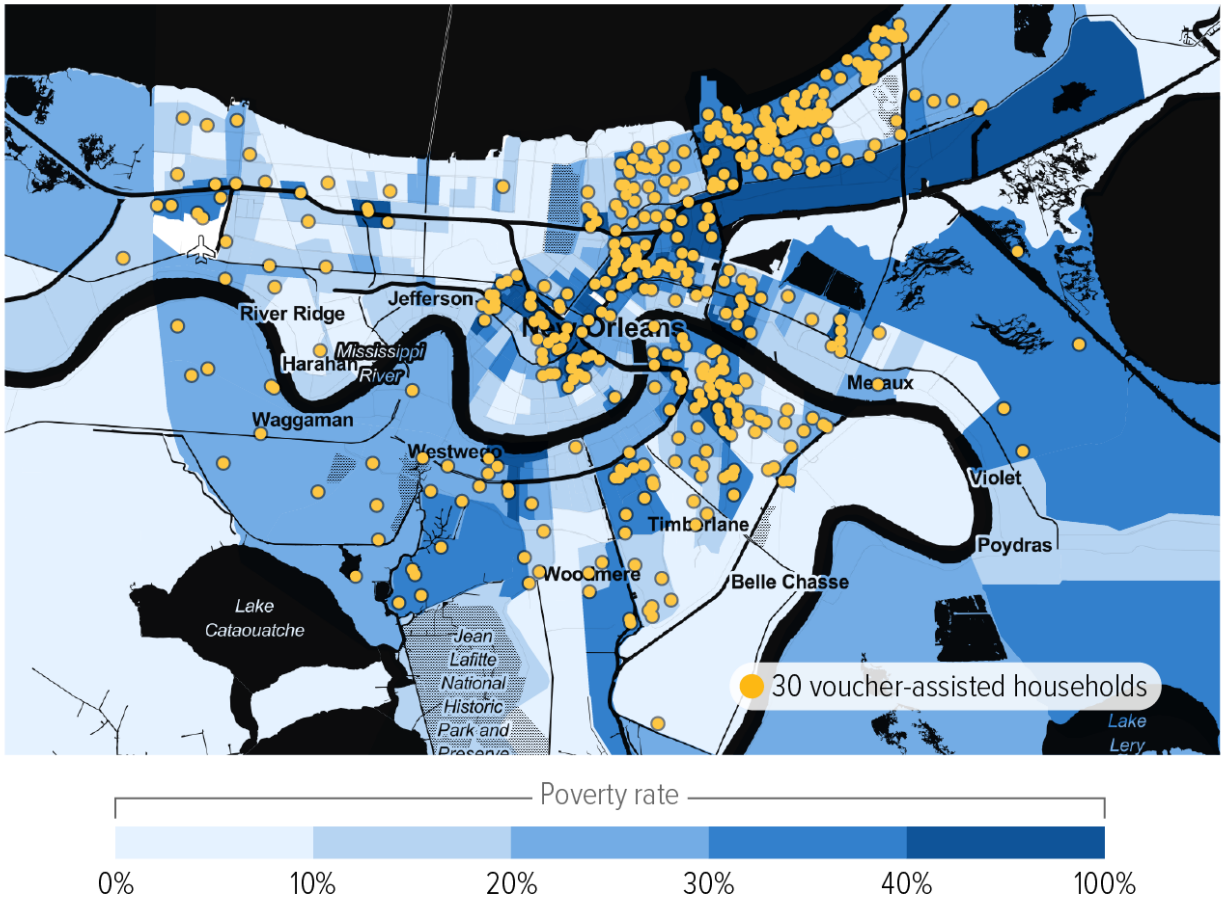
[22] Sard *et al.*

Few Metropolitan Families Using Vouchers Live in Low-Poverty Neighborhoods, Despite the Presence of Affordable Units

Just 14 percent of all metropolitan voucher-assisted families with children — 123,000 households — live in low-poverty neighborhoods. The share varies considerably by location, ranging from 4 percent in the New Orleans metro area to 45 percent in the Washington, D.C. metro area (see Figure 1). (See Appendix 1 and our interactive web tables for data on additional neighborhood measures.)

FIGURE 1

Just 4 Percent of Voucher-Assisted Families With Children in New Orleans Metro Area Live in Low-Poverty Neighborhoods



Note: Low-poverty neighborhoods are Census tracts with a poverty rate of less than 10%. Dots do not represent the precise locations of individual households with vouchers.

Source: Population data from 2017 HUD administrative data and the 2012-2016 American Community Survey; map imagery data by Stamen Design (stamen.com), under CC BY 3.0 (creativecommons.org/licenses/by/3.0). Data by OpenStreetMap (openstreetmap.org), under ODbL (www.openstreetmap.org/copyright).

In contrast, 25 percent of all metropolitan voucher-affordable rental units — over 4.8 million units — are in low-poverty neighborhoods. That's almost twice the share of voucher-assisted families

with children living in those neighborhoods (see Figure 4). Thus, the small share of families using vouchers in low-poverty neighborhoods is *not* primarily due to lack of affordable units.

If the distribution of families using vouchers simply reflected the distribution of affordable units in the metropolitan housing market, the proportion of voucher-assisted families with children in low-poverty neighborhoods would be roughly the same as the proportion of voucher-affordable units. Instead, in 49 of the 50 largest metro areas, families using vouchers are less likely to be in low-poverty neighborhoods than voucher-affordable units are, sometimes considerably so (see Figure 2).[23]

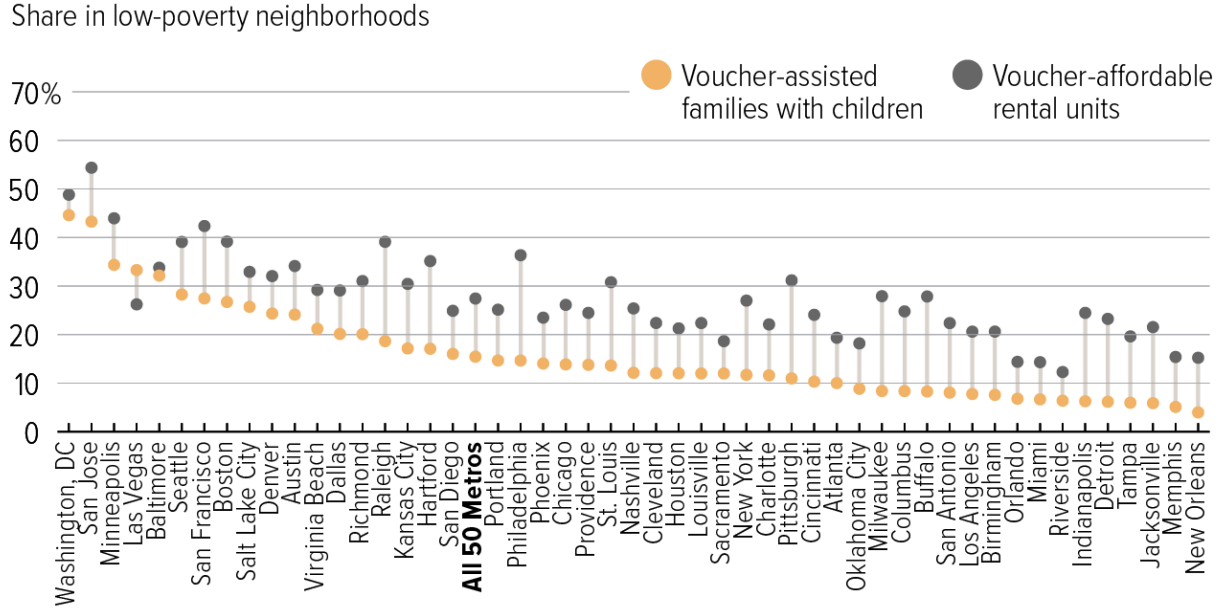
In some metro areas, families using vouchers access low-poverty neighborhoods at similar rates to the rental market. For example, nearly one-third of metropolitan Baltimore voucher-assisted families with children live in low-poverty neighborhoods, a figure in line with the local distribution of voucher-affordable rentals.[24] And in the Las Vegas metro area, the share of voucher-assisted families living in low-poverty areas *exceeds* the share of voucher-affordable units in these areas (see Figure 2). We discuss possible reasons for these differences in the Areas for Further Research section below.

[23] As noted, the available data do not allow us to limit the number of voucher-affordable units to those with two or more bedrooms. But even if this limitation causes us to overstate the number of available units in low-poverty neighborhoods, it is still highly likely that there is ample supply available for more voucher-assisted families to live in low-poverty neighborhoods.

[24] The Baltimore metro area has a large and successful housing mobility program that helps interested families move to lower-poverty, higher-opportunity neighborhoods. For more information, see http://www.brhp.org/.

FIGURE 2

In 49 of 50 Largest Metro Areas, Share of Voucher-Assisted Families With Children in Low-Poverty Neighborhoods Is Lower Than Share of Affordable Units



Note: Low-poverty neighborhoods are Census tracts with a poverty rate of less than 10%.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data

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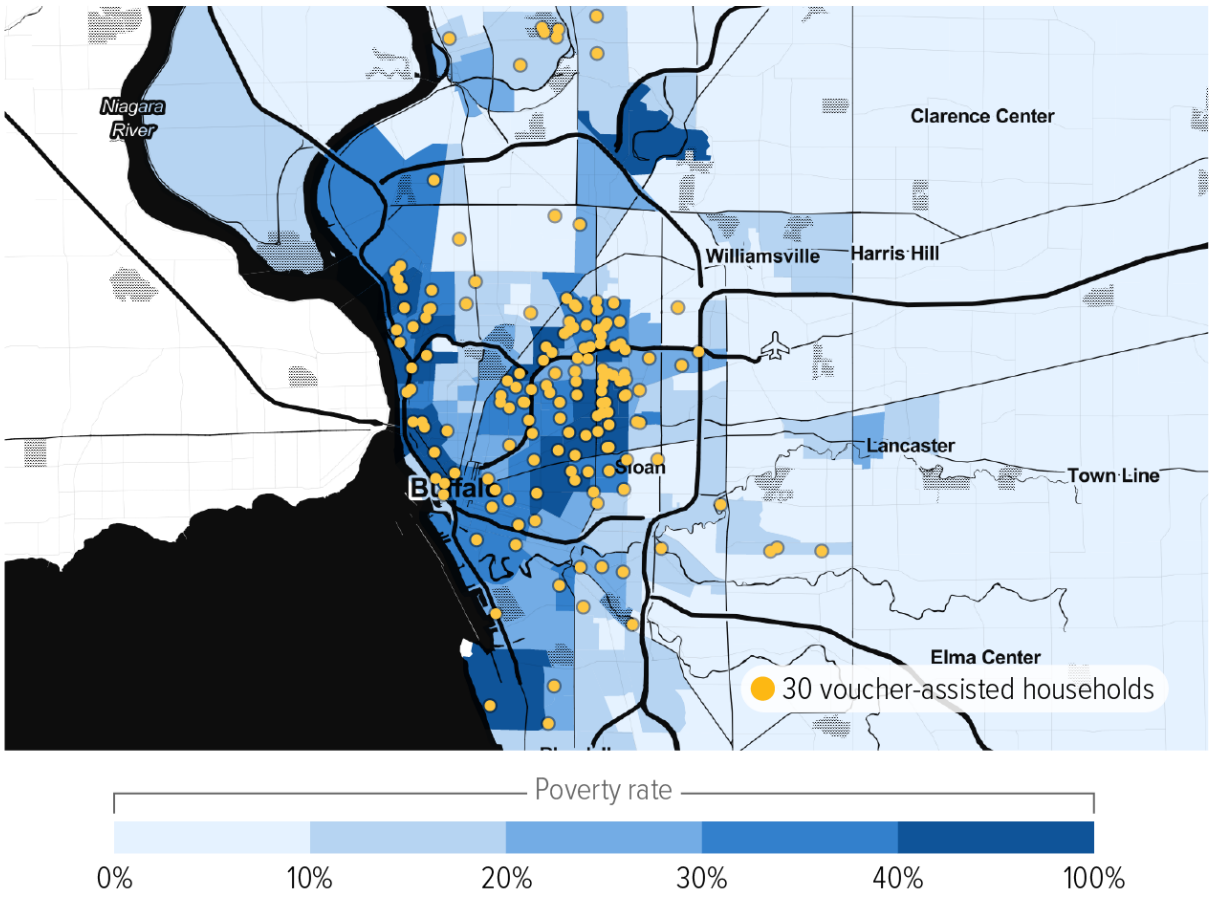
Many Metropolitan Families Using Vouchers Live in High-Poverty Neighborhoods, Even Though Most Voucher-Affordable Units Are in Lower-Poverty Areas

Nationally, 33 percent of metropolitan voucher-assisted families with children — 290,000 households — live in high-poverty neighborhoods.[25] The share varies considerably among the 50 largest metro areas, from 1 percent in the San Jose metro area to 61 percent in the Buffalo metro area (see Figure 3).

[25] Nationwide, over 723,000 children in families using vouchers live in high-poverty neighborhoods, including 315,000 that live in extreme-poverty neighborhoods, where the poverty rate is 40 percent or higher. For more on the location of all children in the voucher program, see Sard *et al.*

FIGURE 3

Over 60 Percent of Voucher-Assisted Families With Children in Buffalo Metro Area Live in High-Poverty Neighborhoods



Note: High-poverty neighborhoods are Census tracts with a poverty rate of 30% or higher. Dots do not represent the precise locations of individual households with vouchers.

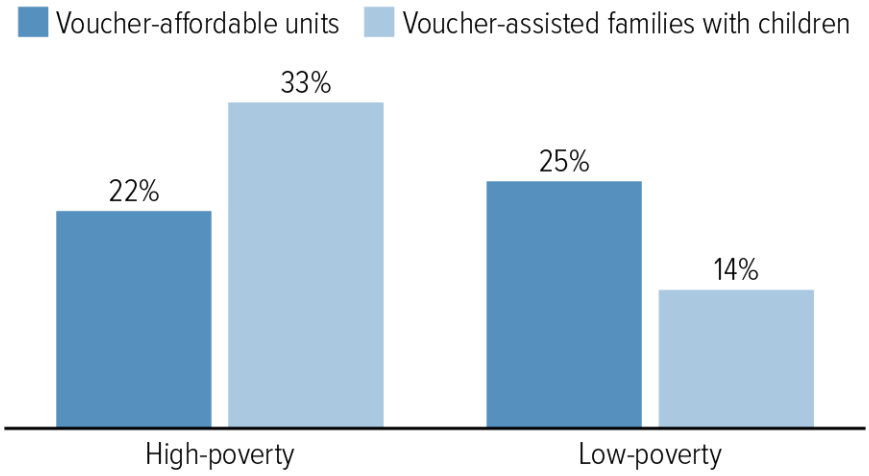
Source: Population data from 2017 HUD administrative data and the 2012-2016 American Community Survey; map imagery data by Stamen Design (stamen.com), under CC BY 3.0 (creativecommons.org/licenses/by/3.0). Data by OpenStreetMap (openstreetmap.org), under ODbL (www.openstreetmap.org/copyright)

The large share of families using vouchers in high-poverty neighborhoods doesn't primarily reflect a lack of affordable units in other neighborhoods; in fact, voucher-affordable units aren't especially concentrated in high-poverty metropolitan neighborhoods. Only 22 percent of metropolitan voucher-affordable rentals are in high-poverty neighborhoods (see Figure 4), yet 33 percent of voucher-assisted families with children live in these neighborhoods.

FIGURE 4

Metropolitan Voucher-Assisted Families More Likely to Live in High-Poverty Areas, Less Likely to Live in Low-Poverty Areas, Relative to Affordable Units

Share in high-and low-poverty metropolitan neighborhoods



Note: High-poverty neighborhoods are Census tracts with a poverty rate of 30% or more. Low-poverty neighborhoods have a poverty rate of less than 10%.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data.

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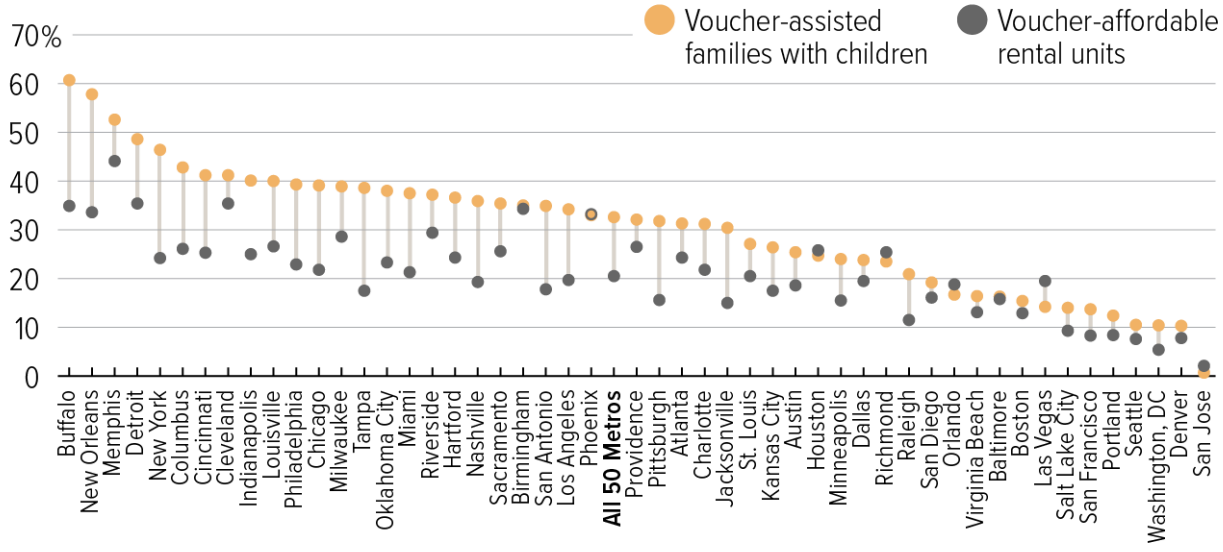
In fact, in 44 of the 50 largest metro areas, the share of voucher-assisted families with children living in high-poverty neighborhoods exceeds — sometimes considerably so — the share of voucher-affordable units in these neighborhoods (see Figure 5). In metro areas like Buffalo or New Orleans, the share of families using vouchers in high-poverty neighborhoods is much larger than the share of voucher-affordable units; in other metropolitan areas, like Cleveland, the gap between the two shares is small. In some metro areas, local patterns of racial segregation and past and present discriminatory policies are likely driving higher concentrations of voucher-affordable units in high poverty neighborhoods than would otherwise be the case.

FIGURE 5

In Most of 50 Largest Metro Areas, Share of Voucher-Assisted Families With Children in High-Poverty Neighborhoods Exceeds Share of Affordable Units

Share in high-poverty neighborhoods



Note: High-poverty neighborhoods are Census tracts with a poverty rate of 30% or higher.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data

Opportunity Index

While neighborhood poverty can significantly affect a family's well-being, other important neighborhood characteristics can also affect families' and children's success. Examples include educational attainment, employment, marriage status, housing conditions, school quality, availability of services and resources, and incidence of crime.[26] Poverty rates are often used as a proxy for neighborhood opportunity because poverty is more easily measured and tends to be correlated with other neighborhood attributes related to opportunity. But researchers, recognizing that neighborhood poverty rates are only a rough and sometimes inadequate stand-in for a variety of conditions that affect social mobility, have begun developing composite opportunity measures designed to better capture the myriad social and environmental characteristics that shape a person's chances for success.

In 2016, HUD released several neighborhood opportunity indices to help local governments and housing agencies identify high-opportunity neighborhoods and meet their obligation to affirmatively further the goals and requirements of the Fair Housing Act of 1968. These multifaceted measures cover several predictors of upward economic mobility, including neighborhood poverty as well as

[26] George Galster, "The mechanism(s) of neighbourhood effects: Theory, evidence, and policy implications," in Maarten van Ham, *et al.*, eds., *Neighbourhood Effects Research: New Perspectives*, Springer, 2012, pp. 23-56.

access to good schools, jobs, and public transportation. We combine five of these HUD indices to create a comprehensive composite index of opportunity that considers school quality, poverty, labor market engagement, access to jobs, and access to transit. (For more on our opportunity index, see the methodology in Appendix 2.)

While opportunity measures are becoming more widely used, researchers are still debating what constitutes a "high-opportunity" neighborhood and how to appropriately measure opportunity given limited data.[27] Our index is a good starting point and illustrates how an opportunity measure can expand upon the poverty measure.[28] In our analysis, 80 percent of all high-opportunity metropolitan neighborhoods also have poverty rates below 10 percent, indicating a high degree of agreement between the high-opportunity and low-poverty measures. However, only 42 percent of low-opportunity neighborhoods also have poverty rates that are 30 percent or greater. This means that our index considers a substantial number of neighborhoods with low-to-moderate poverty rates to be "low-opportunity" because they have poorly performing schools, low labor market participation, or are far from employment opportunities and public transit.

Our analysis finds that very few voucher-assisted families with children live in high-opportunity areas — fewer than one would expect given the local distribution of voucher-affordable units in these metro areas. Also, 4 in 10 families using vouchers reside in *low*-opportunity neighborhoods, nearly twice the rate one would expect given the local rental market.

Few Metropolitan Families Using Vouchers Live in High-Opportunity Neighborhoods, Despite the Presence of Voucher-Affordable Units

Just 5 percent of all metropolitan voucher-assisted families with children — fewer than 45,000 households — live in high-opportunity neighborhoods, and the share is even smaller in most of the 50 largest metro areas (see Figure 9). In the Birmingham, Jacksonville, Nashville, Oklahoma City, and Riverside metro areas, the share is effectively zero, even though they all have high-opportunity neighborhoods with voucher-affordable rentals (see Figure 6). Even in the Washington, D.C. metro area, which has the highest share of families with vouchers living in high-opportunity neighborhoods in our analysis, only 27 percent of families using vouchers live in such neighborhoods.

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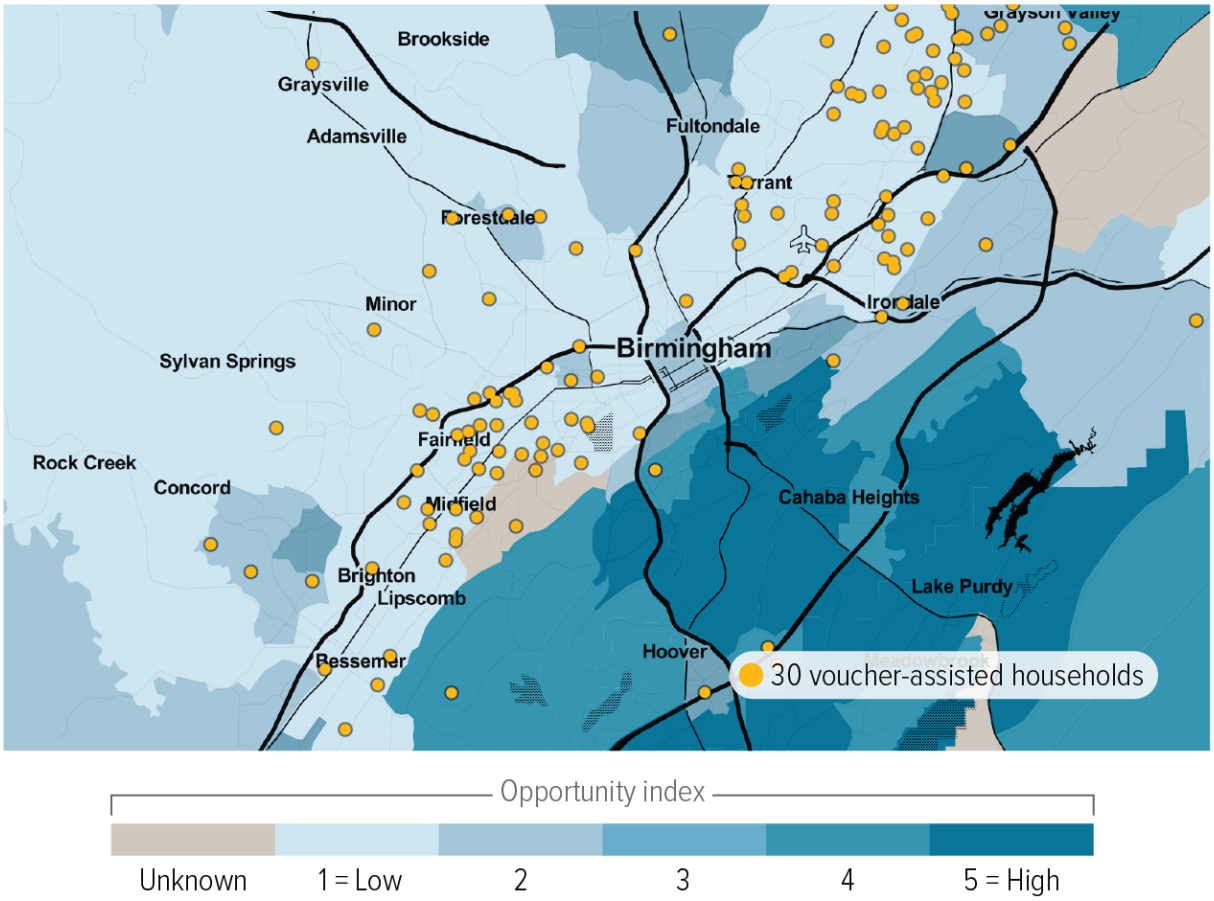
[27] For more on the challenges of measuring neighborhood opportunity, see Elijah Knapp, "The Cartography of Opportunity: Spatial Data Science for Equitable Urban Policy," *Housing Policy Debate*, 2017, Vol 27, No. 6.

[28] After we completed our analyses, the Census Bureau published measures of upward economic mobility developed by Raj Chetty, John Friedman, Nathaniel Hendren, Maggie R. Jones, and Sonya R. Porter in their working paper, "The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility," https://www.census.gov/ces/pdf/opportunity_atlas_paper.pdf. We find that our opportunity index correlates with the Opportunity Atlas data. In the 50 largest metropolitan areas, Census tracts that we define as "high opportunity" tend to be associated in the Opportunity Atlas data with a higher probability of a child born at the 25th income percentile rising to the 80th income percentile as an adult and vice versa for tracts we define as "low opportunity" (overall correlation of .6). Forty-four out of 50 metropolitan areas in our analysis had a moderate to strong correlation with the Opportunity Atlas data (correlation of .5 or greater).

FIGURE 6

Fewer Than 1 Percent of Voucher-Assisted Families With Children in Birmingham Metro Area Live in High-Opportunity Neighborhoods



Note: High-opportunity neighborhoods are Census tracts that score in the top 20 percent for all metropolitan tracts under a composite opportunity index that considers school quality, poverty, labor market engagement, access to jobs, and access to transit. Dots do not represent the precise locations of individual households with vouchers.

Source: Population data from 2017 HUD administrative data and the 2012-2016 American Community Survey; map imagery data by Stamen Design (stamen.com), under CC BY 3.0 (creativecommons.org/licenses/by/3.0). Data by OpenStreetMap (openstreetmap.org), under ODbL (www.openstreetmap.org/copyright)

Although few voucher-assisted families with children live in high-opportunity neighborhoods, most large metro areas in our analysis have enough voucher-affordable units in these areas to make such moves possible for a greater share of families. Eighteen percent of all metropolitan voucher-affordable rentals — about 3.4 million units — are in high-opportunity neighborhoods. Thus, voucher-affordable rentals are over three times as likely to be in high-opportunity areas as voucher-assisted families with children (see Figure 9).

As with neighborhood poverty, the location of voucher-assisted families with children doesn't reflect the local rental market in high-opportunity areas. In every one of the 50 largest metro areas, the share of families using vouchers in high-opportunity neighborhoods is smaller than the share of

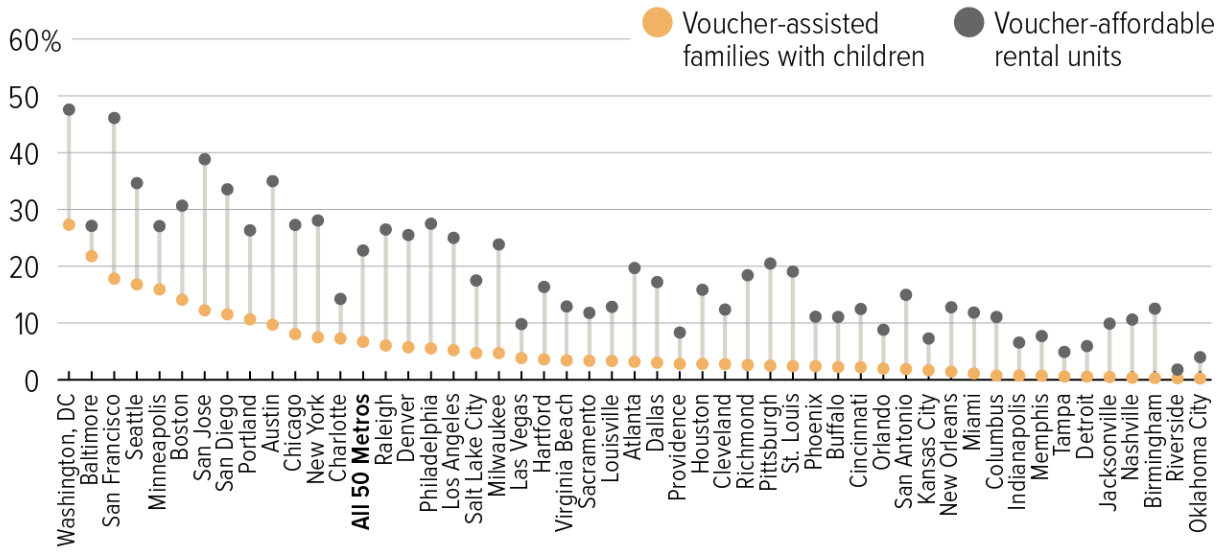
voucher-affordable units in such neighborhoods (see Figure 7). Some metro areas, such as Seattle or San Jose, have a considerable share of voucher-affordable rental units in high-opportunity areas, but the share is quite small in metro areas like Riverside and Oklahoma City (see Figure 7).

Even if the supply of voucher-affordable units with two or more bedrooms in high-opportunity areas is somewhat lower than shown here due to data limitations, the size of these gaps in most places suggests that there is enough supply to allow more voucher-assisted families to live there.

FIGURE 7

In All 50 Largest Metro Areas, Share of Voucher-Assisted Families With Children in High-Opportunity Neighborhoods Is Lower Than Share of Affordable Units

Share in high-opportunity neighborhoods



Note: High-opportunity neighborhoods are Census tracts that score in the top 20 percent for all metropolitan tracts under a composite opportunity index that considers school quality, poverty, labor market engagement, access to jobs, and access to transit.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data

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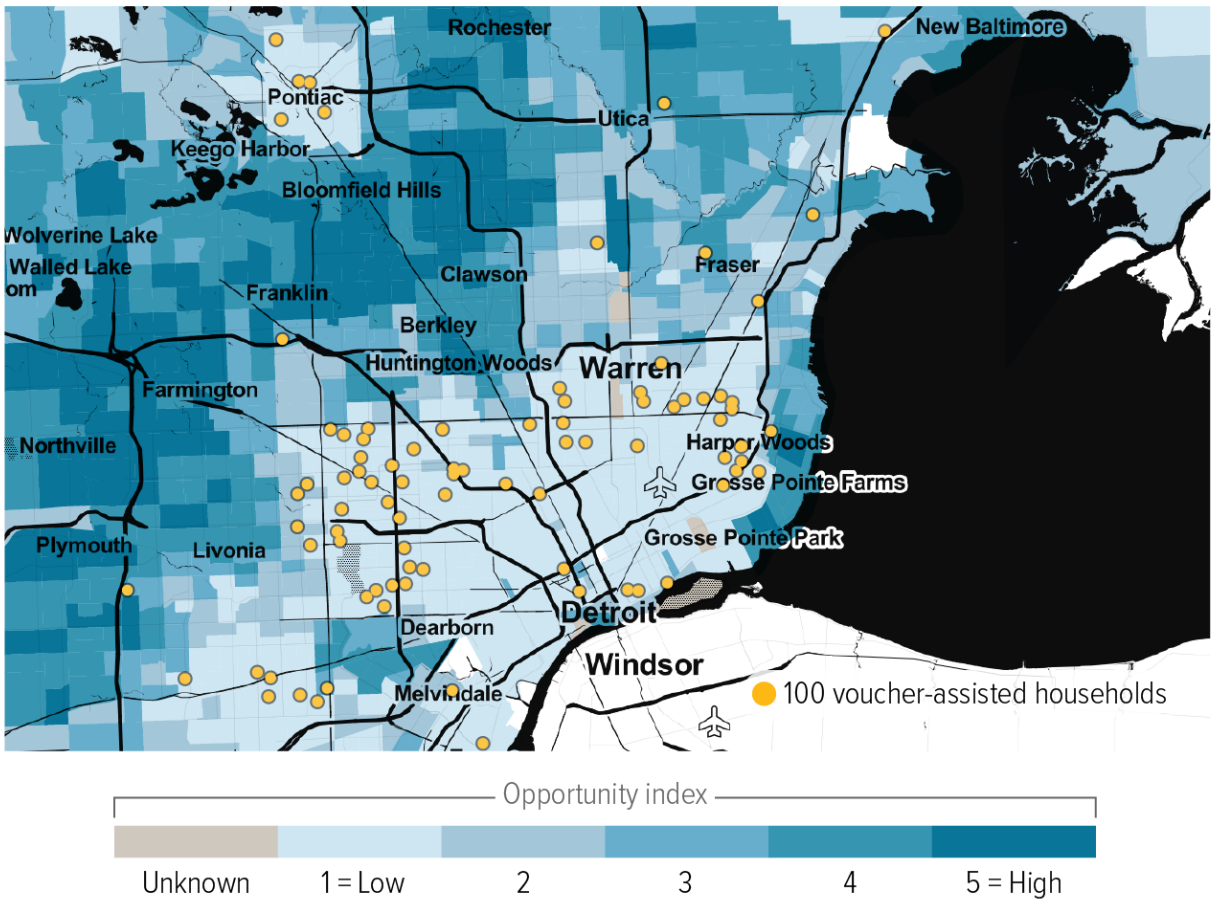
Many Metropolitan Families Using Vouchers Live in Low-Opportunity Neighborhoods, *Nearly Double the Share of Voucher-Affordable Units in These Areas*

Fully 40 percent of all metropolitan voucher-assisted families with children — nearly 340,000 households — live in low-opportunity neighborhoods, and the share is considerably higher in many of the 50 largest metro areas. In the Detroit metro, for example, it's a staggering 82 percent (see Figure 8). At the other end of the spectrum, just 6 percent of metropolitan Seattle families using vouchers live in low-opportunity areas.

FIGURE 8

Over 80 Percent of Voucher-Assisted Families With Children in Detroit Metro Area Live in Low-Opportunity Neighborhoods



Note: Low-opportunity neighborhoods are Census tracts that score in the bottom 20 percent for all metropolitan tracts under a composite opportunity index that considers school quality, poverty, labor market engagement, access to jobs, and access to transit. Dots do not represent the precise locations of individual households with vouchers.

Source: Population data from 2017 HUD administrative data and the 2012-2016 American Community Survey; map imagery data by Stamen Design (stamen.com), under CC BY 3.0 (creativecommons.org/licenses/by/3.0). Data by OpenStreetMap (openstreetmap.org), under ODbL (www.openstreetmap.org/copyright)

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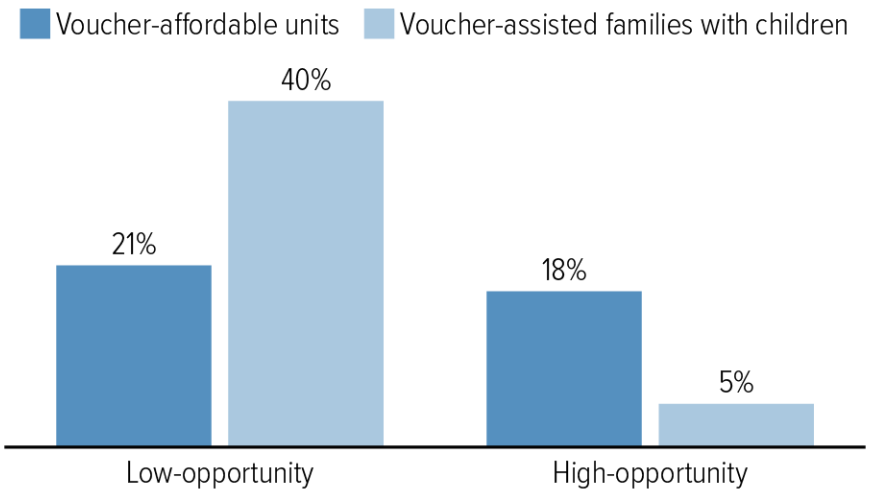
Compared to families using vouchers, a substantially smaller share of all metropolitan voucher-affordable units — 21 percent — are in low-opportunity neighborhoods (see Figure 9). Thus, voucher-assisted families with children are almost twice as likely as voucher-affordable units to be in these types of neighborhoods. Given these large differences, the voucher program may be disproportionately concentrating families in low-opportunity areas compared with the rental supply.

FIGURE 9

Metropolitan Voucher-Assisted Families More Likely to Live in Low-Opportunity Areas, Less Likely to Live in High-Opportunity Areas, Relative to Affordable Units

Share in low-and high-opportunity metropolitan neighborhoods



Note: Low-opportunity neighborhoods are Census tracts that score in the bottom 20 percent for all metropolitan tracts under a composite opportunity index that considers school quality, poverty, labor market engagement, access to jobs, and access to transit. High-opportunity neighborhoods score in the top 20 percent.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data.

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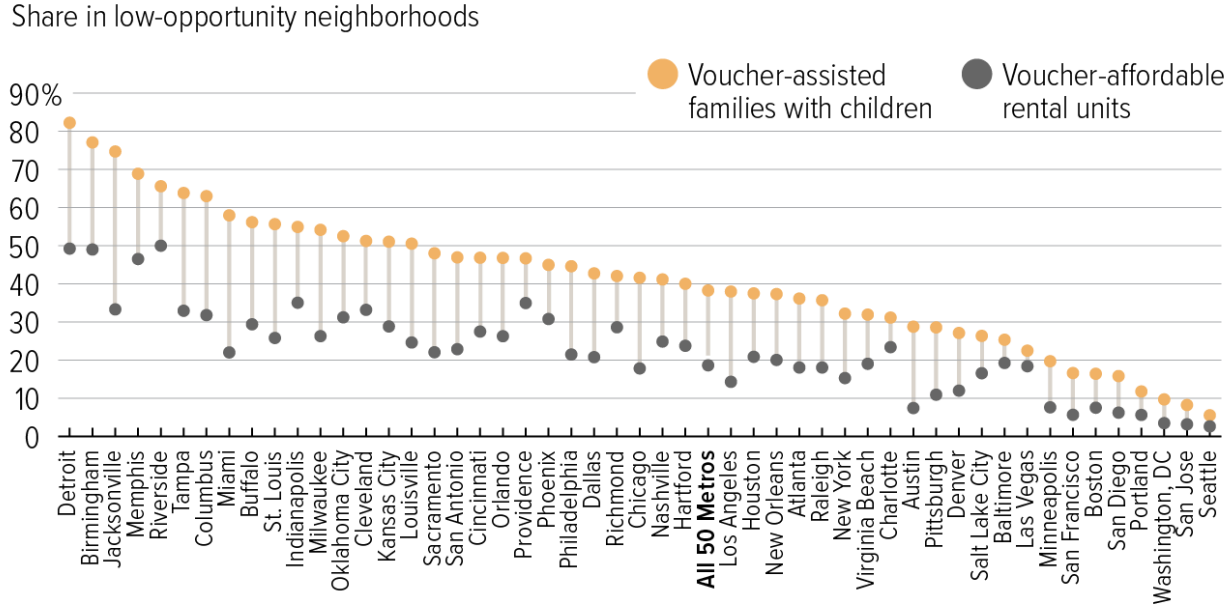
Indeed, in each of the 50 largest metro areas, the share of voucher-assisted families with children in low-opportunity neighborhoods exceeds the share of voucher-affordable units in these neighborhoods (see Figure 10). Many West Coast metro areas, including Seattle, San Jose, and Portland, have small shares of both voucher-affordable units and families using vouchers in low-opportunity neighborhoods. However, in other metro areas, especially Jacksonville and Miami, the share of families using vouchers in low-opportunity neighborhoods far exceeds the share of voucher-affordable units in those neighborhoods.

FIGURE 10

In All 50 Largest Metro Areas, Share of Voucher-Assisted Families With Children in Low-Opportunity Neighborhoods Exceeds Share of Affordable Units



Note: Low-opportunity neighborhoods are Census tracts that score in the bottom 20 percent for all metropolitan tracts under a composite opportunity index that considers school quality, poverty, labor market engagement, access to jobs, and access to transit.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data

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Share of Residents Who Are People of Color

Public housing agencies administering the voucher program have an obligation to further the purposes of the Fair Housing Act, which prohibits discrimination in the housing market based on race, religion, sex, disability, family status (including presence of children), or national origin. It also requires states and localities receiving HUD funds, as well as public housing agencies, to actively address and work to eliminate housing discrimination and segregation for all the populations protected by the legislation. This statutory obligation, known as "Affirmatively Furthering Fair Housing," remains in effect despite HUD's recent suspension of regulatory requirements that housing agencies (and others) identify barriers to fair housing in their regions and take steps to overcome them.[29]

Most metropolitan voucher-assisted families with children live in neighborhoods that HUD terms "minority-concentrated," meaning the share of people that identify as a person of color is at least 20

[29] Department of Housing and Urban Development, Affirmatively Furthering Fair Housing: Streamlining and Enhancements, 83 FR 40713 (August 16, 2018). HUD's suspension of the requirements for local assessments of fair housing has been challenged in court and remains under review as of this writing. National Fair Housing Alliance *et al. v.* Carson, U.S. District Court for the District of Columbia Civ. Action No. 1:18-cv-01076-BAH.

percentage points higher than the share for the metro area as a whole. Voucher-assisted families *of color* — the population for whom living in "minority-concentrated" neighborhoods represents a potential fair housing issue — are even likelier to live in these neighborhoods. But even in metro areas with extremely concentrated voucher-assisted families of color, most voucher-affordable units are located outside of "minority-concentrated" neighborhoods.

Moreover, metropolitan voucher-assisted families of color live in "minority-concentrated" neighborhoods at higher rates than other low-income renters of color.[30] This suggests that the voucher program is not merely reflecting existing patterns of residential segregation driven by past and present discriminatory policies or racial discrimination in the rental market. Instead of furthering the goals of the Fair Housing Act, state and local voucher programs may be contributing to the clustering of families of color in certain neighborhoods, potentially perpetuating or exacerbating existing patterns of racial and ethnic residential segregation.

Most Families of Color Using Vouchers Live in "Minority-Concentrated" Neighborhoods, Even Though Most Voucher-Affordable Units Are Elsewhere

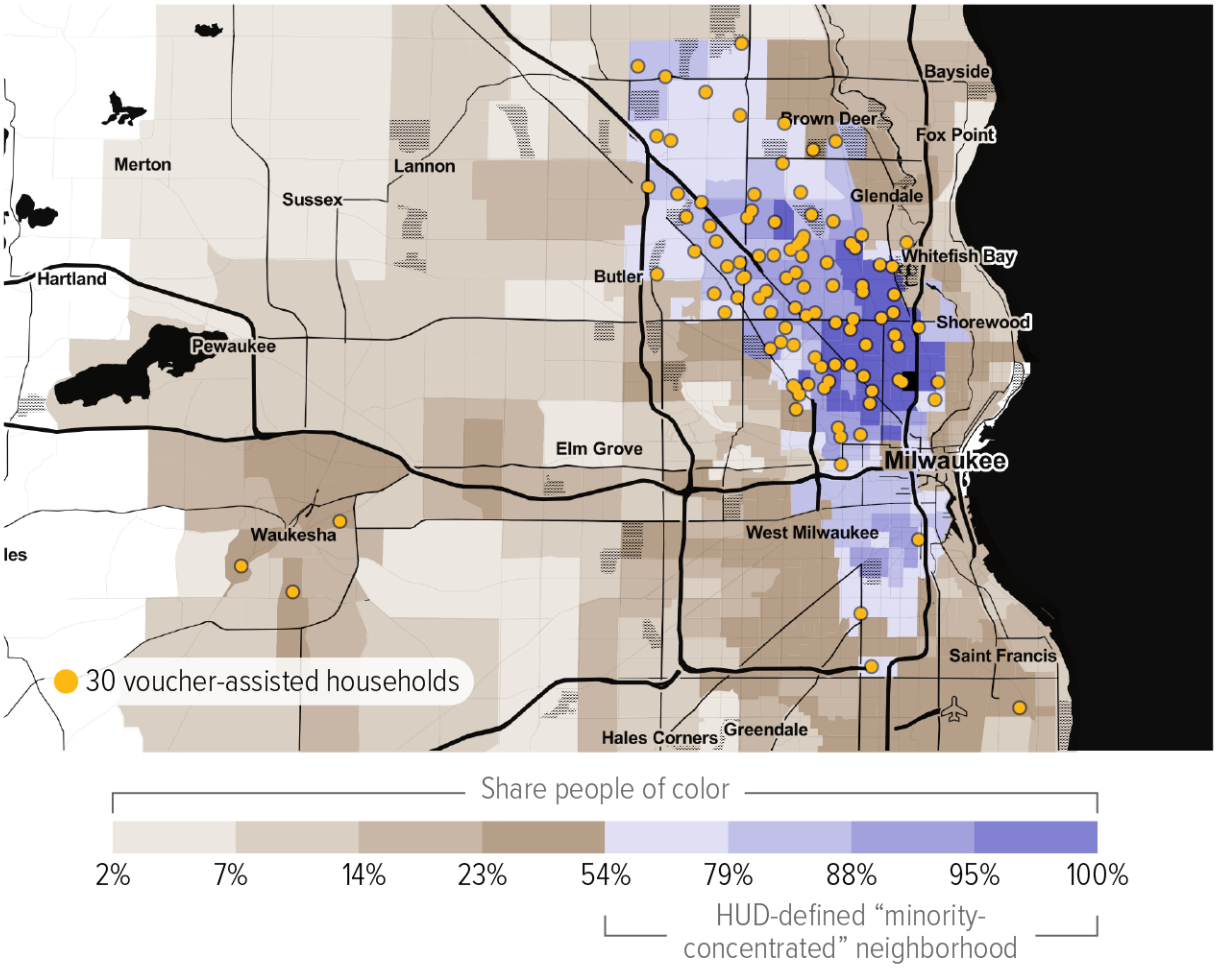
Sixty-one percent of metropolitan voucher-assisted families of color with children — roughly 433,000 households — live in neighborhoods HUD defines as "minority-concentrated" (see Figure 12), compared to 19 percent of white, non-Hispanic families using vouchers.[31] In metro areas like Milwaukee, Birmingham, and New Orleans, over 80 percent of families of color using vouchers live in such neighborhoods (see Figure 11). At the other end of the spectrum, 27 percent of metropolitan Portland families of color using vouchers live in "minority-concentrated" areas.

[30] CBPP/PRRAC analysis of HUD's 2011-2015 Comprehensive Housing Affordability Strategy data. Low-income renter households earn less than 80 percent of the local median income, making them eligible for a voucher or other HUD rental assistance. Due to data limitations, we cannot further restrict the universe of low-income renters of color to those without any rental assistance or those in families with children.

[31] This disparity may reflect, in part, the different racial and ethnic make-up of voucher recipients across different housing agencies within a metro area. In most of the 50 largest metro areas, white, non-Hispanic families represent a small percentage of all families with children using vouchers. This is particularly true in southern metro areas like Memphis and New Orleans.

FIGURE 11

85 Percent of Voucher-Assisted Families of Color With Children in Milwaukee Metro Area Live in "Minority-Concentrated" Neighborhoods



Note: The Department of Housing and Urban Development (HUD) considers a neighborhood "minority-concentrated" if the share of people that identify as a person of color is at least 20 percentage points higher than the share for the metro area as a whole. Dots do not represent the precise locations of individual households with vouchers.

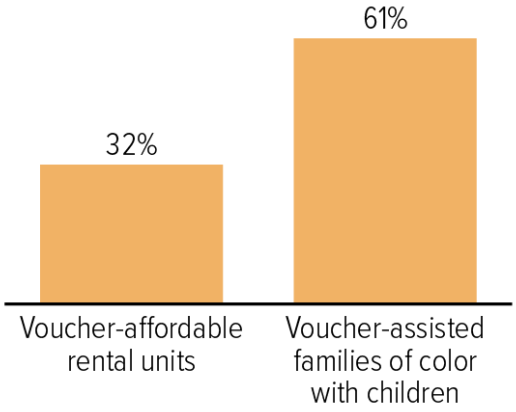
Source: Population data from HUD; map imagery data by Stamen Design (stamen.com), under CC BY 3.0 (creativecommons.org/licenses/by/3.0). Data by OpenStreetMap (openstreetmap.org), under ODbL (www.openstreetmap.org/copyright).

Metropolitan voucher-assisted families of color live in "minority-concentrated" neighborhoods at noticeably higher rates than would be expected given the local rental market. Thirty-two percent of metropolitan voucher-affordable units are in "minority-concentrated" neighborhoods (see Figure 12). Thus, families of color using vouchers are almost twice as likely as voucher-affordable units to be in these areas. In 49 of the 50 largest metro areas, most voucher-affordable units are located outside "minority-concentrated" neighborhoods.

FIGURE 12

Metropolitan Voucher-Assisted Families of Color With Children Almost Twice as Likely to Be in "Minority-Concentrated" Neighborhoods

Share in "minority-concentrated" metropolitan neighborhoods



Note: HUD defines "minority-concentrated" neighborhoods as Census tracts where the share of the population that identifies as a person of color is at least 20 percentage points larger than the metropolitan-wide percentage.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, and 2017 HUD administrative data.

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Families of Color Using Vouchers Are More Likely to Live in "Minority-Concentrated" Neighborhoods Than Low-Income Renters of Color Overall

The clustering of metropolitan voucher-assisted families of color with children in "minority-concentrated" neighborhoods isn't solely due to patterns of residential segregation or racial discrimination in the rental market. In 43 of the 50 largest metropolitan areas, the share of families of color using vouchers in "minority-concentrated" neighborhoods exceeds the share of low-income renters of color *overall* in these neighborhoods (see Figure 13).[32]

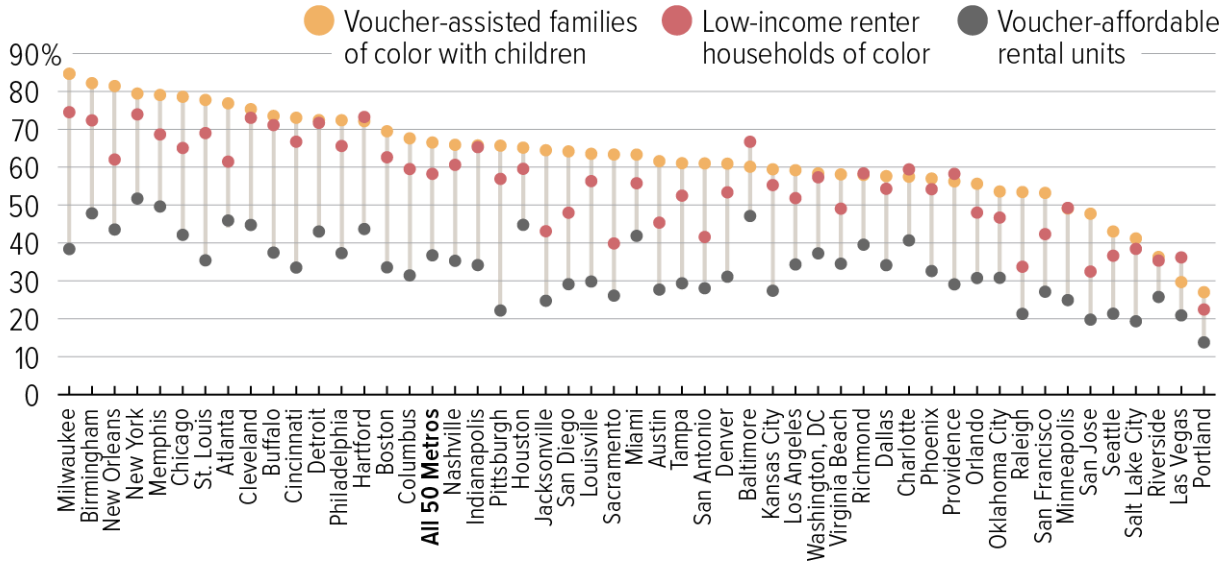
[32] We compare voucher-assisted families of color to other low-income renters of color because the voucher is designed to give recipients the same housing purchasing power as low-income households (those earning 80 percent or less of the local median income) that cannot afford prevailing rents without assistance. However, differences between families of color with children using vouchers and all low-income renters of color (many of which do not have children) may explain some of these findings. Voucher recipients have limited time to use their voucher to find an apartment, and constraints on time, money, or transportation can make it more difficult to search widely for housing. We also compared voucher-assisted families of color to *very* low-income renters of color (those earning less than 50 percent of the local median income) because voucher recipients typically have incomes below 50 percent of the local median.

Local voucher programs may be driving up the share of people of color in "minority-concentrated" neighborhoods of some of the largest metro areas. This suggests that, in many areas, the voucher program has not complied with its obligation to reduce segregation and expand access to opportunity. For instance, in the New Orleans metro area, over 80 percent of families of color using vouchers live in "minority-concentrated" neighborhoods, compared to 62 percent of all low-income New Orleans renters of color. In other metro areas, like Indianapolis, Minneapolis, and Riverside, the voucher program appears to be largely perpetuating existing residential patterns, as there is little difference in the location of families of color using vouchers and all low-income renters of color. In the Baltimore, Charlotte, Hartford, Las Vegas, and Providence metro areas, however, families of color using vouchers appear to be less likely to live in "minority-concentrated" neighborhoods than all low-income renters of color (see Figure 13).

FIGURE 13

In All 50 Largest Metros, Share of Voucher-Assisted Families of Color With Children in "Minority-Concentrated" Neighborhoods Exceeds Share of Affordable Units

Share in minority-concentrated neighborhoods



Note: HUD defines "minority-concentrated" neighborhoods as Census tracts where the share of the population that identifies as a person of color is at least 20 percentage points larger than the metropolitan-wide percentage.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 Department of Housing and Urban Development (HUD) Small Area Fair Market Rents, 2011-2015 HUD Comprehensive Housing Affordability Strategy data, and 2017 HUD administrative data

Results of this comparison were similar: 56 percent of very low-income renters of color (most of whom do not receive housing assistance) live in "minority-concentrated" tracts, and in 35 out of the 50 largest metros, the share of families of color using vouchers in "minority-concentrated" neighborhoods exceeds the share of very low-income renters of color *overall* in those neighborhoods.

Further Research Needed to Understand Differences Among Metro Areas

In some metropolitan areas, voucher-assisted families with children are distributed similarly to voucher-affordable housing. But in other metro areas, these families are disproportionately clustered in high-poverty, low-opportunity, or "minority-concentrated" neighborhoods. Further research is needed to understand what causes these differences, particularly around the role of rental vacancy rates, landlord discrimination,[33] current and historical patterns of residential segregation, and public housing agencies' policies and practices.[34]

We explored several theories that might explain the differences we found among large metropolitan areas, but we weren't able to draw definitive conclusions with the available data. For instance, a lower rental vacancy rate might make it harder for voucher recipients to rent in lower-poverty or higher-opportunity areas, since the greater competition from other renters gives landlords more choice among tenants. Conversely, a higher rental vacancy rate might make it easier to rent in lower-poverty or higher-opportunity areas, due to landlords' greater willingness to accept vouchers. However, we found only a weak association between higher rental vacancy rates and the alignment of voucher-assisted families with children and voucher-affordable units across the 50 largest metro areas.

The number of housing agencies administering a metro area's voucher program might also explain the differences among metro areas in our analysis. A larger number of agencies can hinder voucher recipients from living where they choose, particularly when lower-poverty or higher-opportunity neighborhoods aren't evenly distributed among jurisdictions.[35] Las Vegas is the only large metropolitan area in our analysis that has a single agency administering the program for the entire metropolitan area. This may help explain why families using vouchers in the Las Vegas metro area are more likely to live in low-poverty neighborhoods, and less likely to live in high-poverty neighborhoods, relative to the location of voucher-affordable units. However, when looking at all 50 largest metro areas, we again find only a weak association between the number of metro-area voucher agencies and the alignment of families using vouchers and voucher-affordable units.

We did find some broad regional trends among metropolitan areas. Metropolitan areas in the Northeast and Midwest, particularly in the Mid-Atlantic and eastern Midwest states, are more likely

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[33] In most states and metro areas, landlords can discriminate against voucher recipients by refusing to accept a voucher as a means of payment, a practice known as source of income discrimination. See Mary Cunningham *et al.,* "A Pilot Study of Landlord Acceptance of Housing Choice Vouchers," Department of Housing and Urban Development, September 2018, https://www.huduser.gov/portal//portal/sites/default/files/pdf/Landlord-Acceptance-of-Housing-Choice-Vouchers.pdf . This practice is outlawed in some states and local jurisdictions, but it is unclear how well these laws are enforced. See Alison Bell, Barbara Sard and Beck Koepnick, "Prohibiting Discrimination Against Renters Using Housing Vouchers Improves Results", Center on Budget and Policy Priorities, October 10, 2018, https://www.cbpp.org/research/housing/prohibiting-discrimination-against-renters-using-housing-vouchers-improves-results.

[34] Various voucher program policies hinder families' access to units considered "affordable" in this analysis. See Sard *et al.*

[35] Barbara Sard and Deborah Thrope, "Consolidating Rental Assistance Administration Would Increase Efficiency and Expand Opportunity," Center on Budget and Policy Priorities, April 11, 2016, https://www.cbpp.org/research/housing/consolidating-rental-assistance-administration-would-increase-efficiency-and-expand.

to have large differences between the location of families using vouchers and voucher-affordable housing in high- and low-poverty neighborhoods. The Northeast and Midwest have tended to be more racially segregated than the South and West in recent decades, which could be contributing to these differences, but further research is needed to better understand these regional trends.[36] We didn't find clear regional patterns when looking at high- and low-opportunity neighborhoods.

Local programmatic differences may better explain the variation among metropolitan areas. For example, some metro areas have programs that provide intensive mobility assistance to families that want to move to lower-poverty, higher-opportunity neighborhoods. The Baltimore Housing Mobility Program has helped more than 4,000 households, largely families with children, move to, and remain in, target "opportunity" neighborhoods throughout the metro area.[37] This may help explain why 32 percent of families using vouchers in the Baltimore metro area live in low-poverty neighborhoods and 22 percent live in high-opportunity neighborhoods — shares that are higher than in most large metro areas and roughly in line with the local distribution of voucher-affordable units.

We couldn't examine other housing agency policies and practices that might affect where families use their vouchers, or the extent of landlord discrimination, due to lack of available data. A new study of landlord discrimination in five cities finds that many landlords don't accept vouchers and that voucher refusal rates are highest in low-poverty neighborhoods. It also finds, however, that landlords are more likely to accept vouchers in areas with state or local laws prohibiting discrimination against voucher holders and when housing agencies use higher payment standards, thereby increasing the value of the voucher.[38] These areas are ripe for more exploration in future analyses.

Implications for Voucher Program Administration

These data strongly suggest that state and local voucher programs can do significantly more to give voucher-assisted families genuine choice about where they live. Our analysis finds that families with vouchers in most of the 50 largest metro areas live in less opportunity-rich neighborhoods than the local rental market would appear to make possible.

While we largely focus on comparing shares and percentages, it's important to underscore that the voucher program only serves about 560,000 families with children in the 50 largest metro areas and 870,000 metropolitan families total. These large metro areas have enough rental units to enable a much greater share of families using vouchers to rent in low-poverty and high-opportunity areas. As noted, in each of the 50 largest metro areas, the total number of voucher-affordable rentals in low-poverty neighborhoods alone exceeds the total number of voucher-assisted families in those metro areas. And in 46 of the 50 largest metro areas, the number of voucher-affordable rentals in high-

[36] John Iceland *et al.*, "Racial and Ethnic Residential Segregation in the United States: 1980-2000", U.S. Census Bureau, August 2002, https://www.census.gov/content/dam/Census/library/publications/2002/dec/censr-3.pdf.

[37] The Baltimore Housing Mobility Program, currently administered by the Baltimore Regional Housing Partnership, uses a composite definition of opportunity based on three different indices that differ somewhat from the HUD opportunity indices used in this analysis.

[38] Mary Cunningham, *et al.*, "2018, https://www.huduser.gov/portal//portal/sites/default/files/pdf/Landlord-Acceptance-of-Housing-Choice-Vouchers.pdf.

opportunity neighborhoods alone exceeds the total number of voucher-assisted families in those metro areas. In the Louisville metro area, for example, there are about 5,000 families with children using vouchers but nearly 20,000 voucher-affordable units in low-poverty neighborhoods and 11,000 voucher-affordable units in high-opportunity neighborhoods.

Of course, other families compete with voucher holders for these units, and not all voucher-affordable units are the right size for a family with children. However, the small number of voucher-assisted families relative to affordable rental units means that state and local voucher program administrators in all types of metro areas could likely increase access to low-poverty and high-opportunity neighborhoods for families that wish to move. Housing agencies administering the voucher program can use this analysis to better understand their local rental market, set goals for improvement, and implement best practices.

Advance Fair Housing Act Goals

State and local voucher programs should comply with their obligations under the Fair Housing Act, and, in doing so, increase families' access to low-poverty, high-opportunity neighborhoods as well. In most of the 50 largest metro areas, families of color using vouchers are more likely to be in "minority-concentrated" neighborhoods than other low-income renters of color. Living in a neighborhood with a large population of persons of color is not problematic in and of itself. Indeed, there are high-opportunity, low-poverty neighborhoods that also meet HUD's criteria for "minority-concentrated."[39] However, discriminatory public policies, such as redlining, and race-based covenants have created racially segregated metropolitan areas and disproportionately concentrated people of color into high-poverty, low-opportunity neighborhoods. Nearly 80 percent of metropolitan neighborhoods that meet our criteria for high poverty and low opportunity also meet HUD's definition of "minority-concentrated."

While HUD recently announced plans to reconsider its 2015 Affirmatively Furthering Fair Housing (AFFH) rule, which would have required localities, including public housing agencies, to submit an assessment of barriers to fair housing and set plans to overcome them, housing agencies remain legally obligated to further fair housing goals. Indeed, agencies that fail to take reasonable steps within their control may be found to have falsely claimed that they are complying with civil rights requirements.[40] Renters of color already face segregation and discrimination in the housing market; the voucher program should not exacerbate or perpetuate these patterns. Instead, agencies should strive to give voucher-assisted families of color meaningful choices about where to live.

Implement a Housing Mobility Program

Given that growing up in high-poverty, low-opportunity areas can hurt children's chances for long-term success and that people of color are often unduly concentrated in these neighborhoods, housing agencies should try to remove barriers that families — especially families of color — face when trying to gain access to lower-poverty, higher-opportunity neighborhoods, which tend to be

[39] There are 201 high-opportunity, low-poverty metropolitan neighborhoods that meet HUD's criteria for "minority-concentrated."

[40] In addition to their obligations under the Fair Housing Act, every public housing agency is required to certify annually that it is carrying out the Act and under civil rights statutes. See section 5A(d)(15) of the U.S. Housing Act, 42 U.S.C. § 1437c(A)(d)(15).

predominantly white. In the near term, this could include establishing a regional mobility program that helps interested families use vouchers to move to lower-poverty, higher-opportunity neighborhoods.

Agencies seeking to help interested families move to such neighborhoods could aim to get the share of families using vouchers in those neighborhoods to match (or, in the short term, more closely match) that of voucher-affordable units. This approach may be useful for program administrators in metro areas like Philadelphia or Raleigh, where there are sizable shares of voucher-affordable units in low-poverty, high-opportunity areas but few voucher-assisted families with children live in those neighborhoods. However, in other metro areas, voucher-affordable units are relatively scarce in low-poverty or high-opportunity neighborhoods. In metro areas like Riverside (California) or Orlando, if the voucher program simply matches the local housing market, very few interested families will have the chance to move to lower-poverty, higher-opportunity neighborhoods (see Figures 2 and 7). Agencies in those metro areas should try to do better than the local rental market, as in the Las Vegas metro area (see Figure 2).

In metro areas with little supply of voucher-affordable units in low-poverty, high-opportunity neighborhoods, agencies can set interim goals that include helping more families who wish to move from such neighborhoods to one with more *moderate levels* of poverty and opportunity to do so. Research suggests that neighborhood poverty rates of 15-20 percent are a tipping point — that is, the point at which social problems associated with neighborhood poverty often begin to appear.[41] Agencies in more constrained housing markets could set an interim goal of helping interested families move to neighborhoods with poverty rates below 15 percent while pursuing strategies that increase the *supply* of voucher-affordable units in low-poverty, high-opportunity areas.[42]

Expand the Available Supply of Voucher-Affordable Units

Increasing the supply of affordable housing in low-poverty, high-opportunity neighborhoods requires concerted effort across multiple levels of government and various agencies. Housing authorities that operate the voucher program cannot, on their own, solve the problems of inadequate supply of affordable units, their location, or segregation.

However, housing agencies can, on their own, take some steps to increase the availability of voucher-affordable units in low-poverty, high-opportunity neighborhoods through robust landlord recruitment in those neighborhoods and adjusting subsidy levels based on Small Area Fair Market Rents, thereby raising the maximum voucher subsidy in more expensive neighborhoods.[43] SAFMRs

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[41] George Galster, "An economic efficiency analysis of deconcentrating poverty populations," 2002, *Journal of Housing Economics* 11:303–329; Roberto G. Quercia and George C. Galster, "Threshold Effects and Neighborhood Change," 2000, *Journal of Planning Education and Research* 20:146-162.

[42] Families using vouchers are also less likely to be in neighborhoods with poverty rates below 15 percent, relative to affordable units. Twenty-seven percent of metropolitan voucher-assisted families with children live in neighborhoods with poverty rates below 15 percent, compared to 43 percent of metropolitan voucher-affordable units.

[43] For more on how state and local housing agencies can increase the value of the voucher by voluntarily adopting Small Area Fair Market Rents or using SAFMRs as the basis of higher payment standards in some of their neighborhoods, see Center on Budget and Policy Priorities and the Poverty & Race Research Action Council, "A Guide to Small Area Fair Market Rents," May 4, 2018, https://www.cbpp.org/research/housing/a-guide-to-small-area-fair-market-rents-safmrs.

increase the number of voucher-affordable units in high-rent zip codes and help families move to higher-opportunity neighborhoods, research shows.[44] In addition, housing agencies could do more to connect families to Low-Income Housing Tax Credit (LIHTC) properties in low-poverty, high-opportunity neighborhoods. Under federal law, LIHTC owners must not discriminate against voucher holders, and agencies should inform families of where these properties are located.[45]

Implications for Public Policymakers

In addition to these best practices for voucher program administrators, federal, state, and local policymakers could also do much more to improve access to lower-poverty, higher-opportunity neighborhoods for families with children in the voucher program, particularly by providing funding or other incentives to support some of the activities described above.

Establish and Fund the Housing Choice Voucher Mobility Demonstration

Congress should establish and fund the House-approved Housing Choice Voucher Mobility Demonstration, which would allow selected public housing agencies to provide robust housing mobility services — including pre- and post-move support (such as financial coaching) for voucher holders who want to move to a higher-opportunity area, outreach to landlords to recruit more of them to participate, and housing search assistance — to help more families that wish to move to higher-opportunity neighborhoods.

Improve and Enforce HUD Policies That Promote Housing Choice

HUD can take steps to encourage housing agencies to help more interested families move to high-opportunity, low-poverty neighborhoods. HUD could do this by rewarding agencies that help families move to high-opportunity areas (by paying these agencies additional administrative fees) and by giving added weight to location outcomes in measuring agency performance.

HUD should also encourage more agencies to implement Small Area Fair Market Rents, which better reflect actual market rents and help ensure that voucher subsidies are high enough for families to rent in neighborhoods with low poverty, low crime, and strong schools. HUD should also enforce requirements that agencies identify units in higher-opportunity, lower-poverty communities willing to rent to voucher holders and encourage or require agencies to give families seeking to make such moves added time to search for housing. Finally, HUD should encourage agencies in the same metropolitan area to unify their program operations, making it easier for families to rent in a wide range of communities across a metro area.[46]

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[44] NYU Furman Center, "How Do Small Area Fair Market Rents Affect the Location and Number of Units Affordable to Voucher Holders?" January 5, 2018, https://furmancenter.org/files/NYUFurmanCenter_SAFMRbrief_5JAN2018_1.pdf; Center on Budget and Policy Priorities and the Poverty & Race Research Action Council, "A Guide to Small Area Fair Market Rents," May 4, 2018, https://www.cbpp.org/research/housing/a-guide-to-small-area-fair-market-rents-safmrs.

[45] For more details on these policy recommendations, see Will Fischer, "Low-Income Housing Tax Credit Could Do More to Expand Opportunity for Poor Families," Center on Budget and Policy Priorities, August 2018, https://www.cbpp.org/research/housing/low-income-housing-tax-credit-could-do-more-to-expand-opportunity-for-poor-families.

[46] For more details on these policy recommendations, see Sard *et al.*

Implement the Affirmatively Furthering Fair Housing Rule

Issued in 2015, the AFFH rule was HUD's first substantive effort in the 47 years after enactment of the Fair Housing Act to ensure that states and localities receiving HUD funds — as well as public housing agencies — take meaningful steps to address racial segregation and other fair housing problems. Many communities welcomed the rule and have taken steps toward achieving its goals. But in 2018, HUD announced that it intends to reconsider the rule, the Trump Administration's third action to undermine AFFH. Rather than further delay implementation of this rule, HUD should rescind its recent announcement and enforce the statutory obligation to affirmatively further fair housing.

Expand the Supply of Voucher-Affordable Housing

State and local policymakers can also take steps to improve their local voucher programs on their own, and advocates should encourage them to do so. For example, some communities need to increase the supply of voucher-affordable housing in high-opportunity and low-poverty neighborhoods, as noted above. Working together, the LIHTC and voucher programs can help accomplish this goal: LIHTC can be used to develop new rental housing in these types of neighborhoods, which will usually (though not always) have rents that are accessible to families using vouchers. In addition, federal law prohibits LIHTC owners from discriminating against voucher holders, though states should do more to ensure that the law is enforced.[47] Federal policymakers could help by prohibiting beneficiaries of other federal programs, such as federally guaranteed mortgages, from discriminating against voucher holders.

Invest in Communities Where Families Using Vouchers Already Live

Policymakers must also act to preserve affordable housing in gentrifying communities and improve neighborhoods where families using vouchers already live. As part of a longer-term strategy, they should invest in programs that increase incomes, enhance safety, and improve educational performance in high-poverty, low-opportunity neighborhoods and in communities of color, thereby improving the places where many families using vouchers will continue to want to live.

The interactive data tables, charts, and maps accompanying this analysis have more information on the location of voucher-affordable units and families with children, families with children of color, and all households using vouchers in the 50 largest metro areas.

[47] For more details on these policy recommendations, see Will Fischer, "Low-Income Housing Tax Credit Could Do More to Expand Opportunity for Poor Families," Center on Budget and Policy Priorities, August 2018, https://www.cbpp.org/research/housing/low-income-housing-tax-credit-could-do-more-to-expand-opportunity-for-poor-families.

Appendix 1: Metropolitan Area Tables

TABLE A-1

Voucher-Affordable Units and Voucher-Assisted Families with Children in Low-Poverty Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are Low-Poverty
Atlanta-Sandy Springs-Roswell, GA	58,680	1,820	19%	10%	9	38%
Austin-Round Rock, TX	52,100	800	34%	24%	10	50%
Baltimore-Columbia-Towson, MD	57,490	3,780	34%	32%	2	56%
Birmingham-Hoover, AL	13,450	370	21%	8%	13	31%
Boston-Cambridge-Newton, MA-NH	160,920	5,760	39%	27%	12	61%
Buffalo-Cheektowaga-Niagara Falls, NY	22,270	480	28%	8%	20	46%
Charlotte-Concord-Gastonia, NC-SC	27,690	750	22%	12%	10	39%
Chicago-Naperville-Elgin, IL-IN-WI	171,830	4,780	26%	14%	12	43%
Cincinnati, OH-KY-IN	34,340	1,020	24%	10%	14	43%
Cleveland-Elyria, OH	33,290	1,140	22%	12%	10	44%
Columbus, OH	32,870	600	25%	8%	17	41%
Dallas-Fort Worth-Arlington, TX	140,470	4,390	29%	20%	9	43%
Denver-Aurora-Lakewood, CO	63,890	1,630	32%	24%	8	58%
Detroit-Warren-Dearborn, MI	56,770	730	23%	6%	17	43%
Hartford-West Hartford-East Hartford, CT	32,330	1,020	35%	17%	18	61%
Houston-The Woodlands-Sugar Land, TX	87,590	1,790	21%	12%	9	35%
Indianapolis-Carmel-Anderson, IN	28,660	330	24%	6%	18	40%
Jacksonville, FL	18,570	260	22%	6%	16	36%
Kansas City, MO-KS	36,830	1,170	30%	17%	13	47%
Las Vegas-Henderson-Paradise, NV	45,110	2,020	26%	33%	-7	41%
Los Angeles-Long Beach-Anaheim, CA	286,810	2,340	21%	8%	13	35%
Louisville/Jefferson County, KY-IN	19,980	610	22%	12%	10	43%
Memphis, TN-MS-AR	12,710	320	15%	5%	10	26%
Miami-Fort Lauderdale-West Palm Beach, FL	61,240	1,170	14%	7%	7	33%
Milwaukee-Waukesha-West Allis, WI	35,570	340	28%	8%	20	42%

TABLE A-1

Voucher-Affordable Units and Voucher-Assisted Families with Children in Low-Poverty Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are Low-Poverty
Minneapolis-St. Paul-Bloomington, MN-WI	96,160	3,830	44%	34%	10	64%
Nashville-Davidson-Murfreesboro-Franklin, TN	28,360	640	25%	12%	13	46%
New Orleans-Metairie, LA	14,910	550	15%	4%	11	25%
New York-Newark-Jersey City, NY-NJ-PA	557,150	9,580	27%	12%	15	49%
Oklahoma City, OK	14,480	470	18%	9%	9	34%
Orlando-Kissimmee-Sanford, FL	20,430	230	14%	7%	7	29%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	146,310	2,690	36%	15%	21	56%
Phoenix-Mesa-Scottsdale, AZ	59,850	890	23%	14%	9	42%
Pittsburgh, PA	51,270	850	31%	11%	20	47%
Portland-Vancouver-Hillsboro, OR-WA	54,280	870	25%	15%	10	44%
Providence-Warwick, RI-MA	34,020	930	24%	14%	10	47%
Raleigh, NC	28,640	470	39%	19%	20	56%
Richmond, VA	21,840	690	31%	20%	11	50%
Riverside-San Bernardino-Ontario, CA	26,100	450	12%	6%	6	28%
Sacramento–Roseville–Arden-Arcade, CA	26,080	620	19%	12%	7	38%
Salt Lake City, UT	17,260	590	33%	26%	7	55%
San Antonio-New Braunfels, TX	32,780	570	22%	8%	14	36%
San Diego-Carlsbad, CA	73,400	1,430	25%	16%	9	43%
San Francisco-Oakland-Hayward, CA	190,960	4,060	42%	27%	15	60%
San Jose-Sunnyvale-Santa Clara, CA	86,630	1,810	54%	43%	11	66%
Seattle-Tacoma-Bellevue, WA	110,840	3,560	39%	28%	11	57%
St. Louis, MO-IL	49,590	1,530	31%	14%	17	47%
Tampa-St. Petersburg-Clearwater, FL	41,700	570	20%	6%	14	33%

TABLE A-1

Voucher-Affordable Units and Voucher-Assisted Families with Children in Low-Poverty Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are Low-Poverty
Virginia Beach-Norfolk-Newport News, VA-NC	31,960	1,610	29%	21%	8	48%
Washington-Arlington-Alexandria, DC-VA-MD-WV	170,470	7,340	49%	45%	4	70%
All 50 Largest Metropolitan Areas	3,576,900	86,240	27%	15%	12	45%
All U.S. Metropolitan Areas	4,808,310	123,040	25%	14%	11	42%

Notes: Low-poverty neighborhoods are Census tracts with poverty rates of less than 10%. Survey data are subject to survey error and differences are not necessarily statistically significant. All numbers are rounded to the nearest 10. The "voucher-affordable units" and "voucher-assisted families" columns represent the numbers of units and families in low-poverty neighborhoods. The "% voucher-affordable units" and "% voucher-assisted families" columns provide the shares of each in low-poverty neighborhoods. The "percentage-point difference" column represents the difference between the shares of voucher-affordable units and voucher-assisted families.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 HUD Hypothetical Small Area Fair Market Rents, and 2017 HUD administrative data.

TABLE A-2

Voucher-Affordable Units and Voucher-Assisted Families with Children in High-Poverty Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are High-Poverty
Atlanta-Sandy Springs-Roswell, GA	73,720	5,660	24%	31%	-7	14%
Austin-Round Rock, TX	28,360	840	19%	25%	-6	11%
Baltimore-Columbia-Towson, MD	26,890	1,920	16%	16%	0	10%
Birmingham-Hoover, AL	22,330	1,680	34%	35%	-1	19%
Boston-Cambridge-Newton, MA-NH	52,990	3,310	13%	15%	-2	7%
Buffalo-Cheektowaga-Niagara Falls, NY	27,910	3,500	35%	61%	-26	20%
Charlotte-Concord-Gastonia, NC-SC	27,330	2,010	22%	31%	-9	12%
Chicago-Naperville-Elgin, IL-IN-WI	143,260	13,470	22%	39%	-17	15%
Cincinnati, OH-KY-IN	36,030	4,080	25%	41%	-16	16%
Cleveland-Elyria, OH	52,540	3,900	35%	41%	-6	24%

TABLE A-2

Voucher-Affordable Units and Voucher-Assisted Families with Children in High-Poverty Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are High-Poverty
Columbus, OH	34,640	3,070	26%	43%	-17	17%
Dallas-Fort Worth-Arlington, TX	94,200	5,190	20%	24%	-4	13%
Denver-Aurora-Lakewood, CO	15,610	690	8%	10%	-2	4%
Detroit-Warren-Dearborn, MI	86,470	5,760	35%	49%	-14	24%
Hartford-West Hartford-East Hartford, CT	22,330	2,190	24%	37%	-13	14%
Houston-The Woodlands-Sugar Land, TX	106,000	3,680	26%	25%	1	16%
Indianapolis-Carmel-Anderson, IN	29,220	2,130	25%	40%	-15	19%
Jacksonville, FL	12,940	1,330	15%	30%	-15	12%
Kansas City, MO-KS	21,220	1,800	18%	26%	-8	14%
Las Vegas-Henderson-Paradise, NV	33,490	860	19%	14%	5	12%
Los Angeles-Long Beach-Anaheim, CA	274,220	10,300	20%	34%	-14	14%
Louisville/Jefferson County, KY-IN	23,710	2,020	27%	40%	-13	14%
Memphis, TN-MS-AR	36,370	3,240	44%	53%	-9	33%
Miami-Fort Lauderdale-West Palm Beach, FL	91,250	6,590	21%	37%	-16	12%
Milwaukee-Waukesha-West Allis, WI	36,440	1,560	29%	39%	-10	22%
Minneapolis-St. Paul-Bloomington, MN-WI	33,970	2,680	16%	24%	-8	8%
Nashville-Davidson-Murfreesboro-Franklin, TN	21,550	1,900	19%	36%	-17	10%
New Orleans-Metairie, LA	32,910	7,970	34%	58%	-24	26%
New York-Newark-Jersey City, NY-NJ-PA	499,540	37,890	24%	46%	-22	12%
Oklahoma City, OK	18,530	2,000	23%	38%	-15	18%
Orlando-Kissimmee-Sanford, FL	26,660	570	19%	17%	2	11%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	91,990	7,190	23%	39%	-16	13%
Phoenix-Mesa-Scottsdale, AZ	84,550	2,090	33%	33%	0	19%
Pittsburgh, PA	25,690	2,470	16%	32%	-16	10%
Portland-Vancouver-Hillsboro, OR-WA	18,240	730	8%	12%	-4	4%
Providence-Warwick, RI-MA	36,810	2,160	26%	32%	-6	15%
Raleigh, NC	8,390	530	11%	21%	-10	7%

TABLE A-2

Voucher-Affordable Units and Voucher-Assisted Families with Children in High-Poverty Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are High-Poverty
Richmond, VA	17,840	810	25%	23%	2	14%
Riverside-San Bernardino-Ontario, CA	62,370	2,600	29%	37%	-8	16%
Sacramento–Roseville–Arden-Arcade, CA	35,820	1,810	26%	35%	-9	14%
Salt Lake City, UT	4,890	320	9%	14%	-5	4%
San Antonio-New Braunfels, TX	26,030	2,470	18%	35%	-17	14%
San Diego-Carlsbad, CA	47,490	1,720	16%	19%	-3	9%
San Francisco-Oakland-Hayward, CA	37,600	2,020	8%	14%	-6	5%
San Jose-Sunnyvale-Santa Clara, CA	3,310	30	2%	1%	1	2%
Seattle-Tacoma-Bellevue, WA	21,660	1,330	8%	11%	-3	4%
St. Louis, MO-IL	32,940	3,030	20%	27%	-7	14%
Tampa-St. Petersburg-Clearwater, FL	37,180	3,700	18%	39%	-21	10%
Virginia Beach-Norfolk-Newport News, VA-NC	14,340	1,250	13%	16%	-3	8%
Washington-Arlington-Alexandria, DC-VA-MD-WV	18,920	1,710	5%	10%	-5	3%
All 50 Largest Metropolitan Areas	2,668,660	181,760	20%	33%	-13	13%
All U.S. Metropolitan Areas	4,186,740	289,570	22%	33%	-11	14%

Notes: High-poverty neighborhoods are Census tracts with poverty rates of 30% or higher. Survey data are subject to survey error and differences are not necessarily statistically significant. All numbers are rounded to the nearest 10. The "voucher-affordable units" and "voucher-assisted families" columns represent the numbers of units and families in high-poverty neighborhoods. The "% voucher-affordable units" and "% voucher-assisted families" columns provide the shares of each in high-poverty neighborhoods. The "percentage-point difference" column represents the difference between the shares of voucher-affordable units and voucher-assisted families.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 HUD Hypothetical Small Area Fair Market Rents, and 2017 HUD administrative data.

TABLE A-3

Voucher-Affordable Units and Voucher-Assisted Families with Children in High-Opportunity Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are High-Opportunity
Atlanta-Sandy Springs-Roswell, GA	59,650	570	20%	3%	17	26%
Austin-Round Rock, TX	53,390	320	35%	10%	25	37%
Baltimore-Columbia-Towson, MD	46,110	2,560	27%	22%	5	38%
Birmingham-Hoover, AL	7,660	13	13%	0%	13	12%
Boston-Cambridge-Newton, MA-NH	125,380	3,030	31%	14%	17	43%
Buffalo-Cheektowaga-Niagara Falls, NY	8,840	130	11%	2%	9	13%
Charlotte-Concord-Gastonia, NC-SC	17,830	470	14%	7%	7	18%
Chicago-Naperville-Elgin, IL-IN-WI	179,210	2,770	27%	8%	19	35%
Cincinnati, OH-KY-IN	17,710	220	12%	2%	10	14%
Cleveland-Elyria, OH	18,370	260	12%	3%	9	17%
Columbus, OH	14,650	50	11%	1%	10	16%
Dallas-Fort Worth-Arlington, TX	82,870	650	17%	3%	14	20%
Denver-Aurora-Lakewood, CO	50,440	380	25%	6%	19	32%
Detroit-Warren-Dearborn, MI	14,490	60	6%	1%	5	9%
Hartford-West Hartford-East Hartford, CT	15,040	210	16%	4%	12	19%
Houston-The Woodlands-Sugar Land, TX	65,220	410	16%	3%	13	19%
Indianapolis-Carmel-Anderson, IN	7,660	40	7%	1%	6	8%
Jacksonville, FL	8,510	20	10%	0%	10	12%
Kansas City, MO-KS	5,630	90	7%	2%	5	9%
Las Vegas-Henderson-Paradise, NV	16,460	220	10%	4%	6	11%
Los Angeles-Long Beach-Anaheim, CA	347,640	1,570	25%	5%	20	26%
Louisville/Jefferson County, KY-IN	11,360	170	13%	3%	10	16%

TABLE A-3

Voucher-Affordable Units and Voucher-Assisted Families with Children in High-Opportunity Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are High-Opportunity
Memphis, TN-MS-AR	6,350	40	8%	1%	7	9%
Miami-Fort Lauderdale-West Palm Beach, FL	50,430	190	12%	1%	10	18%
Milwaukee-Waukesha-West Allis, WI	30,270	190	24%	5%	19	29%
Minneapolis-St. Paul-Bloomington, MN-WI	59,100	1,770	27%	16%	11	31%
Nashville-Davidson-Murfreesboro-Franklin, TN	11,810	18	11%	0%	11	14%
New Orleans-Metairie, LA	11,600	150	13%	1%	12	13%
New York-Newark-Jersey City, NY-NJ-PA	578,430	6,080	28%	7%	21	39%
Oklahoma City, OK	3,040	11	4%	0%	4	6%
Orlando-Kissimmee-Sanford, FL	12,480	70	9%	2%	7	9%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	110,470	1,010	27%	6%	21	37%
Phoenix-Mesa-Scottsdale, AZ	27,980	150	11%	2%	9	16%
Pittsburgh, PA	33,020	190	20%	2%	18	22%
Portland-Vancouver-Hillsboro, OR-WA	56,820	630	26%	11%	15	27%
Providence-Warwick, RI-MA	11,250	180	8%	3%	5	13%
Raleigh, NC	19,380	150	26%	6%	20	32%
Richmond, VA	12,950	90	18%	3%	15	20%
Riverside-San Bernardino-Ontario, CA	3,800	18	2%	0%	2	2%
Sacramento–Roseville–Arden-Arcade, CA	16,340	170	12%	3%	9	14%
Salt Lake City, UT	9,160	110	17%	5%	12	22%
San Antonio-New Braunfels, TX	21,910	130	15%	2%	13	16%
San Diego-Carlsbad, CA	98,850	1,030	34%	12%	22	36%
San Francisco-Oakland-Hayward, CA	207,630	2,630	46%	18%	28	50%

TABLE A-3

Voucher-Affordable Units and Voucher-Assisted Families with Children in High-Opportunity Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are High-Opportunity
San Jose-Sunnyvale-Santa Clara, CA	61,880	510	39%	12%	27	42%
Seattle-Tacoma-Bellevue, WA	98,230	2,120	35%	17%	18	35%
St. Louis, MO-IL	30,610	270	19%	2%	17	22%
Tampa-St. Petersburg-Clearwater, FL	10,330	50	5%	1%	4	6%
Virginia Beach-Norfolk-Newport News, VA-NC	14,120	260	13%	3%	10	15%
Washington-Arlington-Alexandria, DC-VA-MD-WV	164,370	4,490	48%	27%	21	53%
All 50 Largest Metropolitan Areas	2,946,690	36,900	23%	7%	16	26%
All U.S. Metropolitan Areas	3,409,210	44,860	18%	5%	13	20%

Notes: High-opportunity neighborhoods are Census tracts that have opportunity index scores in the top quintile (top 20 percent) for all metropolitan tracts. Survey data are subject to survey error and differences are not necessarily statistically significant. Numbers larger than 20 are rounded to the nearest 10. The "voucher-affordable units" and "voucher-assisted families" columns represent the numbers of units and families in high-opportunity neighborhoods. The "% voucher-affordable units" and "% voucher-assisted families" columns provide the shares of each in high-opportunity neighborhoods. The "percentage-point" difference column represents the difference between the shares of voucher-affordable units and voucher-assisted families.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 HUD Hypothetical Small Area Fair Market Rents, 2017 HUD Affirmatively Furthering Fair Housing data, and 2017 HUD administrative data.

TABLE A-4

Voucher-Affordable Units and Voucher-Assisted Families with Children in Low-Opportunity Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are Low-Opportunity
Atlanta-Sandy Springs-Roswell, GA	54,710	6,540	18%	36%	-18	16%
Austin-Round Rock, TX	11,320	950	7%	29%	-22	10%
Baltimore-Columbia-Towson, MD	32,750	2,980	19%	25%	-6	13%
Birmingham-Hoover, AL	29,990	3,560	49%	77%	-28	49%
Boston-Cambridge-Newton, MA-NH	30,700	3,530	8%	16%	-8	4%
Buffalo-Cheektowaga-Niagara Falls, NY	23,490	3,230	29%	56%	-27	22%
Charlotte-Concord-Gastonia, NC-SC	29,300	2,010	23%	31%	-8	22%
Chicago-Naperville-Elgin, IL-IN-WI	117,120	14,330	18%	42%	-24	15%
Cincinnati, OH-KY-IN	39,050	4,640	27%	47%	-20	20%
Cleveland-Elyria, OH	49,300	4,860	33%	51%	-18	26%
Columbus, OH	42,150	4,520	32%	63%	-31	28%
Dallas-Fort Worth-Arlington, TX	100,020	9,300	21%	43%	-22	20%
Denver-Aurora-Lakewood, CO	23,720	1,800	12%	27%	-15	10%
Detroit-Warren-Dearborn, MI	120,220	9,750	49%	82%	-33	39%
Hartford-West Hartford-East Hartford, CT	21,850	2,390	24%	40%	-16	14%
Houston-The Woodlands-Sugar Land, TX	85,840	5,570	21%	37%	-16	20%
Indianapolis-Carmel-Anderson, IN	41,010	2,920	35%	55%	-20	28%
Jacksonville, FL	28,690	3,270	33%	75%	-41	31%
Kansas City, MO-KS	22,310	2,770	29%	51%	-22	27%
Las Vegas-Henderson-Paradise, NV	30,880	1,280	18%	22%	-4	15%
Los Angeles-Long Beach-Anaheim, CA	198,900	11,440	14%	38%	-24	14%
Louisville/Jefferson County, KY-IN	21,780	2,540	25%	51%	-26	24%

TABLE A-4

Voucher-Affordable Units and Voucher-Assisted Families with Children in Low-Opportunity Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are Low-Opportunity
Memphis, TN-MS-AR	38,360	4,240	47%	69%	-22	45%
Miami-Fort Lauderdale-West Palm Beach, FL	93,790	10,140	22%	58%	-36	17%
Milwaukee-Waukesha-West Allis, WI	33,380	2,180	26%	54%	-28	23%
Minneapolis-St. Paul-Bloomington, MN-WI	16,610	2,190	8%	20%	-12	7%
Nashville-Davidson-Murfreesboro-Franklin, TN	27,680	2,180	25%	41%	-16	22%
New Orleans-Metairie, LA	18,220	4,040	20%	37%	-17	21%
New York-Newark-Jersey City, NY-NJ-PA	315,010	26,180	15%	32%	-17	8%
Oklahoma City, OK	23,920	2,750	31%	53%	-22	26%
Orlando-Kissimmee-Sanford, FL	37,250	1,600	26%	47%	-21	23%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	86,280	8,180	21%	45%	-24	13%
Phoenix-Mesa-Scottsdale, AZ	77,630	2,800	31%	45%	-14	24%
Pittsburgh, PA	17,620	2,200	11%	29%	-18	11%
Portland-Vancouver-Hillsboro, OR-WA	12,120	700	6%	12%	-6	4%
Providence-Warwick, RI-MA	47,310	3,030	35%	47%	-12	22%
Raleigh, NC	13,220	910	18%	36%	-18	15%
Richmond, VA	20,130	1,450	29%	42%	-13	22%
Riverside-San Bernardino-Ontario, CA	106,010	4,580	50%	66%	-16	43%
Sacramento–Roseville–Arden-Arcade, CA	30,600	2,430	22%	48%	-26	18%
Salt Lake City, UT	8,680	600	17%	26%	-9	13%
San Antonio-New Braunfels, TX	33,480	3,310	23%	47%	-24	25%
San Diego-Carlsbad, CA	18,300	1,410	6%	16%	-10	6%
San Francisco-Oakland-Hayward, CA	25,430	2,450	6%	17%	-11	4%

TABLE A-4

Voucher-Affordable Units and Voucher-Assisted Families with Children in Low-Opportunity Neighborhoods

Metropolitan Area	Voucher-Affordable Units	Voucher-Assisted Families	% Voucher-Affordable Units	% Voucher-Assisted Families	Percentage-Point Difference	Neighborhoods That Are Low-Opportunity
San Jose-Sunnyvale-Santa Clara, CA	5,040	340	3%	8%	-5	4%
Seattle-Tacoma-Bellevue, WA	7,450	700	3%	6%	-3	3%
St. Louis, MO-IL	41,460	6,230	26%	56%	-30	22%
Tampa-St. Petersburg-Clearwater, FL	69,510	6,130	33%	64%	-31	31%
Virginia Beach-Norfolk-Newport News, VA-NC	20,830	2,430	19%	32%	-13	15%
Washington-Arlington-Alexandria, DC-VA-MD-WV	11,970	1,590	3%	10%	-7	2%
All 50 Largest Metropolitan Areas	2,412,350	211,100	19%	38%	-19	16%
All U.S. Metropolitan Areas	3,962,800	339,790	21%	40%	-19	20%

Notes: Low-opportunity neighborhoods are Census tracts that have opportunity index scores in the bottom quintile (bottom 20 percent) for all metropolitan tracts. Survey data are subject to survey error and differences are not necessarily statistically significant. All numbers are rounded to the nearest 10. The "voucher-affordable units" and "voucher-assisted families" columns represent the numbers of units and families in low-opportunity neighborhoods. The "% voucher-affordable units" and "% voucher-assisted families" columns provide the shares of each in low-opportunity neighborhoods. The "percentage-point difference" column represents the difference between the shares of voucher-affordable units and voucher-assisted families.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 HUD Hypothetical Small Area Fair Market Rents, 2017 HUD Affirmatively Furthering Fair Housing data, and 2017 HUD administrative data.

TABLE A-5

Share of Voucher-Affordable Units, Low-Income Renters of Color, and Voucher-Assisted Families of Color in "Minority-Concentrated" Neighborhoods

	Voucher-Affordable Units		Low-Income Renter Households of Color		Voucher-Assisted Families of Color with Children		
Metropolitan Area	Total Units	% in "Minority-Concentrated" Areas	Total Households	% in "Minority-Concentrated" Areas	Total Units	% in "Minority-Concentrated" Areas	Neighborhoods That Are "Minority-Concentrated"
Atlanta-Sandy Springs-Roswell, GA	303,080	46%	312,230	61%	17,720	77%	32%
Austin-Round Rock, TX	152,620	28%	94,600	45%	3,020	62%	21%
Baltimore-Columbia-Towson, MD	170,140	47%	135,970	67%	10,860	60%	30%
Birmingham-Hoover, AL	65,160	48%	52,410	72%	4,610	82%	32%
Boston-Cambridge-Newton, MA-NH	410,930	34%	184,020	63%	15,250	69%	21%
Buffalo-Cheektowaga-Niagara Falls, NY	79,930	37%	45,310	71%	4,650	74%	24%
Charlotte-Concord-Gastonia, NC-SC	125,240	41%	109,840	59%	6,140	57%	26%
Chicago-Naperville-Elgin, IL-IN-WI	657,560	42%	518,910	65%	32,820	79%	34%
Cincinnati, OH-KY-IN	142,620	34%	73,890	67%	7,320	73%	21%
Cleveland-Elyria, OH	148,600	45%	107,230	73%	8,240	75%	34%
Columbus, OH	132,580	31%	75,210	60%	5,510	68%	21%
Dallas-Fort Worth-Arlington, TX	482,740	34%	379,650	54%	20,100	58%	28%
Denver-Aurora-Lakewood, CO	199,250	31%	110,400	53%	5,510	61%	20%
Detroit-Warren-Dearborn, MI	244,180	43%	186,450	72%	10,230	72%	30%
Hartford-West Hartford-East Hartford, CT	91,990	44%	55,750	73%	5,140	72%	26%
Houston-The Woodlands-Sugar Land, TX	411,470	45%	395,710	60%	14,420	65%	35%
Indianapolis-Carmel-Anderson, IN	117,020	34%	76,190	65%	4,440	66%	25%
Jacksonville, FL	86,160	25%	57,100	43%	4,130	64%	19%
Kansas City, MO-KS	120,950	27%	75,900	55%	5,470	59%	24%
Las Vegas-Henderson-Paradise, NV	171,870	21%	111,860	36%	5,440	30%	17%
Los Angeles-Long Beach-Anaheim, CA	1,391,070	34%	1,083,960	52%	27,570	59%	33%
Louisville/Jefferson County, KY-IN	89,240	30%	45,070	56%	3,670	64%	17%
Memphis, TN-MS-AR	82,490	50%	93,400	69%	6,080	79%	41%

TABLE A-5

Share of Voucher-Affordable Units, Low-Income Renters of Color, and Voucher-Assisted Families of Color in "Minority-Concentrated" Neighborhoods

	Voucher-Affordable Units		Low-Income Renter Households of Color		Voucher-Assisted Families of Color with Children		
Metropolitan Area	Total Units	% in "Minority-Concentrated" Areas	Total Households	% in "Minority-Concentrated" Areas	Total Units	% in "Minority-Concentrated" Areas	Neighborhoods That Are "Minority-Concentrated"
Miami-Fort Lauderdale-West Palm Beach, FL	427,390	42%	413,750	56%	17,110	63%	31%
Milwaukee-Waukesha-West Allis, WI	127,400	38%	86,150	75%	3,620	85%	32%
Minneapolis-St. Paul-Bloomington, MN-WI	218,730	25%	106,830	49%	9,510	49%	16%
Nashville-Davidson-Murfreesboro-Franklin, TN	111,660	35%	63,330	61%	4,470	66%	22%
New Orleans-Metairie, LA	97,870	44%	78,960	62%	13,520	81%	36%
New York-Newark-Jersey City, NY-NJ-PA	2,062,460	52%	1,568,330	74%	66,880	79%	35%
Oklahoma City, OK	79,560	31%	51,670	47%	4,040	54%	21%
Orlando-Kissimmee-Sanford, FL	141,830	31%	110,320	48%	3,250	56%	21%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	402,410	37%	273,370	66%	16,540	72%	24%
Phoenix-Mesa-Scottsdale, AZ	254,710	33%	179,000	54%	5,070	57%	23%
Pittsburgh, PA	164,420	22%	55,140	57%	5,380	66%	15%
Portland-Vancouver-Hillsboro, OR-WA	215,860	14%	64,830	22%	3,010	27%	8%
Providence-Warwick, RI-MA	138,940	29%	55,470	58%	3,830	56%	17%
Raleigh, NC	73,220	21%	56,330	34%	2,400	53%	14%
Richmond, VA	70,370	40%	62,260	58%	3,290	58%	26%
Riverside-San Bernardino-Ontario, CA	212,140	26%	200,190	35%	6,090	36%	20%
Sacramento–Roseville–Arden-Arcade, CA	139,760	26%	110,010	40%	4,090	63%	19%
Salt Lake City, UT	52,410	19%	29,090	38%	1,260	41%	14%
San Antonio-New Braunfels, TX	146,470	28%	130,040	42%	6,660	61%	26%
San Diego-Carlsbad, CA	294,640	29%	184,450	48%	7,190	64%	25%
San Francisco-Oakland-Hayward, CA	450,660	27%	295,000	42%	12,840	53%	24%
San Jose-Sunnyvale-Santa Clara, CA	159,310	20%	105,810	32%	3,760	48%	22%
Seattle-Tacoma-Bellevue, WA	283,580	21%	132,570	37%	8,040	43%	14%

TABLE A-5

Share of Voucher-Affordable Units, Low-Income Renters of Color, and Voucher-Assisted Families of Color in "Minority-Concentrated" Neighborhoods

	Voucher-Affordable Units		Low-Income Renter Households of Color		Voucher-Assisted Families of Color with Children		
Metropolitan Area	Total Units	% in "Minority-Concentrated" Areas	Total Households	% in "Minority-Concentrated" Areas	Total Units	% in "Minority-Concentrated" Areas	Neighborhoods That Are "Minority-Concentrated"
St. Louis, MO-IL	161,020	35%	111,320	69%	9,400	78%	25%
Tampa-St. Petersburg-Clearwater, FL	212,340	29%	110,380	52%	8,400	61%	18%
Virginia Beach-Norfolk-Newport News, VA-NC	109,430	35%	91,620	49%	7,250	58%	23%
Washington-Arlington-Alexandria, DC-VA-MD-WV	349,210	37%	283,510	57%	15,200	58%	27%
All 50 Largest Metropolitan Areas	13,034,690	37%	9,390,750	58%	480,430	67%	27%
All U.S. Metropolitan Areas	19,011,290	32%	12,738,090	54%	714,090	61%	23%

Notes: "Minority-concentrated" neighborhoods are Census tracts where the share of the population that identifies as a person of color is at least 20 percentage points larger than the metropolitan-wide percentage. This is based on HUD's official procedure for designating "areas of minority concentration" in the Rental Assistance Demonstration program. Survey data are subject to survey error and differences are not necessarily statistically significant. All numbers are rounded to the nearest 10. In the "voucher-affordable units" section, the "total units" column represents the total number of voucher-affordable units in the metropolitan area. In the "low-income renter households of color" section, the "total households" column provides the total number of low-income renter households of color in the metropolitan area. In the "voucher-assisted families of color with children" section, the "total units" column gives the total number of voucher-assisted families of color with children in the metropolitan area.

Source: CBPP/PRRAC analysis of the 2012-2016 American Community Survey, 2016 HUD Hypothetical Small Area Fair Market Rents, 201-2015 HUD Comprehensive Housing Affordability Strategy data, and 2017 HUD administrative data.

Appendix 2: Methodology and Data Sources

Geographies

Metropolitan areas: We define metropolitan areas using U.S. Census metropolitan statistical areas (MSAs). MSAs consist of the county or counties (or equivalent entities) associated with at least one urbanized area of at least 50,000 people, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties.[48] We use July 2015 Office of Management and Budget MSA delineations.[49] We identified the 50 largest MSAs using 2017 Census Population Estimates Program[50] data. Appendix 3, Table A-6 lists the 50 largest MSAs and provides their 2017 populations.

Neighborhoods: Census tracts are small, relatively permanent geographic subdivisions of a county or equivalent entity; they generally have a population between 1,200 and 8,000 people, with an optimum size of 4,000. We use Census tracts as neighborhood proxies. Where appropriate, we aggregate all Census tracts in a given MSA to calculate metropolitan-level measures.[51] We use Census tract boundaries from the 2010 decennial census and incorporate numbering and other geographic changes from 2011 and 2012. There are 60,520[52] Census tracts in all MSAs and 38,574 Census tracts in the 50 largest MSAs.

Data Sources and Definitions

Households using Housing Choice Vouchers: Data on voucher households with children are from a 2017 dataset from the HUD Office of Policy Development and Research, obtained through a research agreement. This dataset contains demographic and location information collected through HUD Form 50058 through December 2017. Race and ethnicity of voucher households were determined using data on the head of household.

Voucher-affordable rental units: We consider a rental unit to be voucher-affordable if its gross rent is below the prevailing Small Area Fair Market Rent (SAFMR). SAFMRs are set to the 40th percentile of each zip code's rent distribution. A family with a voucher pays about 30 percent of its income for rent and utilities, and the voucher covers the remainder up to a payment standard set by the state or local housing agency, which is generally within 10 percent of the Fair Market Rent (FMR). All housing agencies in metro areas are permitted to base their vouchers on SAFMRs; those in 24 metro areas are required to do so.

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[48] For this and additional geographic definitions, see: https://www.census.gov/programs-surveys/metro-micro/about/glossary.html.

[49] See here for delineation files: https://www.census.gov/geographies/reference-files/time-series/demo/metro-micro/delineation-files.html.

[50] See here for data files: https://www.census.gov/programs-surveys/popest/data/tables.html. (Accessed 6/27/2018.)

[51] Geographic definitions for census tracts are at: https://www.census.gov/geo/reference/gtc/gtc_ct.html.

[52] This accounts for 83 percent of all tracts nationally, while about 53 percent of all tracts are in the 50 largest MSAs.

We used data from the following sources to calculate the number of voucher-affordable units in metropolitan Census tracts:

- 2012-2016 American Community Survey,[53] Table B25063, which contains counts of renter-occupied units by their gross rent;
- Fiscal Year 2016 HUD Hypothetical Small Area Fair Market Rents;[54]
- 2017 HUD Tract-to-USPS ZIP Code crosswalk;[55]
- Missouri Census Data Center's Mable/Geocorr 14 Tract-to-ZIP Code Tabulation Area (ZCTA) crosswalk;[56]
- Missouri Census Data Center's Mable/Geocorr 14 Tract-to Core Based Statistical Area (CBSA) crosswalk.

We compute Census tract estimates of all rental units with gross rents below the prevailing two-bedroom SAFMR. HUD generates SAFMRs based on the number of bedrooms in a unit. However, the American Community Survey only publishes Census tract counts of all rental units with detailed gross rent values, without specifying the number of bedrooms. Because two-bedroom rental units are the modal rental unit in the nation and because most families with children using vouchers consist of one adult with two children, we use the two-bedroom SAFMR. Consequently, we estimate voucher-affordable rental units as all rental units (independent of bedroom size) in the tract with gross rents below the two-bedroom SAFMR.

To do this, we join zip-code-level SAFMRs to Census tract-level gross rent data using Census tract-to-zip-code correspondence files. Some zip codes span multiple metro areas and so are assigned multiple SAFMRs. To ensure that the correct SAFMRs are always assigned to tracts, metro area codes are first joined to the tract-to-zip-code correspondence files and SAFMRs are then matched to tracts by using combined zip-code-metro-area codes. Gross rent data for Census tracts are compared to a summary of the SAFMRs for all zip codes intersecting with a tract. Rental units are aggregated for all gross rent increment categories below the summarized SAFMR. Linear interpolation is used to compute the number of units below the SAFMR and above the adjacent highest rent increment threshold.

While we think we are the first to use SAFMRs to compute tract-level estimates of voucher-affordable units, others have generated estimates for other geographies or instead employed FMRs.

[53] Available at: https://www.census.gov/programs-surveys/acs/

[54] Available at: https://www.huduser.gov/portal/datasets/fmr/smallarea/index.html

[55] Available at: https://www.huduser.gov/portal/datasets/usps_crosswalk.html

[56] Available at: http://mcdc.missouri.edu/websas/geocorr14.html

For instance, McClure, Schwartz, and Taghavi (2015)[57] and Schwartz, McClure, and Taghavi (2016)[58] estimate Census tract counts of voucher-affordable rental units using the prevailing two-bedroom FMR. Furthermore, a recent report[59] by NYU's Furman Center also computes zip-code-level estimates of voucher affordable rental units using SAFMRs.

Poverty Rate: Data on poverty by Census tract are from the 2012-2016 American Community Survey, Table S1701: Poverty Status in the Past 12 Months. **High-poverty neighborhoods** are Census tracts with poverty rates at or above 30 percent, while **low-poverty neighborhoods** are Census tracts with poverty rates under 10 percent.

Opportunity: Our opportunity index is a composite measure that considers school quality, poverty, labor market engagement, access to jobs, and access to transit. It is based on five of HUD's Affirmatively Furthering Fair Housing (AFFH) opportunity indices. Data are from HUD's AFFH Data,[60] Version AFFHT0004 (last updated November 2017).

Low-opportunity neighborhoods are Census tracts with opportunity index scores in the bottom quintile for all metropolitan tracts. **High-opportunity neighborhoods** are Census tracts with opportunity index scores in the top quintile for all metropolitan tracts. We do this to ensure consistent definitions of opportunity across metropolitan areas.

We compute a composite opportunity index by averaging the standardized[61] variables of five of HUD's AFFH opportunity indices: the School Proficiency Index, Low Poverty Index, Labor Market Engagement Index, Transit Trips Index, and Jobs Proximity Index. We exclude a second HUD transportation variable — the Transportation Cost Index — because it's highly correlated with the Transit Trips Index ($r = 0.78$). We also exclude the HUD Environmental Health Index due to a high number of missing values.

If a Census tract was missing data for any of the five AFFH indices that make up our composite opportunity index, we coded the opportunity index value as missing. Three metro areas — Kansas City, MO-KS; Birmingham-Hoover, AL; and New Orleans-Metairie, LA — have substantial shares of Census tracts with missing data for the opportunity index. Forty-three percent of Census tracts in the Kansas City metro, 7 percent of Census tracts in the Birmingham metro, and 6 percent of Census tracts in the New Orleans metro area are missing data on the composite opportunity index.

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[57] Kirk McClure, Alex F. Schwartz, and Lydia B. Taghavi, "Housing Choice Voucher Location Patterns a Decade Later," *Housing Policy Debate* 25, Issue 2, 2015, pp. 215-233.

[58] Alex Schwartz, Kirk McClure and Lydia B. Taghavi, "Vouchers and Neighborhood Distress: The Unrealized Potential for Families With Housing Choice Vouchers to Reside in Neighborhoods With Low Levels of Distress," *Cityscape* 18, Number 3, 2016, pp. 207-227.

[59] NYU Furman Center, "How Do Small Area FMRs Affect the Location and Number of Units Affordable to Voucher Holders?" January 5, 2018, https://furmancenter.org/files/NYUFurmanCenter_SAFMRbrief_5JAN2018_1.pdf.

[60] Available at: https://www.hudexchange.info/programs/affh/

[61] Z-scores are computed for all Census tracts in all U.S. MSAs.

The missing data stem primarily from the School Proficiency Index, one of the component parts of the composite index.[62]

"Minority-concentrated" neighborhoods: "Minority-concentrated" neighborhoods are Census tracts where the share of the population that identifies as a person of color is at least 20 percentage points larger than the metropolitan-wide percentage. This method is based on HUD's official procedure for designating tracts as "areas of minority concentration" in the Rental Assistance Demonstration program.[63] Counts of people by race and ethnicity by Census tract are from the 2012-2016 American Community Survey, Table B03002, Hispanic or Latino Origin by Race. We compute the person-of-color population by subtracting non-Hispanic whites from the total population and then computing the share of the Census tract total population that is not non-Hispanic white.

Low-income renters of color: Data on low-income renter households of color by Census tract are from HUD's 2011-2015 Comprehensive Housing Affordability Strategy (CHAS)[64] dataset. The CHAS data are custom tabulations of the American Community Survey that Census creates especially for HUD. Low-income renters have household income below 80 percent of the local median income, making them eligible for HUD rental assistance.

Vacancy rate: Data on rental vacancy rates by metropolitan area are from the 2012-2016 American Community Survey, Table DP04: Selected Housing Characteristics.

Region: We categorized metropolitan areas into regions using the Census Bureau's Census Regions and Census Divisions. There are four regions: Northeast, Midwest, South, and West. Each region is divided into two or more subregions.[65]

Number of housing agencies: Data on the number of housing agencies serving each metropolitan area are from HUD's 2016 Picture of Subsidized Households[66] dataset.

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[62] There are no school proficiency data for jurisdictions in Kansas, West Virginia, and Puerto Rico because no data were reported for jurisdictions in these states in the Great Schools 2013-14 dataset.

[63] For purposes of the RAD program, HUD considers a site to be in an "area of minority concentration" when either "(i) the percentage of persons of a particular racial or ethnic minority within the area of the site is at least 20 percentage points higher than the percentage of that minority group in the housing market area as a whole or (ii) the total percentage of minority persons within the area of the site is at least 20 points higher than the total percentage of minorities in the housing market area as a whole." HUD, "Rental Assistance Demonstration (RAD) Notice Regarding Fair Housing and Civil Rights Requirements and Relocation Requirements Applicable to RAD First Component – Public Housing Conversions," PIH 2016-17 (HA), section 5.4(B)(1), https://www.hud.gov/sites/documents/16-17HSGN_16-17PIHN.PDF.

[64] Available at: https://www.huduser.gov/portal/datasets/cp.html

[65] For the full list, see https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

[66] Available at: https://www.huduser.gov/portal/datasets/assthsg.html.

Neighborhood Measures

We use absolute and relative measures to analyze the location of voucher-affordable units and families with children using vouchers. We use these measures to determine whether units or families are concentrated in high- or low-poverty, high- or low-opportunity, or "minority-concentrated" Census tracts. Absolute and relative measures of voucher concentration[67] are computed for each of the top 50 MSAs and for all U.S. metropolitan areas.

Absolute voucher concentration is the share of voucher households living in high- or low-poverty, high- or low-opportunity, or "minority-concentrated" Census tracts. We exclude households with missing data from the denominator, due to high levels of missing data for the opportunity index in certain metro areas. For instance, absolute concentration in high-poverty neighborhoods would be calculated as follows:

$$\text{Absolute voucher concentration in high-poverty neighborhoods} = \frac{\text{Voucher households in high-poverty tracts in metro area}}{\text{Total number of voucher households in metro area with valid poverty-rate data}}$$

Absolute voucher-affordable unit concentration is the share of voucher-affordable units in high- or low-poverty, high- or low-opportunity, or "minority-concentrated" Census tracts. We exclude units with missing data from the denominator.

Relative voucher concentration is the difference between the shares of metropolitan voucher households and voucher-affordable rental units in high- or low-poverty, high- or low-opportunity, or "minority-concentrated" Census tracts. In other words, it is the difference between absolute voucher concentration and absolute voucher-affordable units.

[67] Similar concentration measures were often employed in previous research, e.g. Schwartz, McClure, and Taghavi (2016). This report applies these concentration formulae to MSAs.

Appendix 3: Supplemental Data Tables

TABLE A-6

50 Most Populous Metropolitan Statistical Areas, 2017

Rank	Metropolitan Statistical Area	2017 Population Estimate
1	New York-Newark-Jersey City, NY-NJ-PA	20,320,900
2	Los Angeles-Long Beach-Anaheim, CA	13,353,900
3	Chicago-Naperville-Elgin, IL-IN-WI	9,533,000
4	Dallas-Fort Worth-Arlington, TX	7,399,700
5	Houston-The Woodlands-Sugar Land, TX	6,892,400
6	Washington-Arlington-Alexandria, DC-VA-MD-WV	6,216,600
7	Miami-Fort Lauderdale-West Palm Beach, FL	6,158,800
8	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	6,096,100
9	Atlanta-Sandy Springs-Roswell, GA	5,884,700
10	Boston-Cambridge-Newton, MA-NH	4,836,500
11	Phoenix-Mesa-Scottsdale, AZ	4,737,300
12	San Francisco-Oakland-Hayward, CA	4,727,400
13	Riverside-San Bernardino-Ontario, CA	4,580,700
14	Detroit-Warren-Dearborn, MI	4,313,000
15	Seattle-Tacoma-Bellevue, WA	3,867,000
16	Minneapolis-St. Paul-Bloomington, MN-WI	3,600,600
17	San Diego-Carlsbad, CA	3,337,700
18	Tampa-St. Petersburg-Clearwater, FL	3,091,400
19	Denver-Aurora-Lakewood, CO	2,888,200
20	Baltimore-Columbia-Towson, MD	2,808,200
21	St. Louis, MO-IL	2,807,300
22	Charlotte-Concord-Gastonia, NC-SC	2,525,300
23	Orlando-Kissimmee-Sanford, FL	2,509,800
24	San Antonio-New Braunfels, TX	2,474,000
25	Portland-Vancouver-Hillsboro, OR-WA	2,453,200
26	Pittsburgh, PA	2,333,400
27	Sacramento--Roseville--Arden-Arcade, CA	2,324,900
28	Las Vegas-Henderson-Paradise, NV	2,204,100
29	Cincinnati, OH-KY-IN	2,179,100
30	Kansas City, MO-KS	2,128,900
31	Austin-Round Rock, TX	2,115,800
32	Columbus, OH	2,078,700
33	Cleveland-Elyria, OH	2,058,800
34	Indianapolis-Carmel-Anderson, IN	2,028,600
35	San Jose-Sunnyvale-Santa Clara, CA	1,998,500
36	Nashville-Davidson--Murfreesboro--Franklin, TN	1,903,000
37	Virginia Beach-Norfolk-Newport News, VA-NC	1,725,200
38	Providence-Warwick, RI-MA	1,621,100

TABLE A-6

50 Most Populous Metropolitan Statistical Areas, 2017

Rank	Metropolitan Statistical Area	2017 Population Estimate
39	Milwaukee-Waukesha-West Allis, WI	1,576,200
40	Jacksonville, FL	1,505,000
41	Oklahoma City, OK	1,383,700
42	Memphis, TN-MS-AR	1,348,300
43	Raleigh, NC	1,335,100
44	Richmond, VA	1,294,200
45	Louisville/Jefferson County, KY-IN	1,294,000
46	New Orleans-Metairie, LA	1,275,800
47	Hartford-West Hartford-East Hartford, CT	1,210,300
48	Salt Lake City, UT	1,203,100
49	Birmingham-Hoover, AL	1,149,800
50	Buffalo-Cheektowaga-Niagara Falls, NY	1,136,900

Source: 2017 U.S. Census Population and Housing Units Estimates Program

TABLE A-7

Census Tracts Counts by Poverty, Opportunity, and "Minority Concentration"

Type	All Metropolitan Tracts	50 Largest Metro Areas
Low Poverty	25,122	17,481
High Poverty	8,402	4,930
Low Opportunity	11,776	6,234
High Opportunity	11,775	10,032
"Minority Concentrated"	13,900	10,438

Note: There are 60,520 tracts in all U.S. metropolitan areas and 38,574 tracts in the 50 largest metro areas.

TABLE A-8

Missing Data for Neighborhood Measures

	Total Census Tracts	Tracts with Missing Data	Percent Missing
50 Largest Metro Areas			
Voucher-affordable units	38,574	207	0.54%
Poverty Rate	38,574	137	0.36%
"Minority Concentration"	38,574	81	0.21%
Opportunity Index	38,574	580	1.5%
All U.S. Metro Areas			
Voucher-affordable units	60,520	357	0.59%
Poverty Rate	60,520	241	0.4%
"Minority Concentration"	60,520	113	0.19%
Opportunity Index	60,520	1,643	2.7%

TABLE A-9

Missing Data for Voucher Households

	Total Households	Households with missing data	Percent Missing
50 Largest Metro Areas			
Missing race or ethnicity	1,318,194	469	0.04%
Missing Census tract location	1,318,194	47	0.004%
All U.S. Metro Areas			
Missing race or ethnicity	1,988,606	813	0.04%
Missing Census tract location	1,988,606	557	0.03%